Longitudinal Associations Between Teen Dating Violence Victimization and Adverse Health Outcomes

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KEY WORDS
adolescent, young adult, dating violence, adverse outcomes, longitudinal studies

ABBREVIATIONS
A-CASI—audio computer-assisted self-interview
Add Health—National Longitudinal Study of Adolescent Health
aOR—adjusted odds ratio
CI—confidence interval
CTS2—Revised Conflict Tactics Scale
IPV—intimate partner violence
PPV—physical and psychological victimization
PVO—psychological victimization only
TDV—teen dating violence

Ms Exner-Cortens made substantial contributions to the intellectual content of the paper in the following ways: (1) study conception and design, acquisition of data, and analysis and interpretation of data; (2) drafting of the manuscript; and (3) final approval of the version to be published. Dr Eckenrode made substantial contributions to the intellectual content of the paper in the following ways: (1) study conception and design, and analysis and interpretation of data; (2) critical revision of the manuscript for important intellectual content; and (3) final approval of the version to be published. Dr Rothman made substantial contributions to the intellectual content of the paper in the following ways: (1) study conception and design, and analysis and interpretation of data; (2) drafting of the manuscript; and (3) final approval of the version to be published.

WHAT’S KNOWN ON THIS SUBJECT: Although a number of cross-sectional studies have documented associations between teen dating violence victimization and adverse health outcomes, including sexual risk behaviors, suicidality, substance use, and depression, longitudinal work examining the relationship between victimization and outcomes is limited.

WHAT THIS STUDY ADDS: This study is the first to demonstrate the longitudinal associations between teen dating violence victimization and multiple young adult health outcomes in a nationally representative sample. Findings emphasize the need for screening and intervention for both male and female victims.

OBJECTIVE: To determine the longitudinal association between teen dating violence victimization and selected adverse health outcomes.

METHODS: Secondary analysis of Waves 1 (1994–1995), 2 (1996), and 3 (2001–2002) of the National Longitudinal Study of Adolescent Health, a nationally representative sample of US high schools and middle schools. Participants were 5681 12- to 18-year-old adolescents who reported heterosexual dating experiences at Wave 2. These participants were followed-up ∼5 years later (Wave 3) when they were aged 18 to 25. Physical and psychological dating violence victimization was assessed at Wave 2. Outcome measures were reported at Wave 3, and included depressive symptomatology, self-esteem, antisocial behaviors, sexual risk behaviors, extreme weight control behaviors, suicidal ideation and attempt, substance use (smoking, heavy episodic drinking, marijuana, other drugs), and adult intimate partner violence (IPV) victimization. Data were analyzed by using multivariate linear and logistic regression models.

RESULTS: Compared with participants reporting no teen dating violence victimization at Wave 2, female participants experiencing victimization reported increased heavy episodic drinking, depressive symptomatology, suicidal ideation, smoking, and IPV victimization at Wave 3, whereas male participants experiencing victimization reported increased antisocial behaviors, suicidal ideation, marijuana use, and IPV victimization at Wave 3, controlling for sociodemographics, child maltreatment, and pubertal status.

CONCLUSIONS: The results from the present analyses suggest that dating violence experienced during adolescence is related to adverse health outcomes in young adulthood. Findings from this study emphasize the importance of screening and offering secondary prevention programs to both male and female victims. Pediatrics 2013;131:71–78.
Teen dating violence (TDV) is a substantial public health problem in the United States. In nationally representative samples, 20% of adolescents report any psychological violence victimization, and 0.8% to 12.0% report any physical violence victimization.1–3 Although the burden of TDV victimization falls fairly equally on both boys and girls, girls may experience more severe physical and sexual victimization than boys.2,5,6

A number of cross-sectional studies report that for both boys and girls, TDV victimization is associated with adverse outcomes, including increased sexual risk behaviors,7–9 suicidal behaviors,5,10–12 unhealthy weight control methods,8,10 adverse mental health outcomes,11,13,14 substance use,8,14,15 pregnancy outcomes,8,16,17 and injuries.5 However, the cross-sectional design of these previous studies precludes an assessment of whether these behaviors are a cause or consequence of victimization.

Although several recent longitudinal studies have investigated the association between TDV victimization and later adverse outcomes,18–24 only 4 have investigated outcomes other than risk for revictimization; 1 study21 looked at effects of physical and sexual TDV on adverse health outcomes 5 years post-victimization in a sample of 1516 Minnesota teenagers, whereas the other studies22–24 used the National Longitudinal Study of Adolescent Health (Add Health). Roberts et al22 explored impacts of physical and psychological TDV on health risk behaviors in a nationally representative sample of US adolescents. In 1994, participants were selected from 80 high schools and 52 middle schools, stratified with respect to region of country, urbanicity, school size, school type, and ethnicity. At Wave 1 (1994–1995), adolescents in grades 7 to 12 participated in a structured in-home interview. Adolescents were reinterviewed in 1996 at Wave 2, and again in 2001–2002 (Wave 3).

Sample
The analytic sample was restricted to adolescents who participated in the in-home interviews at Waves 1, 2, and 3. Participants were included if they reported that they (1) had been in a heterosexual dating or sexual relationship by using A-CASI. (All variables except age, race/ethnicity, gender, socioeconomic status, depression, self-esteem, and extreme weight control were assessed by using A-CASI.) Dating violence was measured by using 5 items from the revised Conflict Tactics Scale (CTS2).26 Participants were asked if a partner had ever (1) called them names, insulted them, or treated them disrespectfully in front of others; (2) sworn at them; (3) threatened them with violence; (4) pushed or shoved them; or (5) thrown something at them that could hurt. For the present analyses, a dichotomous variable was created, indicating whether participants endorsed the particular victimization item in any of their romantic or sexual relationships.

METHODS

Data
This study analyzed data from the Add Health data set. Add Health was designed to study determinants of health and risk behaviors in a nationally representative sample of US adolescents. In 1994, participants were selected from 80 high schools and 52 middle schools, stratified with respect to region of country, urbanicity, school size, school type, and ethnicity. At Wave 1 (1994–1995), adolescents in grades 7 to 12 participated in a structured in-home interview. Adolescents were reinterviewed in 1996 at Wave 2, and again in 2001–2002 (Wave 3).

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Associations with adverse outcomes were explored in 2 TDV subgroups: those reporting psychological victimization only (PVO) (item[s] 1, 2, and/or 3) and those reporting both physical and psychological victimization (PPV) (item[s] 1, 2, and/or 3 and item[s] 4 and/or 5).1,27 The subgroup experiencing physical violence only was too small to include in analyses. The comparison group was adolescents reporting having dating partners but no dating violence at Wave 2.

Control Variables

Demographics
Included were age (Wave 2), gender, race/ethnicity (non-Hispanic white,
Pubertal Status

At Wave 2, participants rated themselves on 3 indicators of physical maturity, similar to items found in the Pubertal Development Scale.28 Following Foster et al.,27 each item was first standardized to mean 0 and SD 1 and then averaged to create the pubertal status score. Higher scores indicate more advanced pubertal status.

Child Maltreatment

Child maltreatment was measured retrospectively at Wave 3 by using 3 items, reflecting neglect, physical abuse, and sexual abuse. Questions were similar to those in the Parent-Child Conflict Tactics Scale.29 A dichotomous variable indicates whether participants reported any form of abuse or neglect.

Forced Sex

At Waves 1 and 2, female participants only were asked if they were physically forced to have sexual intercourse against their will by any person. A dichotomous variable reflects endorsement of forced sex by female participants at either wave.

Wave 3 Outcome Variables

Depression

Nine items from the 20-item Centers for Epidemiologic Studies—Depression Scale were used to assess depressive symptomatology,30 asking if participants had experienced particular feelings in the past 7 days (eg, “You felt depressed”). The 9 items were summed; higher scores indicate greater depressive symptomatology (range, 0–27; Cronbach’s α = 0.80).

Self-esteem

Self-esteem was assessed by using 4 items from Rosenberg’s self-esteem scale (eg, “I have a lot of good qualities”).51 Items were reverse coded and summed, so that higher scores indicate higher self-esteem (range, 0–16; Cronbach’s α = 0.78).

Antisocial Behaviors

Seven items from the Self-Reported Delinquency Scale assessed the frequency of antisocial behaviors over the past 12 months.32 The 7 items were summed; higher scores indicate a greater frequency of antisocial behaviors (range, 0–21; Cronbach’s α = 0.65).

Sexual Risk

Based on previous Add Health sexual risk indices,33,34 we included 5 risk behaviors in this scale: condom nonuse at last sex, birth control nonuse at last sex, ≥3 sexual partners within the past 12 months, any sexually transmitted infection diagnosis in the past 12 months, and exchanging sex for drugs or money in the past 12 months. Each item was dichotomized and summed; higher scores indicate greater risk (range, 0–5).

Extreme Weight Control

A dichotomous variable indicates if participants reported any of 3 extreme weight control items in the past 7 days to lose weight or keep from gaining weight (self-induced vomiting, taking diet pills, or taking laxatives).

Suicidality

A dichotomous variable reflects if participants reported seriously thinking about committing suicide in the past 12 months. Participants endorsing this item were then asked if they had actually attempted suicide in the past 12 months (yes/no).

Substance Use

Participants reported on smoking behavior in the past 30 days. This variable was dichotomized, indicating smoking on 1 or more days. To assess drinking behavior, participants reported how many times they drank 5 or more drinks in a row in the past year. Heavy episodic drinking was defined as having at least 2 to 3 such episodes a month for each of the preceding 12 months (yes/no). Past year illicit substance use was divided into 2 categories: marijuana use and other drug use (eg, cocaine, injection drugs). Both variables were dichotomized, indicating any marijuana or other drug use in the past 12 months.

Adult IPV Victimization

Participants reported on physical violence victimization occurring in romantic and sexual relationships in the past 12 months. Physical IPV items were derived from the CTS226; participants were asked if a partner had (1) threatened them with violence, pushed or shoved them, or thrown something at them that could hurt or (2) slapped, hit, or kicked them. A dichotomous variable indicates whether participants endorsed either adult physical IPV item.

Analysis

Descriptive statistics were calculated for the entire sample (n = 5681). Bivariate associations between TDV victimization and other variables were then explored; significance of these associations was tested by using t tests or χ² tests of association as appropriate. Gender-stratified linear or logistic multivariate models that controlled for the level of the dependent variable at the previous wave were then created for each Wave 3 outcome variable. Multivariate analyses were performed for each TDV subgroup (PVO and PPV), to compare and contrast associations with outcomes. All multivariate models controlled for race, age, socioeconomic status, child maltreatment, pubertal status, and gender. Analyses in the female subsample only also controlled for forced sex.

To explore the impact of missing data, individuals with any missing data on...
control or outcome variables were compared with individuals with no missing data. At Wave 2, individuals with missing data reported greater depression and lower self-esteem, and were more likely to report a suicide attempt, but less likely to report marijuana use. At Wave 3, individuals with missing data reported greater depression and lower self-esteem, and were more likely to report a suicide attempt, but less likely to report marijuana use. Subtype of violence experienced did not vary by gender.

RESULTS
Sample Characteristics
Wave 2 TDV victimization was reported by 30.8% of adolescents in this sample; subgroup percentages and sociodemographic characteristics for the entire sample are reported in Table 1. Victims and nonvictims differed on all characteristics except gender (Table 2).

In the female subsample, 68.8% had never experienced TDV, 19.5% had experienced PVO, and 9.5% had experienced PPV, whereas in the male subsample, 69.6% had never experienced TDV, 20.1% had experienced PVO, and 7.6% had experienced PPV. Subtype of violence experienced did not vary by gender.

Relationships Between Adverse Outcomes and TDV
PVO Subgroup
Compared with nonvictimized male individuals, male PVO victims reported increased Wave 3 antisocial behaviors (b = 0.33; 95% confidence interval [CI] 0.12–0.54), as well as increased odds of suicidal ideation (adjusted odds ratio [aOR] = 1.90; 95% CI 1.13–3.20), marijuana use (aOR = 1.34; 95% CI 1.03–1.74), and adult IPV victimization (aOR = 2.08; 95% CI 1.53–2.84) (Table 3). In the female subsample, PVO victims were more likely to experience increased odds of Wave 3 heavy episodic drinking (aOR = 1.44; 95% CI 1.03–2.01) and adult IPV victimization (aOR = 1.87; 95% CI 1.44–2.43) when compared with nonvictims (Table 3). There were no associations with depressive symptomatology, self-esteem, sexual risk, extreme weight control, suicide attempt, smoking, or other drug use in either the male or female PVO samples (Table 3).

All analyses were performed in R v.2.11.1. Because of design effects in the Add Health data set, the R Survey package (The R Foundation for Statistical Computing. Available at: www.r-project.org, 2010) was used to calculate all descriptive statistics, bivariate associations, and regression models. All results were evaluated at P < .05. This study was reviewed by the Cornell University Institutional Review Board and deemed exempt.

### TABLE 1 Sociodemographics (n = 5681)

| Wave 2 age, y, mean (SD) | 16.0 (0.10); range, 12–18 y |
| Wave 3 age, y, mean (SD) | 21.4 (0.10); range, 18–25 y |
| Sex | |
| Male | 47.7 (2519) |
| Female | 52.3 (3162) |
| Race | |
| White, non-Hispanic | 69.3 (3195) |
| Black, non-Hispanic | 13.5 (1074) |
| Hispanic | 10.8 (864) |
| Other | 6.4 (548) |
| Parental education | |
| ≤8th grade | 2.7 (190) |
| Some high school | 7.9 (447) |
| High school graduate | 30.5 (1639) |
| Some postsecondary | 22.8 (1236) |
| College graduate | 24.5 (1426) |
| Postcollege | 11.6 (743) |
| Child maltreatment | |
| Yes | 33.1 (1906) |
| No | 66.9 (3775) |
| Pubertal status | |
| 2 SD above mean | 1.5 (88) |
| 1 SD above mean | 14.8 (851) |
| Within ±1 SD of mean | 71.8 (4095) |
| 1 SD below mean | 10.7 (584) |
| 2 SD below mean | 1.1 (65) |
| Wave 2 TDV victimization | |
| PVO | 19.8 (1143) |
| Physical only | 2.4 (128) |
| PPV | 8.6 (483) |
| None | 69.2 (3927) |

*Unless otherwise noted. Percentages and means are weighted, number of subjects is unweighted.

*At Wave 2, 28.4% of participants experienced either psychological violence only (19.8%) or both physical and psychological violence victimization (8.6%), and 69.2% reported no violence victimization. The remaining 2.4% reported physical violence victimization only (ie, no psychological victimization). Previous studies have found comparable past year prevalence rates for individuals reporting physical violence only.1,35*
TABLE 2 Sociodemographics by Wave 2 Victimization Status (n = 5681)

<table>
<thead>
<tr>
<th></th>
<th>Victims (n = 1754)</th>
<th>Nonvictims (n = 3927)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wave 2 age, mean (SD)</td>
<td>16.2 (0.09)</td>
<td>15.9 (0.10)</td>
</tr>
<tr>
<td>Wave 3 age, mean (SD)</td>
<td>21.7 (0.10)</td>
<td>21.4 (0.10)</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>47.0 (808)</td>
<td>48.0 (1711)</td>
</tr>
<tr>
<td>Female</td>
<td>52.3 (946)</td>
<td>52.0 (2216)</td>
</tr>
<tr>
<td>Race</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White, non-Hispanic</td>
<td>66.1 (968)</td>
<td>70.7 (2227)</td>
</tr>
<tr>
<td>Black, non-Hispanic</td>
<td>15.2 (341)</td>
<td>12.8 (733)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>11.3 (262)</td>
<td>10.6 (602)</td>
</tr>
<tr>
<td>Other</td>
<td>7.5 (183)</td>
<td>6.0 (365)</td>
</tr>
<tr>
<td>Parental education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤ 8th grade</td>
<td>2.0 (51)</td>
<td>3.0 (139)</td>
</tr>
<tr>
<td>Some high school</td>
<td>9.7 (154)</td>
<td>7.1 (293)</td>
</tr>
<tr>
<td>High school graduate</td>
<td>32.3 (553)</td>
<td>29.7 (1066)</td>
</tr>
<tr>
<td>Some postsecondary</td>
<td>23.6 (384)</td>
<td>22.5 (852)</td>
</tr>
<tr>
<td>College graduate</td>
<td>22.2 (406)</td>
<td>25.5 (1020)</td>
</tr>
<tr>
<td>Postcollege</td>
<td>10.3 (206)</td>
<td>12.2 (537)</td>
</tr>
<tr>
<td>Child maltreatment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>40.2 (688)</td>
<td>29.9 (1218)</td>
</tr>
<tr>
<td>No</td>
<td>59.8 (1066)</td>
<td>70.1 (2709)</td>
</tr>
<tr>
<td>Pubertal status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 SD above mean</td>
<td>2.6 (39)</td>
<td>1.1 (47)</td>
</tr>
<tr>
<td>1 SD above mean</td>
<td>16.7 (505)</td>
<td>14.0 (548)</td>
</tr>
<tr>
<td>Within 1 SD of mean</td>
<td>70.0 (1234)</td>
<td>72.6 (2681)</td>
</tr>
<tr>
<td>1 SD below mean</td>
<td>9.6 (160)</td>
<td>11.2 (424)</td>
</tr>
<tr>
<td>2 SD below mean</td>
<td>3.1 (18)</td>
<td>1.1 (47)</td>
</tr>
</tbody>
</table>

* Unless otherwise noted. Percentages and means are weighted, number of subjects is unweighted.

PPV Subgroup

Wave 2 PPV in female individuals was associated with greater depressive symptomatology (b = 0.90; 95% CI 0.12–1.67), as well as increased odds of suicidal ideation (aOR = 2.07; 95% CI 1.17–3.66), smoking (aOR = 1.53; 95% CI 1.13–2.06), and adult IPV victimization (aOR = 2.79; 95% CI 2.06–3.77) at Wave 3 (Table 4). In male individuals, Wave 2 PPV was associated only with increased Wave 3 adult IPV victimization (aOR = 3.56; 95% CI 2.34–5.42); however, there was also a borderline association between PPV at Wave 2 and depressive symptomatology at Wave 3 (Table 4). There were no associations with self-esteem, antisocial behaviors, sexual risk, heavy episodic drinking, marijuana use, or other drug use in either the male or female PPV samples (Table 4).

DISCUSSION

The results of this study suggest that in this sample, TDV victimization experienced during adolescence was related to adverse health outcomes in young adulthood. Five years after victimization, female victims reported increased heavy episodic drinking, depressive symptomatology, suicidal ideation, smoking, and adult IPV victimization, whereas male victims reported increased antisocial behaviors, suicidal ideation, marijuana use, and adult IPV victimization, compared with individuals reporting no victimization at Wave 2. Further, in the male subsample, we found that PVO was more strongly associated with adverse outcomes than the experience of PPV, whereas for female individuals, the converse appeared true (ie, PPV was related to more outcomes than PVO). This suggests that for male and female individuals, outcomes may be differentially related to certain subtypes of TDV. Because previous studies of TDV victimization have not assessed the association of PVO with future outcomes, and as psychological aggression in teen dating relationships is an understudied phenomenon, it is important that future studies include a specific consideration of this form of victimization, to replicate these findings. The finding that PVO was more often related...
to adverse outcomes in male subjects
than PPV also deserves further inves-
tigation. Based on literature sug-
That the male individuals are more
than female individuals to laugh
off physical violence by a partner, it
seems plausible that psychological
victimization may affect male individu-
als more than physical victimization.
However, this does not explain why the
combination of physical and psycho-
ological aggression was associated with
fewer outcomes than PVO. One possi-
bility is that psychological aggression
experienced on its own is qualitatively
different from that experienced in
combination with physical aggression;
for example, perhaps psychological
aggression is more severe when not
accompanied by physical violence.
This possibility should be investigated
with data that provide more thorough
measurement of the nature of psy-
chological aggression (eg, severity, fre-
cuency), to clarify this result.

Our results also extend the findings of
Roberts et al, who looked at adverse
outcomes experienced ~1 year after
victimization. By using this time frame,
they found that TDV in female individu-
als was associated with next-year
suicide risk and emotional sub-
stance use, antisocial behaviors,
and suicidal behaviors, whereas in
both males and female individuals, TDV
was associated with next-year de-
pressive symptomatology. Following-
up with this same sample ~5 years
post-victimization, we found that
effects on substance use, depressive
symptomatology, and suicidal behav-
iors persisted for female subjects. For
male subjects, depression effects
appeared slightly attenuated. In addi-
tion, associations with substance use,
antisocial behaviors, and suicidal
behaviors emerged in the male sub-
sample, but only for the subset of male
subjects experiencing PVO. This dis-
crepancy may be because the TDV
measure used by Roberts et al included
individuals experiencing any combi-
nation of psychological and physical
victimization, and did not di-
vide the sample into violence sub-
groups.

Although not testable here, coping pro-
cesses may represent 1 potential
mechanism for explaining trajectories
from TDV victimization to adverse out-
comes. Namely, individuals experi-
encing adverse outcomes may appraise
victimization as psychologically stress-
ful, and then use unhealthy coping
processes to deal with this demand. Calvete et al found that disengage-
ment coping mediated the relationship
between psychological aggression and depression/anxiety. It is possible this
same relationship holds for TDV vic-
timization. Other coping mechanisms
might also be investigated, including
substance use as both a potential out-
come and form of coping.

Several limitations of this study should
be noted. First, although this study was
longitudinal, and TDV was determined to
be a statistical predictor of several
subsequent adverse outcomes, our
results may be confounded by un-
measured factors. Therefore, although
our findings may reflect a causal re-
relationship between TDV and adverse
health outcomes in both male and fe-
male individuals, it is also possible that
the relationship is spurious. Second,
although our results suggested that
specific subtypes of TDV victimization
may be differentially associated with
adverse outcomes, the 5 Add Health TDV
questions measured relatively mild
forms of psychological and physical
aggression, and so we could not assess
whether these same patterns existed for
more severe forms of violence. Add
Health also did not include questions
related to sexual TDV victimization.

Because female individuals appear more
likely to experience severe forms of
TDV including more comprehensive
questions may allow a more precise as-
ssessment of the relationship between
TDV and adverse outcomes in female
victims. Finally, all 5 TDV questions
were derived from the CTS2, and so are
focused on specific behaviors, and not the
context within which the acts occurred,
further limiting a more nuanced in-
vestigation of the association between
TDV and future outcomes.

In spite of these limitations, these
findings have important implications

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**TABLE 4 Regression Analyses Predicting Outcomes at Wave 3 for Adolescents Reporting PPV at Wave 2, Stratified by Gender**

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Male (n = 1909)</th>
<th></th>
<th></th>
<th>Female (n = 2501)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression</td>
<td>0.89 (0.01 to 1.76)</td>
<td>0.05</td>
<td>0.90 (0.12 to 1.67)</td>
<td>0.03</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-esteem</td>
<td>−0.06 (−0.42 to 0.30)</td>
<td>0.75</td>
<td>−0.18 (−0.50 to 0.13)</td>
<td>0.26</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Antisocial behaviors</td>
<td>0.54 (−0.05 to 1.14)</td>
<td>0.08</td>
<td>0.03 (−0.17 to 0.22)</td>
<td>0.80</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sexual risk taking</td>
<td>0.006 (−0.34 to 0.35)</td>
<td>0.97</td>
<td>−0.11 (−0.44 to 0.22)</td>
<td>0.52</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extreme weight control</td>
<td>n/a</td>
<td>n/a</td>
<td>0.95 (0.46 to 1.96)</td>
<td>0.90</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suicidal ideation</td>
<td>1.90 (0.96 to 3.74)</td>
<td>0.07</td>
<td>2.07 (1.17 to 3.68)</td>
<td>0.01</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suicide attempt</td>
<td>n/a</td>
<td>n/a</td>
<td>1.87 (0.81 to 4.32)</td>
<td>0.15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Smoking</td>
<td>1.04 (0.63 to 1.71)</td>
<td>0.38</td>
<td>1.53 (1.13 to 2.06)</td>
<td>0.006</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heavy episodic drinking</td>
<td>1.13 (0.72 to 1.76)</td>
<td>0.61</td>
<td>0.98 (0.64 to 1.48)</td>
<td>0.91</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marijuana use</td>
<td>1.13 (0.72 to 1.78)</td>
<td>0.59</td>
<td>1.06 (0.70 to 1.60)</td>
<td>0.78</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other drug use</td>
<td>1.20 (0.74 to 1.92)</td>
<td>0.46</td>
<td>0.98 (0.58 to 1.64)</td>
<td>0.93</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adult IPV victimization</td>
<td>3.56 (2.34 to 5.42)</td>
<td>&lt; 0.001</td>
<td>2.79 (2.06 to 3.77)</td>
<td>&lt; 0.001</td>
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All analyses controlled for race, age, socioeconomic status, child maltreatment, pubertal status, and gender. Each analysis also controlled for the dependent variable at Wave 2 (eg, in the regression for depression, depression at Wave 2 was included as a covariate). Analyses for females also included forced sex as a covariate. n/a, indicates that the cell count for male victims at Wave 3 was too small to obtain a reliable estimate.

* Results are for the subset of participants who were sexually active at Waves 2 and 3.
for future research and clinical practice. Specifically, our data emphasize the importance of screening male and female adolescents for dating violence victimization, so that victims can be appropriately referred to secondary prevention programs and treatment. Research demonstrates that youth are willing to be screened, and that health care providers can screen youth for TDV victimization quickly and effectively, although individuals experiencing controlling behaviors specifically may be less willing to disclose. Recent recommendations from the Institute of Medicine also support screening adolescent women for TDV victimization (recommendation 5.7). As the findings of this study demonstrate, opportunities to intervene after the occurrence of TDV may be critically important to improving future health outcomes for victims.

CONCLUSIONS

TDV experienced in adolescence was associated with a number of adverse health outcomes in young adulthood for both male and female individuals. Our findings emphasize the need to provide opportunities for secondary prevention to teenagers, including prioritizing TDV screening during clinical office visits and developing health care–based interventions for responding to adolescents who are in unhealthy relationships, as part of the effort to reduce future health problems in victims. Finally, further research using more nuanced measures of TDV is needed to better understand the mechanism of these effects.

ACKNOWLEDGMENTS

We thank Dawn Schrader, PhD and John Bunge, PhD, for their support in the preparation of this manuscript. This research uses data from Add Health, a program project directed by Kathleen Mullan Harris and designed by J. Richard Udry, Peter S. Bearman, and Kathleen Mullan Harris at the University of North Carolina at Chapel Hill, and funded by grant P01-HD31921 from the Eunice Kennedy Shriver National Institute of Child Health and Human Development, with cooperative funding from 23 other federal agencies and foundations. Special acknowledgment is due Ronald R. Rindfuss and Barbara Entwisle for assistance in the original design. Information on how to obtain the Add Health data files is available on the Add Health Web site (http://www.cpc.unc.edu/addhealth). No direct support was received from grant P01-HD31921 for this analysis.

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FINANCIAL DISCLOSURE: The authors have indicated they have no financial relationships relevant to this article to disclose.

FUNDING: Supported in part by Doctoral Foreign Study Award 113296 from the Canadian Institutes of Health Research, Ottawa, ON (Ms Exner-Cortens), and by grant 1K01AA017630 from the National Institute on Alcohol Abuse and Alcoholism Bethesda, MD (Dr Rothman). Supporting sources had no role in the design, analysis/interpretation, writing, or submission of this study. Funded by the National Institutes of Health (NIH).
# Longitudinal Associations Between Teen Dating Violence Victimization and Adverse Health Outcomes

Deinera Exner-Cortens, John Eckenrode and Emily Rothman

*Pediatrics* 2013;131;71; originally published online December 10, 2012; DOI: 10.1542/peds.2012-1029

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Longitudinal Associations Between Teen Dating Violence Victimization and Adverse Health Outcomes
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