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Perpetration of Physical Assault Against Dating Partners, Peers, and Siblings Among a Locally Representative Sample of High School Students in Boston, Massachusetts

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Abstract

Objectives—To assess the co-occurrence of past-month physical assault of a dating partner and violence against peers and siblings among a locally representative sample of high school students and to explore correlates of dating violence (DV) perpetration.

Design—Cross-sectional survey design.

Setting—Twenty-two public high schools in Boston, Massachusetts.

Participants—A sample of urban high school students (n = 1398) who participated in the Boston Youth Survey, implemented January through April of 2008.

Main Outcomes Measures—Self-reported physical DV in the month before the survey, defined as pushing, shoving, slapping, hitting, punching, kicking, or choking a dating partner 1 or more times.

Results—Among the respondents, 18.7%, 41.2%, and 31.2% of students reported past-month perpetration of physical DV, peer violence, and sibling violence, respectively. Among violence perpetrators, the perpetration of DV only was rare (7.9%). Controlling for age and school, the association between sibling violence and DV was strong for boys (adjusted prevalence ratio, 3.81; 95% confidence interval, 2.07-6.99) and for girls (1.83; 1.44-2.31), and the association

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between peer violence and DV perpetration was strong for boys (5.13; 3.15-8.35) and for girls (2.57; 1.87-3.52). Dating violence perpetration was also associated with substance use, knife carrying, delinquency, and exposure to community violence.

Conclusions—Adolescents who perpetrated physical DV were also likely to have perpetrated peer and/or sibling violence. Dating violence is likely one of many co-occurring adolescent problem behaviors, including sibling and peer violence perpetration, substance use, weapon carrying, and academic problems.

Dating Violence (DV) is a common adolescent health problem with substantial public health consequences. As many as 1 in 10 US high school students reports having been “hit, slapped, or physically hurt on purpose by their boyfriend or girlfriend” in the past year.¹ Research on victims of DV has demonstrated that they are at risk for a range of negative consequences, including death, injury, suicidal thoughts, substance use, disordered eating, and psychiatric disorders.²⁻⁶ In contrast to the relatively rich information available about victims of DV, far less is known about DV perpetrators and how to prevent their aggression, which may be one of the reasons that only 2 DV prevention programs have been found effective to date.^{7,8}

It has been suggested that at least a portion of DV perpetration may be attributable to general antisocial traits and that DV is one of numerous problem behaviors that tend to co-occur in adolescence, including substance use, delinquency, and peer aggression.^{9,10} However, no prior study of which we are aware has quantified the extent of the overlap among DV and sibling and peer violence. Moreover, previous studies that have found that DV and peer violence are associated or that DV and sibling violence are associated have described those associations by using odds ratios, correlation coefficients, or mean scale scores.¹⁰⁻¹⁴ Although these are useful metrics for researchers, practitioners still lack an easily interpretable quantification of the overlap among the different types of abuse, such as a proportion that represents the prevalence of the overlap. The size of the overlap could have important implications for prevention; if the overlap is substantial, rather than delivering tailored messages to what are presumed to be unique subgroups of perpetrators, educators could conjointly address shared risk factors for peer, community, sibling, and dating aggression.

The purpose of the present study was 2-fold. First, we sought to establish the prevalence of past-month physical assault of dating partners among 9th through 12th graders in public high schools in Boston, Massachusetts. We refer to this form of DV as *physical DV* to distinguish it from the full spectrum of dating abusive behaviors, which may include emotional, sexual, and physical abuse. Second, we explored the relationship between DV perpetration and other adolescent problem behaviors, including sibling and peer violence perpetration, substance use, knife carrying, and school truancy. We expected to find that physical DV was common, that it was associated with both peer and sibling assault perpetration, and that it co-occurred with other adolescent risk behaviors and experiences.

METHODS

We collected self-report survey data from 9th through 12th graders in Boston public schools via the Boston Youth Survey (N=1878).¹⁵ Participation in the survey was voluntary, and students' answers were confidential. The survey used a sampling method similar to that of the Boston Youth Risk Behavior Survey (YRBS)¹⁶ and is representative of Boston public high school students.

SAMPLE

All public high schools in Boston were invited to participate, with the exception of 9 specialty schools that serve nontraditional students (eg, adults in night school). Twenty-two of the 32 schools invited participated. The remaining 10 schools were unable to participate because of scheduling conflicts and did not differ from participating schools in terms of their dropout rates, standardized test scores, proportion of students receiving free or reduced-price lunches, or student race. To generate our sample, we assembled a list of unique classrooms within each participating school, stratified by grade, and randomly selected classrooms for survey administration. Every student within selected classrooms was invited to participate. Classrooms were selected until the total number of enrolled students in each grade reached 100 to 125 per school. Of the 2725 students in classrooms selected for participation, 1878 completed the survey (American Association for Public Opinion Research response rate, 68.9%).¹⁷ Noncompleters were absent from school on the day of the survey (n=724), declined to participate (n=99), or were not permitted to participate by their parents (n=24). Of the students selected for participation and not absent on the day of the survey (n=2001), 93.9% completed surveys. The demographic composition of the total sample was comparable to the population of Boston public high school students in terms of sex, nativity, race, ethnicity, and age.

DATA COLLECTION

Trained staff administered the survey between January and April of 2008 during 50-minute class periods. Passive consent was sought from parents, and students were read a statement regarding assent/consent before survey administration. The Human Subjects Committee at the Harvard School of Public Health approved all procedures, and research protocols were approved by the Office of Research, Assessment, and Evaluation at the Boston Public Schools.

MEASURES

Physical DV Perpetration—Past-month violence against dating partners was assessed via questions adapted from the Revised Conflict Tactics Scales.¹⁸ Respondents were instructed to “think about someone you were or are dating” in the past 30 days, with the specification that “by dating, we mean a girlfriend or boyfriend, or someone who you were romantically or sexually involved with.” Respondents were further instructed “when answering these questions, do not include times when you or someone else was playing or joking around.” They were then asked to indicate the number of times in the past month that they (a) had a yelling argument with him or her; (b) swore or cursed at him or her or called him or her fat, ugly, stupid, or some other insult; (c) threatened to hit, punch, kick, or hurt her or him; (d) pushed, shoved, or slapped him or her; and (e) hit, punched, kicked, or choked him or her. For the present analysis, respondents who indicated that they had perpetrated physical violence 1 or more times (ie, endorsed items d or e) were classified as having perpetrated physical DV.

Peer Violence Perpetration—Respondents were asked to indicate how many times in the past 30 days they had perpetrated various physically violent acts against “kids, including those in your school or neighborhood” but not in their family and not including someone whom they were dating. The violent acts were defined as (a) pushed, shoved, or slapped and (b) hit, punched, kicked, or choked. Respondents who reported perpetrating any of the violent acts at least 1 time were classified as perpetrating peer violence.

Sibling Violence Perpetration—Respondents were asked to indicate the number of times in the past 30 days that they had perpetrated physically violent acts against “kids in

your immediate family, meaning the kids who live in your home.” The acts were identical to those described under peer violence perpetration. Respondents with siblings who reported perpetrating any of the violent acts at least 1 time were classified as perpetrating sibling violence.

COVARIATES

Substance use was assessed via 3 similarly worded items about past-month use of alcohol, tobacco, or marijuana (eg, “In the past 30 days, on how many days did you drink alcohol?”) adapted from the 2005 national YRBS.¹⁹ Respondents were classified as having been delinquent if they reported involvement with the juvenile justice system in the 12 months preceding survey administration or if they reported that they were involved in a gang. Respondents were classified as having been exposed to community violence if, within the 12 months preceding survey administration, they reported having seen someone (a) punched, kicked, or choked; (b) attacked or threatened with a weapon other than a gun; (c) threatened with a gun; (d) shot or shot at; or (e) killed. Academic performance was assessed through 2 items, the first asking respondents about their grades (ie, “In the past 12 months, how would you describe your grades in school?”) and the second asking about truancy (ie, “In the past 30 days, how many times did you skip school when you were not sick?”). The former item was adapted from the YRBS,¹⁹ and the latter was adapted from the National Longitudinal Study of Adolescent Health.²⁰ Students who reported having mostly Ds or mostly Fs were classified as having failing grades, and those who reported skipping school 1 or more times in the past month were classified as truant. A question adapted from the YRBS assessed whether students carried a knife in the past 30 days. Using questions that were based on physical violence items from the Conflict Tactics Scales,²¹ we also assessed whether students had been physically victimized by peers in the past year or physically assaulted by an adult who lived in their home in the past year.

Demographic characteristics included grade (9th-12th), sex, Hispanic/Latino ethnicity, nativity status (US or foreign born), and race.

STATISTICAL ANALYSIS

We used SAS software, version 9.1.3, for statistical analysis.²² We tabulated descriptive information on DV perpetration by sociodemographic characteristics for the full sample and then stratified by sex. We used the Pearson χ^2 statistic to assess the statistical significance of differences in the prevalence of acts of DV by sex. We then examined differences in sociodemographic characteristics among perpetrators of physical DV compared with nonperpetrators, stratified by sex. Statistical significance was assessed using Pearson χ^2 statistics. Next, we calculated the prevalence of physical assault by relationship type (ie, toward dating partners, siblings, and peers), stratified by sex, and restricted the analyses to those with siblings. These results are presented in proportional Venn diagrams.²³ We examined bivariate associations between physical DV and other adolescent problem behaviors and experiences and conducted multivariable regression analyses to determine whether the associations persisted after statistical adjustment for potential confounders (eg, age and race). We controlled for the potential effect of school clustering by using a generalized estimating equations model with a compound symmetric error covariance structure matrix. Finally, we computed prevalence ratios using a binomial distribution and log-link function.²⁴ All models converged.

RESULTS

DESCRIPTION OF SAMPLE

Of the 1878 students in the sample, 350 had not dated any-one in the past month, 126 did not answer the questions about dating partner assault, and 4 did not indicate their sex. Those respondents did not differ from the rest of the sample in terms of race, age, or grade level and were excluded, bringing the analytical sample to 1398. Most of the respondents were black (44.2%) or Hispanic/Latino (35.6%), were born in the United States (69.5%), and lived with siblings (86.1%). The mean age was 16.4 (SD, 1.3) years. For analyses of the overlap among prevalence of physical DV and peer and sibling violence, we further restricted the sample to respondents who had siblings and had perpetrated at least 1 form of violence (n=1084).

DV PERPETRATION

Approximately one-fifth of the students reported past-month physical DV perpetration (18.7%; Table 1), whereas 41.2% reported peer violence and 31.2% reported sibling violence perpetration (not shown). A significantly larger proportion of girls than boys reported perpetrating physical DV (26.6% vs 9.6%) and each other form of DV (Table 1). Although there were no significant differences in physical DV perpetration by age for boys or girls, there were differences by nativity among girls (Table 2). Specifically, the prevalence of physical DV perpetration was lower among foreign-born girls compared with US-born girls (29.4% vs 19.0%; $P=.004$) (Table 2).

OVERLAP AMONG DV AND PEER AND SIBLING VIOLENCE PERPETRATION PREVALENCE

Of the 1084 respondents with siblings, 256 of the boys (50.8%) and 351 of the girls (60.5%) reported that they had physically assaulted a sibling, peer, and/or dating partner (Figure). Among those who reported perpetrating any form of past-month violence, just 7.9% perpetrated physical DV exclusively (not shown).

Among the 256 boys who reported perpetrating at least 1 form of violence, physical DV was the least commonly reported form of violence perpetrated (14.1%), whereas 84.4% reported perpetrating peer violence and 49.6% reported perpetrating sibling violence (Figure). There was a high degree of overlap between physical DV and peer violence by boys: 75.0% of DV perpetrators had also perpetrated peer violence (Figure). There was also a high degree of overlap between physical DV and sibling violence: 55.6% of male DV perpetrators had also perpetrated sibling violence (Figure). The fraction of boys who had perpetrated physical DV and no other form of violence was 2.3% (Figure).

Among the 351 girls who reported perpetrating at least 1 form of violence, 44.2% reported perpetrating physical DV, 65.2% reported perpetrating peer violence, and 59.8% reporting perpetrating sibling violence (Figure). Among the female perpetrators of DV, 59.4% had also perpetrated peer violence, and 50.3% of female DV perpetrators had also perpetrated sibling violence (Figure). Among girls, 12.0% reported perpetrating physical DV and no other form of violence (Figure).

The multivariable regression models demonstrated that physical assault of a dating partner was significantly associated with physical assault of a peer or of a sibling for both sexes, controlling for age and school clustering (Table 3). The association between physical assault of a sibling and assault of a dating partner was strong for boys (adjusted prevalence ratio [PR], 3.81; 95% confidence interval [CI], 2.07-6.99) and for girls (1.83; 1.44-2.31). Peer

violence perpetration was strongly associated with DV perpetration for boys (adjusted PR, 5.13; 95% CI, 3.15-8.35) and for girls (2.57; 1.87-3.52).

CORRELATES OF PHYSICAL DV PERPETRATION

Physical DV perpetration was associated with alcohol use, tobacco use, marijuana use, knife carrying, juvenile delinquency, school failure, school truancy, physical child abuse victimization, peer violence victimization, and exposure to community violence, controlling for respondents' age and school clustering (Table 3). Each of these associations was present for boys and girls when we stratified by sex, with the exception of school truancy, which was not significantly related to physical DV among girls (Table 3).

COMMENT

In this locally representative sample of public high school-attending youth, we found that past-month physical DV perpetration was common (18.7%), although less common than peer violence or sibling violence. We also found that the perpetration of physical DV only was relatively rare. Consistent with previous research, we found that physical DV perpetration was associated with peer violence perpetration^{9,10} and sibling violence perpetration.²⁵ Also consistent with previous research, we found that the relationship between physical DV and peer violence perpetration was stronger for boys than for girls.¹⁰ Our study adds to the existing literature by analyzing a locally representative sample of public high school students and by quantifying the extent of the overlap between physical DV and other forms of interpersonal violence perpetration. Two strengths of our study are that we assessed past-month violence (rather than past-year or lifetime history), which may have limited recall bias, and that our measure of DV perpetration specified that playful aggression was not included.

Consistent with at least 16 previous studies, girls in this sample were more likely to report physical DV perpetration than boys.^{7,12,26-39} There are several possible explanations for this finding. First, it has been suggested that assessments of DV that do not solicit information about sexual violence may yield underestimates of perpetration by boys.⁴⁰ Second, assessments that do not take into account the severity of the assault or injuries mischaracterize perpetration by obscuring sex-based severity differences.^{41,42} However, 2 studies have found nearly equivalent rates of injury reported by male and female victims of DV,^{7,27} and at least 3 studies have found that a greater proportion of girls than boys report perpetrating "severe" DV.^{7,29,43} Third, boys may be more likely to be dishonest about their DV perpetration on surveys, and girls may be more likely to overestimate their perpetration (eg, report playful hitting as abuse),⁴⁴ although research suggests that adult men and women alike tend to underreport their own partner violence perpetration.⁴⁵ This issue has yet to be investigated among adolescents. Fourth, female reports of violence against dating partners may reflect self-defensive actions, whereas male reports may not.⁴⁶ Finally, girls in our sample may have reported their DV perpetration accurately. Because this study was not designed to explore the full situational context or consequences of DV perpetration, we were unable to determine why we found a higher perpetration rate among girls than boys.

Our hypothesis that physical DV perpetration would be associated with a range of other adolescent problem behaviors was supported by our results and is consistent with research on adult male batterers, which suggests that perpetration of physical violence against partners often co-occurs with other forms of interpersonal violence, criminality, and substance use.⁴⁷⁻⁴⁹ According to the problem-behavior theory of Jessor,⁵⁰ certain adolescents are prone to engage in a variety of co-occurring behaviors such as underage alcohol use, cigarette smoking, marijuana use, precocious sexual activity, delinquency, and "acting out" against society because of underlying psychological and environmental factors.

We propose that physical DV perpetration be added to the list of problem behaviors that co-occur among adolescents who may be characterized as being at high risk for other delinquent and unhealthful activities.

Longitudinal research could help to determine whether peer or sibling violence tends to precede physical DV perpetration. Consistent with social learning theory, which posits that children learn dysfunctional relationship behaviors from those close to them, children who use violence with siblings or peers may be on a trajectory toward partnership violence.⁵¹ Peer and sibling relationships may be training grounds for dating relationship behavior, which in turn may be a rehearsal for adult intimate partnership. If this hypothesis is supported, intervening with potentially violent adolescents at earlier stages in their development, when they first begin to show signs of aggression toward peers and siblings, may help to prevent partner violence perpetration later. Clinicians are encouraged to consider asking parents and pediatric patients about sibling and peer violence and DV and to discuss the importance of curbing abusive behavior.

Our results are limited by several factors. Our DV definition is limited to physical abuse. Had we included emotional abuse in our definition, more than half the sample would have been classified as perpetrators. Our definition permitted us to focus on those who had engaged in behavior with the potential to produce physical injury and to assess the overlap with comparable forms of physical aggression toward peers and siblings.

We did not assess the intent or motivation for perpetration or whether the violence was perpetrated in self-defense. These contextual variables would be critically important if our goal was to attempt to explain the disparity in male and female perpetration rates. That type of inquiry was beyond the scope of this investigation. Also, data were self-reported, and there is a concern that violence perpetration and other socially undesirable behaviors might have been underreported. However, a comparison of our results with data from the YRBS from Boston high schools showed that self-reported rates of underage alcohol use, marijuana use, and suicidal ideation were nearly equivalent on the 2 surveys.⁵² Therefore, although underreporting may have been a factor, it does not appear to have affected our survey more than a comparable locally representative survey. Finally, our sample was restricted to those in school who reported dating in the past month and, for the overlap analysis, had siblings. Therefore, results may not be generalizable to students who are chronically truant, live in other cities, date less frequently or not at all, and have no siblings.

In conclusion, investigating and addressing the overlap among DV and peer and sibling violence may help reduce all these problem behaviors. It is imperative that researchers and health care practitioners who focus on DV consider the co-occurrence of physical DV perpetration and other adolescent problem behaviors, including violence against nonintimates. The discovery of root causes of these overlapping problems and methods for addressing them should be a priority for research and practice.

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REFERENCES

1. US Centers for Disease Control and Prevention. [Accessed July 7, 2009] YRBSS: youth online, comprehensive results. <http://apps.nccd.cdc.gov/youthonline/App/Default.aspx>
2. Ackard DM, Neumark-Sztainer D. Date violence and date rape among adolescents: associations with disordered eating behaviors and psychological health. *Child Abuse Negl.* 2002; 26(5):455–473. [PubMed: 12079084]
3. Banyard VL, Cross C. Consequences of teen dating violence: understanding intervening variables in ecological context. *Violence Against Women.* 2008; 14(9):998–1013. [PubMed: 18703772]
4. Brown A, Cosgrave E, Killackey E, Purcell R, Buckby J, Yung AR. The longitudinal association of adolescent dating violence with psychiatric disorders and functioning. *J Interpers Violence.* 2009; 24(12):1964–1979. [PubMed: 19098215]
5. Kilpatrick DG, Acierno R, Resnick HS, Saunders BE, Best CL. A 2-year longitudinal analysis of the relationships between violent assault and substance use in women. *J Consult Clin Psychol.* 1997; 65(5):834–847. [PubMed: 9337502]
6. Modesitt SC, Gambrell AC, Cottrill HM, et al. Adverse impact of a history of violence for women with breast, cervical, endometrial, or ovarian cancer. *Obstet Gynecol.* 2006; 107(6):1330–1336. [PubMed: 16738160]
7. Foshee VA, Linder GF, Bauman KE, et al. The Safe Dates Project: theoretical basis, evaluation design, and selected baseline findings. *Am J Prev Med.* 1996; 12(5)(suppl):39–47. [PubMed: 8909623]
8. Wolfe DA, Crooks C, Jaffe P, et al. A school-based program to prevent adolescent dating violence: a cluster randomized trial. *Arch Pediatr Adolesc Med.* 2009; 163(8):692–699. [PubMed: 19652099]
9. Cleveland H, Herrera V, Stuewig J. Abusive males and abused females in adolescent relationships: risk factor similarity and dissimilarity and the role of relationship seriousness. *J Fam Violence.* 2003; 18(6):325–339. doi:10.1023/A:1026297515314.
10. Ozer EJ, Tschann JM, Pasch LA, Flores E. Violence perpetration across peer and partner relationships: co-occurrence and longitudinal patterns among adolescents. *J Adolesc Health.* 2004; 34(1):64–71. [PubMed: 14706407]
11. Bossarte RM, Simon TR, Swahn MH. Clustering of adolescent dating violence, peer violence, and suicidal behavior. *J Interpers Violence.* 2008; 23(6):815–833. [PubMed: 18252941]
12. Swahn MH, Simon TR, Arias I, Bossarte RM. Measuring sex differences in violence victimization and perpetration within date and same-sex peer relationships. *J Interpers Violence.* 2008; 23(8):1120–1138. [PubMed: 18319366]
13. Leadbeater BJ, Banister EM, Ellis WE, Yeung R. Victimization and relational aggression in adolescent romantic relationships: the influence of parental and peer behaviors, and individual adjustment. *J Youth Adolesc.* 2008; 37(3):359–372. doi:10.1007/s10964-007-9269-0.
14. Swahn MH, Simon TR, Hertz MF, et al. Linking dating violence, peer violence, and suicidal behaviors among high-risk youth. *Am J Prev Med.* 2008; 34(1):30–38. [PubMed: 18083448]
15. Azrael D, Johnson R, Molnar B, et al. Creating a youth violence data system for Boston, Massachusetts. *Aust N Z J Criminol.* 2009; 42(3):406–421.
16. Brener ND, Kann L, Kinchen SA, et al. Methodology of the Youth Risk Behavior Surveillance System. *MMWR Recomm Rep.* 2004; 53(RR-12):1–13. [PubMed: 15385915]
17. American Association for Public Opinion Research. [Accessed February 26, 2010] Standard definitions report: final dispositions of case codes and outcome rates for surveys. 6th ed2009. http://www.aapor.org/Standard_Definitions/1481.htm
18. Straus M, Hamby S, Boney-McCoy B, Sugarman D. The Revised Conflict Tactics Scales (CTS2): development and preliminary psychometric data. *J Fam Issues.* 1996; 17(3):283–316.
19. US Centers for Disease Control and Prevention. 2005 National YRBS Data Users Manual. US Centers for Disease Control and Prevention; Atlanta, GA: 2005.
20. National Longitudinal Study of Adolescent Health. [Accessed October 12, 2009] Home questionnaire code-book, wave II. <http://www.cpc.unc.edu/projects/addhealth/codebooks/wave2>
21. Straus, MA. Conflict Tactics Scales. In: Jackson, N., editor. *Encyclopedia of Domestic Violence.* Routledge Taylor & Francis Group; New York, NY: 2007. p. 190-197.

22. SAS Institute Inc. SAS 9.1.3 Help and Documentation. SAS Institute Inc; Cary, NC: 2000-2004.
23. Littlefield, K.; Monroe, M. [Accessed September 28, 2010] Venn diagram plotter. Pacific Northwest National Laboratory Web site. 2008. <http://omics.pnl.gov/software/VennDiagramPlotter.php>
24. Petersen MR, Deddens JA. A comparison of two methods for estimating prevalence. *BMC Med Res Methodol*. Feb 28.2008 8:9. doi:10.1186/1471-2288-8-9. [PubMed: 18307814]
25. Noland VJ, Liller KD, McDermott RJ, Coulter ML, Seraphine AE. Is adolescent sibling violence a precursor to college dating violence? *Am J Health Behav*. 2004; 28(suppl 1):S13–S23. [PubMed: 15055568]
26. Arriaga XB, Foshee VA. Adolescent dating violence: do adolescents follow in their friends', or their parents', footsteps? *J Interpers Violence*. 2004; 19(2):162–184. [PubMed: 15006000]
27. Avery-Leaf S, Cascardi M, O'Leary KD, Cano A. Efficacy of a dating violence prevention program on attitudes justifying aggression. *J Adolesc Health*. 1997; 21(1):11–17. [PubMed: 9215505]
28. Bookwala J, Frieze IH, Smith C, Ryan K. Predictors of dating violence: a multivariate analysis. *Violence Vict*. 1992; 7(4):297–311. [PubMed: 1308437]
29. Cercone JJ, Beach SRH, Arias I. Gender symmetry in dating intimate partner violence: does similar behavior imply similar constructs? *Violence Vict*. 2005; 20(2):207–218. [PubMed: 16075667]
30. Foo L, Margolin G. A multivariate investigation of dating aggression. *J Fam Violence*. 1995; 10(4):351–377. doi:10.1007/BF02110711.
31. Foshee VA, Linder F, MacDougall JE, Bangdiwala S. Gender differences in the longitudinal predictors of adolescent dating violence. *Prev Med*. 2001; 32(2):128–141. [PubMed: 11162338]
32. Malik S, Sorenson SB, Aneshensel CS. Community and dating violence among adolescents: perpetration and victimization. *J Adolesc Health*. 1997; 21(5):291–302. [PubMed: 9358292]
33. Muñoz-Rivas MJ, Graña JL, O'Leary KD, González MP. Aggression in adolescent dating relationships: prevalence, justification, and health consequences. *J Adolesc Health*. 2007; 40(4): 298–304. [PubMed: 17367721]
34. O'Keefe M. Predictors of dating violence among high school students. *J Interpers Violence*. 1997; 12(4):546–568. doi:10.1177/088626097012004005.
35. Wolfe DA, Scott K, Reitzel-Jaffe D, Wekerle C, Grasley C, Straatman AL. Development and validation of the conflict in adolescent dating relationships inventory. *Psychol Assess*. 2001; 13(2): 277–293. [PubMed: 11433803]
36. Cogan R, Ballinger BC III. Alcohol problems and the differentiation of partner, stranger, and general violence. *J Interpers Violence*. 2006; 21(7):924–935. [PubMed: 16731992]
37. Giordano P, Millhollin T, Cernkovich S, Pugh M, Rudolph J. Delinquency, identity, and women's involvement in relationship violence. *Criminology*. 1999; 37(1):17–40. doi:10.1111/j.1745-9125.1999.tb00478.x.
38. Luthra R, Gidycz CA. Dating violence among college men and women: evaluation of a theoretical model. *J Interpers Violence*. 2006; 21(6):717–731. [PubMed: 16672738]
39. Wolf K, Foshee V. Family violence, anger expression styles, and adolescent dating violence. *J Fam Violence*. 2003; 18(6):309–316. doi:10.1023/A:1026237914406.
40. Teten AL, Ball B, Valle LA, Noonan R, Rosenbluth B. Considerations for the definition, measurement, consequences, and prevention of dating violence victimization among adolescent girls. *J Womens Health (Larchmt)*. 2009; 18(7):923–927. [PubMed: 19575691]
41. Capaldi DM, Owen LD. Physical aggression in a community sample of at-risk young couples: gender comparisons for high frequency, injury, and fear. *J Fam Psychol*. 2001; 15(3):425–440. [PubMed: 11584793]
42. Molidor C, Tolman MR, Kober J. Gender and contextual factors in adolescent dating violence. *Prev Res*. 2000; 7(1):1–4. doi:10.1177/1077801298004002004.
43. Coker AL, McKeown RE, Sanderson M, Davis KE, Valois RF, Huebner ES. Severe dating violence and quality of life among South Carolina high school students. *Am J Prev Med*. 2000; 19(4):220–227. [PubMed: 11064224]

44. Lewis SF, Fremouw W. Dating violence: a critical review of the literature. *Clin Psychol Rev.* 2001; 21(1):105–127. [PubMed: 11148892]
45. Simpson LE, Christensen A. Spousal agreement regarding relationship aggression on the Conflict Tactics Scale-2. *Psychol Assess.* 2005; 17(4):423–432. [PubMed: 16393009]
46. Makepeace JM. Gender differences in courtship violence victimization. *Fam Relat.* 1986; 35(3): 383–388.
47. Gleason WJ. Psychological and social dysfunctions in battering men: a review. *Aggress Violent Behav.* 1997; 2(1):43–52. doi:10.1016/S1359-1789(96)00022-5.
48. Holtzworth-Munroe A, Meehan JC, Herron K, Rehman U, Stuart GL. Testing the Holtzworth-Munroe and Stuart (1994) batterer typology. *J Consult Clin Psychol.* 2000; 68(6):1000–1019. [PubMed: 11142534]
49. Stuart G, O’Farrell T, Leonard K, et al. Examining the interface between substance misuse and intimate partner violence. *Subst Abus Res Treatment.* 2009; 3:25–29.
50. Jessor R. Problem-behavior theory, psychosocial development, and adolescent problem drinking. *Br J Addict.* 1987; 82(4):331–342. [PubMed: 3472582]
51. Bell KM, Naugle AE. Intimate partner violence theoretical considerations: moving towards a contextual framework. *Clin Psychol Rev.* 2008; 28(7):1096–1107. [PubMed: 18430501]
52. US Centers for Disease Control and Prevention. [Accessed September 24, 2010] Boston MA 2009 and United States 2009 results: youth online: high school YRBS. 2010. <http://www.cdc.gov/healthyyouth/yrbs/index.htm>

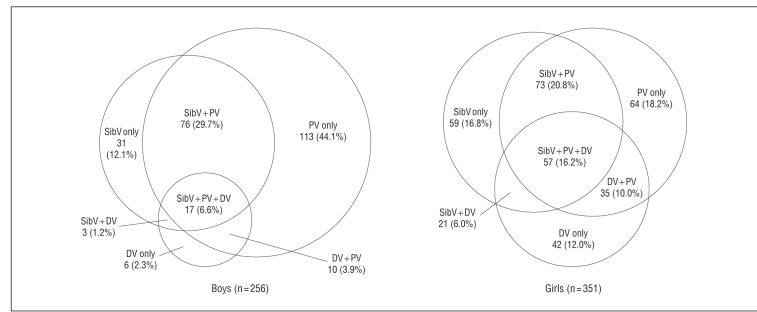


Figure. Overlap of the prevalence of sibling (SibV), peer (PV), and dating violence (DV) perpetration among students who reported perpetrating at least 1 form of violence, by sex (n=607).

Table 1

Prevalence of DV Perpetration Acts by Sex

DV Act ^a	% of Respondents			P Value ^b
	All (N=1398)	Boys (n=653)	Girls (n=745)	
(a) Had a yelling argument with him or her	55.9	47.5	63.2	<.001
(b) Swore or cursed at him or her or called him or her fat, ugly, stupid, or some other insult	42.8	32.2	52.2	<.001
(c) Threatened to hit, punch, kick, or hurt him or her	20.1	10.2	28.9	<.001
(d) Pushed, shoved, or slapped him or her	17.6	8.9	25.2	<.001
(e) Hit, punched, kicked, or choked him or her	9.9	5.1	14.1	<.001
Any perpetration of physical DV ^c	18.7	9.6	26.6	<.001

Abbreviation: DV, dating violence.

^aThe 1398 respondents were asked the number of times they had perpetrated each act toward someone they were dating in the past 30 days.

^bCalculated using the χ^2 statistic.

^cComposite variable that includes respondents who endorsed items *d* or *e*.

Table 2

Prevalence of Past-Month Physical DV Perpetration by Age, Nativity, and Sex

	No. (%) of Respondents ^a		
	All (N=1398)	Boys (n=653)	Girls (n=745)
All	261/1398 (18.7)	63/653 (9.6)	198/745 (26.6)
Age, y			
14	19/100 (19.0)	6/45 (13.3)	13/55 (23.6)
15	45/264 (17.1)	8/114 (7.0)	37/150 (24.7)
16	73/377 (19.4)	16/183 (8.7)	57/194 (29.4)
17	70/377 (18.6)	13/178 (7.3)	57/199 (28.6)
18	53/268 (19.8)	20/126 (15.9)	33/142 (23.2)
χ^2 Statistic ^b (P value)	0.79 (.94)	8.4 (.08)	2.5 (.64)
Nativity			
US born	193/962 (20.1)	36/427 (8.4)	157/535 (29.4)
Foreign born	64/422 (15.2)	25/217 (11.5)	39/205 (19.0)
χ^2 Statistic ^c (P value)	4.65 (.03)	1.9 (.21)	8.1 (.004)

Abbreviation: DV, dating violence.

^aDenominators may not sum to the total because of missing data.^bCalculated with 4 *df*.^cCalculated with 1 *df*.

Table 3

Adjusted Prevalence of Physical DV Perpetration by Risk Behaviors and Sex

Risk Behavior	PR (95% CI) ^a		
	All Respondents (N=1398)	Boys (n=653)	Girls (n=745)
Substance use, past 30 d			
Alcohol use	1.68 (1.22-2.31)	2.05 (1.15-3.64)	1.53 (1.10-2.11)
Tobacco use	1.92 (1.48-2.49)	2.14 (1.15-3.97)	1.89 (1.44-2.49)
Marijuana use	1.79 (1.41-2.28)	2.15 (1.33-3.48)	1.84 (1.46-2.32)
Delinquency, past year			
Carried a knife	1.96 (1.49-2.57)	3.69 (1.80-7.56)	2.40 (1.81-3.17)
Gang member/involvement with justice system	1.95 (1.62-2.36)	2.91 (2.00-4.24)	2.11 (1.74-2.57)
Academic performance			
School failure, past year	1.29 (1.03-1.61)	1.33 (0.75-2.36)	1.42 (1.17-1.73)
Truancy, past 30 d	1.50 (1.16-1.95)	2.48 (1.65-3.71)	1.21 (0.87-1.67)
Family violence			
Physically assaulted by a caregiver, past year	1.90 (1.50-2.42)	2.35 (1.39-3.97)	1.64 (1.25-2.15)
Physically assaulted a sibling, past 30 d	2.41 (2.03-2.87)	3.81 (2.07-6.99)	1.83 (1.44-2.31)
Peer and community violence			
Physically assaulted by a peer, past year	1.73 (1.40-2.13)	2.64 (1.79-3.89)	1.78 (1.40-2.27)
Physically assaulted a peer, past 30 d	2.82 (2.14-3.73)	5.13 (3.15-8.35)	2.57 (1.87-3.52)
Witnessed physical assault/homicide, past year	2.38 (1.88-3.03)	3.60 (1.75-7.40)	2.28 (1.82-2.85)

Abbreviations: CI, confidence interval; DV, dating violence; PR, prevalence ratio.

^aPrevalence ratios are adjusted for age and school clustering.