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Associations of Teen Dating Violence Victimization With School Violence and Bullying Among US High School Students*

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Abstract

BACKGROUND—Teen dating violence (TDV) negatively impacts health, mental and physical well-being, and school performance.

METHODS—Data from a nationally representative sample of high school students participating in the Centers for Disease Control and Prevention (CDC)'s 2013 Youth Risk Behavior Survey (YRBS) are used to demonstrate associations of physical and sexual TDV with school violence-related experiences and behaviors, including bullying victimization. Bivariate and adjusted sex-stratified regressions assessed relationships between TDV and school violence-related experiences and behaviors.

RESULTS—Compared to students not reporting TDV, those experiencing both physical and sexual TDV were more likely to report carrying a weapon at school, missing school because they felt unsafe, being threatened or injured with a weapon on school property, having a physical fight at school, and being bullied on school property.

CONCLUSIONS—School-based prevention efforts should target multiple forms of violence.

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The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the US Centers for Disease Control and Prevention.

Keywords

school violence; bullying; dating violence; weapon carrying; physical fighting

Adolescence is a developmental period marked by significant physical, biological, and psychological changes.¹ During this time period, adolescents are also developing and maintaining peer and intimate partner relationships, which build the foundation for later significant relationships.² Unfortunately, negative peer and intimate partner relationships can impact future relationships in significantly unhealthy ways. As adolescents develop emotionally, they may develop schemas and beliefs influenced by their past and current relationship experiences.³ Whereas healthy relationships can have a positive impact on development, unhealthy, abusive, or violent relationships may have lasting and deleterious effects on adolescents. For example, physical dating violence victimization in adolescence is a significant predictor of intimate partner violence victimization in adulthood.⁴

Dating violence in adolescence, also called teen dating violence (TDV), is defined by the US Centers for Disease Control and Prevention (CDC) as any physical, psychological/emotional, or sexual violent behavior, including stalking, that is directed toward a dating partner.⁵ The most recent estimates from CDC's Youth Risk Behavior Survey (YRBS) demonstrate that approximately 10% of high school students report that they were victims of physical and 10% report sexual TDV victimization. However, the prevalence of experiencing any TDV victimization is disparate for girls and boys (20% and 10%, respectively).^{6,7} Regardless of biological sex, victims of TDV are more likely to do poorly in school, report binge drinking, poor mental and physical health, increased suicide attempts, and sexual risk behaviors.^{5,8,9}

With the increased recognition of TDV experiences in the lives of youth, there has been a shift toward garnering a better understanding of the unique contribution of TDV victimization to other behavioral outcomes. There is some preliminary evidence that school violence-related experiences and behaviors and bullying victimization overlap and co-occur with TDV victimization. For example, Connolly et al¹⁰ demonstrated that middle school students who bullied others began to date much earlier and engaged in more dyadic dating than students who had not bullied others. In addition, those who bullied others were more likely to report physical and social aggression with their boyfriends or girlfriends. In a selected sample of lesbian, gay, bisexual, and transgendered youth, this relationship continues to emerge. Dank et al¹¹ found that youth who experienced and perpetrated multiple forms of bullying, including physical, psychological, and cyber abuse, were also likely to report experiencing and perpetrating multiple forms of TDV such as physical, psychological, cyber, and sexual abuse.

Whereas the co-occurrence of TDV victimization with bullying has emerged in these studies, little is known about the associations between TDV victimization and the occurrence of other school violence-related experiences and behaviors, including weapon carrying and fighting. Coker et al⁸ found in a sample of South Carolina high school students, that those reporting severe dating violence, defined as 2 or more incidents of physical violence against a partner (or as a victim), were significantly more likely to have gotten into a physical fight

in the past month and have carried a weapon in the past month.⁸ O'Donnell et al¹² assessed the relationship between both victimization and perpetration of dating violence on general aggression in middle school students in New York. Results indicated that the relationship between general aggression and dating violence victimization and perpetration was only significant for boys. For girls, the relationship was significant only for dating violence perpetration. However, among girls who reported dating violence victimization, general aggression was significantly associated with weapon-related victimization and perpetration.¹² Even less is known about the relationship between TDV victimization and school safety concerns. In a multisite sample of low-income children and families, Schnurr and Lohman¹³ demonstrated that a lack of perceived school safety moderated the effects of the intergenerational transmission of partner violence on TDV perpetration, but only for African American boys. Specifically, boys who viewed their schools as “unsafe” and were young were at greatest risk of perpetrating TDV when they also witnessed parental violence.¹³

With this literature in mind, it is important to understand the relationships among school violence-related experiences and behaviors, bullying, and TDV victimization to select and implement school-based programming that gives schools the biggest impact for their investments because they have the potential to impact multiple forms of violence victimization and perpetration. Thus, the purpose of this study was to fill a gap by examining the associations between several school violence-related experiences and behaviors including bullying, weapon carrying, threatening with a weapon, physical fighting, and feeling unsafe at school and physical and sexual TDV victimization using the revised and new questions from the 2013 national YRBS.

METHODS

Participants

This study is based on data collected from the 2013 school-based national YRBS of high school students in grades 9–12.

Instrumentation

The national school-based YRBS is a cross-sectional survey that has been conducted biennially since 1991. The YRBS monitors priority health-risk behaviors among youth. For this study, physical and sexual TDV were analyzed as independent variables and the school violence-related experiences and behaviors including physical fighting on school property, being threatened or injured with a weapon on school property, weapon carrying on school property, and not going to school because of safety concerns and bullying victimization were outcome variables.

Physical TDV victimization was assessed with “During the past 12 months, how many times did someone you were dating or going out with physically hurt you on purpose? (Count such things as being hit, slammed into something, or injured with an object or weapon).” Sexual TDV victimization was assessed with, “During the past 12 months, how many times did someone you were dating or going out with force you to do sexual things that you did not

want to do? (Count such things as kissing, touching, or being physically forced to have sexual intercourse).” Response options for both items were, “I did not date or go out with anyone during the past 12 months,” “0 times,” “1 time,” “2 or 3 times,” “4 or 5 times,” and “6 or more times.” The responses for both TDV variables were dichotomized into 0 times and 1 times for all bivariate and multivariable analyses.

A 4-level variable was created using the physical and sexual TDV questions [“physical TDV only (physical TDV: 1 times, sexual TDV: 0 times),” “sexual TDV only (physical TDV: 0 times; sexual TDV: 1 times),” “both physical and sexual TDV (physical TDV: 1 times, sexual TDV: 1 times),” and “none (physical TDV: 0 times, sexual TDV: 0 times).”]. A 2-level combined TDV measure also was computed that dichotomized TDV into “any TDV” and “no TDV or none.” Students who responded they did not date or go out with anyone during the 12 months before the survey and students who have missing data for either TDV survey question were excluded.

Physical fighting on school property and being threatened or injured with a weapon on school property were assessed with the questions, “During the past 12 months, how many times were you in a physical fight on school property?” and “During the past 12 months, how many times has someone threatened or injured you with a weapon such as a gun, knife, or club on school property?” respectively. The response options for both questions were “0 times,” “1 time,” “2 or 3 times,” “4 or 5 times,” “6 or 7 times,” “8 or 9 times,” “10 or 11 times,” or “12 or more times.” For this analysis, responses were converted to 0 times, 1 time, 2.5 times, 4.5 times, 6.5 times, 8.5 times, 10.5 times, and 12.5 times, respectively.

Carrying a weapon on school property and not going to school because of safety concerns were assessed by asking, “During the past 30 days, on how many days did you carry a weapon such as a gun, knife, or club on school property?” and “During the past 30 days, on how many days did you not go to school because you felt you would be unsafe at school or on your way to or from school?” respectively. The response options for each question were “0 days,” “1 day,” “2 or 3 days,” “4 or 5 days,” and “6 or more days.” For this analysis, responses to each of these 2 questions were converted to 0 days, 1 day, 2.5 days, 4.5 days, and 6.5 days. Bullying on school property was assessed with a single item (“During the past 12 months, have you ever been bullied on school property?”) preceded by a definition, “*Bullying is when 1 or more students tease, threaten, spread rumors about, hit, shove, or hurt another student over and over again. It is not bullying when 2 students of about the same strength or power argue or fight or tease each other in a friendly way.*” The response options were “yes” or “no.”

The national YRBS used 2 questions to assess race and ethnicity. Students were classified as white, non-Hispanic (referred to as “white”); black or African American, non-Hispanic (referred to as “black”); and Hispanic or Latino (referred to as “Hispanic”). The numbers of students from other racial/ethnic groups were too small for meaningful analysis and their results are not reported.

Procedures

The national school-based YRBS uses a 3-stage cluster-sample design to obtain a nationally representative sample of public and private school students (grades 9–12) throughout all 50 states and the District of Columbia. Student participation is anonymous and voluntary and adheres to local parental consent procedures. Students report their responses on a self-administered questionnaire (optimal scan sheet). Sampling weights are applied to each record to adjust for nonresponse and the oversampling of black and Hispanic students. More details regarding sampling strategies and the psychometric properties of the YRBS questionnaire have been reported elsewhere.^{14,15}

Data Analysis

Because adolescents tend to experience interpersonal violence differently (boys vs girls), including TDV and school violence-related experiences and behaviors and bullying,^{8,16,17} all analyses were stratified by sex. Bivariate associations between school violence-related experiences and behaviors and bullying and TDV type were assessed using overall chi-square tests, and sex differences between these associations were tested using *t* tests. We used separate multiple linear regression to model each of the 4 school violence-related experiences and behaviors measures as continuous dependent outcomes, regressed on TDV victimization (referent group: no TDV) and controlled for race/ethnicity and grade in school. Results use predicted marginals to report predicted means and corresponding 95% confidence intervals (CI). School bullying was modeled using logistic regression, and predicted marginals were used to calculate adjusted prevalence ratios and 95% CI. We used general linear contrast testing (PRED_EFF in SUDAAN) to compare the predicted marginals within TDV type between sexes.

All analyses were conducted in SUDAAN version 11.0 (RTI, Research Triangle Park, NC), which accommodates the complex survey structure and sampling weights. The significance level was set to $p < .05$. All *N* reported herein are unweighted, but all point estimates (including prevalence) and CI reflect the sampling weights.

RESULTS

The 2013 national YRBS had a school response rate of 77%, a student response rate of 88%, yielding an overall response rate of 68%. Of 13,583 completed questionnaires, 13,097 (96.5%) had responses to both TDV questions. Of these, about one fourth of the students responded they did not date or go out with someone during the 12 months before the survey, leaving an analytic sample of 4864 (50.9%) girls and 5025 (49.1%) boys. As Table 1 shows, among girls, 6.6% experienced physical only TDV, 8.0% experienced sexual only TDV, and 6.4% experienced both physical and sexual TDV, for a combined 20.9% of girls who experienced any TDV. Boys experienced TDV at significantly lower prevalence than girls: 4.1% physical only, 2.9% sexual only, 3.3% both physical and sexual, and a combined 10.4% experienced any TDV. Significant differences in prevalence and type of TDV were also detected by race/ethnicity among girls and boys (Table 1), but no differences were found by grade. Specifically, among girls, black students had the highest prevalence of physical TDV only (8.8%) compared to Hispanic (7.4%) and white (5.6%) students. Also,

Hispanic girls (10%) had the highest prevalence of sexual TDV only, compared to white students (7.3%) and black (5.4%) students. Among female students, White (7.3%) and Hispanic (6.1%) students reported higher prevalence of both TDV types compared to black (3.4%) students. Among boys, the prevalence is generally much lower than among girls, but still several significant differences emerged. Five percent of black boys, compared to 3.5% of Hispanic boys and 2.2% of white boys, reported sexual TDV only and 13.3% of black boys compared to 10.6% of Hispanic boys and 8.6% of white boys reported any TDV type.

Table 2 shows the mean number of days/times/incidents of each school violence-related experiences and behaviors and the prevalence of bullying by type of TDV, stratified by sex. All 5 behaviors were significantly associated with several types of TDV in both sex strata, although mean school violence-related incidents and bullying prevalence varied by type of TDV (all $ps < .01$). Generally, mean number of incidents and bullying prevalence were highest among students who experienced both physical and sexual TDV and lowest among students who experienced no TDV (all $ps < .05$, data not shown).

However, the magnitude of effects across the sexes is strikingly different in some cases. For any TDV type and for both physical and sexual TDV, boys reported significantly larger mean scores than girls on all 4 school violence-related experiences and behaviors variables. The mean number of times threatened or injured with a weapon on school property was almost double the amount for boys than for girls experiencing physical TDV only (mean = 1.16 vs mean = 0.60), sexual TDV only (mean = 0.77 vs mean = 0.30), both physical and sexual TDV (mean = 4.78 vs mean = 1.35), and any TDV (mean = 2.20 vs mean = 0.71). Similar significant differences in magnitude by sex are seen for carrying a weapon on school property and in a physical fight, where boys were almost double the mean for girls across sexual TDV only, both physical and sexual TDV, and any TDV. Interestingly, bullying prevalence did not portray the same story. Girls reporting each type of TDV victimization had significantly higher prevalence of bullying than boys with similar TDV experiences (all $ps < .05$).

Table 3 shows the associations between TDV victimization and each school violence-related experience and behavior variable and bullying variable, adjusted for grade and race/ethnicity. Students experiencing all types of TDV victimization (physical only, sexual only, both physical and sexual, and any) had higher mean number of incidents of each of the 4 school violence-related experiences and behaviors than students who experienced no TDV, with one exception—students who experienced sexual TDV only had no detectable difference in mean number of days of having carried a weapon on school property compared to students who experienced no TDV as indicated by 95% CIs.

Among boys, the mean number of incidents of all 4 school violence-related experiences and behaviors and the risk of bullying were higher among students who experienced both physical and sexual TDV than those who experienced only physical or only sexual TDV. Girls who experienced both physical and sexual TDV had greater mean number of incidents of all 4 school violence-related experiences and behaviors and were at greater risk of school bullying than girls who experienced only physical TDV. In addition, bullying prevalence differed by TDV victimization type, and all types were significantly different than students

experiencing no TDV. The higher prevalence was noted for both girls and boys who experienced both physical and sexual TDV compared to no TDV.

Similar to the unadjusted results, significant differences in magnitude between the sexes emerged; however, several significant differences found in the bivariate results diminished in adjusted analyses. Controlling for race/ethnicity and grade, the mean number of times threatened or injured with a weapon on school property was more than double the amount for boys than for girls experiencing sexual TDV only (mean = 0.76 vs mean = 0.28), both physical and sexual TDV (mean = 4.74 vs mean = 1.34), and any TDV (mean = 2.18 vs mean = 0.69). Controlling for race/ethnicity and grade, the mean number of times in a physical fight on school property was more than double the amount for boys than for girls experiencing sexual TDV only (mean = 0.91 vs mean = 0.15), both physical and sexual TDV (mean = 3.18 vs mean = 0.66), and any TDV (mean = 1.48 vs mean = 0.35). Among students who experienced both physical and sexual TDV as well as those experiencing any TDV, mean scores for boys were almost double the magnitude of those among girls for carrying a weapon on school property and not going to school because of safety concerns. No statistically significant sex differences emerged for bullying victimization across the TDV types.

DISCUSSION

We examined associations among several school violence-related experiences and behaviors including bullying, weapon carrying, being threatened with a weapon, physical fighting, and feeling unsafe at school and physical and sexual TDV victimization. Important associations were found among school violence-related experiences and behaviors and TDV victimization, particularly between girls and boys, which can inform future research and prevention practice about school violence-related experiences and behaviors and TDV.

In bivariate and adjusted results, we found that overall, TDV victimization (physical only, sexual only, both physical and any TDV) was significantly associated with greater mean scores on all 4 school violence-related experiences and behaviors and higher prevalence of bullying victimization. Whereas the prevalence and problematic outcomes associated with TDV and other forms of school violence and bullying have been the subject of recent attention,^{7,18} these behaviors are typically examined in isolation from one another, with the implication that they are etiologically and epidemiologically distinct, and affect different groups of young people. This article addresses unintended fallacy and demonstrates that, in fact, students experiencing TDV are engaging in a broader constellation of violent or risky behaviors. We see this clearly in the finding that the mean number of school violence-related incidents and bullying prevalence were highest among students who experienced both physical and sexual TDV and lowest among students who experienced no TDV.

Differences in the magnitude of effects appeared for students across the school violence-related experiences and behaviors and bullying variables. Some of these differences may be due to higher prevalence of the school violence-related experiences and behaviors variables for boys. Kann et al⁶ showed that significantly more boys than girls reported carrying a weapon on school property, being threatened or injured with a weapon on school property,

and being in a physical fight on school property. Findings also suggested that girls were more likely than boys to report not going to school because of safety concerns and bullying victimization on school property. Our findings provide support that whereas both boys and girls who experience TDV victimization are at risk for experiencing these school violence outcomes, it may be that male TDV victims, particularly those who experience both physical and sexual TDV, are the most at risk for experiencing other types of violence. This highlights a key need for better understanding of the role of sex in predicting violence, but it also may provide opportunities for targeted intervention for boys who experience TDV.

Limitations

This study does include several limitations. First, because of the limited space for questions in the national YRBS, only single-item indicators were used to assess TDV victimization types and other school violence-related experiences and behaviors including bullying. Second, YRBS data collected are cross-sectional, and provide only an indication of associations between TDV and the selected health-risk behaviors. These data are only generalizable to students who attend school and may not be representative of all people in this age group. In 2009, approximately 4% of people in the United States aged 16–17 years were not enrolled in a high school program and had not completed high school.¹⁹ Finally, these data are self-reported. Although the extent of under-reporting or over-reporting of TDV on this survey cannot be determined, YRBS questions assessing other risk behaviors have been shown to have good test-retest reliability.¹⁴

IMPLICATIONS FOR SCHOOL HEALTH

These limitations, notwithstanding, this research adds to the literature by examining the relationships between multiple TDV victimization types and school violence-related experiences and behaviors, including bullying in a nationally represented school-based sample of high school students. Bullying and other school violence-related experiences and behaviors have been prevention priorities among parents, educators, public health partners, and practitioners for some time.²⁰ The realities and implications of TDV have more recently come to the attention of these stakeholders. Awareness and prevention of TDV have appropriately become the focus of increased surveillance, research, and prevention efforts.²¹ Our findings demonstrate the importance of a comprehensive approach to prevention and make clear that the strategies schools select should address the risk young people have for multiple forms of violence. Prevention strategies with demonstrated impact on multiple forms of violence—TDV and bullying, for example—offer more effective and efficient solutions while also minimizing costs. There are some promising strategies that already have sufficient evidence to warrant consideration. For example, rigorous evaluations of programs including *Second Step*²² and *Safe Dates*²³ provide support that programs originally developed for one form of violence, bullying/aggression and TDV (respectively), can be effective at preventing other forms of violence including homophobic teasing, sexual harassment, school weapon carrying, and peer violence victimization and perpetration. Ongoing evaluations of TDV prevention programs including *Dating Matters*^{24–26} and *Green Dot*²⁷ also may provide additional evidence in the future that schools and communities can prevent other forms of violence involving youth with a single

comprehensive approach. Comprehensive approaches may be a more efficient use of resources for schools than multiple prevention strategies that address each form of violence individually.

Human Subjects Approval Statement

The Institutional Review Board at the US CDC approved the national YRBS [Protocol #1969, “National Youth Risk Behavior Survey (Expedited)”].

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Table 1
Demographics and Teen Dating Violence (TDV) Among US High School Students,* by Sex – 2013 National Youth Risk Behavior Survey[†]

Sex	Subgroup	N	Physical TDV Only			Sexual TDV Only			Both Physical and Sexual TDV						p [§] (2-Level)	
			%	CI	%	CI	%	CI	Any TDV		No TDV		p [‡] (4-Level)			
Female		4864	50.9	49.4–52.3	6.6	5.6–7.7	8.0	7.0–9.1	6.4	5.4–7.5	20.9	19.0–23.0	79.1	77.0–81.0	<.001	<.001
Male		5025	49.1	47.7–50.6	4.1	3.5–4.9	2.9	2.4–3.6	3.3	2.7–4.0	10.4	9.1–11.8	89.6	88.2–90.9		
Female	White, n.H.	1977	56.5	48.5–64.1	5.6	4.4–7.2	7.3	5.8–9.0	7.3	6.0–8.8	20.2	17.3–23.3	79.8	76.7–82.7	<.001	.017
	Black, n.H.	1163	14.9	10.7–20.3	8.8	6.9–11.4	5.4	3.9–7.3	3.4	2.4–5.0	17.7	15.0–20.6	82.3	79.4–85.0		
	Hispanic	1184	20.8	16.4–26.1	7.4	5.4–10.0	10.0	7.2–13.6	6.1	4.3–8.6	23.5	20.1–27.3	76.5	72.7–79.9		
Male	White, n.H.	2053	55.8	48.2–63.2	3.8	2.8–5.0	2.2	1.7–2.8	2.6	1.9–3.7	8.6	6.8–10.7	91.4	89.3–93.2	.005	.034
	Black, n.H.	1183	15.7	11.5–20.9	4.4	3.4–5.8	5.0	3.9–6.5	3.8	2.7–5.4	13.3	11.0–15.9	86.7	84.1–89.0		
	Hispanic	1227	20.7	16.4–25.7	3.9	2.8–5.4	3.5	2.5–5.0	3.1	1.9–4.9	10.6	8.5–13.1	89.4	86.9–91.5		
Female	Grade 9	1220	25.2	23.6–26.9	5.6	4.4–7.1	9.5	7.4–12.2	6.2	5.0–7.7	21.3	18.4–24.5	78.7	75.5–81.6	.24	.59
	Grade 10	1097	24.7	23.0–26.5	6.0	4.1–8.7	8.6	6.5–11.3	7.4	5.4–10.1	22.0	18.0–26.5	78.0	73.5–82.0		
	Grade 11	1161	25.3	24.1–26.7	6.9	5.1–9.3	6.5	4.7–8.9	5.5	3.8–7.8	18.9	15.1–23.4	81.1	76.6–84.9		
	Grade 12	1362	24.7	23.5–26.0	7.4	5.4–9.9	7.3	5.5–9.8	6.5	4.4–9.3	21.2	17.8–25.0	78.8	75.0–82.2		
Male	Grade 9	1213	25.2	23.6–27.0	3.4	2.4–4.6	3.6	2.5–5.4	2.3	1.3–3.9	9.3	7.4–11.6	90.7	88.4–92.6	.06	.18
	Grade 10	1127	25.2	23.6–27.0	3.9	2.7–5.6	2.5	1.6–3.6	2.5	1.7–3.9	8.9	6.7–11.7	91.1	88.3–93.3		
	Grade 11	1239	24.3	23.0–25.7	3.7	2.5–5.5	2.9	2.1–4.0	4.5	3.3–6.0	11.0	8.9–13.6	89.0	86.4–91.1		
	Grade 12	1403	25.2	23.7–26.7	5.6	4.3–7.4	2.5	1.6–4.0	3.8	2.7–5.5	12.0	10.1–14.3	88.0	85.7–89.9		

CI, confidence interval; n.H., non-Hispanic; TDV, teen dating violence.

* Among students who dated or went out with someone during the 12 months before the survey.

[†] Unweighted N, weighted prevalence and CIs.

[‡] p value for test of differences between the 4-level teen dating violence variable—physical TDV only, sexual TDV only, both physical and sexual TDV, and no TDV.

[§] p value for test of differences any TDV compared to no TDV.

Table 2

Incidents of School Violence and Prevalence of Bullying by Teen Dating Violence (TDV) Among US High School Students,[†] by Sex - 2013 National Youth Risk Behavior Survey

Behavior	Sex	Physical TDV Only			Sexual TDV Only			Both Physical and Sexual TDV			Any TDV			No TDV		
		Mean	SE	p [‡]	Mean	SE	p [‡]	Mean	SE	p [‡]	Mean	SE	p [‡]	Mean	SE	p [‡]
Days carried a weapon [§] on school property ^{//}	Female [*]	0.46	0.20	.66	0.10	0.04	.03	0.65	0.15	<.001	0.38	0.08	<.001	0.09	0.03	<.001
	Male ^{***}	0.58	0.15		0.55	0.21		1.87	0.25		0.93	0.11		0.32	0.06	
Days did not go to school because of safety concerns ^{//}	Female ^{**}	0.33	0.07	.62	0.35	0.08	.62	0.75	0.10	<.001	0.46	0.04	<.001	0.14	0.02	.005
	Male ^{**}	0.38	0.10		0.41	0.10		2.18	0.29		0.96	0.12		0.09	0.01	
Times threatened or injured with a weapon on school property ^{//}	Female ^{**}	0.60	0.16	.03	0.30	0.08	.02	1.35	0.22	<.001	0.71	0.09	<.001	0.11	0.02	.003
	Male ^{***}	1.16	0.19		0.77	0.19		4.78	0.49		2.20	0.21		0.21	0.02	
Times in a physical fight on school property ^{//}	Female ^{**}	0.35	0.10	.17	0.17	0.04	.003	0.67	0.15	<.001	0.38	0.06	<.001	0.09	0.01	<.001
	Male ^{**}	0.62	0.16		0.94	0.24		3.20	0.44		1.49	0.18		0.21	0.02	
		95%	CI	%	95%	CI	%	95%	CI	%	95%	CI	%	95%	CI	%
Bullied on school property [#]	Female ^{**}	34.2	8.0–41.1	2.02	44.1	37.7–50.7	<.001	55.0	48.4–61.5	.03	44.3	40.2–48.4	<.001	20.1	18.4–21.9	<.001
	Male ^{**}	21.8	16.0–29.1		24.5	18.2–32.1		42.3	32.9–52.3		29.0	24.6–33.7		13.6	12.2–15.2	

* Significant association between school violence and bullying victimization and 4-level and 2-level TDV type, p <.01.

** Significant association between school violence and bullying victimization and 4-level and 2-level TDV type, p <.001.

[†] Among students who dated or went out with someone during the 12 months before the survey.

[‡] p value for t test of differences in mean number of school violence incidents and prevalence of school bullying by sex, within TDV type.

[§] Such as a gun, knife, or club.

^{//} Number of days during the 30 days before the survey.

^{//} Number of times during the 12 months before the survey.

[#] During the 12 months before the survey.

Table 3

Predicted Means and Adjusted Prevalence Ratio (APR)[§] of School Violence and Prevalence of Bullying by Teen Dating Violence (TDV) Among US High School Students,[†] by Sex - 2013 National Youth Risk Behavior Survey

Behavior	Sex	Physical TDV Only Pred.			Sexual TDV Only Pred.			Both Physical and Sexual TDV Pred.			Any TDV Pred.			No TDV Pred.		
		Mean	CI [‡]	p [§]	Mean	CI [‡]	p [§]	Mean	CI [‡]	p [§]	Mean	CI [‡]	p [§]	Mean	CI [‡]	p [§]
Carried a weapon// on school property [¶]	Female	0.46	0.88-2.19	.39	0.10	0.02-0.18	.20	0.65	0.32-0.97	.01	0.37	0.21-0.54	.04	0.09	0.04-0.15	<.001
	Male	0.48	0.27-0.70		0.59	0.15-1.03		1.80	1.25-2.34		0.88	0.65-1.12		0.32	0.20-0.43	
Did not go to school because of safety concerns [¶]	Female	0.33	0.19-0.47	.28	0.32	0.17-0.47	.30	0.75	0.55-0.96	<.001	0.46	0.37-0.54	<.001	0.14	0.11-0.18	<.001
	Male	0.39	0.17-0.61		0.40	0.20-0.60		2.14	1.54-2.75		0.95	0.70-1.19		0.09	0.06-0.12	
Threatened or injured with a weapon on school property [#]	Female	0.56	0.25-0.88	.051	0.28	0.12-0.44	.047	1.34	0.88-1.79	<.001	0.69	0.50-0.89	<.001	0.12	0.09-0.15	<.001
	Male	1.16	0.77-1.55		0.76	0.36-1.15		4.74	3.71-5.76		2.18	1.74-2.61		0.21	0.16-0.26	
In a physical fight on school property [#]	Female	0.31	0.13-0.48	.32	0.15	0.07-0.22	.01	0.66	0.36-0.95	<.001	0.35	0.23-0.47	<.001	0.09	0.08-0.10	<.001
	Male	0.62	0.28-0.96		0.91	0.43-1.40		3.18	2.26-4.09		1.48	1.11-1.84		0.21	0.17-0.25	
		APR	CI	p[§]	APR	CI	p[§]	APR	CI	p[§]	APR	CI	p[§]	APR	CI	p[§]
Bullied on school property ^{**}	Female	1.8	1.6-2.2	.51	2.1	1.8-2.5	.15	2.6	2.2-3.1	.64	2.2	1.9-2.4	.45	-ref	-ref	<.001
	Male	1.7	1.2-2.3		1.7	1.3-2.3		3.2	2.4-4.2		2.2	1.8-2.6		-ref	-ref	

* Adjusted for race/ethnicity and grade, referent group is "No TDV."

[†] Among students who dated or went out with someone during the 12 months before the survey.

[‡] CI: 95% confidence interval.

[§] p value for general linear contrast of predicted adjusted mean/predicted adjusted prevalence between female and male students.

// Such as a gun, knife, or club.

[¶] Number of days during the 30 days before the survey.

[#] Number of times during the 12 months before the survey.

** During the 12 months before the survey.