

Risky Lifestyle as a Mediator of the Relationship Between Deviant Peer Affiliation and Dating Violence Victimization Among Adolescent Girls

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Abstract Few studies have explored the possible contribution of the peer group to dating violence victimization. The current study tested the hypothesis that a risky lifestyle would mediate the relationship between deviant peer affiliation and dating violence victimization among adolescent girls. The proposed mediation model was derived from lifestyles and routine activities theories. A sample of 550 girls (mean age = 15) drawn from a larger representative community sample in Quebec, Canada, completed a questionnaire on three forms of dating violence victimization (psychological, physical, and sexual). Results revealed that girls with a higher level of affiliation with deviant peers were more likely to endorse a risky lifestyle and reported higher rates of all forms of dating violence victimization. Further analyses showed

that, while deviant peer affiliation is associated with dating violence victimization, this relationship may be explained, at least partially for psychological violence, and completely for physical/sexual violence, by the girls' own risky lifestyle. Future preventive interventions for adolescent dating violence victimization should target deviant peer groups, as well as adolescent girls who display a risky lifestyle.

Keywords Dating violence · Victimization · Adolescent · Deviant peer affiliation · Risky lifestyle

Introduction

Dating violence victimization among adolescents is an alarming social and public health problem (Wolitzky-Taylor et al. 2008). Using representative national samples of American adolescents, past studies found that 29% of girls have experienced psychological violence, 12% have sustained physical violence (Halpern et al. 2001), and 4% reported having been forced by a dating partner to have sexual intercourse (Ackard et al. 2003). Similar rates of psychological and physical victimization have been documented among adolescent boys (O'Leary et al. 2008; Roberts et al. 2003). However, girls appear to be at greater risk of sexual victimization than boys are, and girls are also more likely to sustain physical injuries and to experience negative emotional effects (Barter 2009; Jackson 1999). The negative repercussions associated with dating victimization are quite varied and include eating disorders, post-traumatic stress disorder, depressive symptoms, and suicidal behaviors (Ackard and Neumark-Sztainer 2002; Coker et al. 2000; Wolitzky-Taylor et al. 2008). Several authors have emphasized that factors associated with adolescent dating violence may vary by gender and thus should

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be examined separately for boys and girls (Foshee et al. 2004; Jackson 1999; Lewis and Fremouw 2001). The present study examined several factors associated with girls' dating violence victimization.

According to Lewis and Fremouw (2001), identifying factors associated with dating violence is a research priority. Indeed, a better understanding of these factors is likely to offer relevant clues for the elaboration of efficient preventive interventions. Recently, Vézina and Hébert (2007) reviewed the empirical literature on factors associated with dating violence victimization among young women. One important conclusion of their review is that girls displaying externalizing problems, labelled here as *risky behaviors*, may be more vulnerable to victimization in their first romantic relationships. Risky behavior refers to any behavior than can compromise the adolescent's physical and psychosocial health and development, such as substance use, risky sexual practices, antisocial behavior, and delinquency (Jessor 1991). Jessor's theory (1991) argues for the necessity of considering adolescents' risky behaviors as a cluster—a “risk behavior syndrome” reflecting a deviant or risky lifestyle—because risky behaviors tend to covary and could serve the same function for youths: to be valued within their social ecology (e.g., best friends, larger peer groups). However, the majority of studies that have tested the association between risky behaviors and dating violence victimization have only considered one form of problem behavior at a time (Foshee et al. 2004; Howard and Wang 2003).

While the association between risky behaviors and adolescent dating violence victimization among girls has been explored in past studies, the contexts in which these risky behaviors are rooted, and the association between these contexts and dating violence victimization, remains unclear. Social learning and socialization theories argue that risky behaviors, especially in adolescence, are learned and reinforced in the peer group (Elliott and Menard 1996). Several studies have shown that deviant peer affiliation increases adolescents' involvement in risky behaviors (see Vitaro et al. 2007, for a review). In fact, according to the taxonomic theory (Moffitt 1993), antisocial or risky behaviors can follow two courses: one trajectory characterized by antisocial behaviors beginning early in childhood and persisting through life, and one trajectory characterized by antisocial behaviors being limited to the developmental period of adolescence. The vast majority of antisocial girls belong to the second group (adolescence-limited: 18% vs. life-course-persistent: 1%; Moffitt and Caspi 2001). Moffitt (1993) suggested that a maturity gap, i.e., being biologically mature but not yet considered in the society as an adult, can contribute to explaining why some girls display risky behaviors in adolescence, while they did not display problem behaviors in childhood. For these girls, risky behaviors

may serve the functions of demonstrating autonomy from parents, gaining popularity among the peer group, and hastening social maturation. Thus, for the large majority of girls, their affiliation with deviant peers may precede their adoption of a risky lifestyle. Empirical support for this theory was found in studies completed by Moffitt and Caspi (2001) and by Boislard et al. (2009), who tested two alternative structural models (socialization model and selection model) to evaluate which model can best account for the emergence of risky sexual behaviors among Canadian and Italian adolescents. Results revealed that the socialization model, in which deviant peer affiliation precedes youths' problem behavior, was the most accurate to predict the emergence of risky sexual behaviors. The deviant peer group could thus serve as a context in which risky behaviors are displayed and maintained; consequently, deviant peer affiliation is a factor that needs to be examined in link with adolescent dating violence victimization.

Peer Group and Dating Relationships

Few studies have explored the possible contribution of the peer group to dating violence victimization (Barter 2009; Olsen et al. 2010; Vézina and Hébert 2007). This gap in the literature may reflect the fact that investigators studying victimization in adolescence and researchers studying romantic relationships have had, up to now, little contact with each other (Feiring and Furman 2000). Several authors have underscored the important contribution of the peer group to the development of “normative” adolescent romantic relationships (Brown 1999; Connolly et al. 2000). According to Brown (1999), romantic relationships change in form, essence, and function across different life stages. In adolescence, they “both shape and are shaped by the broader peer context in which they are rooted” (p. 291). Brown suggested that the norms governing romantic relationships can vary from one peer system to another. In fact, some peer groups may be more prone to tolerate and to legitimate violence in dating relationships. Data from the few longitudinal studies on this topic reveal that having friends who are experiencing dating violence in their romantic relationships may in fact be a significant predictor for dating violence victimization among adolescent girls (Arriaga and Foshee 2004; Foshee et al. 2004). Nevertheless, according to a recent review (Olsen et al. 2010), only scant data is available on the mechanisms through which peer relationship factors operate to predict violence in dating relationships.

Lifestyles and Routine Activities Theories

Lifestyles and routine activities theories suggest that the probability of any type of victimization increases in an environment where there is a convergence in time and space

of motivated offenders, suitable targets, and low guardianship, such as in adolescents' delinquent or deviant groups (Lauritsen et al. 1991). Criminological research focusing on lifestyle-routine activities theories has identified deviant peer group affiliation and risky lifestyle as important factors in association with various forms of victimization (e.g., violent victimization at school; Nofziger 2009). However, to our knowledge, no study has yet considered these two factors in relationship to adolescent dating violence victimization. Lifestyle-routine activities theories were previously used in the field of research on dating violence, but in regard to other social contexts than deviant peer group. For example, Gover (2004) found that living in a nuclear family and attending church several times a month could act as protective factors against risky behaviors, and then against dating violence victimization, as guardianship is expected to be higher with two parents at home, and the risk of affiliating with motivated offenders and delinquent peers is expected to be lower in religious institutions. Relying on lifestyles and routine activities theories offers a promising framework to document the factors associated with victimization in the context of early romantic relationships. Indeed, as Gover (2004) suggested, these theories may help us to better understand the social processes through which dating violence victimization is likely to occur.

The Current Study

The aim of the current study is to examine the contribution of the peer group to dating violence victimization among adolescent girls. While past studies have documented an association between risky behaviors and dating violence victimization, the potential contribution of deviant peer affiliation has never been considered in this context. Thus, the results of this study are likely to contribute to the literature and offer relevant practical implications for practitioners who are designing prevention programs for youth.

More specifically, the purpose of this study is to evaluate a model derived from lifestyles and routine activities theories (Cohen and Felson 1979; Hindelang et al. 1978) taking into account girls' deviant peer affiliation and risky behaviors. Following Jessor's theory, a construct of "risky lifestyle", combining risky sexual practices, drug and alcohol problems, and delinquent behaviors, was used. Our model was tested using three forms of dating violence victimization (psychological, physical, and sexual), which represents a methodological strength over past studies that have only considered physical violence. Based on both theoretical models and recent empirical findings, this study postulates risky lifestyle as a mediator of the link between deviant peer affiliation and dating violence victimization (psychological, physical and sexual). Thus, we expected

that girls who have a stronger tendency to affiliate with deviant peers are more likely to be victimized in their dating relationships than girls who do not tend to associate with deviant peers. In fact, we hypothesized that a higher level of affiliation with deviant peers is associated with a higher level of risky lifestyle, which, in turn, is linked to a higher probability for girls of being victimized in their dating relationships. Moreover, as several studies have highlighted, the important contribution of the family to the development of a risky lifestyle in adolescence and adolescents' deviant peer affiliation (see Boyer 2006 for a review and Hoeve et al. 2009 for a meta-analysis on the relationship between parenting and delinquency), parental knowledge was used as a control variable in this study, as well as aggression and disruptiveness in early childhood.

Method

Participants

Participants were drawn from a larger representative community sample of French-speaking kindergarten children in Quebec, Canada, during the 1986–1987 school years. Two thousand children were selected randomly (946 girls) and 1017 additional participants were retained to compose an at-risk sample (444 girls). These children were considered at risk for later adjustment problems because they scored at or above the 80th percentile (using sex-specific cutoff scores) on parent or teacher reports of the Social Behavior Questionnaire disruptive behaviors scale (SBQ; Tremblay et al. 1991). When they reached 15 years old, between 1995 and 1997, 1808 of them (929 girls) accepted to be interviewed and to complete questionnaires. The present analyses are based on data available for 550 girls who had a dating partner during at least 2 weeks in the past year and who answered a questionnaire on dating violence victimization. Almost a third of the girls were from the at-risk sample ($n = 174$; 31.5%). Girls were predominantly Caucasians, they were on average 15 years old ($M = 15.75$; $SD = .48$), and the majority were in Grades 9 or 10 (respectively 25 and 53%). Sixty-four percent of them lived in an intact family, 23% in a single-parent family, 12% in a blended family, and 1% lived in other situations (e.g., with their grand-parents, under the child protection service). Girls' socioeconomic status (SES) was average according to Blishen et al. (1987) occupational prestige scale ($M = 42.29$; $SD = 9.53$, based on data collected from 6 to 12 years old).

Procedure

When girls were in kindergarten, a first contact with their family was established through a letter sent to parents to

invite them to participate in the study. Questionnaires were then sent to the schools, and teachers were in charge of sending them to the parents (for the majority, to the mother). Written consent was required from the parent and the teacher. When girls reached age 15, a letter describing the study procedures and aims was sent to them at home. Research assistants then telephoned to schedule interviews for those who agreed to participate in the study. Before the interview, girls and their parents signed a written consent form. Interviews occurred in the girls' home, and participants received monetary compensation (girls received \$10 and parents received \$15). The study received internal review board approval from the University of Montreal.

Measures

Dating Violence Victimization

Girls who had been dating for at least 2 weeks during the past year completed a questionnaire on dating violence. The questionnaire covered psychological (six items), physical (seven items), and sexual violence (six items). If girls had more than one relationship in the past 12 months, they were asked to refer to the most difficult relationship to complete the questionnaire. Girls had to indicate how often during the past year, on a 4-point scale (0 = never; 1 = once or twice; 2 = 3 to 10 times; 3 = more than 11 times), they had experienced each of the behaviors presented. This version of the questionnaire was recently used by Hébert et al. (2008).

Psychological Dating Violence Victimization

Items on psychological violence were adapted from the Psychological Maltreatment of Women Inventory (PMWI; Kasian and Painter 1992). Girls were asked to report how often their boyfriend had prevented them from seeing or speaking to friends, humiliated them or “put them down”, accused them of cheating on him, controlled their schedule and demanded a report on what they are been doing, acted cold or indifferent with them, or ordered them around. Results revealed an adequate internal consistency for this subscale ($\alpha = .73$). The six items were summed to obtain a total score. Then, the total score was dichotomized: all girls with a total score equal to or above 3 were assigned a score of 1, which meant that they reported sustaining multiple forms and/or repetitive acts of psychological violence; otherwise a score of 0 was assigned. Using this criterion, 154 girls (28%) reported having experienced psychological violence. The majority of these girls (95 out of $154 = 61.7\%$) obtained a score equal to 3 or 4.

Physical/Sexual Dating Violence Victimization

Items on physical violence were adapted from the Conflict Tactics Scales (CTS; Straus 1979) and items on sexual violence from the Sexual Experience Survey (SES; Koss and Gidycz 1985). For the physical subscale, girls were asked to report how often their boyfriend had thrown an object at them, pushed or shoved them, slapped them, kicked them, hit them with an object, beaten them up, or threatened them with a knife. For the sexual subscale, girls were asked to report how often their boyfriend used arguments and pressure, used alcohol or drugs, or threatened them to or used some degree of physical force to incite them to have sexual contacts (e.g. kissing, petting or fondling) or to have a complete sexual intercourse. For the physical and sexual violence subscales, the total scores were dichotomized. All girls who reported sustaining at least one act of violence from a dating partner were then assigned a score of 1; else a score of 0 was assigned. Using this criterion, 53 girls (9.6%) reported having experienced physical violence and 55 girls (10%) reported having experienced sexual violence. Of those reporting physical violence, the majority (32 girls out of $53 = 60.4\%$) reported one or two episodes of victimization, while more than half of the girls who were victims of sexual violence reported more than three incidents of victimization (30 out of $55 = 54.6\%$).

Silverman et al. (2001) emphasized that distinguishing between physical and sexual dating violence victimization may not be helpful in documenting factors associated with such experiences considering that sexual violence is less likely to occur in the absence of physical violence for adolescent girls. Thus, they conclude that a composite score offers a more informative approach when studying sexual dating violence victimization among adolescents. Following this rationale, a composite score of physical and sexual dating violence victimization was used for the purpose of the current study. Results revealed an adequate internal consistency of this composite score ($\alpha = .80$). Eighty-seven girls (15.8%) reported having experienced physical violence only, sexual violence only, or physical and sexual violence.

Deviant Peer Affiliation

To measure girls' deviant peer affiliation, a nine-item composite score was used. Girls were asked to report whether or not their best female friend had ever ran away from home, been expelled or suspended from school, and been arrested by the police. They were also asked whether they had ever been part of a gang that committed deviant acts. In addition, girls were asked how many of their friends had ever been arrested, smoked cigarettes, and used

drugs and alcohol, on a scale ranging from 0 (“none”) to 3 (“almost all of them” or “all of them”). Responses to the nine items were standardized (transformed into *z*-scores), and a mean score was computed ($\alpha = .70$). A higher score indicates a higher level of deviant peer affiliation.

Risky Lifestyle

A composite score of risky lifestyle referring to three forms of risky behavior (risky sexual behavior, drug and alcohol problems, and delinquent behavior) was used. For risky sexual behavior, girls were asked to report their age at first sexual intercourse (0 = never had sexual intercourse; 1 = had first sexual intercourse at 14 years old or later; 2 = had first sexual intercourse before the age of 14), their lifetime number of sexual partners, the number of “one night stands” they had during the past 12 months (0 = none; 1 = one or two; 2 = from 3 to 10; 3 = 11 and more) and the frequency at which they used condom (0 = never had sexual intercourse; 1 = always use condom; 2 = sometimes use condom; 3 = never use condom).

Alcohol and drug problems were measured using a 12-item scale from the work of Zoccolillo et al. (1999). Girls who had used alcohol or drugs more than 5 times were asked to report their substance use problems on a scale ranging from 1 (“never”) to 4 (“many times”). Each of the following problems was included in two questions (one pertaining to alcohol use, and the other to drug use): (a) went to school intoxicated, (b) got into fights while intoxicated, (c) drove a motor vehicle while intoxicated, (d) got into trouble with the police because of drugs or alcohol, (e) engaged in sporting activities while intoxicated, and (f) used drugs or alcohol before noon. Girls who had not used alcohol or drugs more than five times received a score of zero on each alcohol or drug problems items.

Delinquent behaviors were assessed using 17-items from the conduct disorder scale of the French version of the Diagnostic Interview Schedule for Children-2.25 (DISC-2.25; Breton et al. 1998). Girls had to report their delinquent behaviors in the past 12 months, including status offenses (e.g., ran away from home, had been expelled from school), property offenses (e.g., had stolen something in a store, had stolen from their parents), and violent offenses (e.g., had participated in a fight, engaged in acts of cruelty). Each item was dichotomized (0 = no; 1 = yes), a scale score was computed, and the mean score was used ($\alpha = .73$). Finally, to generate a composite score of risky lifestyle for each girl, the scores obtained for risky sexual behavior, alcohol and drug problems, and delinquent behaviors were standardized and then combined into a mean score. A higher score indicates that they had adopted a higher level of risky lifestyle. The composite score presents an adequate internal consistency ($\alpha = .73$).

Aggression-Disruptiveness in Kindergarten

At the end of kindergarten, teachers completed the Social Behavior Questionnaire (SBQ; Tremblay et al. 1991) for each girl. For the purpose of the present study, the 13-item aggression-disruptiveness scale was used. Adequate psychometric properties of the SBQ have been well established (Tremblay et al. 1992). Each item (e.g., is restless; is disobedient; blames others; kicks, bites, or hits other children) was rated on a 3-point scale ranging from 0 (“does not apply”) to 2 (“applies often”). A mean score was computed ($\alpha = .91$), and a higher score indicates a higher level of aggression and disruptiveness in kindergarten.

Parental Knowledge

To measure parental knowledge, a six-item composite score was created. Girls were asked to report how many times do their parents know with whom they are when they are not at home, where they are, at what time they are coming back home and on what they are spending their time when they are at home, on a 3-point scale (1 = almost never; 2 = sometimes; 3 = almost always). Last, they had to report how important it was for their parents to know about their activities (1 = not important; 2 = a little important; 3 = very important). The six items were standardized, and the mean score was computed ($\alpha = .66$). A higher score indicates a higher level of parental knowledge.

Statistical Analysis

First, following the guidelines provided by Tabachnick and Fidell (2001), transformations were performed to achieve normality of scores for the following variables: parental knowledge (reflect and square root), deviant peer affiliation (square root), and risky lifestyle (logarithm). Next, descriptive statistics and bivariate analyses (correlations) were conducted to assess the relationships between the study variables. No significant relationships were found between sociodemographic variables and dating violence victimization scores. SES and family structure were thus not used as control variables in the main analyses (regression analyses). Finally, to evaluate whether risky lifestyle mediates the link between deviant peer affiliation and dating violence victimization (psychological and physical/sexual), a series of logistic regression analyses were conducted based on the procedures outlined by Baron and Kenny (1986). Control variables (aggression-disruptiveness in kindergarten and parental knowledge) were included in all regression analyses.

Results

Descriptive Analyses

Table 1 displays the frequencies, means, standard deviations, and correlations among the study variables. As hypothesized, both measures of dating violence victimization were associated with a higher score of affiliation with deviant peers and risky lifestyle, but only psychological victimization was associated with a lower level of parental knowledge. Not surprisingly, the correlation between deviant peer affiliation and risky lifestyle was strong. Psychological and physical/sexual dating violence victimization were moderately correlated, suggesting a certain degree of co-occurrence of victimization experiences.

Mediation Analyses

Baron and Kenny’s (1986) procedure stipulates that three conditions must be fulfilled to establish mediation. First, the predictor (deviant peer affiliation) must be correlated with the outcome (dating violence victimization). This step establishes that there is an effect that may be mediated, and logistic regression analyses were performed to test this assumption. Specifically, deviant peer affiliation and the control variables were regressed on each of the dating violence victimization subscales (Model 1 in Tables 2, 3). The second condition proposed by Baron and Kenny is that the predictor (deviant peer affiliation) must be correlated with the mediator (risky lifestyle). A linear regression was performed and showed that deviant peer affiliation was significantly associated with risky lifestyle ($\beta = .61, p < .001$). The third condition is that the mediator must affect the outcome, when controlling for the predictor in a regression analysis. To test this condition, all the variables were then regressed on each of the dating violence victimization subscales (Model 2 in Tables 2, 3). Finally, Sobel’s test (1982) of the indirect effect was conducted to assess if deviant peer affiliation predicted dating violence victimization, through the influence of risky lifestyle.

Predicting Psychological Dating Violence Victimization

Table 2 presents the results from the first and second models that examined the direct and indirect effects of deviant peer affiliation on psychological dating violence victimization. Model 1 showed that a 1-point increase in deviant peer affiliation was associated with a 2.06 increase in the odds of being victim of psychological victimization. None of the control variables was found to be significantly associated with psychological victimization. When risky lifestyle was included in a final model (Model 2), the effect of deviant peer affiliation on psychological dating violence victimization was reduced, but remained significant (odds ratio = 1.47, 95% confidence interval = 1.07–2.03). A 1-point increase in risky lifestyle was associated with a 2.11 increase in the odds of being a victim of psychological victimization, controlling for deviant peer affiliation. These results suggested that the link between deviant peer affiliation and psychological victimization was partially mediated by risky lifestyle. Sobel’s test (1982) of the indirect effect was significant ($z = 3.39, p < .001$). The final model was statistically reliable at $\chi^2(4, 541) = 51.47, p < .001$ and together, deviant peer affiliation and risky lifestyle accounted for 13% of the variance in girls’ psychological dating violence victimization.

Predicting Physical/Sexual Dating Violence Victimization

Table 3 presents logistic regression results examining physical/sexual dating violence victimization. Model 1 showed that a 1-point increase in deviant peer affiliation was associated with a 1.71 increase in the odds of being victim of physical/sexual victimization. None of the control variables was found to be significantly associated with this outcome. With the addition of risky lifestyle in the model (Model 2), the effect of deviant peer affiliation on physical/sexual dating violence victimization decreased and failed to reach statistical significance. However, a higher score on risky lifestyle was associated with a higher risk of being a victim of physical/sexual victimization, controlling for

Table 1 Descriptive statistics and correlations among the variables

Variables	% (N) or M (SD)	1	2	3	4	5	6
1. Aggression-disruptiveness in kindergarten	3.21 (3.77)	–					
2. Parental knowledge	2.94 (.57)	.01	–				
3. Deviant peer affiliation	2.71 (.81)	–.01	.26***	–			
4. Risky lifestyle	1.71 (.62)	.03	.27***	.64***	–		
5. Psychological dating violence victimization	28% (154)	–.04	.12**	.26***	.28***	–	
6. Physical/sexual dating violence victimization	15.8% (87)	.01	.04	.17***	.20**	.38***	–

* $p < .05$; ** $p < .01$; *** $p < .001$

Table 2 Summary of logistic regression analysis for variables predicting psychological dating violence victimization ($n = 541$)

	Model 1					Model 2				
	<i>B</i>	<i>SE</i>	<i>W</i>	<i>OR</i>	<i>95% CI</i>	<i>B</i>	<i>SE</i>	<i>W</i>	<i>OR</i>	<i>95% CI</i>
Aggression-disruptiveness in kindergarten	-.03	.03	.96	.97	.92–1.03	-.03	.03	1.14	.97	.92–1.03
Parental knowledge	.18	.18	1.10	1.21	.85–1.71	.11	.18	.37	1.12	.78–1.60
Deviant peer affiliation	.72	.13	29.17	2.06	1.59–2.68***	.39	.16	5.56	1.47	1.07–2.03*
Risky lifestyle						.75	.22	11.56	2.11	1.37–3.24**
Nagelkerke R^2	.10					.13				
Model χ^2	39.44***					51.47***				

W Wald statistic, *OR* odds ratio, *CI* confidence interval

* $p < .05$; ** $p < .01$; *** $p < .001$

Table 3 Summary of logistic regression analysis for variables predicting physical/sexual dating violence victimization ($N = 541$)

	Model 1					Model 2				
	<i>B</i>	<i>SE</i>	<i>W</i>	<i>OR</i>	<i>95% CI</i>	<i>B</i>	<i>SE</i>	<i>W</i>	<i>OR</i>	<i>95% CI</i>
Aggression-disruptiveness in kindergarten	.00	.03	.01	1.00	.94–1.07	.00	.03	.00	1.00	.94–1.07
Parental knowledge	.43	.76	.33	1.54	.35–6.83	.22	.77	.08	1.25	.28–5.63
Deviant peer affiliation	.53	.16	11.57	1.71	1.25–2.32**	.25	.20	1.66	1.29	.88–1.90
Risky lifestyle						.60	.26	5.20	1.83	1.09–3.07*
Nagelkerke R^2	.05					.06				
Model χ^2	14.05**					19.84**				

W Wald statistic, *OR* odds ratio, *CI* confidence interval

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

deviant peer affiliation (odds ratio = 1.83, 95% confidence interval = 1.09–3.07). These results suggested that the link between deviant peer affiliation and physical/sexual victimization was totally mediated by risky lifestyle. Sobel's test (1982) of the indirect effect was significant ($z = 2.53$, $p < .05$), supporting the proposed mediational effect. The final model was statistically reliable at $\chi^2(4, 541) = 19.84$, $p < .01$, and together deviant peer affiliation and risky lifestyle accounted for 6% of the variance in girls' physical/sexual dating violence victimization.

Discussion

For most youth, the first romantic relationships are central in their life and positively contribute to the normative developmental tasks they are facing during adolescence (Furman and Shaffer 2003). Unfortunately, for a number of teenagers their very first romantic relationships are instead tainted by violence and linked with a host of negative experiences and long-lasting repercussions. Up to now, few studies have relied on a developmental perspective to better understand the risk factors linked to adolescent dating violence. For example, while the crucial role of peers in the emergence of first romantic relationships has been

acknowledged in the scholarly literature on adolescent development, few empirical reports have explored the influence of peers as a possible factor associated with dating violence victimization. This study aimed to document the links between deviant peer affiliation, risky lifestyle and dating violence victimization using a large community sample of adolescent girls. Considering the possible role of deviant peer groups and risky lifestyle in dating violence victimization may offer insightful clues as for the identification of vulnerable youths as well as orient future prevention initiatives.

In this study, almost 30% of girls reported having sustained psychological dating violence within the past year and approximately 1 in 5 girls (15.8%) reported having been physically and/or sexually victimized. These prevalence rates compare with those reported in prior studies of adolescent dating violence victimization (Halpern et al. 2001; Howard and Wang 2003; Silverman et al. 2001). This study examined risky lifestyle as a possible mediator of the relationship between deviant peer affiliation and dating violence victimization (psychological and physical/sexual) among adolescent girls. The proposed model was derived from lifestyle-routine activities theories and the statistical analyses included parental knowledge and aggression-disruptiveness in childhood as control variables. Our model

was tested using logistic regression analyses, which provided support for our hypotheses concerning both psychological and physical/sexual dating violence victimization.

As predicted, our data revealed a significant link between deviant peer affiliation and dating violence victimization. The girls who reported a higher level of affiliation with deviant peers were more likely to be victimized in their dating relationships, but this association was mediated by the girls' own risky lifestyle. Partial mediation was found when predicting psychological dating violence victimization, as affiliation with deviant peers was associated with psychological violence both directly and indirectly, through risky lifestyle. For physical/sexual dating violence victimization, a complete mediational model was supported. Results showed that a higher level of affiliation with deviant peers was associated with a higher level of risky lifestyle, which, in turn, was linked to a higher probability for girls of being physically and/or sexually victimized.

Our results are consistent with past research linking risky behaviors (e.g., antisocial behavior, substance use, risky sexual practices, and delinquency) and dating violence victimization. In this study, however, the concept of "risky lifestyle" was used in line with lifestyle-routine activities theories (Cohen and Felson 1979; Hindelang et al. 1978) and Jessor's (1991) theory that suggests the clustering of adolescents' risk behaviors. Multiple forms of risk behaviors, such as risky sexual practices, alcohol and drug problems, and delinquency, were thus included in our analyses to form a unique risky lifestyle composite score. Using a nationally representative sample of US adolescent girls in Grades 9 through 12, Howard and Wang (2003) found an at-risk profile among adolescent girls who were victims of physical dating violence. In fact, these girls engaged in a pattern of risky practices (violent behaviors, illicit substance use, and risky sexual behavior) that supported the concept of the clustering of risk behaviors proposed by Jessor's work (1991). Recently, Eaton et al. (2007) have also highlighted the importance of considering the co-occurrence of risk behaviors in the prediction of adolescent dating violence victimization. In fact, the authors found that the odds of dating violence victimization among girls went up as the number of their risk behaviors increased.

In this study, risky lifestyle, as expected, was strongly and positively linked to deviant peer affiliation. This finding is consistent with past studies that showed that adolescent girls are more likely to engage in risky behaviors if they affiliate with deviant peers (French and Dishion 2003; Moffitt and Caspi 2001; Scaramella et al. 2002). In the current study, we linked deviant peer context to lifestyle-routine activities theories and we found some support, like Gover (2004) did, for the relevance of these frameworks to gain a better understanding of dating violence victimization. Our findings suggest that, while deviant peer

affiliation is associated with dating violence victimization, this relationship may be explained, at least partially for psychological violence, and completely for physical/sexual violence, by the girls' own risky lifestyle. Indeed, spending time with deviant peers may offer social opportunities for girls to participate in leisure activities without appropriate supervision (e.g., parties, park loitering, isolated settings), which are characterized by low levels of guardianship, and may also increase their involvement in routine activities that are characterized by the adoption of risky behaviors. In addition, the routine activities taking place in deviant groups (e.g., using substances, partying) may increase the probability that girls meet and bond with antisocial boys, which would in turn increase the odds that they engage in a dating relationship with these boys. Being in a dating relationship with an antisocial partner would be equivalent to dating a motivated offender, thus increasing the likelihood of being victimized in the context of a dating relationship. In fact, prior studies have found that antisocial boys tend to be more violent with their romantic partners than normative boys (Capaldi and Clark 1998; Capaldi et al. 2001).

Study Limitations

The findings of the current study should be interpreted in light of the following limitations. First, we inferred causal links among our variables; however, our data was cross-sectional and correlational. Consequently, we cannot confirm the chronology involved in the relationship between deviant peer affiliation, risky lifestyle, and dating violence victimization. Although we described deviant peer affiliation and risky lifestyle as predictors for dating violence victimization, it is also possible that they are outcomes of that victimization. Longitudinal research is needed to clarify the temporality of these factors.

Second, our sample was predominantly Caucasian and middle-class, which may limit the generalizability of the findings to a broader population of adolescent girls. Nevertheless, the girls who participated in the study were drawn from a community sample, which allowed us to include in our study some girls who may be at greater risk of experiencing dating violence (e.g., dropout girls; Vézina and Hébert 2007) and who could not have been reached with a school-based sample, which represent a major improvement over past studies relying on school samples.

Third, girls' reports of peers' deviancy and parental knowledge may be influenced by response bias. Future work would thus benefit from gathering data directly from peers and parents. In addition, future studies may need to document more thoroughly the friendship network and its relationship to risky lifestyle and dating violence victimization. For example, Lacasse et al. (2003) showed that

girls who have more male friends are more likely to experience moderate and severe potentially offensive sexual behaviors than girls who have fewer male friends. Thus, the gender composition of the peer group may be a relevant factor to explore in future studies.

Finally, although our model was empirically supported, the variables considered in this study explained only 13% of the variance in psychological dating violence victimization and 6% of the variance in physical/sexual victimization. While these proportions of explained variance are similar to those reported in prior studies in the field of adolescent dating violence (Eaton et al. 2007; Wekerle et al. 2001), they are still low. This suggests that other variables that were not explored in the present study may exert a significant influence.

Practical Implications of this Study

Despite the limitations of this study, our results have several practical implications. First, our findings bring some support to Ehrensaft's (2008) recommendation to link the research programs on partner violence and on the development of youth antisocial behavior. Ehrensaft suggested that programs for the prevention of partner violence should be inspired by research on the prevention of antisocial behavior. She highlighted that one of the most important contributions made by this latter field of research is the shift from universal prevention strategies to intervention strategies that fit varying levels of risk (e.g., *Adolescent Transitions Program*; Dishion and Kavanagh 2003). Vézina and Hébert (2007) have also underlined the relevance of targeting subgroups of adolescents who appear to be at greater risk of being victimized in their dating relationships. In accordance with several studies (Foshee et al. 2004; Howard and Wang 2003; Silverman et al. 2001), our results suggest that adolescent girls who engage in a risky lifestyle should be targeted by preventive interventions for dating violence.

Another noteworthy implication of this work is that our findings indicate that peer ecologies need to be considered in the elaboration of preventive measures for violence in romantic relationships among adolescent girls. Our findings thus support the ideas proposed by Arriaga and Foshee (2004), who recommended specifically for adolescent girls that prevention strategies take into account the potential influence of friends. Peers contribute to the formation of youths' romantic norms and expectations because they can play the role of model, confidant, and counsellor, and also because being accepted by peers is a major preoccupation for adolescents. Deviant peer groups should then be considered as an interesting target population for the implementation of preventive measures.

Conclusion

This study provided support for a model in which risky lifestyle—risky sexual behavior, alcohol and drug problems, and delinquency—partially mediated the relationship between deviant peer affiliation and dating violence victimization when psychological victimization was the outcome, and completely mediated this relationship when the outcome was physical/sexual victimization. Future studies on adolescent dating violence should adopt a developmental framework and include peer contexts as an attempt to better understand, prevent, and treat this disquieting phenomenon. Our findings suggest that deviant peers may play a role in dating violence victimization among adolescent girls and, consequently, that prevention and intervention efforts should target deviant peer groups, as well as adolescent girls who display a risky lifestyle.

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