

Ten-Year Trends in Physical Dating Violence Victimization among Adolescent Boys and Girls
in British Columbia, Canada

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Abstract

Physical dating violence (PDV) victimization among adolescents is a serious global problem. Although knowledge of trends in PDV victimization can help guide programming and health policies, little research has examined whether the prevalence of PDV victimization has increased, decreased, or remained stable over time among non-U.S.-based samples of youth. In addition, few studies have directly tested whether disparities in PDV victimization between boys and girls have narrowed, widened, or remained unchanged in recent years. To address these gaps, we used school-based data from the British Columbia Adolescent Health Surveys (BC AHS) of 2003, 2008, and 2013 (n boys = 18,441 and n girls = 17,459) to examine 10-year trends in PDV victimization. We also tested whether trends differed across self-reported sex. Data from the 2003 to 2013 BC AHS revealed that recent PDV victimization rates had significantly decreased among youth overall (5.9% to 5.0%) and boys (8.0% to 5.8%), but not girls (5.3% to 4.2%). Although boys had steeper declines than girls in PDV victimization rates, year-by-sex interactions indicate that the sex gap in PDV victimization had not significantly narrowed. Moreover, rates of PDV victimization over the 10-year period indicated significantly higher rates of PDV victimization among boys compared to girls. Despite positive declines in recent rates of PDV victimization among youth, important differences in rates of PDV victimization between boys and girls remain. These findings underscore the need for greater attention to sex differences in research and programming and health policies to reduce PDV victimization and the sex disparities therein.

Keywords: adolescent health survey, dating violence, sex differences, trends

Ten-Year Trends in Physical Dating Violence Victimization among Adolescent Boys and Girls in British Columbia, Canada

Physical dating violence (PDV), defined as having been the recipient of intentional physical harm from a current or former dating partner (Teten, Ball, Valle, Noonan, & Rosenbluth, 2009), is a significant social and public health problem among adolescents globally (Desmarais, Reeves, Nicholls, Telford, & Fiebert, 2012). Although reported prevalence rates of PDV victimization have varied widely, based, in part, on sample characteristics and study location, past-year rates of between 3.3% (Hanson, 2010) and 57% (Watson, Cascardi, Avery-Leaf, & O'Leary, 2001) have been reported among middle- and high-school students. Compared to non-victimized youth, youth who have experienced PDV victimization report higher levels of depression, substance use, suicide ideation and attempts, antisocial behavior, sexual risk behavior, and PDV victimization in adulthood (Exner-Cortens, Eckenrode, & Rothman, 2012; Silverman, Raj, Mucci, & Hathaway, 2001). Moreover, PDV victimization is associated with increased rates of injuries that require medical attention (Archer, 2000), and lethal or life-threatening injuries (Mahony, 2009).

Given its high prevalence and deleterious effects, there has been an increased focus on understanding the etiology of adolescent PDV among academic and policy communities, as reflected by growing body of research on antecedents (Vagi et al., 2013). In addition, national awareness campaigns and school-based programs and health policies have been implemented to support the development of healthy adolescent romantic relationships and change social norms regarding the acceptability of dating violence (Lundgren & Amin, 2015).

Despite efforts to understand and reduce the magnitude of PDV, little attention has been directed to examining trends in PDV among adolescents; that is, whether the prevalence of PDV over time has been increasing, decreasing, or remaining stable. Trend data is important for preventing PDV, as they provide policy makers with a dynamic, rather than fixed, understanding about the magnitude of the problem (Rosenberg, 1997). In addition, trend data permit forecasting about future rates of occurrence that can help policy makers to appropriately implement laws, policies, and programs to deter potential perpetrators and increase public awareness (Cohen, 1981).

To date only a few studies of trends in PDV victimization among youth have been conducted (Howard, Debnam, & Wang, 2013; Howard, Debnam, Wang, & Gilchrist, 2012; Rothman & Xuan, 2014) and these have largely focused on adolescent populations within the United States (U.S.). The most recent and comprehensive survey of U.S. high-school students using data from the U.S. Centers for Disease Control and Prevention Youth Risk Behavior Surveillance System survey indicated that the past-year prevalence rate of PDV victimization was stable between 1999 and 2011 among grade 9 to 12 youth overall (8.78% to 9.44%), with linear trend tests being statistically significant for boys but not for girls (Rothman & Xuan, 2014). That is, rates of PDV victimization were unchanged or stable among girls, but PDV victimization rates had significantly increased among boys.

By exclusively focusing on adolescents in the U.S., however, little is known about the scope of PDV in other North American countries including Canada. While there are a number of

commonalities between the U.S. and Canada, such as the similarities in social institutions, socioeconomic development, and demographic structure, the U.S. is characterized by higher rates of violent crime (Gannon, 2001). Others also point to the existence of broader social norms in the U.S. that tend to legitimize violence as an acceptable means to resolve interpersonal conflict (World Health Organization, 2009), although this has not been directly tested using population-based research. Given potential differences in the rates of national violence exposure and attitudes regarding PDV, the generalizability of these studies results to Canadian adolescents may be somewhat limited. Moreover, an international perspective is needed that will possibly allow for future comparisons of trends in PDV victimization across countries.

Within Canada, there are no recurring national studies to help document trends of PDV victimization among adolescent dating relationships. Incident-based data on police-reported PDV victimization among individuals aged 15 years and older is regularly collected using the Canadian Uniform Crime Reporting Survey and Canada Homicide Survey. However, this data is somewhat limited. First, these surveys do not disaggregate adolescents from adults. Given that there are important differences between dating relationships of adolescents and adults (Shorey, Cornelius, & Bell, 2008), it is important to isolate adolescents in population-based research. Second, like other official sources of crime data, there is likely a dark figure of PDV; that is, it can be reasonably assumed that not all PDV victimizations are reported to the police (Mihorean, 2005). Compared to adults, adolescents may be more reluctant to report PDV victimization due to the misinterpretation of physical abuse as signs of love and caring (Wekerle & Wolfe, 1999). Similarly, incidents involving adolescent perpetrators may be less likely to lead to formal charges due to use of diversion programs (Mahony, 2009). Third, these surveys do not directly test whether sex disparities in PDV victimization have narrowed, widened, or remained unchanged over time. Given recent increases in PDV victimization among boys in the U.S. (Rothman & Xuan, 2014), as well as the predominant focus of intervention programs and health policies in North America to reduce the perpetration of PDV against girls and women (Lundgren & Amin, 2015), it is important to examine whether sex gaps in PDV victimization among Canadian youth have changed in recent years.

Purpose of the Present Study

The purpose of the present study was to use data collected by McCreary Centre Society (MCS), a community-based organization dedicated to adolescent health research in British Columbia, Canada, to examine 10-year trends in self-reported PDV victimization among a provincially representative sample of school students. MCS has conducted regularly occurring anonymous surveys, which include questions about PDV victimization, in schools of grade 7 to 12 youth in British Columbia. British Columbia is the third largest (population of 4.6 million), fastest growing, and most multicultural province in Canada (Statistics Canada, 2017). The current study had four research questions: First, what was the prevalence of self-reported PDV victimization among British Columbia school students at each survey administration? Second, was there a significant trend in PDV victimization over time? That is, did rates of PDV victimization decrease, increase, or remain the same over the 10-year period? Third, did prevalence rates of PDV victimization differ between boys and girls? Finally, did differences in PDV victimization rates between boys and girls decrease, increase, or remain the same over the 10-year period?

Method

Survey Design and Sample Selection

Ethical approval to conduct the British Columbia Adolescent Health Survey (BC AHS) was granted by the Research Ethics Boards of the University of British Columbia and the pertinent high-school authorities. The BC AHS is a province-wide cluster-stratified survey of risk behaviors and health outcomes among youth. The BC AHS was developed by the MCS in 1992 and administered in the province every 5 to 6 years since 1992. Administrations of the BC AHS constitute cross-sectional samples of all public-school students in the province. These surveys, which use identical sampling methods and survey procedures in each cycle (see Saewyc, Taylor, Homma, & Ogilvie; 2008), were designed to enable trend analysis. The current study analyzed existing data from the 2003, 2008, and 2013 survey administrations. PDV victimization was not assessed prior to 2003, thus we were unable to include the 1992 and 1998 survey administrations in our analyses. Additional description about the BC AHS design and sample procedures are provided in Saewyc et al. (2008).

Between 2003 and 2013, there were a total of 89,735 respondents. The sample size for each year of the BC AHS administration ranged between 29,315 and 30,588 participants. Participation rates ranged between 76.0% and 85.0% by year and school district, with higher participation rates in recent survey administrations. Participants in school districts that did not participate in all three administrations of the BC AHS (11.1%, $n = 9,938$) were excluded from analyses. Youth who did not report being in a dating relationship in the previous 12-month period (45.3%, $n = 36,137$) were also excluded. In addition, to reduce the possibility of differential victimization experiences for heterosexual and sexual minority youth, we excluded youth who did not identify as heterosexual (10.2%, $n = 4,443$) or report their sexual orientation (3.8%, $n = 1,641$). Of the remaining youth ($n = 37,576$), 4.5% ($n = 1,692$) of respondents were missing data on sex ($n = 35$), age ($n = 172$), or PDV victimization ($n = 1,485$) variables and were therefore removed from subsequent analyses. The final sample was comprised of 35,900 youth (18,441 boys and 17,459 girls). Mean age of the sample ranged between 15.17 ($SE = 0.03$) in 2003 and 15.29 ($SE = 0.23$) in 2013. Between 2003 and 2013, 85.8% to 90.0% of youth reported membership in a single ethnic group and 10.0% to 14.2% multiple (i.e., 2 or more) ethnic groups. Consistent with provincial census data (Statistics Canada, 2017b), most youth reported that they were of European heritage (i.e., 59.0% to 65.9%), followed by East Asian (12.6% to 13.6%), Aboriginal (7.5% to 11.3%), Latin, South, or Central American (3.7% to 4.2%), South East Asian (3.4% to 5.5%), South Asian (2.9% to 4.2%), African (1.8% to 2.6%), Australian or Pacific Islander (1.7% to 2.5%), West Asian (1.6% to 1.9%), or another ethnic minority group (2.7% to 4.6%). Most youth were born in Canada (83.7% to 84.5%). Information on family socioeconomic status (i.e., parental income or education) or acculturation was not collected in the BC AHS. As such, ethnic group differences in PDV victimization rates and trends were not examined as it would be difficult to determine whether differences were attributable to ethnicity or group differences on other sociodemographic variables. In addition, because some youth in the sample were multi-ethnic, we were unable to disaggregate the analyses by exclusive categories of ethnicity for all respondents.

Survey Procedures

To participate in the study 67.0% of school districts required parental consent and student assent and 33.0% required parental notification and student consent. The BC AHS was administered anonymously to youth in their school classrooms by public health nurses and nursing students. The BC AHS is a 140-item paper-and-pencil survey that takes approximately 45 minutes to complete.

Measures

Physical dating violence (PDV) victimization. The criterion variable for trend analysis was PDV victimization in the past year, which was measured with the survey item “During the past 12 months, did your boyfriend or girlfriend ever hit, slap or physically hurt you on purpose?” Response options were “no” (0), “yes” (1), and “not in a relationship (97)”. The wording of this item is identical to that used in studies of trends in PDV victimization in the U.S. (e.g., Rothman & Xuan, 2014).

Demographic characteristics. Youth demographic characteristics included self-reported sex and age that were provided by respondents in the demographic section of the BC AHS.

Weights

To adjust for nonresponse and probability of selection a weighting factor was applied for each participant and scaled to provincial enrollment. This procedure resulted in weighted sample distributions that were representative of student enrollment at the provincial level (weighted $n = 146,727, 111,584, \text{ and } 61,285$ in 2003, 2008, and 2013, respectively).

Data Analysis Plan

Statistical analyses were performed using the Complex Samples module of IBM SPSS®, Version 22 (IBM Corporation, 2013), which adjusts for cluster-stratified sampling methods and weighted data. Because of the large sample sizes within each cohort, all p values for analyses were set to $p < .01$ (two-tailed) to avoid detecting statistically significant, but not meaningful differences. Prevalence estimates of PDV victimization were calculated for each survey year, for the entire sample, and then stratified by sex. To account for potential sampling error between the general population and the current sample (Sarndal, Swenson, & Wretman, 1992), we calculated the standard error and 95% confidence intervals (CI) for each prevalence estimate.

To determine whether the likelihood of PDV victimization significantly differed between boys and girls, Pearson’s chi square test (χ^2) was conducted. Next, to account for the fact that the likelihood of PDV victimization may increase with developmental maturation (e.g., older adolescents have more unsupervised time and therefore more opportunities for PDV victimization to occur; Lam, McHale, & Crouter, 2014) and that, as result, sex differences in the likelihood of PDV victimization be due to sex differences in age, we re-ran these analyses controlling for age using logistic regression analysis.

To examine trends in PDV victimization, we first plotted the unadjusted 10-year trend in PDV victimization prevalence for all youth and then stratified by sex to assess the overall

direction and shape of the trend among each group. Next, to test whether there was a statistically significant trend in PDV victimization, we conducted a series of logistic regression models to compare the BC AHS 2003, 2008, and 2013 data controlling for age. First, we conducted a set of age-adjusted logistic regression models to determine if there was a significant increase or decrease in the likelihood of PDV victimization in 2013 compared to 2003 and to 2008 by entering survey year, with the 2013 survey administration as the referent category, and age as independent variables in the model. Second, we re-ran these models with the 2003 survey administration period as the referent category to determine if there was a significant change in the likelihood of PDV victimization in 2008 compared to 2003. In these models, a significant age-adjusted odds ratio (AOR) greater than 1 indicates an increasing trend in PDV victimization and a significant AOR less than 1 indicates a decreasing trend. To examine whether the likelihood of PDV victimization increased or decreased from previous years (e.g., 2003), we calculated and interpreted the inverse of the AORs. Models were conducted for youth overall and separately by sex.

Finally, we examined whether differences in the likelihood of PDV victimization between boys and girls narrowed, widened, or stayed the same in 2013 compared to 2003 and to 2008. Following the recommendations of Homma, Saewyc, and Zumbo (2016), we computed interaction terms between sex and survey year, with girls and the 2013 survey administration as the referent categories, and entered sex, survey year, sex-by-survey year interaction terms, and age as independent variables into a logistic regression model. A similar set of models were conducted using the 2003 survey administration as the referent category to test trend disparities across sex in 2008 compared to 2003. In these analyses, the interaction term represents a *ratio* of AORs (i.e., a ratio of the AOR of PDV victimization by sex for a given year [e.g., 2008] to the AOR of PDV victimization by sex for a referent year [e.g., 2013]). Thus, a significant interaction effect indicates that boys and girls were changing over time in different ways (i.e., the sex gap in PDV victimization was narrowing or widening).

To determine whether the sex gap had narrowed or widened, we examined the AORs of the main and interaction effects using the guidelines provided by Homma et al. (2016). Based on these guidelines, if the main effects AORs for the given year and the referent year are *greater* than 1, an interaction AOR greater than 1 indicates that the sex gap in PDV victimization in the given year was larger than in the referent year (i.e., the gap between boys and girls was widening) and an interaction AOR less than 1 indicates the sex gap in PDV victimization in the given year was smaller than in the referent year (i.e., the gap between boys and girls was narrowing). In contrast, if the given year and the referent year AORs are *less* than 1, an interaction AOR greater than 1 indicates that the sex gap in PDV victimization in the given year was smaller than in the referent year (i.e., the gap between boys and girls was narrowing) and an interaction AOR less than 1 indicates the sex gap in PDV victimization in the given year was greater than in the referent year (i.e., the gap between boys and girls was widening). Similar to the preceding age-adjusted logistic regression analyses of trend, we calculated and interpreted the inverse of the AORs to allow for the examination of whether the gap in sex differences narrowed or widened from previous years.

Results

Prevalence of Physical Dating Violence Victimization

Prevalence estimates and 95% confidence intervals of past-year PDV victimization for each survey administration are presented in Table 1. The prevalence of PDV victimization ranged from 5.0% in 2013 to 6.7% in 2008. For each of the three BC AHS administrations, boys (5.8% to 8.0%) had a significantly higher likelihood of PDV victimization compared to girls (4.2% to 5.3%; $\chi^2 [1] = 10.92$ to 45.32 , $p < .001$ to $.002$). A similar pattern of sex differences was also obtained in age-adjusted logistic regression models (see Table 1). Controlling for age, boys were 58% more likely than girls to have experienced PDV victimization in 2003 (AOR = 1.58, $p < .001$), 58% more likely in 2008 (AOR = 1.58, $p < .001$), and 45% more likely in 2013 (AOR = 1.45, $p = .001$).

-- Insert Table 1 about here--

Trends in Physical Dating Violence Victimization

Figure 1 displays the unadjusted 10-year trends in PDV victimization for all youth and separately by sex. This figure suggests that changes in PDV victimization rates were not uniform overtime; for all youth, boys, and girls, rates appeared to slightly increase in 2008 compared to 2003 and then slightly decrease in 2013 compared to 2008 to a rate that was lower than reported in 2003.

-- Insert Figure 1 about here--

To further examine these findings, results were analyzed using logistic regression models which controlled for age to identify whether the likelihood of PDV victimization significantly changed over the 10-year period. Results of age-adjusted trend analysis of PDV victimization are summarized in Table 2. Among all youth, there were no significant changes in the likelihood of PDV victimization in 2008 compared to 2003 ($p = .054$). However, in 2013 compared to 2003 and 2008, a significant decrease in the likelihood of PDV victimization occurred; youth were 27% and 17% less likely to have experienced PDV victimization compared to 2008 (AOR = 0.73 $p < .001$) and 2003 (AOR = 0.83, $p = .009$), respectively. Specifically, the rate of PDV victimization among students was 5.0% in 2013 compared to 6.7% in 2008 and 5.9% in 2003. A similar pattern of findings was also observed among boys. Although no changes in PDV victimization were observed in 2013 compared to 2003 nor in 2008 compared to 2003; boys were 30% significantly less likely to have experienced PDV victimization in 2013 compared to 2008 (AOR = 0.70, $p < .001$). Specifically, the rate of PDV victimization among boys was 5.8% in 2013 compared to 8.0% in 2008. With respect to girls, no significant changes in the likelihood of PDV victimization over time were observed ($p = .018$ to $.192$).

-- Insert Table 2 about here--

Trends in Disparities of Physical Dating Violence Victimization Across Sex

The results of age-adjusted trend analysis of disparities of PDV victimization across sex are presented in Table 3. Year-by-sex interaction terms indicated that the sex gap in PDV victimization rates remained stable in 2013 compared to 2003 (AOR = 0.91, $p = .548$), 2013

compared to 2008 (AOR = 0.91, $p = .489$), and 2008 compared to 2003 (AOR = 0.98, $p = .978$). Thus, although boys appeared to have steeper declines in PDV victimization rates than girls in 2013 compared to 2008, differences in trends between these two groups were not significant.

-- Insert Table 3 about here--

Discussion

Previous studies of trends in PDV victimization have largely focused on adolescent populations within the U.S. (Howard et al., 2012; Howard et al., 2013; Rothman & Xuan, 2014); however, it is important to analyze data from a variety of countries because rates of PDV victimization can vary by geographic region (Straus, 2004). Contributing to an international perspective on trends in PDV victimization among youth, the current study provides a comprehensive assessment of 10-year trends in PDV victimization among a school sample in British Columbia, Canada.

In 2013 grade 7 to 12 youth were less likely to report PDV victimization compared to 2008 and 2003. Nonetheless, this decline in PDV victimization rates was small (i.e., 5.9% in 2003 to 5.0% in 2013), suggesting that PDV victimization remains a significant problem among adolescents. Given that similar sampling methods and survey procedures were used at each administration of the BC AHS (Saewyc et al., 2008), the recent decline in PDV victimization cannot be ascribed to differences in methodology. The decrease in PDV victimization could potentially reflect that dating violence is less acceptable and therefore happening less often. This explanation is consistent with programming developments in British Columbia over the last 10 years that might have helped to reduce the rate of PDV and change societal attitudes and norms regarding the use of violence in interpersonal relationships (Rossiter, 2011). This finding also parallels declines in rates of other violent outcomes among the general population (e.g., aggravated and sexual assault, Perreault, 2015), as well as self-reported victimization behaviors among youth in British Columbia (e.g., physical fights with peers; McCreary Centre Society, 2014). Nevertheless, it is important to interpret the current findings cautiously because one can only speculate about the processes that produced the recent decreases in PDV victimization rates.

Compared to girls, boys had higher rates of PDV victimization in 2003, 2008, and 2013. There has been much debate about whether rates of PDV victimization differ as a function of sex. Police-reported data (e.g., Mahony, 2009) has consistently shown that girls and women are at a higher risk to experience PDV victimization. However, research findings using self-reported PDV victimization have been mixed. While some studies have indicated higher rates of self-reported PDV victimization among girls compared to boys (e.g., Vagi, O'Malley Olsen, Basile, & Vivolo-Kantor, 2015), others have indicated symmetry in rates of self-reported PDV victimization across sex (e.g., Rothman & Xuan, 2014), or higher rates of self-reported PDV victimization among boys (e.g., Swahn, Simon, Arias, & Bossarte, 2008).

There are several possible explanations for the direction of sex differences observed in the current research. Higher PDV victimization rates among girls are more commonly observed when serious forms of PDV victimization (e.g., injured with an object or weapon) are examined (Vagi et al., 2015). In comparison, the BC AHS inquiries about less serious forms of PDV (e.g.,

pushing, slapping) which may have influenced the nature of sex differences observed. Results could also reflect differences between boys and girls in their willingness to report PDV victimization. Some studies have indicated that men are more likely than women to underreport PDV victimization and minimize the severity of violence within their relationships (e.g., Brown, 2004). However, other studies have suggested that PDV victimization reports are subject to social desirability bias or the need to present oneself in a positive light among women but not men (Bell & Naugle, 2007; c.f., Sugarman & Hotaling, 1997). As such, current findings may reflect that adolescent girls were less willing than boys to report PDV victimization experiences. Another possibility is that findings reflect the measurement of PDV victimization in the current study. Research has found that women are more likely to report perpetrating PDV in self-defence, whereas men are more likely to perpetrate PDV de novo for reasons such as anger, jealousy, or to control their partner (Swan, Gambone, Caldwell, Sullivan, & Snow, 2008). Because the survey item querying PDV victimization did not ask youth about the reason they received PDV, boys may have identified as victims more often than girls (Foshee, 1996). It is also plausible that girls are increasingly using violence in absence of partner perpetrated PDV. For instance, one study conducted with college-aged couples identified dating relationships in which young women were the only person in the relationship who was physically violent (Straus, 2008). As such, there may be a subset of boys within the current sample that received PDV for reasons other than self-defence resulting in higher rates of victimization among boys.

Although further research is needed on how the mechanisms underlying PDV victimization influence sex differences in self-reported prevalence rates, results of the current study underscore the importance of PDV victimization as a public health issue for both adolescent boys and girls. Given that girls are more likely to sustain physical injuries that require medical attention from PDV compared to boys (Archer, 2000), boys have received relatively little attention as victims of PDV in research and policy literature (Lundgren & Amin, 2015) and there is a societal perception of weaker social sanctions for violence involving women as perpetrators and men as victims (Bethke & DeJoy, 1993). However, PDV victimization among boys is also problematic. PDV victimization has been found to be associated with mental health and behavioural problems among both sexes (Exner-Cortens et al., 2012). As such, intervention strategies and health policies to benefit boys are warranted.

Finally, given increases in PDV victimization among boys (Rothman & Xuan, 2014) and the widespread focus of girls and young women as victims in existing intervention programming and health policies (Lundgren & Amin, 2015), we examined whether the sex gap in PDV victimization was changing. Beginning in 2008, the prevalence of PDV among boys decreased. In contrast, PDV victimization rates for girls remained largely static over the 10-year period. Despite declining rates of PDV victimization among boys, the sex gap in PDV victimization had not significantly narrowed. Although reasons for the stability in sex disparities over the past decade are not clear, this analysis suggests that province-wide interventions and health policies to reduce PDV victimization are having some effect on PDV committed against boys, but interventions are not as effective on reducing PDV committed against girls. Thus, additional targeted interventions may be needed to further reduce the prevalence of PDV victimization among adolescent girls.

Strengths and Limitations

A key strength of the current study is its use of data from a large, repeated provincially representative survey of adolescents. As well, previous studies have not directly tested sex differences in trends of PDV victimization and this study is the first within North America to provide data on whether sex disparities in PDV victimization have changed in recent years. Despite these strengths there are several limitations to consider. Because youth were not asked to distinguish between PDV victimization received in self-defence from that not in self-defence, results on sex differences in the prevalence of PDV victimization should be interpreted with caution. In addition, although self-report data offers advantages to official crime data (Mihorean, 2005), the prevalence of PDV victimization may be underestimated given the BC AHS item on PDV victimization did not capture dating that occurred in more causal relationships (e.g., “hook-ups”). Also, the BC AHS is school-based, and only includes students from public schools. Other adolescents, such as youth in custody or street-involved or homeless youth, may have higher levels of PDV exposure. Similarly, sub-populations of youth within the British Columbia school population, such as sexual and ethnocultural minority and low-income youth, may also report different trends in PDV victimization that were not examined here. Nevertheless, knowledge of trends in dating victimization across sexual orientation, ethnocultural variables, and socioeconomic status would be useful when planning interventions and allocating resources to address PDV. Importantly, it was not possible to identify the year and school districts in which intervention and prevention programs were implemented within British Columbia, as such we are unable to determine of the effects of PDV programming and how they may have impacted the prevalence rates reported in the study. Finally, results are for a single province and may not be representative of PDV victimization trends in other regions in Canada. Continued focus on nationally representative sample could help provide more generalizable findings.

Conclusions and Future Directions

Results indicate that boys have a higher rate of PDV victimization compared to girls. However, recent rates of PDV victimization among boys decreased, while rates among girls remained static. In addition, despite recent declines in PDV victimization rates, sex disparities in PDV victimization are not improving. These findings underscore the need for an increased focus on both boys and girls as victims. Academic and policy communities are encouraged to include a great emphasis on sex differences in research and intervention programs and health policies to reduce PDV. In particular, further research is needed to understand what contributes to these disparities, including sex differences in risk and protective factors associated with PDV victimization and how changes in these factors explain changes in PDV victimization trends, to guide intervention development.

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Tables and Figures

Table 1.

Prevalence and 95% Confidence Intervals of Adolescents Who Reported Physical Dating Violence (PDV) Victimization over the Past 12 Months, by Year and Sex

	All Respondents % [95% CI]	Boys Only % [95% CI]	Girls Only % [95% CI]	Boys (vs. Girls) AOR [95% CI]
2003	5.9 [5.4, 6.5]	7.2 [6.4, 8.1]	4.6 [4.1, 5.3]	1.58 [1.30, 1.92]***
2008	6.7 [6.2, 7.2]	8.0 [7.3, 8.8]	5.3 [4.7, 5.9]	1.58 [1.36, 1.85]***
2013	5.0 [4.5, 5.6]	5.8 [5.1, 6.6]	4.2 [3.5, 4.9]	1.45 [1.16, 1.82]**

Note. AOR = Age-adjusted odds ratios. 95 CI = 95% confidence intervals. Weighted $n = 146,727, 111,584,$ and $61,285$ at 2003, 2008, and 2013 survey administrations, respectively. ** $p < .01$. *** $p < .001$.

Table 2.
Logistic Regression Analysis of Trends in Physical Dating Violence (PDV) Victimization, by Sex

	All Respondents AOR [95% CI]	Boys Only AOR [95% CI]	Girls Only AOR [95% CI]
Model 1			
2013 (vs. 2008)	0.73 [0.64, 0.84]***	0.70 [0.60, 0.83]***	0.77 [0.62, 0.96]
2013 (vs. 2003)	0.83 [0.72, 0.95]**	0.80 [0.66, 0.96]	0.87 [0.70, 1.10]
Model 2			
2008 (vs. 2003)	1.13 [0.99, 1.27]	1.13 [0.94, 1.36]	1.13 [0.94, 1.36]

Note. AOR = Age-adjusted odds ratio. 95 CI = 95% confidence intervals. AORs presented in Model 1 are the inverse of the original AORs with the referent of 2013. ** $p < .01$. *** $p < .001$.

Table 3.

Analysis of Trends in Disparities of Physical Dating Violence (PDV) Victimization between Boys and Girls

	AOR [95% CI]
Model 1	
Boys	1.44 [1.15-1.80]**
2003	1.15 [0.92-1.44]
2008	1.30 [1.05-1.60]
Boys*2013 (vs. 2003)	0.91 [0.68-1.23]
Boys*2013 (vs. 2008)	0.91 [0.68-1.19]
Model 2	
Boys	1.58 [1.30-1.91]***
2008	1.13 [0.94-1.36]
Boys*2008 (vs. 2003)	0.98 [0.78-1.28]

Note. AOR = Age-adjusted odds ratios. 95% CI = 95% confidence intervals. AORs of the year-by-sex interaction terms presented in Model 1 are the inverse of the original AORs with the referent of 2013. ** $p < .01$. *** $p < .001$.

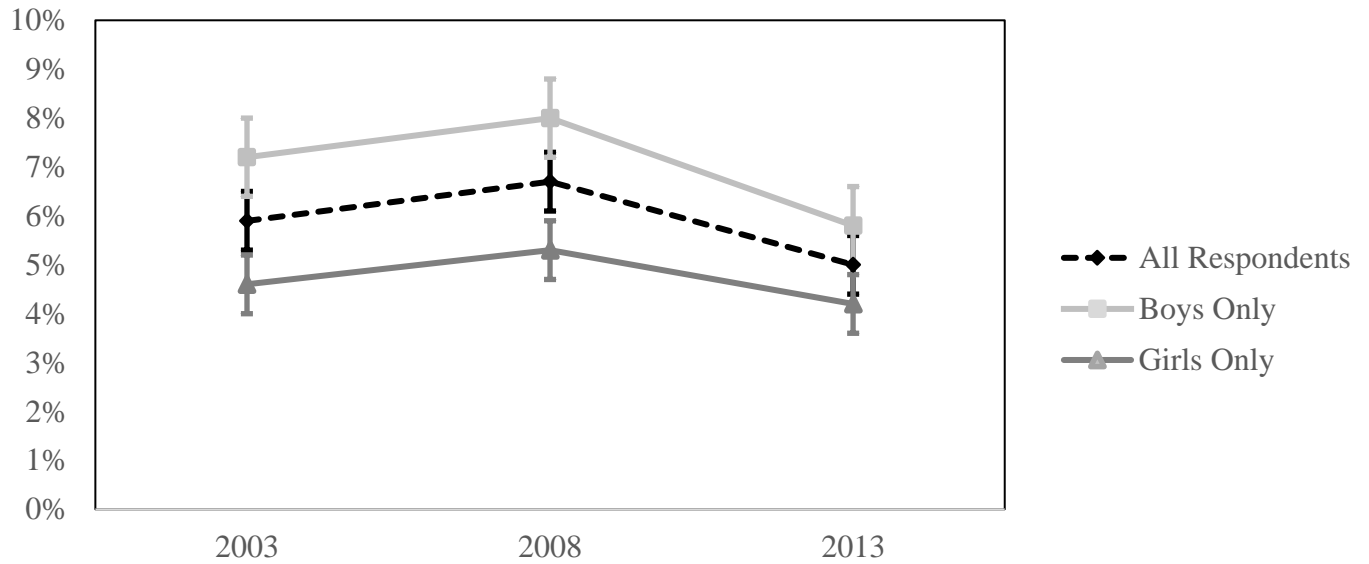


Figure 1. Trends in physical dating violence (PDV) victimization for all respondents and by sex in the BC AHS 2003, 2008, and 2013. Standard errors are represented in the figure by the error bars attached to each data point. *Note.* BC AHS = British Columbia Adolescent Health Survey.