

Teen Dating Violence: Co-Occurrence With Other Victimizations in the National Survey of Children's Exposure to Violence (NatSCEV)

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Objective: To examine the co-occurrence of physical teen dating violence (TDV) with other forms of victimization. **Method:** The sample includes 1,680 youth aged 12 to 17 from the National Survey of Children's Exposure to Violence (NatSCEV), a nationally representative telephone survey of victimization experiences. **Results:** Every victim of physical TDV (100%) reported at least one other type of victimization. Physical TDV is very closely associated with several other forms of victimization in this sample, with adjusted odds ratio ranging from 1.48 to 17.13. The lifetime rate of TDV was 6.4% for all youth, but TDV rates reached 17% for youth who had been physically abused by a caregiver, 25% for youth who had been raped, and 50% for youth (<16 years) who had experienced statutory rape or sexual misconduct by a partner more than 5 years older. Victims of TDV reported, on average, twice as many other types of victimizations as those with no history of TDV. **Conclusions:** These data indicate that physical TDV is especially closely associated with some forms of child maltreatment, sexual victimization, and polyvictimization. Universal dating violence prevention programs designed for youth who have not yet, or just recently, started dating will typically include a large number of youth who have already been victimized by other forms of violence. Prevention curricula may be more effective if they address the needs of victimized youth, for example, by teaching skills for coping with prior victimization experiences.

Keywords: teen dating violence, polyvictimization, sexual victimization, maltreatment, injury

Dating violence is one risk of an important developmental task that begins in adolescence: establishing and maintaining romantic relationships. Most early research on dating violence was based on college student samples, and thus, intentionally or not, focused on older adolescents. Attention has recently shifted to younger adolescents, however, given increasing recognition that dating violence onset often occurs before the college years (Erickson, Gittelman, & Dowd, 2010) and a greater focus on prevention

(Mulford & Giordano, 2008). Existing data indicate that victimization rates during middle school and high school are substantial. A large school-based study of 9th through 12th graders obtained a rate of 8.7% for physical teen dating violence (TDV; Eaton, Davis, Barrios, Brener, & Noonan, 2007). One nationally representative survey obtained a 1-year incidence rate of 3.6% for 13- to 17-year-olds (Finkelhor, Turner, Ormrod, & Hamby, 2005). The 2005 National Survey of Adolescents found a rate of 1.6% for

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severe TDV (Wolitzky-Taylor et al., 2008). These nationally representative data suggest there are approximately 400,000 to 900,000 TDV victims in the United States alone. Dating violence is not the only risk associated with adolescence, however. Little is known about how TDV overlaps with other victimizations, and in particular, a more comprehensive analysis of how TDV is embedded in a broad spectrum of other types of victimization is lacking. This study examines the co-occurrence of TDV with other victimizations in a nationally representative sample, the National Survey of Children's Exposure to Violence (NatSCEV; Finkelhor, Turner, Ormrod, & Hamby, 2009).

The Co-Occurrence of Physical TDV With Other Forms of Youth Victimization

In addition to physical TDV, many other forms of victimization, notably sexual victimization and exposure to community violence, also increase as youth enter puberty and spend more time away from the close supervision of parents and other adults (Finkelhor, Turner et al., 2005). This suggests that the co-occurrence may be high between TDV and other victimizations, which would be consistent with existing data indicating most forms of violence and abuse are interrelated (Kazdin, 2011). These interrelationships are thought to be caused by multiple common risk factors, such as dangerous families, chaotic families, and dangerous neighborhoods (Finkelhor, Ormrod, Turner, & Holt, 2009). Dangerous and chaotic families can increase multiple types of risks by failing to provide adequate parental oversight, for example, and dangerous neighborhoods can increase the base rates, and hence the risks of exposure, for a wide range of forms of victimization. Patterns of routine activities can also result in increased vulnerability to multiple victimization types (Wittebrood & Nieuwebeerta, 2000). Risky routine activities include behaviors such as underage substance use or associating with delinquent peers, and these likewise probably have general effects on increasing victimization risks.

The co-occurrence of a few forms of violence, such as the overlap between exposure to domestic violence and child maltreatment, has received considerable research attention (e.g., Appel & Holden, 1998; Hamby, Finkelhor,

Ormrod, & Turner, 2010). TDV, however, is still primarily studied in isolation from other types of youth victimization, even more so than many other forms of victimization. There are characteristics to physical TDV that make it unique compared with many other forms of youth victimization, such as the perpetration by a romantic partner (Hamby, 2006). TDV may also serve an important role in the course of development, as a key form of adolescent victimization that contributes to a developmental cascade of increased vulnerability to victimization throughout the life span and even into the next generation (Widom et al., 2008). Although gender differences in rates of physical TDV have been studied extensively (Hamby, 2009), very little attention has been paid as to whether gender influences patterns of co-occurrence. To develop our understanding of TDV, it is important to have a comprehensive epidemiology for TDV and how it interrelates with other victimizations. Further, there is currently considerable governmental investment in the problem of TDV. It is, for example, at the time of writing, an area of focus of the Office of the Vice President, the Department of Health and Human Services, and the Office of Violence Against Women at the U.S. Department of Justice (Challenge.gov, 2011). This investment should be as well-informed as possible.

A more contextualized approach could provide insights about who is most at risk for physical TDV, and how prevention and intervention programs might better address the full range of victimizations to which youth are exposed. Most dating violence prevention programs are, at best, moderately successful (Hamby, 2006; Mulford & Giordano, 2008; O'Leary, Woodin, & Fritz, 2006). To date, only Safe Dates has shown behavioral reductions in violence for both males and females (Foshee, Bauman, Helms, Koch, & Linder, 1998). New avenues to increase efficacy are needed.

Only a few studies have begun to suggest which other specific types of victimization are associated with physical TDV. Prior analyses of NatSCEV showed that witnessing domestic (interparental) violence is associated with TDV (Hamby et al., 2010). Other research has also shown that witnessing domestic violence (Arriaga & Foshee, 2004) and having been hit by an adult (Foshee, Benefield, Ennett, Bauman, & Suchindran, 2004) are associated with TDV vic-

timization. A study of youth who had been involved with child protective services found that caregiver emotional abuse was associated with dating violence victimization (Wekerle et al., 2009). Another team of researchers found that dating violence victimization was associated with physical victimization by same-sex peers (Swahn et al., 2008). Dating violence perpetration has also been shown to be associated with physical perpetration against peers and siblings (Rothman, Johnson, Azrael, Hall, & Weinberg, 2010). Exposure to violent crime has also been shown to co-occur with TDV (Spriggs, Halpern, & Martin, 2009). A study with a Canadian convenience sample found that physical TDV and sexual violence by a dating partner commonly co-occurred (Sears & Byer, 2010). A study of adult women has shown that intimate partner violence is related to sexual victimization by nonpartners, too (Krebs, Breiding, Browne, & Warner, 2011), but as far as we aware this has not been studied in youth.

Polyvictimization and TDV

High rates of co-occurrence across forms of victimization result in some children experiencing many different forms of victimization. The most highly victimized group has been called poly victims, and past research shows that these most vulnerable youth often disproportionately experience the most severe forms of victimization (Turner, Finkelhor, & Ormrod, 2010). The concept of polyvictimization draws attention to those youth who are vulnerable across multiple settings at the hands of multiple perpetrators. Research on polyvictimization suggests that these youth may have worse outcomes even in comparison to youth who have frequently experienced one form of victimization (Turner et al., 2010). Although past research has not specifically examined polyvictimization with respect to physical TDV, it seems probable that poly victims will be more likely to experience TDV, and that poly victims will more likely to be involved in more severe incidents leading to fear and injury.

Limitations of Existing Data

Our basic understanding of the extent of this public health problem is still quite limited. Most studies of physical TDV have been based on

convenience samples obtained through schools or other institutional settings. Many studies, especially those using convenience samples, only include youth who have been in dating relationships of at least a month or two (e.g., Straus, 2004). This elevates estimates of the prevalence of affected youth because those who have not been in longer term relationships (for adolescents) are not included. Convenience samples, including even large-scale school-based studies, such as the Youth Risk Behavior Survey (Eaton et al., 2007) will miss many youth, such as those who are home-schooled or who have dropped out of school.

The 2005 National Survey of Adolescents (Wolitzky-Taylor et al., 2008) is one of the few existing nationally representative studies to examine teen dating victimization, but the survey did not directly ask about dating partner perpetrators. Rather, respondents were asked about general types of victimization, and if they endorsed any of these items, they were then asked who the perpetrator was. Furthermore, the survey focused on severe violence only. Both of these factors may have contributed to the relatively low rate of 1.6% found in that study. In our earlier study, the Developmental Victimization Survey, we found a past-year rate of 3.6% for 13- to 17-year-olds, but only 800 youth were asked the item on TDV. Narrow definitions and relatively small sample sizes (for national surveys) limit the ability to examine co-occurrence for rarer victimizations, such as sexual assault.

The few studies that have explicitly examined co-occurrence have only looked at a very limited set of victimizations, such as exposure to domestic violence (Arriaga & Foshee, 2004; Hamby et al., 2010), same-sex peer victimization (Swahn et al., 2008), or exposure to violent crime (Spriggs et al., 2009). This limits our ability to identify which types of victimization are most closely related and which might most benefit from coordinated prevention and intervention efforts. The majority of the studies that have examined co-occurrence have been based on relatively small or convenience samples. Further, although gender patterns in rates of TDV and other intimate partner violence have been much debated (Hamby, 2009), there has been less attention to gender differences in patterns of risk. To our knowledge, no study has tested whether gender differences exist in how

TDV victimization co-occurs with other victimizations.

Purpose

The NatSCEV (Finkelhor, Turner et al., 2009) provides an opportunity to explore the associations of TDV with other important forms of youth victimization across five major categories: conventional crime, maltreatment, peer and sibling violence, sexual victimization, and witnessing victimization. NatSCEV is the largest U.S. survey devoted to youth victimization and is one of the primary U.S. surveillance tools for numerous forms of youth victimization, including several forms of physical assault in addition to TDV, sexual victimization, child maltreatment, and witnessing violence. It is the only victimization survey that includes youth-specific offenses, such as neglect and statutory rape that are crimes only when perpetrated against minors. The NatSCEV dataset makes it possible to examine TDV in the context of the larger burden of victimization experienced by American youth. We hypothesized that physical TDV will be associated with many other forms of victimization, including family violence, sexual victimization, and peer aggression. We further anticipate that the most victimized youth will experience more severe forms of dating violence than others. In exploratory analyses, we examine whether patterns of co-occurrence differ for males and females and whether other forms of victimization experienced by physical TDV victims are committed by dating partners.

Method

Participants

The participants include 1,680 youth aged 12 to 17 years old from the NatSCEV, which is a nationally representative survey of 4,549 children ages 1 month to 17 years living in the continental United States. The 12 to 17-year-old portion of sample was 49.5% male and 50.5% female with an average age of 14.64 years ($SD = 1.66$). Almost 1 in 5 youth (17.6%) came from families with total household incomes below \$20,000 per year, 27.9% had a household income between \$20,000 and \$50,000, 30.7% had an income from \$50,000 to \$100,000, and 21.8% were over \$100,000 per year. The

median annual household income was \$50,000 to \$75,000 per year. They were 57.9% White, non-Hispanic, 18.7% Black, non-Hispanic, 5.1% other race, non-Hispanic, and 18.3% Hispanic, any race.

Procedure

NatSCEV data were collected through a computer-assisted telephone interview. An adult caregiver was initially contacted and interviewed to attain family demographic information. The child with the most recent birthday in the family was selected as the focus of the interview. For youth 12 to 17 years old, the main telephone interview was carried out with the youth. The majority of the sample (67%) was acquired through random digit dialing (RDD) from a nationwide sampling of residential telephone numbers that took place between January and May, 2008. The other 33% of the sample was obtained through an oversampling of U.S. telephone exchanges that included 70% or more African American, Hispanic, or low-income households. RDD telephone interviewing is the most commonly used methodology to obtain nationally representative surveys in the United States, given the cost and other obstacles of alternatives. In 2008, ~85% of households with children had land lines, a substantially higher rate than for adults living alone or households of unrelated adults (Blumberg & Luke, 2010). Because of obstacles regarding cell phone contact, including lack of published phone lists, legal obstacles, safety issues (such as contacting a person while driving), and costs issues (when participants must pay per-minute charges to participate), RDD remains the most common and best established means of conducting nationally representative surveillance. Research has shown that there are few differences between telephone and in-person interviews, and that those that exist may actually favor telephone interviewing, which can be perceived as more anonymous, less intimidating, and more private than face-to-face modes and hence may promote disclosure of victimization incidents (e.g., Acierno, Resnick, Kilpatrick, & Stark-Riemer, 2003). To maximize response rates, up to 13 telephone callbacks were initially made to contact a respondent and up to 25 callbacks were completed to conclude the interview. Full confidentiality was promised to all

applicants and they were provided \$20 for their participation. The interviews were offered in English and Spanish. Although nearly all adolescents chose to be interviewed in English, 6% of caregivers chose to be interviewed in Spanish. The full interview takes ~45 min to complete, depending on the number of victimizations reported.

If respondents revealed that there was a serious threat, caregiver-perpetrated victimization, or suicidal ideation, they were recontacted by a clinical member of the research team trained in telephone crisis counseling. Their responsibility was to stay in contact with the respondent until the situation was resolved or brought to the attention of appropriate authorities. All procedures were authorized by the Institutional Review Board of the University of New Hampshire.

The cooperation rate was 71% for the RDD cross-section portion of the survey and 63% for the oversample. To further analyze the representativeness of the sample, we compared parent reports of adolescents who completed the interview to parent reports for adolescent non-responders for 10- to 17-year-old participants. There were only three differences among 34 tests, none of which suggested any serious bias in victimization risk (see Finkelhor, Turner, et al., 2009, for more details on these and other sample characteristics).

Measurement

Victimization. An enhanced version of the Juvenile Victimization Questionnaire (JVQ-R2; Hamby, Finkelhor, Ormrod, & Turner, 2005) was used for this survey, which covers five general areas of youth victimization: conventional crime, maltreatment, victimization by peers and siblings, sexual victimization, and witnessing violence across 44 items. The purpose of the JVQ is to provide a comprehensive picture of multiple forms of victimization. Across each major violence area, several “screener” questions are asked about specific forms of victimization, using a yes or no response format. After completing all screeners, incident characteristics such as perpetrator identity (“Who did this?”) are obtained in a follow-up portion of the interview.

For example, the section on maltreatment begins with the following preamble, “Next, we are going to ask about grown-ups who take care of

you. This means parents, babysitters, adults who live with you, or others who watch you. Before we begin, I want to remind you that your answers will be kept totally private. If there is a particular question that you don’t want to answer, that’s O.K. But it is important that you be as honest as you can, so that the researchers can get a better idea of the kinds of things that kids your age sometimes face.” The screener on physical abuse by a caregiver reads, “Not including spanking on your bottom, at any time in your life, did a grown-up in your life hit, beat, kick, or physically hurt you in any way?” If a caregiver is identified as the perpetrator in response to other physical assault screeners, then these are included in physical abuse rates as well.

Other victimizations are also operationalized behaviorally. For example, the item on nonsexual genital assault reads, “At any time in your life, did any kids try to hurt your private parts on purpose by hitting or kicking you there?” The items on nonphysical aggression include a threshold of distress to minimize the inclusion of joking around or other false positives. For example, the item on relational aggression reads, “At any time in your life, did you get scared or feel really bad because kids were calling you names, saying mean things to you, or saying they didn’t want you around?” Some items prompt respondents to think about specific types of assaults, such as the one on bias-motivated attack, which reads, “At any time in your life, have you been hit or attacked because of your skin color, religion, or where your family comes from? Because of a physical problem you have? Or because someone said you were gay?” Some items prompt respondents to think about particular modalities, such as the item on unwanted Internet sexual messages, which reads, “Did anyone on the Internet ever ask you sexual questions about yourself or try to get you to talk online about sex when you *did not want to talk about those things*?” One strength of NatSCEV is the inclusion of victimization forms that have received little previous study, such as custodial interference, which reads, “Sometimes a family fights over where a child should live. At any time in your life, did a parent take, keep, or hide you to stop you from being with another parent?” Custodial interference is different from kidnapping in that it is caregiver-perpetrated and also, unlike kidnapping, may not involve force or the threat of

harm. See tables for a description of the other victimizations and Finkelhor, Turner, et al. (2009) or http://www.unh.edu/ccrc/jvq/index_new.html for exact wording of all questions, which are freely available for use by others. The test-retest reliability and construct validity of the JVQ were established in a previous national sample (Finkelhor, Hamby, Ormrod, & Turner, 2005). Construct validity was established with significant, moderate correlations with trauma symptoms and test-retest reliability showed an average κ of .63 with 95% agreement across administrations, which indicate substantial reliability especially given the very low base rate for some items. Lifetime data are used to maximize the number of cases available for analyses.

Physical TDV. For physical TDV, the core screener reads, "At any time in your life, did a boyfriend or girlfriend or anyone you went on a date with slap or hit you?" This item is asked of youth aged 12 and older. It is well known that perpetrator-specific items yield more reports of nonstranger violence (Hamby & Finkelhor, 2000), and this question produced the majority of our reports of physical dating violence, $n = 97$ (unweighted).

For the eight other items that screen for different types of physical assault, open-ended responses were coded by interviewers into 1 of 10 categories, including "boyfriend/girlfriend," or recorded verbatim. Verbatim responses were later individually reviewed and coded. This resulted in an additional 17 youth being identified as victims of physical TDV (before weighting).

TDV severity. To better understand the nature of the physical TDV incidents, injury and fear were assessed. Injury was assessed by a follow-up item that asked whether a youth was "physically hurt when this happened." Following a report of TDV, respondents were also asked "how afraid" youth felt (not at all, a little, or very afraid, coded as 1 to 3).

Polyvictimization. Consistent with past research, poly victims were defined as youth above the 90th percentile in number of different types of victimizations. For the purposes of this study, physical TDV was omitted from these scores to avoid statistical overlap. The total sum of endorsed screeners was also used in some analyses.

Demographics. Characteristics of the youth including their gender, age, household

income, race, and ethnicity were gathered in the demographic section of the survey completed by a caregiver.

Weights. All rates and statistics shown in analyses and tables are adjusted for: (1) differing probabilities of household selection, including the oversampling of Black, Hispanic, and low-income respondents; (2) variations in the within-household probability of selection because of different numbers of eligible children across households; and (3) differences in sample proportions of gender, age, and race/ethnicity, and income relative to Census Population Projections for 2008 of each strata.

Results

Rates and Characteristics of Physical TDV

For the whole sample, 6.4% of youth reported being a victim of physical TDV. Significantly more males than females reported physical TDV victimization; $\chi^2(1) = 9.33, p < .01$. The reported rate for males was 8.3% and for females was 4.5%. There was some indication that males and females were reporting qualitatively different phenomena, however, as rates of physical injury from dating violence were approximately three times higher for female TDV victims (36.4%) as for male TDV victims (12.3%); $\chi^2(1) = 7.80, p < .01$. The rate of injury for all physical TDV episodes was 20% (females and males combined). In addition, there were large gender differences in ratings of fear reactions to TDV; $F(1, 84) = 80.14, p < .0001$. The mean fear rating for females was 2.28 ($SD .89$), and the mean fear rating for males was 1.11 ($SD .32$). Put another way, 89% of the male youth said they were "not afraid" and 0% said they were "very afraid," while 47% of females said they were "very afraid" and less than 30% said they were "not afraid" during the TDV incident.

Co-Occurrence of Physical TDV With Other Victimizations

Logistic regressions were performed with each specific type of violence as the predictor and physical TDV as the dependent variable. Several demographic variables were also included as covariates: youth age, youth sex, household income, and youth race and ethnicity (coded as African American or not and Latino/a or not). Addition-

ally, because several forms of victimization are quite common and the OR (odds ratios) from logistic regressions are known to exceed the true relative risk for phenomena with population rates higher than 10%, the results are also shown with the Zhang and Yu correction (Zhang & Yu, 1998). Their correction more nearly approximates the true relative risk, and has advantages over statistical alternatives in its ability to handle multiple covariates, continuous covariates, or confounds strongly associated with the dependent variable, and lacks problems with statistical convergence (Kleinman & Norton, 2009). Li (2006) has further shown that the p value for the original unadjusted

OR can be used for the adjusted relative risk (see Table 1).

The rates of physical TDV for youth who had experienced a variety of other types of victimization are in Table 1. As there may be some occasions when the other conditional is of interest (which types of victimization are most common among TDV victims) we also provide that rate in the final column of Table 1. So, for example, on the top line of Table 1, the rate of physical TDV is 11.8% for youth who have experienced some form of caregiver maltreatment, versus only 4.2% of youth who had not experienced maltreatment. For some settings,

Table 1
Co-Occurrence of TDV With Other Victimizations for 12- to 17-Year-Old Youth: Lifetime Reports

Type of victimization	n with each victimization type	OR _{adjusted} (CI)	% of TDV for victimized youth	% of TDV for nonvictimized youth	% of TDV victims with specific types of other victimizations
Any maltreatment	440	1.90 (1.50–2.29) ^{****}	11.8%	4.2%	53.1%
Physical abuse by caregiver	249	2.74 (2.03–3.51)^{****}	17.3	4.2	44.3
Psychological abuse	307	1.97 (1.42–2.58) ^{****}	11.7	5.1	36.7
Custodial interference	103	4.31 (2.71–6.46)^{****}	23.3	5.2	24.5
Neglect	71	1.79 (0.85–3.61) _{ns}	12.7	6.1	9.2
Any physical assault ^a	1032	1.52 (1.24–1.52) [*]	8.1	0.0	100.0
Gang or group assault	113	4.51 (2.90–6.60)^{****}	26.5	4.8	30.6
Nonsexual genital assault	243	3.10 (2.28–3.98)^{****}	18.5	4.1	46.4
Bias-motivated attack	85	4.16 (2.39–6.75)^{****}	20.0	5.6	17.3
Any sexual victimization	346	3.15 (2.58–3.65) ^{****}	16.8	3.3	59.8
Any sexual assault^b	129	2.92 (1.79–4.49)^{****}	15.5	5.5	20.6
Rape	24	5.12 (1.88–13.01)^{****}	25.0	6.1	6.2
Flashed by peer	137	3.29 (2.05–4.47)^{****}	20.4	5.0	28.6
Flashed by adult	21	4.54 (1.98–14.73)^{****}	28.6	6.1	6.2
Sexual harassment	160	5.33 (3.13–5.95)^{****}	18.1	5.0	29.9
Statutory rape/sexual misconduct	18	17.13 (6.12–42.72)^{****}	50.0	5.8	9.3
Any witnessed victimization	981	1.55 (1.42–1.59) ^{****}	9.6	0.6	96.9
Witnessed family assault	477	2.20 (1.82–2.54) ^{****}	13.4	3.2	66.0
Witnessed community assault	883	1.54 (1.36–1.65) ^{****}	9.6	2.0	86.7
Physical intimidation by peer	402	1.59 (1.18–2.04) ^{***}	9.2	5.4	37.8
Relational aggression by peer	596	1.48 (1.19–1.75) ^{**}	8.4	5.2	51.0
Internet harassment	112	4.25 (2.67–6.32)^{****}	17.9	5.5	20.6
Unwanted internet sexual messages	99	3.74 (2.54–6.40)^{****}	20.2	5.4	20.6
Kidnapping	41	1.99 (0.73–5.18) _{ns}	12.2	6.3	5.1
Any property crime	764	1.74 (1.54–1.88) ^{****}	10.7	2.0	84.5
Polyvictimization	124	5.40 (3.42–6.90)^{****}	24.2	4.9	30.6

Note. TDV rates that exceed 15% for victimized youth are highlighted in bold. Weighted $n = 1,524$. OR_{adjusted} = Odds ratio for risk of TDV given each type of victimization, after controlling for youth gender, youth age, household income, and youth race and ethnicity (African American or not and Latino/a or not) and with the Zhang and Yu (1998) correction applied to more nearly approximate the true relative risk (see text for details). CI = 95% confidence interval; *ns* = nonsignificant.

^a Not including reports to TDV item. ^b “Any sexual assault” includes rape and also sexual assaults that did not involve forced penetration.

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

however, it may be useful to also know that more than half (53.1%) of physical TDV victims have experienced caregiver maltreatment (the final column in Table 1).

Physical TDV is significantly associated with a wide variety of victimizations, with OR ranging from 1.48 to 17.13, after controlling for demographics and applying the Zhang and Yu correction. Some of the most striking degrees of overlap were for sexual victimizations, all of which were significantly associated with TDV (see Table 1). The rate of physical TDV was fully 50% for youth who reported an incident of statutory rape or sexual misconduct, which in our survey is defined as youth under the age of 16 who engage in sexual activities with someone five or more years older, "even things you both wanted." The rate of TDV among rape victims was 25%, or 1 in 4. More than 1 in 4 who had experienced an unwanted exposure by an adult (flashing) had also experienced TDV.

The rate of physical TDV exceeds 1 in 5 for several other groups of victims, including those who had experienced custodial interference, gang or group assault, bias-motivated attack, flashing by a peer, and unwanted Internet sexual messages. Rates were significantly elevated compared with nonvictims for all but two forms of victimization, neglect and kidnapping (see Table 1).

Notably, much of this co-occurrence does not appear to be because of dating partners also committing these other offenses. For most victimizations included in NatSCEV, the percentage of offenses committed by dating partner perpetrators is low (5% or less). Some victimizations assessed in NatSCEV, such as the maltreatment items, are, by definition, not perpetrated by dating partners. The noteworthy exceptions to this pattern are all forms of sexual victimization: sexual assault by a peer (17% of all peer sexual offenses committed by dating partners), rape (23% of perpetrators identified as dating partners), and statutory rape or sexual misconduct (50% of perpetrators identified as dating partners). We conducted exploratory chi-square analyses to determine whether dating partners commit more of these offenses than other youth for TDV victims, as compared with non-TDV victims. The finding for sexual assault by a peer approached significance ($p = .06$), with more than a one-third (36%) of TDV

victims identifying a dating partner as the perpetrator of sexual assault, compared with only 11% of non-TDV victims. Given that three of the four cells in this analysis have $n < 10$, however, this pattern may not be stable. The rates of dating-partner-perpetrated rape were more similar for TDV and non-TDV victims, $p > .60$. Although 30% of physical TDV victims who also had been raped identified a dating partner as the rape perpetrator, so did 23% of nonphysical TDV victims. The finding for statutory rape or sexual misconduct was also nonsignificant, $p > .10$, with 61% of physical TDV victims identifying those offenders as dating partners, compared with 45% of non-TDV victims.

Using the other conditional as the point of reference, one can identify what types of victimization are most common among victims of physical TDV. As can be seen in the final column in Table 1, several victimization forms were very common among victims of physical TDV. More than half have experienced some form of maltreatment, including 44% who reported physical abuse by a caregiver. All TDV victims reported at least one other type of physical assault, and nearly 3 out of 5 (59.8%) reported a sexual victimization. Co-occurrence was universal. In this sample, every victim of physical TDV (100%) also reported at least one other type of victimization. There was not a single youth who was solely a victim of physical TDV and no other form of victimization.

Polyvictimization and Physical TDV Victimization

Physical TDV victims are more likely to be poly victims than youth who have not experienced TDV, with an adjusted OR of 5.40 after controlling for demographics and applying the Zhang and Yu correction (see Table 1). The average number of victimizations reported by physical TDV victims and nonvictims was examined with an analysis of covariance, using the sum total of all screeners as the independent variable and youth age, gender, race, ethnicity, and household income as covariates; $F(1, 1366) = 152.02, p < .001$. The average number of victimizations, including both direct victimizations and witnessing victimizations, was 5.33 ($SD 5.00$) for nonvictims. TDV victims reported

more than twice that number of victimizations, $M = 12.89$ ($SD = 6.20$). Large differences are also found if limited to the total count of direct victimizations (i.e., excluding witnessed violence); $F(1, 1366) = 137.02$, $p < .001$. TDV victims ($M = 9.16$, $SD = 4.56$) also had more than twice as many direct victimizations as those without a history of dating violence ($M = 3.84$, $SD = 3.74$).

Gender and Co-Occurrence

Many of the strongest patterns of co-occurrence identified above were for sexual victimizations. We have previously shown most sexual victimizations to be more common among females and physical assaults to be more common among males (Finkelhor, Turner, et al., 2009). Thus, exploratory analyses were conducted to see if patterns of co-occurrence differed for males and females. This was accomplished by adding an interaction term between gender and the specific type of victimization for each of the regressions. Despite bivariate associations between gender and many of these forms of victimization, these results indicate no gender differences in patterns of co-occurrence between physical TDV and most other types of victimization. This includes all of the forms of sexual victimizations, physical assault, maltreatment, and witnessing violence presented in Table 1, all $p > .10$. The association between polyvictimization and physical TDV also did not differ by gender. There was a significant interaction between peer relational aggression and gender, however; $OR = 2.93$, $p < .05$. Relational victimization was associated with TDV for females, $p < .01$. Females reporting relational victimization had a TDV rate of 7.1%, compared with 2% for females who did not report relational aggression. Relational aggression victimization was not significantly associated with TDV for males. For males, the TDV rate was 10.0% for those who had experienced relational aggression and only slightly lower, 7.4%, for those who had not. Given that this was the only significant interaction term and the size of the effect was modest, these results should be interpreted with caution. More generally, these results suggest that experiences of victimization increase risk of physical TDV victimization similarly for both males and females.

Polyvictimization and Physical TDV Severity

Polyvictimization was associated with the severity of TDV incidents. Looking just at the youth who reported an incident of physical TDV, those who were also poly victims were more likely to be injured during the TDV incident, compared with nonpoly victims; $\chi^2(1) = 7.04$, $p < .01$ (see Table 2). Polyvictimized youth were also more likely to report that they were afraid during the dating violence incident; $\chi^2(1) = 5.89$, $p < .05$. Almost half of the poly victims said they were afraid, compared with less than 1 in 4 nonpoly victims. Polyvictimization was not, however, associated with police involvement in the TDV episode, $p > .50$, perhaps because of the low rate of police involvement for TDV incidents in this community sample (10% for poly victims and 6.3% for nonpoly victims).

Discussion

The findings of this study suggest two key conclusions. First, they support the polyvictimization concept, and indicate that physical TDV is another form of violence that is closely interrelated with other forms of violence. Second, these findings also suggest that some forms of victimization cluster with physical TDV more closely than others. In particular, many different forms of sexual victimization were very closely related to physical TDV. The rate of physical TDV among victims of rape was 25%, or 1 in 4, compared with 6.1% for youth who were not victims of rape, or approximately 1 in 16. Also notably, TDV was particularly associated with some adult-perpetrated sexual offenses. The as-

Table 2
Severity of TDV Incidents for Poly Victims and Nonpoly Victims

Severity indicator	% reported for TDV incident by poly victims	% reported for TDV incident for nonpoly victims
Injury**	36.7%	13.2%
Fear*	46.7	22.4
Police involvement	10.0	6.3

Note. Weighted $n = 97$ for youth who reported a TDV incident.

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

sociation with statutory rape was the highest for all forms of victimization, with half (50%) of all youth in sexual relationships with much older partners (5 or more years older) also reporting TDV. More than 1 in 4 youth (28.6%) who had experienced an unwanted exposure by an adult also reported being a victim of TDV. Given that many of the perpetrators of these sexual offenses were not boyfriends, these associations may indicate chronic conditions of risk across multiple relationships instead of a single association with a violent partner. These chronic conditions of risk could be because of lack of adequate parental monitoring or dangerous routine activities (Wittebrood & Nieuwbeerta, 2000). Some of these conditions could also be one reason why some of these youth are involved with older partners.

Child maltreatment was also closely associated with physical TDV. More than half of physical TDV victims have a history of some form of child maltreatment, with 44% reporting physical abuse by a caregiver. More than 2 out of 3 youth had witnessed an assault between other family members. The highest relative risk was for custodial interference. TDV rates are more than four times higher for youth who have experienced custodial interference in comparison to other youth. Custodial interference may be a proxy for particularly dysfunctional parental relationships, where the fighting (often including physical fighting) between the parents has spilled over into using the children as weapons in custody battles. These youth may be more vulnerable to physical TDV from a combination of factors, including lack of parental care and poor working models for relationships.

A number of other linkages are worth noting. Both Internet harassment and unwanted Internet sexual messages were also closely linked to physical TDV. The Internet has had profound effects on communication among youth and this is an area that needs more attention. Several forms of physical assault, including gang or group assault and bias-motivated (aka "hate") crime also co-occurred with physical TDV at elevated rates. Witnessing violence was also associated with physical TDV.

Gender, TDV, and Co-Occurrence

We did find gender differences in reported rates of physical TDV victimization, with

higher rates reported for males than females, and the opposite pattern of gender differences in reported injury and fear. Almost three times as many female physical TDV victims as male TDV victims reported an injury, and females were also markedly more afraid. Although these findings are consistent with other research on physical TDV, the marked discrepancies between reported incidents versus reported injury and fear suggest more work needs to be done to investigate the gender equivalence of TDV reports. The differences in injury and fear suggest that there are different power and situational dynamics involved in men's and women's use of force and that this needs more attention in future research (Caldwell, Swan, & Woodbrown, 2012). These findings do also suggest, however, the need to address physical TDV victimization for both males and females.

With more specific attention to the issue of co-occurrence, we generally found that patterns of co-occurrence were statistically similar for males and females, with only one significant difference out of 26 tests. These findings should be interpreted in the context of gender differences in victimization rates for the individual types of victimization. Generally, females have higher rates of most sexual victimizations and males have higher rates of many forms of physical assault victimization (Finkelhor, Turner et al., 2009). The analyses on how gender intersects with co-occurrence show, though, that despite these gender differences in base rates, the ways that other victimization types overlap with TDV are similar for males and females. At least some of the vulnerabilities that create victimization risks for youth may operate similarly for males and females. Mechanisms such as lack of parental oversight or risky routine activities may not be particularly gendered and may function similarly for males and females. Even though females or males may be at differential risk for certain types of victimization, once a victimization has been experienced, the aftermath may leave them similarly more vulnerable to other victimization experiences. Our study advances knowledge in this area by examining co-occurrence for both males and females and also by statistically testing gender differences in co-occurrence, but this would be an area worth exploring further in future research.

Limitations

Limitations of this study should be noted when considering the results. One, interview length considerations prevented us from asking follow-up data about every incident. These data provide a representative, random sample of the most recent incident. Telephone surveys may miss some of the most vulnerable members of the population. Despite the overall comprehensiveness of the JVQ in comparison to other available data, it is possible that some victimizations were omitted. Some victimizations are relatively rare in the general population, so despite our large sample size, the small number of victims for some offenses may limit our ability to detect co-occurrence or gender differences in patterns of co-occurrence. All of the data are based on self-report and so the co-occurrence may be elevated because of shared method variance, although the large variations in the degree of co-occurrence suggest that method variance alone does not account for the findings. NatSCEV does not collect information on dating history or consensual sexual activity. Still, despite these limitations, these data provide the most comprehensive picture available of the co-occurrence of TDV with other types of youth victimization.

Research Implications

These data suggest a need to develop our understanding of how physical TDV is connected to other forms of victimization. The longstanding practice of studying TDV as a stand-alone phenomenon provides an incomplete picture of this problem. The findings here establish a basic epidemiology of the nature and extent of the links between TDV and a number of other important forms of youth victimization. These data also suggest the need for more research on the extent of sexual victimizations in abusive and exploitive relationships. For example, future research could further explore how adolescent-adult relationships may create particular vulnerabilities for physical victimization. Future research could also begin to identify how some youth become vulnerable to multiple abusive sexual and romantic relationships. Emphasizing physical assaults alone also contributes to an incomplete picture of TDV (Hamby, 2009).

This foundation can be built on with further research that begins to explore the mechanisms creating pathways between child maltreatment, for example, and physical TDV. Even beyond these types of analysis, the study of TDV would benefit from the identification of risk factors and consequences that are specific to TDV and those that are unique to it. Dangerous families, including those where child maltreatment and exposure to intimate partner violence occurs, appear to be a risk common to many types of victimization (Finkelhor, Ormrod et al., 2009). On the other hand, these data also suggest that there may be other risk factors, such as sexual relationships with much older partners, which would be worth exploring as possible unique risk factors for TDV. In this study, we focused on possible differences based on gender, but other factors, such as race, ethnicity, and social class, would be important topics for further study.

As the transition to adolescence also involves a transition to a high-risk period for perpetrating violence (Moffitt, Caspi, Harrington, & Milne, 2002), further research could also begin to delineate the associations between perpetration and victimization during this developmental stage. Patterns of co-occurrence are not limited to victimization (Rothman et al., 2010). There is also a need for a more detailed exploration of how these patterns develop across types of victimization and change over time. Not all victims of youth violence go on to become highly victimized adults. It seems possible that TDV may play a role in the transition from youth victimization to adult vulnerability. We need a better understanding of which forms of violence are primarily associated with risk factors common to many forms of violence and which may be the product of unique risks. With an increasingly mature epidemiological base of knowledge on the considerable and even surprising amount of co-occurrence in youth (Finkelhor, Turner, et al., 2005, 2009), future work can focus on longitudinal studies that can provide more sophisticated analyses of etiological factors, surveillance for the monitoring of trends over time, and more in-depth studies of high-risk groups or patterns of polyvictimization in other cultural settings.

Clinical and Policy Implications

It would be worth exploring alternatives to current dating violence prevention and intervention efforts, which generally focus on dating violence in isolation from other common youth victimizations. Many people have noted that dating violence prevention efforts have only been modestly successful (e.g., O'Leary et al., 2006). Several reasons for this limited effect have been hypothesized, such as short program lengths. The embeddedness of TDV in other victimizations has received relatively little attention, but the high co-occurrence of TDV with some other forms of victimization does suggest some possibilities for curriculum development that could be evaluated in future program evaluation research.

Early childhood victimization history, for example, is seldom addressed in dating violence prevention programs, despite years of research documenting a link between child maltreatment and vulnerability to victimization later in life (Widom, Czaja, & Dutton, 2008). In our data, more than half of the TDV victims also reported experiencing at least one form of maltreatment, and two out of three had witnessed physical fights between family members. Emerging evidence suggests that maltreated youth may experience neurophysiological changes, such as dysregulation in the hypothalamic-pituitary-adrenal axis, that affect their responses to threatening situations. This dysregulation can lead to either hyperarousal or hypoarousal, as indicated by unusually high or low basal cortisol levels. Teaching youth how to respond to potentially threatening situations even when highly stressed could improve prevention efficacy (Noll & Grych, 2011). Techniques from trauma-informed care (e.g., Najavits, 2007) might be a productive avenue of exploration for future dating violence prevention programs.

Some common features of dating violence prevention programs might need minimal adaptation to better address interrelated forms of violence. For example, healthy conflict resolution strategies might be useful for ameliorating conflicts with peers as much as conflicts with dating partners. Some dating violence prevention programs, such as Safe Dates (Foshee et al., 1998), do address sexual aggression, but given the strong interrelatedness between dating violence and sexual victimization in our data, more

attention to sexual aggression might be beneficial. In particular, given that many youth do not identify the perpetrators of sexual aggression as dating partners, more attention to sexual aggression outside of dating relationships seems warranted. Navigating consent and contraceptive use are important aspects of dating relationships and other sexual encounters. Given our findings on statutory rape or sexual misconduct, dating violence prevention programs might add and evaluate content on the potential dangers of older partners. Finally, given the link between TDV and both Internet (nonsexual) harassment and unwanted Internet sexual messages, updating TDV prevention programs to include risks related to modern communication technologies seems warranted.

Conclusion

TDV is a disturbingly common phenomenon among youth aged 12 to 17 years, and a phenomenon that is commonly embedded in a wide variety of other forms of youth victimization. In this study, every single TDV victim had experienced at least one other type of victimization and the average number of other victimizations was over a dozen. More attention to the interrelatedness of TDV with other victimization experiences is a promising avenue to reducing this form of violence and helping adolescents navigate the developmental tasks of learning to develop healthy romantic relationships.

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