Reviewer’s report

Title: Health of Adolescents Exposed to Physical, Sexual and Non-Physical Dating Violence

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Reviewer: Deinera Exner-Cortens

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Review of “Health of Adolescents Exposed to Physical, Sexual and Non-Physical Dating Violence”

This article presents data from a sample of 585 students at Ohio State University (mean age=19.8), who retrospectively provided data on exposure to dating violence. Using these retrospective reports, the authors demonstrate that females who were exposed to dating violence when they were aged 13 to 19 were more likely to report smoking, depression, disordered eating and sexual risk taking, compared to their non-exposed peers. Males who were exposed to dating violence when they were aged 13 to 19 were more likely to report smoking and disordered eating, compared to their non-exposed peers.

This article addresses an issue of major public health concern (dating violence), and adds to a growing body of literature demonstrating that dating violence exposure is associated with adverse health and well-being. However, there several major limitations that need to be addressed, in order to maximize the impact this paper can make to the field.

Major compulsory revisions:

(1) The authors assessed exposure to dating violence that occurred from age 13 to 19, but did not specify why they chose this age range (spans three developmental periods—early, middle and late adolescence—but is not inclusive of the entire adolescent period). Primarily, it is not clear why the authors did not ask about dating violence that occurred during high school (i.e., middle adolescence), and separately about dating violence that occurred during college (i.e., late adolescence), since by design, their sample made the transition from high school to college during the age period 13 to 19—developmental differences between these two age groups are important to acknowledge, including potential access to the victim, which is likely to be greater in college (for example, regarding the item about always showing up in person and waiting for them). From their description of the survey, it seems that the authors have data that would allow them to make this division.

Related to this, at the beginning of the Results section, the authors state that participants were aged 18 – 21 when they were surveyed. Thus, for some of
these individuals, the assessment of dating violence and outcomes was concurrent (those aged 18 and 19), while for others, it was not (those aged 20 and 21). This is a point of confusion, and should be addressed. Also, since dating violence data are for the three most recent partners, it would be useful if the authors provided an estimate that allowed the reader to assess when most of these relationships occurred (e.g., average age at relationship beginning), since it seems possible that most of these relationships were college relationships, especially for the older individuals in the sample.

Finally, information on smoking, disordered eating, and sexual behaviors are lifetime prevalence rates, and so it is possible that these health risk behaviors occurred prior to dating violence, and thus are not a result of dating violence exposure. Although this is an issue common to any cross-sectional analysis, it deserves discussion in the Limitations section.

(2) The data were collected retrospectively from a sample of university students. In general, the authors’ need to be more careful with their language, given their methodology. For example, the title should be revised, since the paper is not about the health of all adolescents, but the health of late adolescents (per Steinberg, 2008 – late adolescence is the period 18 to 21). Similar language revisions are required in the Objective section of the abstract. In the first sentence of the introduction (which refers to the “adolescent/young adult period”), the authors combine statistics across college, adult and early/middle adolescent populations. Since this paper is about dating violence experienced across the adolescent period, it seems that these statistics should be restricted to adolescent populations only (upper age limit of ~21). It would also be helpful if the authors clarified for what age group the outcome was found (e.g., the polyvictimization citation [15] is from a college, or late adolescent, sample, and therefore may not apply to early or middle adolescents).


(3) This comment refers to the stated purpose. Firstly, it seems the authors could make the novel features of their study more apparent (e.g., data on sexual, physical and psychological aggression; psychological aggression measure that includes an item on cyber-bullying, a new but prevalent form of aggression in teens). Secondly, the authors should more clearly state what their study adds to the field. Finally (related to comments (1) and (2)), please revise language to accurately reflect sample (i.e., it is the health of late adolescents).

(4) The authors state they used a log link with a Poisson error distribution, and report prevalence ratios. (a) Typically, Poisson distributions are appropriate for count data. The authors do not have count data, so it is not immediately clear why they are using a Poisson distribution. I am gathering they are using a robust Poisson model, where they assume that their binomial data are approximately Poisson. Is this a reasonable assumption in their data? Deddens and Petersen (2008) discuss that the Poisson method can be used to estimate prevalence ratios if the log-binomial model does not converge, so perhaps this is why the authors used this particular model. In any case, the use of this model needs to be
justified. (b) The authors report prevalence ratios, which are useful when studying prevalent outcomes. Please provide information on why prevalence ratios were chosen (over odds ratios) in the Analysis section. Please also provide information on what statistical program was used.


(5) The authors controlled for bullying victimization, and physical and sexual abuse experienced before the age of 18, in their multivariate analysis. They mention they did not control for other factors, such as age and education, because of the nature of their sample. The latter statement would be stronger if the authors could state that age and education weren’t empirically related to any of their outcomes and/or the exposure, and therefore aren’t confounders (as opposed to a theoretical statement). Also, there is mounting evidence that individuals who experience dating violence are also at risk for a number of other problem behaviors, potentially making them quite different than their non-exposed peers on a number of indicators. Since, given the authors’ data, it does not appear possible to control for these myriad confounders (or to control for prior levels of the particular health behavior), the authors should discuss this in their Limitations section.

(6) The authors are correct that collection of data via retrospective methods is the current standard in the field, and the use of memory prompts is a strength of the study. However, the use of retrospective data in any study is a limitation, and seemingly more so as the length of the recall period increases. Since all findings in the paper hinge on accurate assessment of dating violence, more discussion of effects of retrospective recall on the present findings in the Limitations section seems justified. The authors are encouraged to see Jouriles, McDonald, Garrido, Rosenfield and Brown (2005), who investigated this issue for teen dating violence specifically.


(7) The items “exercised to lose weight” (particularly) and “ate less to lose weight” (to a lesser extent) seem like they could be healthy behaviors. For example, the percentage of participants who report that they exercised to lose weight (58.3-89.3%) makes it seem like this could be a normative behavior. So, ask that the authors either provide justification that these items are assessing disordered eating, or remove these items from the paper.

(8) Is there a reason the authors chose to look at individual items, rather than composite scales, for depression and disordered eating? For example, for the Depression scale, it seems that the screen was intended to be both questions, and not individual items, and so it is not clear why the authors chose to use individual items, as opposed to the composite scale.
Given the authors statement in the Limitations section that males were under-represented, which may have led to reduced statistical power, the first sentence of the Discussion (that dating violence had more pronounced health effects for females than males) seems potentially misleading. Sample size does seem to have impacted the analysis; for example, the confidence interval for the male smoking prevalence ratio (1.08, 14.2), is very wide, reflecting the small sample size and lack of precision in the estimate. So, the lack of associations may reflect power issues, and not a difference in true associations. Given the reduced power in the male sub-sample, the authors should be careful with statements that compare males with females. In light of this, would suggest the authors remove the first sentence of the Introduction, and begin the introduction with the second sentence (“Compared to non-exposed females…”).

Minor Essential Revisions:

(1) With the exception of citation [5], the articles the authors cite in the first paragraph of the introduction are cross-sectional, and so are limited in terms of their ability to show temporal associations. There are now several longitudinal studies that demonstrate outcomes of teen dating violence, and the authors are encouraged to focus on these stronger studies in their introduction (and/or clarify that most of the studies they are citing are cross-sectional):


(2) The reasoning for the inclusion of the second paragraph of the Introduction was not clear. The authors state that “studies of adults have more extensively parsed health effects…”, but given their overview in the first paragraph, the adolescent literature seems fairly extensive. If the authors feel there is something in the adult literature that adds to the arguments in their paper (that is not currently addressed in the adolescent literature), please make this clearer.

(3) Do the authors think there are any potential limitations from combining the two samples? (one which was randomly selected, the other involving volunteering as a part of a class, and which had differential response rates for males).

(4) Clarify how asking about health before dating violence reduces response bias (Methods, Survey-Health and Health Behaviors).

(5) The scale used to assess dating violence is not a validated scale. Please mention this in Limitations.

(6) In Methods section, when describing the dating violence measure, missing a citation for “Coker’s dating violence survey.”

(7) Meaning of the sentence in the Methods section beginning “As we were attempting to collect detailed information…” is not clear.

(8) What questions were used to assess bullying victimization? Please list in the Methods section.

(9) In the last paragraph of the Methods, the authors state that they asked about abuse experienced by “someone other than a dating partner…” But, in the Results, Abstract and some tables, they also refer to this as “childhood abuse” and “child abuse”, which gives the impression that it was abuse perpetrated by a parent and/or family member. For clarity, please give term and definition in the Methods section for how this variable will be referred to throughout the paper, or consistently refer to as physical and sexual abuse, specifying that this was abuse perpetrated by someone other than a dating partner.

(10) Please list the % female in the Results section (Characteristics of Study Sample).

(11) Results, Paragraph 1: “consistent with the Ohio State University student population” – do the authors have a citation for the data used for this comparison?

(12) In the Results, the authors state that 67.4% of females and 57.1% of males reported dating violence victimization, which thus makes dating violence seem like a fairly normative occurrence (since it is being reported by a majority). I suspect this number is being driven by items such as “called you names…”, and that the prevalence would be much lower for the physical and sexual items. It would be helpful if the authors listed the prevalence for each item in Table 1, and then in the Results section, gave a) the overall prevalence, b) the prevalence of
non-physical only, and c) the prevalence of physical/sexual, stratified by gender.

(13) In the Limitations section, it is not clear how their prior study of adult women (demonstrating that the probability of participation did not differ based on age or health care variables) supports ignorable non-response in this different sample of late adolescent males and females.

(14) In the References section, Reference 4 is listed twice (as Reference 4 and Reference 10).

(15) There are a number of grammatical errors throughout (in manuscript text, tables and references). Also, please make sure the number of decimal places is consistent throughout (e.g., Table 4, 1.23 vs. 10.7).

Discretionary Revisions:

(1) Please give the SD for age in the Methods section of the abstract.

(2) While the response rates to the internet survey are low, they do not seem out of the ordinary for this type of research. In order to make this clear to the reader, the authors are encouraged to cite literature on typical internet survey response rates, e.g.,


(3) The authors’ findings regarding gender differences in associations between victimization and outcomes reflect findings reported by Exner-Cortens, Eckenrode and Rothman (2013), and so they may wish to cite this paper in the Discussion. Also, the two papers they currently cite (Silverman et al., 2001; Holt & Espelage, 2005) both use high school samples, which may explain some differences in findings; the Exner-Cortens et al., 2013 paper also uses a late adolescent population, which may be a more appropriate comparison.


(4) The last sentence of Paragraph 2 of the Discussion could be more clearly written.

(5) In Table 2, it would be clearer if missing data were put in a footnote.

(6) In Table 3, would be helpful if the authors listed the sample size for males and females, and also the sample size in each category (No TDV vs. Any TDV; similar to how sample size is shown in Table 4).
The inclusion of confidence intervals in Table 4 is appreciated. While confidence intervals allow the reader to determine whether the association is significant, it might also be helpful to include asterisks for p-values (e.g., *$p<.05$, **$p<.01$, ***$p<.001$), so that readers can quickly assess which associations were significant.

**Level of interest:** An article of limited interest

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare I have no competing interests