Dating Violence Trajectories in Adolescence: How Do They Relate to Sexual Outcomes in Canada?

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Acknowledgments: The authors would like to thank Mylène Desrosiers and Camélia Dubois for their assistance with data collection.

Declarations *(to be placed before 'References'):*

Funding (information that explains whether and by whom the research was supported): This work was supported by a grant from the Canadian Institutes of Health Research awarded to Sophie Bergeron and Jacinthe Dion.

Conflicts of interest: All Authors declare that they have no conflict of interest.

Availability of data and material (data transparency): The de-identified data and analyses materials used in the present study can be obtained from https:// xxx. (the complete website address will be provided once the paper is accepted).

Code availability (software application or custom code): 'Not applicable'

Authors' contributions (optional: please review the submission guidelines from the journal whether statements are mandatory)

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Writing - review and editing: Martine Hébert, Alice Girouard, Natacha Godbout, Alexa Martin-Storey, Martin Blais, Sophie Bergeron

Funding acquisition: Jacinthe Dion, Sophie Bergeron

Resources: Jacinthe Dion, Sophie Bergeron

Compliance with Ethical Standards

Disclosure of potential conflicts of interest: The authors have no competing interests to declare that are relevant to the content of this article.

Research involving Human Participants and/or Animals: Research involved human participants. Approval was obtained from the ethics committee of University du Québec à Chicoutimi.

Informed consent: Informed consent was obtained from all individual participants included in the study. In Quebec (Canada), adolescents can provide their own informed consent from age 14. Not relying on parental consent can ensure the safety of students involved in the study and can prevent sampling biases that may distort the results.

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Abstract

Dating violence during adolescence is a major public health issue: it is highly prevalent and extensive research has documented its physical and psychological consequences, yet very little has focused on its sexual consequences. The present study investigated the longitudinal associations between dating violence victimization (psychological, sexual or physical) and sexual wellbeing (sexual satisfaction and sexual distress) among 1,449 sexually active adolescents aged between 14 to 17 years who completed at least one of three data waves (51.1% girls; 45.7% boys; 0.3% non-binary; 3.0% varying gender identity). The study also examined whether these associations differed by gender identity and sexual minority status. Adolescents completed online questionnaires on electronic tablets during class. Results indicated that psychological, physical (except for boys) and sexual dating violence victimization were all associated with lower sexual satisfaction and greater sexual distress over time. Moreover, the between-level associations between dating violence and poorer sexual outcomes were stronger among girls and gender varying adolescents, than among boys. The within-level association between physical dating violence and sexual satisfaction was significant among adolescents with a nonvarying sexual minority status, but not among those with a nonvarying heterosexual status or that varied in sexual minority status. Findings offer cues for dating violence prevention and intervention programs by suggesting the need to examine sexual wellbeing over time.

Keywords: intimate violence; sexual satisfaction, sexual distress, teenagers

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Initiating and maintaining romantic relationships emerge as prime developmental tasks for adolescents. Yet, they often lack the skills, strategies, or points of comparison needed to manage their romantic and/or sexual experiences (Kansky & Allen, 2018). As a result, youth can face significant sexual and romantic relationship challenges. One critical challenge is dating violence (DV). Results of a large Canadian population-based study indicated that DV victimization was reported by 62.7% of adolescent girls and 49.5% of boys who were in a dating relationship in the past year (Hébert et al., 2017). As for sexuality, 54% of Canadian adolescent boys and 49% of adolescent girls aged 16–21years reported problems in their sexual functioning – i.e., difficulties with orgasm, lubrication, erection, desire, satisfaction, arousal, and pain – in the months preceding their participation in a survey (O'Sullivan et al, 2014). These findings suggest that both relationship and sexual difficulties emerge during adolescents' first experiences with intimacy. However, despite strong theoretical support for the contribution of interpersonal factors to adolescent wellbeing (Furman & Rose, 2015; Gòmez-Lòpez et al., 2019), we know very little about how DV may shape the development of adolescent's sexual wellbeing over time. The lack of research on the link between DV and sexual outcomes is even more striking in sexual and gender minority (SGM) adolescents (Johns et al., 2018), especially considering that those identifying as SGM are at elevated risk for DV (Petit et al., 2021) and adverse sexual outcomes relative to their heterosexual peers (Johns et al., 2018). The present study aimed to address these gaps by examining the covarying and longitudinal associations between DV and sexual wellbeing among a large sample of Canadian adolescents assessed annually over three years. We also investigated whether these associations differed between SGM and heterosexual, cisgender adolescents.

Romantic Relationships and Dating Violence

Romantic relationships are a central component of adolescents' development, and reflect important experiences that may foster their positive sexual wellbeing (Mauer & Reppucci, 2019). Being in a romantic relationship becomes normative across adolescence (Furman & Rose, 2015). These relationships tend to be more unstable and of shorter duration compared to those in adulthood, and become more enduring over time, with stronger attachment bonds forming during the transition to adulthood (Connolly & McIsaac, 2009; Seiffge-Krenke, 2003). While romantic relationships can be positive contexts for adolescent development, they can also be marked by acts of violence between young partners. According to the Centers for Disease Control and Prevention (2016), DV can be defined as a form of intimate partner violence experienced between two adolescents in a dating/romantic relationship, and includes physical, psychological and sexual violence. Prevalence rates of DV among adolescents are overwhelming: results of a meta-analysis indicated that 20% may report physical DV and 9% report sexual DV, with girls experiencing higher rates of sexual DV compared to boys (Wincentak et al., 2017). Although psychological DV was not examined in this meta-analysis, results of several studies indicate a higher prevalence rate for psychological DV compared to other forms of DV (Hébert et al., 2017; Martin-Storey et al., 2021). For example, Hébert et al. (2017) found that 56% of girls and 46% of boys reported psychological DV victimization. Adolescence being an important period of relational and sexual exploration, it is likely that DV might influence sexual well being.

Sexual Wellbeing in Adolescence

Sexual risk behaviors have dominated the research agenda on adolescent sexuality. Yet, a recent shift has spurred the examination of sexual wellbeing within this population (Mitchell et al., 2021). Considering that 66% of Canadian 15- to 24-year-olds have engaged in sexual

intercourse (Rotermann, 2012), it is important to better understand adolescents' sexual wellbeing, beyond sexual at-risk behaviors and their outcomes (such as unwanted pregnancy, HIV/STIs, etc.), generally studied among this population. Various overlapping models of sexual wellbeing have been proposed, focusing on different components (Harden, 2014). In particular, models identify sexual satisfaction (i.e., an affective response about the subjective appraisal of positive and negative facets of a person's sexuality; Lawrance & Byers, 1995) and the absence of sexual distress (i.e., a person's negative feelings such as worry, guilt, stress, or frustration about their sexual activity; Derogatis et al., 2008) as crucial dimensions of sexual wellbeing (Merwin & Rosen, 2019), that should be assessed to better understand adolescents' sexuality.

The handful of cross-sectional studies about adolescents' sexual well-being revealed that a high proportion of youth experience low sexual satisfaction and that their sexual lives can give rise to clinically significant distress (Mitchell et al., 2016; O'Sullivan et al., 2014; 2016), suggesting that a poorer sexual wellbeing can emerge early in individuals' sexual lives and is often distressing. Although some studies have begun to identify interpersonal/relational risk factors for poorer sexual wellbeing in adolescence, such as experiences of bullying (Girouard et al., 2021), as well as length or type of relationship (O'Sullivan et al., 2022), no study has investigated the role of DV. Given that engaging in a romantic relationship and developing sexual intimacy with one's partner are important developmental tasks during adolescence (Boislard et al., 2016; Kansky & Allen, 2018) and that greater DV is associated with mental health problems and lower relationship satisfaction (Kaura & Lohman, 2007), it is plausible that DV may also affect adolescent sexual wellbeing.

Dating Violence and Sexual Outcomes

The potential for DV to be associated with sexual wellbeing among adolescents is supported by a larger literature linking adult intimate partner violence to sexual wellbeing. Cross-sectional studies with heterosexual adults have generally linked physical and psychological intimate partner violence with poorer sexual functioning and satisfaction (Hellemans et al., 2015b; Parish et al., 2004; Sierra et al., 2021). In one of the rare studies exploring DV and sexual outcomes specifically with adolescents (n = 4,738 sexually active and heterosexual participants), girls reporting physical DV were less likely to report high levels of sexual satisfaction (Casique, 2019). In addition, boys reporting emotional DV victimization had a greater likelihood of reporting high levels of sexual satisfaction. Sexual DV was not related to sexual satisfaction. However, sexual satisfaction was assessed with only one item and DV was not the principal focus of this study (it was included as a control variable, and authors did not mention how it was assessed), limiting our understanding of the results. Another study was conducted among a sample of 2,401 Belgian sexual minority adults (Hellemans et al., 2015a). Results revealed that psychological (but not sexual and physical) intimate partner violence was associated with lower levels of sexual satisfaction and with an increased risk of experiencing sexual distress associated with sexual dysfunction. However, sample makeup precluded comparisons across sexual identity.

Taken together, the findings of this small body of research suggest that physical and psychological DV may be associated with lower sexual wellbeing. Sexual DV was investigated in only two studies, and was not related to sexual satisfaction. However, these five studies were all cross-sectional, only one was conducted among adolescents, and contradictory findings were found, which limit our understanding of the associations between DV and adolescents' sexual wellbeing over time. The current longitudinal study may help clarify these associations. Lastly,

only one study included sexual minority individuals. Therefore, the reality of SGM adolescents has been little explored.

Dating Violence and Sexual Wellbeing Among Sexual and Gender Minority Adolescents

SGM youth report higher levels of dating violence than their heterosexual, cisgender (HC) peers (Dank et al., 2014; Martin-Storey, 2015; Petit et al., 2021) – findings which are consistent across multiple forms of DV (i.e., physical, verbal, sexual) (Martin-Storey et al., 2021). In line with the minority stress framework (Meyer, 2003), the heightened vulnerability of SGM adolescents to DV may be explained by the higher stigma and discrimination they encounter (Martin-Storey & Fromme, 2021; Martin-Storey et al., 2021), as well as via their greater probability of reporting childhood maltreatment (Roberts et al., 2012). These experiences (i.e., discrimination, victimization and childhood maltreatment) both increase the likelihood of reporting DV, and may exacerbate the impact of DV on sexual wellbeing outcomes.

Although romantic relationships and sexual wellbeing are understudied in all adolescents, the scarcity of data is even greater for SGM, with research generally being cross-sectional and focusing almost exclusively on risk-based assessments of sexual health (Johns et al., 2018; Whitton et al., 2019). In a study conducted among SGM boys (n = 678) aged 16-21, 20% reported being "somewhat" or less satisfied with their sex lives in the past 30 days than heterosexual cisgender boys. Sexual distress was not examined in this study. Given that SGM adolescents may experience heightened stigma during the development of their sexual identities (Li et al., 2019), more studies are needed to better understand how DV may affect sexual wellbeing among these groups of adolescents.

The Current Study

The purpose of this longitudinal study was to examine the associations between DV victimization and sexual wellbeing over time among Canadian adolescents. More specifically, we aimed to examine how three forms of DV (psychological, sexual and physical) experiences measured once per year over three years could influence two sexual outcomes: sexual satisfaction and sexual distress. It was expected that all forms of greater DV would be associated with lower sexual satisfaction and greater sexual distress over time. Moreover, we aimed to examine potential sexual/gender identity-based differences (i.e., heterosexual, cisgender vs. SGM adolescents). It was hypothesized that these aforementioned associations would be similar among cisgender boys and girls, but stronger among SGM adolescents.

Method

Participants

A sample of 1,442 sexually active adolescents aged between 14 and 17 who had been in at least one dating relationship in the past 12 months were recruited in the predominantly French province of Quebec (Canada). These adolescents participated in at least one of three waves of data collections over three years. Specifically, wave 1 was completed by 887 participants (M_{age} = 14.62, SD = 0.66), wave 2 by 570 participants (M_{age} = 15.5, SD = 0.57), and wave 3 by 932 participants (M_{age} = 16.43, SD = 0.650), for a total of 2,389 completed surveys/observations. Groups were created based on adolescents' reported gender identity and sexual minority status. Over the three waves, the majority of participants reported being girls (51.11%; *n* = 737) or boys (45.63%; *n* = 658), whereas four participants (0.3%) reported being non-binary, and 43 (2.98%) reported different gender identities over time (i.e., varying gender identity). Regarding sexual orientation, 76.98% of the participants reported being heterosexual (76.98%; *n* = 1110), 4.05% (*n* = 45) reported being bisexual, 2.07% (*n* = 23) reported being plurisexual, 0.63% (*n* = 7)

reported being lesbian/gay, 0.63% (n = 7) reported questioning their sexual orientation, 1.26% (n =14) answered "none of the above", 0.36% (n = 4) did not provide their sexual orientation, and 16.09% (n = 232) reported a different sexual orientation across waves (i.e., that varied in sexual minority status). Of the whole sample, the majority of participants identified with the French-Canadian/Quebecker culture (72.1%), 13.0%, the Canadian culture, and 14.9% reported other cultural identities (e.g., American, European, Indigenous, etc.). Most adolescents (65.6%) in this study lived with both parents.

Procedure

Data were collected as part of an ongoing Canadian longitudinal study on sexual wellbeing and victimization that began in 2018. A total of 49 schools were initially invited to take part to the study; 16 did not reply to the invitation, 11 declined (i.e., reported having another ongoing research project or that their teachers could not free in-class periods for the completion of questionnaires), and 22 took part in the study. The participating schools were from different socioeconomic backgrounds which ensured sample diversity. Participants were required to be at least 14 years old, in grade 9 and attending a French or English public or private high school. Prior to enrollment, participants received detailed information about the study and provided informed consent. Then, every year for a period of three years, they completed a 40-minute self-reported anonymous survey (Qualtrics Research Suite) in their classrooms on tablets provided by research assistants. Wave 1 data collection took place between November 2018 and March 2020, wave 2 between October 2019 and March 2021, and wave 3 between October 2020 and March 2022. During April to June 2020, schools were closed as a result of the pandemic and students completed the survey at home (i.e., 2.4% of participants at wave 1, and 22.4% of participants at wave 2). An identification code was used as an anonymous identifier to match students'

questionnaires at each follow-up (from wave 1 to wave 3) (Ripper et al., 2017; Yurek et al., 2008). To generate their unique identification code, students answered the same eight questions that were not expected to change from wave to wave (e.g., the first letter of your mother's or female caregiver's first name, the first letter of the city where you were born, etc.), in addition to their date of birth.

Study participation was compensated with a 10$ online gift certificate. This study was approved by the Institutional Review Boards of the universities involved. In Quebec, consenting adolescents aged 14 years and older could participate in the study without parental consent. Not relying on parental consent can ensure the safety of students involved in the study, and prevent sampling biases that may distort the results (O'Sullivan & Thompson, 2014).

Measures

Sociodemographic information was collected (e.g., age, cultural identity, sex assigned at birth) using a questionnaire created by the research team.

Gender identity was assessed using one item about the gender identity (Bauer et al., 2017; "boy"; "girl"; "indigenous or other cultural gender minority identity (e.g., Two-spirit)"; "non-binary, gender fluid, or something else (e.g., genderqueer)"; and "other" (with specification). This measure was used at each wave. Adolescents were categorized as nonvarying girls, nonvarying boys or nonvarying non-binary adolescents if they reported the same gender identity at each wave; for those who provided information at only one wave, they were also classified in one of those three categories. Adolescents who participated in more than one wave and who reported different gender identities across waves were classified as gender varying adolescents.

Sexual minority status was assessed using one item (Weinrich, 2014) ("straight"; "I do not know yet, or I am currently questioning my sexual orientation"; "gay or lesbian or homosexual"; "heteroflexible"; "homoflexible"; "bisexual"; "queer"; "pansexual"; "asexual"; "none of the above"; "I don't want to answer"; "other" (with specification). Adolescents completed this item at each wave. Those who indicated that they were heterosexual at each wave were classified as reporting a nonvarying heterosexual, those who reported a sexual minority identity at each wave were classified as a nonvarying sexual minority (i.e., those reporting having another sexual orientation than heterosexual); for those who completed only one wave, they were also classified in one of these two categories. Those who reported a varying sexual orientation across waves were classified as varying in sexual minority status.

Dating violence victimization was assessed at each wave using the 10-item *Conflict in Adolescent Dating Relationships Inventory - Short form* (CADRI-S) (Fernandez-Gonzalez et al., 2012), which is an abbreviated form of the CADRI (Wolfe et al., 2001). This questionnaire assesses the three forms of DV victimization on a 4-point Likert Scale (from never (0) to often (six times and more) experienced in the past 12 months with an actual or past partner). For each form of DV, a higher score indicates having experienced more DV victimization. Cronbach's alphas ranged from .64 to .77 for the three data waves (Cronbach's alphas ≤ .7 were found at wave 1).

Sexual satisfaction was evaluated using the *Global Measure of Sexual Satisfaction* (Lawrance & Byers, 1992), which has been used previously with adolescents (e.g., Blunt-Vinti et al., 2016). This questionnaire includes five items rated on a 7-point Liker scale asking whether their sexual relationship with their partner varies from good (7) to bad (0), pleasant (7) to unpleasant (0), positive (7) to negative (0), satisfying (7) to unsatisfying (0), and valuable (7) to

worthless (0). Greater scores indicate greater sexual satisfaction (α ranging from .91 to .92 for the three data waves).

Sexual distress was measured using a short 3-item version (Bőthe et al., 2021) of the *Female Sexual Distress Scale* (FSDS; (Derogatis et al., 2002), modified and adapted for use with boys and SGM adolescents (O'Sullivan et al., 2014). Items are rated on a five-point Likert scale from 0 (never) to 4 (always), and assesses how often in the past month a sexual difficulty caused distress (e.g., "How often did you feel distressed about your sex life?"; α = ranging from .68 to .79 for the three data waves).

Data Analytic Strategy

Descriptive statistics and correlations were computed. Maximum likelihood estimator with robust standard errors (MLR) was used to compare differences among categories of gender identity and sexual orientation in the study variables. The -2log likelihood test was used to evaluate the differences. This test is distributed as chi-squared with degrees of freedom equal to the difference in the number of parameters between the two nested models (Satorra & Bentler, 2010).

Sexuality may follow a developmental trajectory, the observations were non-independent (i.e., data from each wave, i.e., Level 1 or within-person, were nested within each participant, i.e., Level 2 or between-persons), and the data structure was unbalanced (i.e., number of data points was unequal among participants). Therefore, a multilevel growth modeling approach was adopted to study links between DV (psychological, sexual or physical) and sexual outcomes (sexual satisfaction and sexual distress) over three years (Objective 1). Separate analyses were conducted to examine each form of DV on each sexual outcome. Given the small subsample of non-binary

participants (n = 4), we were not able to include them in the analyses, to allow models to be estimated[1].

The following describes the steps used to test each model, as illustrated by the model examining the effect of psychological violence on sexual satisfaction. First, we fitted an unconditional multilevel growth model in which, at the within-person level, sexual satisfaction at a particular wave was modeled as a function of the effect of age (in years; centered such that age 0 = 15 years) at a given wave and a residual error (i.e., random and non-random unmeasured influences on sexual satisfaction at the same wave). Both the linear effect of age and the quadratic effect of age were estimated as well as their corresponding variances. In addition, the covariance between the intercept, estimated as random (i.e., varying across participants) and the random linear effect of age was estimated. We fixed the estimate of these parameters to zero when the model fit did not worsen according to the -2log likelihood test.

Second, the effect of the time-varying covariate, psychological violence, was added in the model (see Figure 1). To separate the between-person effect of participants' overall psychological violence across the three waves from the effect of psychological violence on sexual satisfaction at a given wave, psychological violence was centered within each participant; that is, a participant's mean psychological violence was subtracted from the participant's psychological violence score at a given wave. The centered scores were entered as predictors of sexual satisfaction at that wave. The mean of psychological violence across all waves was entered as a predictor of sexual satisfaction at the between-person level. For the predictor at this level, group-mean centering was applied; the centered scores represent the individual's relative standing within the group on

[1] Data on these participants regarding means, standard deviations, etc., are available from the first author for individuals seeking to conduct meta-analyses on non-binary populations relating to the outcomes investigated in the current study.

psychological violence. Given the centering of the age variable (i.e., age 0 = 15 years), the random intercept in this model represents the expected sexual satisfaction at age 15 for a participant having experienced the average level of psychological violence. The within-person effect of psychological violence on sexual satisfaction was modeled as random. Its variance and covariance with the random intercept were estimated and fixed to 0 based on the results of the -2log likelihood test.

Third, two different models examined the gender identity and sexual minority status moderations (Objective 2). Gender identity and sexual minority status were entered as a $k - 1$ number of dummy variables, where k represents the number of gender identity and sexual minority status categories, respectively. In each of these models, the interactions between each of the $k - 1$ dummy variable and the within-person and between-person predictors, respectively, were entered. For the model examining moderation by gender identity, the two dummy variables entered were scored such that 1 represented nonvarying girls and gender varying adolescents, respectively. The reference category was nonvarying boys. For the model examining moderation by sexual minority status, nonvarying sexual minority adolescents were the reference category, for nonvarying heterosexuals and adolescents varying in sexual minority status. Significant interactions were probed by calculating the intercepts and slopes for each level of the dummy variable. We used the Wald test to examine whether the moderating effect of gender identity and sexual minority status differed across categories. When no difference was found between two or more categories, the pooled estimate across these categories was reported. All analyses were performed in Mplus (Version 8.8; Muthen and Muthen, 1998–2017) using MLR.

Results

Descriptive Results

Overall, more than 40% of participants who reported dating in the past 12 months experienced at least one form of DV (psychological, sexual or physical violence) at each wave. Descriptive statistics are presented in Tables 1 and 2. Correlational analyses indicated that all variables of interest were associated within the expected direction (see Table 3).

Across all waves, gender varying adolescents and boys reported more physical DV than girls, respectively (see Table 4). Gender varying adolescents and girls reported more sexual DV than boys, respectively. Girls reported more psychological DV than boys. Regarding sexual satisfaction, no differences were found across gender. Gender varying adolescents reported more sexual distress than boys.

When comparing participants by sexual minority status, across all waves, adolescents with a nonvarying sexual minority status reported more physical DV than nonvarying heterosexual adolescents and those that varied in sexual minority status (see Table 5). Nonvarying heterosexual adolescents reported less sexual DV than the two other groups. They also reported the smallest amount of psychological DV, followed by adolescents that varied in sexual minority status, with those with a nonvarying minority sexual minority status reporting the highest levels. For both sexual satisfaction and sexual distress, heterosexual adolescents reported more sexual satisfaction and less sexual distress than the other two groups.

Sexual Satisfaction

Change in Sexual Satisfaction Over Time

The results from the best-fitting unconditional multilevel growth model indicated a linear effect, suggesting increased sexual satisfaction over time (i.e., an intercept of sexual satisfaction at age 15 of 29.31 and a linear effect of age of .36 units per year over three years; see left section of Table 6; see Table S1 in the online supplementary materials presenting all the effects). The

intraclass correlations was .22, indicating that 22% of the variance in sexual satisfaction's scores was explained by individual differences (i.e., between-person level) while the remaining 78.0% was explained by changes within a participant across waves (individual-person level) and error.

Associations Between Dating Violence and Sexual Satisfaction

Psychological Dating Violence. At both the within-person and between-person levels, psychological violence was negatively related to sexual satisfaction (see left side of Table 7). These findings indicate that sexual satisfaction decreased when participants reported higher psychological DV than usual (i.e., within-person level). In addition, relative to participants who reported lower overall psychological DV, those who reported higher DV also reported lower sexual satisfaction (i.e., between-person level).

Gender Identity as a Moderator. Gender identity moderated only the between-person association. As there were no differences between girl and gender varying adolescent estimates, $p = .376$, the estimates were pooled. Relative to boys, girls and gender varying adolescents reported a stronger association between psychological DV and sexual satisfaction, $b = -3.23$, $SE = 1.10$, $p = .003$, such that for girls and gender varying adolescents, greater psychological DV was related to decreased sexual satisfaction, $b = -2.95$, $SE = .58$, $p < .001$ – an association that was not significant for boys, $b = .28$, $SE = .94$, $p = .763$.

Sexual Minority Status as a Moderator. Sexual minority status did not moderate either the within-person or the between-person associations between psychological DV and sexual satisfaction.

Physical Dating Violence. Physical DV was unrelated to sexual satisfaction at either level (see left side of Table 8).

Gender Identity as a Moderator. Only the between-person association between physical DV and sexual satisfaction was moderated by gender identity. Girl and gender varying adolescent

estimates were pooled as no difference was found between them, $p = .745$. Relative to boys, girls and gender varying adolescents reported a stronger negative association between physical DV and sexual satisfaction, $b = -4.50$, $SE = .92$, $p < .001$. More specifically, for girls and gender varying adolescents, greater physical DV was related to decreased sexual satisfaction, $b = -3.11$, $SE = .72$, $p < .001$; the reverse was observed for boys: greater physical DV was associated with increased sexual satisfaction, $b = 1.38$, $SE = .57$, $p = .015$.

Sexual Minority Status as a Moderator. Sexual minority status moderated only the within-person association. Adolescents that varied in sexual minority status and nonvarying heterosexual adolescents were pooled as no difference was found between them, p = .592. Relative to nonvarying heterosexual adolescents or those with a varying sexual minority status, adolescents with a nonvarying sexual minority status had a stronger within-person association between physical DV and sexual satisfaction, $b = 4.47$, $SE = .83$, $p < .001$. Specifically, for adolescents with a nonvarying sexual minority status, sexual satisfaction decreased when participants reported higher physical DV than usual, $b = -4.19$, $SE = 1.17$, $p < .001$; this association was not significant among nonvarying heterosexual adolescents and those with a varying sexual minority status, $b = .28$, $SE = .58$, $p = .624$.

Sexual Dating Violence. Greater sexual violence predicted lower sexual satisfaction at both the within- and the between-person levels (see left side Table 9). At the within-person level, a negative relation between sexual violence and sexual satisfaction indicated that greater sexual DV than usual was associated with lower sexual satisfaction. In addition, results suggested that relative to participants who reported lower overall sexual DV, those who reported greater sexual DV also reported lower sexual satisfaction.

Gender Identity as a Moderator. Only the between-person association between sexual DV and sexual satisfaction was moderated by gender identity. Girl and gender varying adolescent

estimates were pooled as they did not significantly differ, $p = .676$. Relative to boys, girls and gender varying adolescents reported a stronger between-person negative association between sexual violence victimization and sexual satisfaction, $b = -5.26$, $SE = 1.21$, $p < .001$; for these adolescents, greater sexual DV was associated with lower sexual satisfaction, $b = -5.11$, $SE = .68$, $p < .001$; this association was not significant for boys, $b = .15$, $SE = 1.00$, $p = .884$.

Sexual Minority Status as a Moderator. No moderation by sexual minority status of the within-person and between-person associations, respectively, was found.

Sexual Distress

Change in Sexual Distress Over Time

The results from the unconditional multilevel growth model suggested that the best-fitting growth model was a decelerating positive trajectory with an intercept at age 15 of 1.92, a linear increase in sexual distress at age 15 of .30 points per year, which decelerated by .20 points per year over the duration of the study (see right side of Table 6), suggesting that sexual distress initially increased and peaked at the age of 16.5 years, followed by a decrease over time. The intraclass correlations was .33.

The results from the unconditional multilevel growth model suggested that the best-fitting model was a decelerating positive trajectory (i.e., an intercept at age 15 of 1.92, a linear increase in sexual distress at age 15 of .30 points per year, which decelerated by .20 points per year over the duration of the study; see right side of Table 6). These findings suggest that sexual distress initially increased and peaked at the age of 16.5 years, followed by a decrease over time.

Associations between Dating Violence and Sexual Distress

Psychological Dating Violence. Psychological DV was positively related to sexual distress at both the within-person and between-person levels (see right side of Table 7). Sexual distress increased when participants reported greater psychological DV than usual (i.e., within-

person level). Moreover, sexual distress was higher among participants who reported greater psychological DV than participants who reported lower psychological violence. A significant $\chi^2_{(1)} = 10.73$, $p < .001$ for the -2log likelihood test suggested significant variability in the within-person effect of psychological violence on sexual distress across participants.

Gender Identity as a Moderator. Only the between-person association between psychological violence and sexual distress was moderated by gender identity. No difference between the two estimates of girls and gender varying adolescents was found, $p = .810$; and thus, they were again pooled. Relative to boys, girls and gender varying adolescents reported a stronger positive association between psychological DV and sexual distress, $b = .92$, $SE = .36$, $p = .009$; such that for these adolescents, greater psychological DV was related to greater sexual distress, $b = 1.52$, $SE = .25$, $p < .001$; the association was also positive but weaker among boys, $b = .59$, $SE = .26$, $p = .021$.

Sexual Minority Status as a Moderator. Sexual minority status did not moderate the within-person and the between-person associations between psychological violence and sexual distress.

Physical Dating Violence. Physical violence was positively related to sexual distress only at the between-person level (see right side of Table 8). Relative to participants who reported lower overall physical DV, those who reported greater DV also reported higher sexual distress.

Gender Identity as a Moderator. Only the between-person association between physical DV and sexual distress was moderated by gender identity. Girl and gender varying adolescent estimates were pooled as no difference was found between them, $p = .539$. Girls and gender varying adolescents, relative to boys, reported a stronger positive association between physical DV and sexual satisfaction, $b = .73$, $SE = .32$, $p = .022$; for these adolescents, higher levels of

physical violence was associated with greater sexual distress was, $b = 1.14$, $SE = .24$, $p < .001$; the association was positive but weaker among boys, $b = .41$, $SE = .21$, $p = .050$.

Sexual Minority Status as a Moderator. No moderation of the association between physical violence and sexual distress by sexual minority status at either level was found.

Sexual Dating Violence. Sexual violence was positively related to sexual distress at both the within- and the between-person levels (see right side of Table 9). At the within-person level, greater sexual DV than usual at a given wave was associated with higher sexual distress. Relative to participants who reported lower overall sexual violence, those who reported greater sexual DV reported higher sexual distress. A significant $\chi^2_{(1)} = 7.57$, $p < .01$ for the -2log likelihood test suggested significant variability in the within-person relation of sexual violence and sexual distress across participants.

Gender Identity as a Moderator. Only the between-person association between sexual DV and sexual distress was moderated by gender identity. The two estimates of girls and gender varying adolescents were pooled as no difference was found between them, $p = .176$. Relative to boys, girls and gender varying participants reported a stronger positive association between sexual violence victimization and sexual distress, $b = 1.38$, $SE = .44$, $p = .002$; for these adolescents, greater sexual DV was related to greater sexual distress, $b = 1.92$, $SE = .24$, $p < .001$; while the association was not significant among boys, $b = .53$, $SE = .38$, $p = .157$.

Sexual Minority Status as a Moderator. Sexual minority status did not moderate the within-person and the between-person associations between sexual DV and sexual distress.

Discussion

Very little research has identified the developmental antecedents of adolescents' sexual wellbeing. This study aimed to examine the longitudinal associations between three forms of DV victimization and two sexual outcomes – sexual satisfaction and sexual distress, as well as gender

and sexual orientation differences therein. Overall, each form of DV predicted sexual satisfaction and distress over time, with some differences at the within- and between-person levels, and according to gender identity and sexual minority status.

Dating Violence Victimization, Sexual Outcomes and Gender Differences

Among girls and gender varying adolescents, all forms of DV were associated with lower sexual satisfaction and higher sexual distress. These results are consistent with those of previous cross-sectional studies on the link between psychological and physical DV and lower sexual satisfaction or higher sexual distress among adult women (Hellmans et al., 2015b; Parish et al., 2004; Sierra et al., 2021) and adolescent girls (only for physical DV, Casique, 2019). The finding regarding gender varying adolescents is quite novel, yet consistent with the Gender Minority Stress Model (GMS Model; Hendricks & Testa, 2012). The violence experienced within the relationship may exacerbate a mobilization (fight/flight) or an immobilization (freeze/flop) response during sexual activities, which leaves little room for developing sexual pleasure, and can increase sexual distress. It may also be that the negative effects associated with DV, including lower mindfulness capacities (Dion et al., 2021) and self-regulatory mechanisms (Valdivia- Salas et al., 2022) may lead to lower sexual well-being. Contrary to Casique (2019) and Hellmans et al. (2015b), we found that sexual DV was associated with lower sexual satisfaction and higher sexual distress among girls and gender varying adolescents, which may be due to the longitudinal framework used in our study, compared to their cross-sectional designs, as well as to our measures, which included several items that may have captured a wider range of sexual DV experiences and sexual satisfaction affective responses. Following sexual DV (or physical and psychological DV experienced during sexual activities), it may be difficult for an individual to place trust in a partner who is or has caused harm (Amar & Alexy, 2005). In cases where the participant is still in a relationship with the perpetrator of sexual DV, the bond may

feel unsafe and threatening, and extra precautions may be taken by the victims (Amar & Alexy, 2005). For those participants who experienced sexual DV with previous (but not current) partners, sexual DV may have a lasting impact on sexual wellbeing. For example, in a recent cross-sectional study conducted among adults, sexual partner violence exposure was 12.7 times higher among women with sexual dysfunction compared to women with no sexual dysfunction (Güvenç et al., 2022).

Among boys, different patterns emerged. First, the association between psychological or sexual DV and sexual satisfaction was not significant, which differs from past studies among adult men (Hellmans et al., 2015b; Parish et al., 2004; Sierra et al., 2021). Second, an unexpected result was found among boys: physical DV was associated with greater sexual satisfaction, which diverges from what previous studies among adults have shown (Hellmans et al., 2015b; Parish et al., 2004; Sierra et al., 2021). This finding partly echoes results of Casique (2019) who found an increased likelihood of experiencing sexual satisfaction among boys who reported psychological DV. Sexual interactions could provide a context whereby boys who are victims of physical DV could regain some control in the relationship, given they are socialized to exert more power in sexual interactions (Carter, 2014). Sex may also remain a space where they can connect with their partner, potentially counterbalancing their victimization. Relative to girls' victimization, boys' victimization experiences may be less likely to result in fear or injury (Hamby & Turner, 2013), and may in fact reflect relationships characterized by affect dysregulation and mutual violence, yet with a strong sexual bond, resulting in their higher sexual satisfaction. However, our results also indicate that boys' physical and psychological (but not sexual) DV was related to their greater sexual distress (e.g., worrying about sex, being distressed about your sex life), which aligns with findings from a previous cross-sectional study (Hellmans, 2015b). These results suggest that both sexual satisfaction and distress may co-exist among victimized adolescent boys,

warranting more scientific attention. Nevertheless, these associations between psychological and physical DV and sexual distress were weaker among boys, compared to girls and gender varying adolescents.

Current finding revealed gender differences in the link between DV and sexual outcomes, which differed from the findings documented in previous studies with adults. These differences may also be associated with cultural factors such as the sexual double standard, where girls are discouraged from having sex, while boys receive more sex-positive encouragement and experience more sex-positive emotions (Boislard et al., 2016). Boys may be less likely to associate DV with their sexual wellbeing, as they are receiving more positive messaging about sexual experiences from outside of relationship contexts. While these DV and sexual outcomes were not linked across boys at the between-level, at an individual (within) level, experiencing greater rates of DV than usual was linked with less sexual satisfaction and more sexual distress, supporting the hypothesis that DV may lead to lower sexual wellbeing when considered in temporal context.

Girls and gender varying adolescents generally reported stronger associations between DV and sexual wellbeing than boys. They also reported higher rates of DV and sexual distress. These findings echo the gender gap observed in mental health outcomes in adolescents around the world, with girls reporting worse average mental health than boys (Campbell et al., 2020). Although no study has investigated the DV prevalence rate or the sexual distress among gender varying adolescents, these results nevertheless align with the literature on SGM adolescents, and particularly gender minority adolescents (Martin-Storey et al. 2021; Norris & Orchowski, 2020). Overall, our findings, along with those of past research (Hunter et al., 2021; Newcomb et al., 2020), point to the complex nature of gender disparities in victimization and adverse sexual outcomes. These findings are potentially anchored in incongruence between expectations and

reality in supposedly more "gender equal" countries (Campbell et al., 2020). Further research is needed to understand how gender identity and gender norms may play a role in self-reported rates of DV and psychological well-being outcomes.

Dating Violence Victimization, Sexual Outcomes and Sexual Minority Status

Our second hypothesis, that the three forms of DV and sexual wellbeing would be more strongly associated among sexual minority adolescents, was not supported. In fact, only one moderation by sexual minority status was found at the within-level. Adolescents with a nonvarying sexual minority status who experienced a higher than usual level of physical DV also experienced simultaneous lower sexual satisfaction, whereas no significant association was observed among other groups. In addition, adolescents with a sexual minority status (varying or nonvarying) reported experiencing higher levels of sexual and psychological DV as well as lower sexual wellbeing compared to heterosexual adolescents. Adolescents with a nonvarying sexual minority status also reported the highest level of physical and psychological DV. Although adolescents with a sexual minority status were more exposed to victimization, the consequences of this victimization were not greater in terms of understanding sexual wellbeing. The absence of significant differences in our sample may reflect that the processes that link DV and sexual wellbeing outcomes among sexual minority and heterosexual adolescents are similar. It may be that minority stressors contribute to greater risk for both DV and poorer sexual wellbeing, but that they do not shape the links between these constructs. We also had little information regarding the genders of sexual partners in the current study. The gender of sexual partner(s), more so than sexual orientation itself, may lead to variation in outcomes among sexual minority adolescents. Partner gender may impact a variety of factors relevant to DV and sexual wellbeing in terms of the visibility of a sexual minority identity, the impact of gender roles on the relationship and the likelihood of identity-based dating violence within a relationship. For

example, results of Petit et al. (2021) found that adolescents with multigender sexual attraction or sexual partners as well as those in same-gender relationships were at higher risk of DV compared to those with different-gender relationships. More research is thus needed to understand sexual minorities in heterosexual compared to same-sex/gender relationships. Further studies should include minority stress measures (e.g., discrimination, internalized homo- and bi-negativity) in DV research (Martin-Storey & Fromme, 2021), which may mediate and/or moderate the relationships between DV and sexual outcomes.

Limitations, Strengths and Future Studies

Findings of this study should be interpreted in light of its limitations. First, although we had three time points for each variable used in this study, these data are correlational, limiting causal interpretations. Furthermore, we had a moderate attrition over time, which is typical in longitudinal studies, but may limit the generalization of the results. In addition, some of the CADRI-S subscales had a lower internal consistency (i.e., alphas between .6 and .7; George & Mallery, 2003). These lower coefficients – possibly due to the heterogeneity of the forms of DV to which adolescents have been exposed and to the diversity of patterns of DV co-occurrence across individuals – could have underestimated the longitudinal associations between DV and sexual wellbeing. The overall proportion of individuals with sexual minority/gender minority identities was limited in this sample, and findings should be replicated within a larger sample, where variation between different sexual minority identities (rather than just stability of sexual minority identity) could be examined. Our study did not assess DV perpetration, but only DV victimization. As both tend to co-occur among adolescents (Coker et al., 2014), including among sexual minority adolescents (Blais et al., 2022), we may wonder if mutual violence could be at play in some of the associations found between DV and sexual wellbeing. Beyond these

limitations, important strengths of this research are the use of a large sample and the longitudinal design, combined with robust statistical techniques. Specifically, this design allowed us to include adolescents who became sexually active at later ages (i.e., at wave 2 or 3), and not only those who were active at 14 years. To move the field a step further, future studies should also examine how to prevent DV and promote sexual wellbeing, in particular following a violent relationship.

Conclusion

The present study expanded the existing literature concerning the negative effects of DV on the wellbeing of adolescents, by increasing knowledge on its association with sexual wellbeing among heterosexual, cisgender and SGM adolescents. Overall, all forms of DV (apart from physical DV among boys) may lead, to different extents, to the development of sexual dissatisfaction and sexual distress across genders. Our results also provide a refined understanding of how those associations vary according to gender identity and sexual orientation, with girls and gender varying adolescents presenting worse outcomes. Moreover, given the high prevalence of DV victimization, which may damage adolescents' early romantic and sexual relationships, it is essential to intervene among perpetrators to prevent the occurrence of DV. Policymaking should focus on promoting healthy self-regulatory capacities and healthy dating and sexual relationships during adolescence – a critical period of life involving more modifiable factors that ultimately shape future adult outcomes. In the context of the United Nations calling upon governments to ensure all adolescents are provided with quality and inclusive comprehensive sex education, and that receiving this education is a human right (United Nations General Assembly, 2018), school-based sex education could promote sexual wellbeing and positive dating relationships as well as raise awareness about DV.

References

Amar, A. F., & Alexy, E. M. (2005). "Dissed" by dating violence. *Perspectives in Psychiatric Care*, *41*(4), 162–171. https://doi.org/10.1111/j.1744-6163.2005.00032.x

Bauer, G. R., Braimoh, J., Scheim, A. I., & Dharma, C. (2017). Transgender-inclusive measures of sex/gender for population surveys: Mixed methods evaluation and recommendations. *PLoS ONE, 12*(5), 1–28. https://doi.org/10.1371/journal.pone.0178043

Blais, M., Hébert, M., Bergeron, F. A., & Lapierre, A. (2022). Dating violence experiences among youths with same-gender and multi-gender dating partners: A dyadic concordance type approach. *Journal of Interpersonal Violence*, *37*(7-8), NP3981–NP4005. https://doi.org/10.1177/0886260520957688

Blunt-Vinti, H. D., Wheldon, C., McFarlane, M., Brogan, N., & Walsh-Buhi, E. R. (2016). Assessing relationship and sexual satisfaction in adolescent relationships formed online and offline. *The Journal of Adolescent Health*, *58*(1), 11–16. https://doi.org/10.1016/j.jadohealth.2015.09.027

Boislard, M. A., van de Bongardt, D., & Blais, M. (2016). Sexuality (and lack thereof) in adolescence and early adulthood: A review of the literature. *Behavioral Sciences*, *6*(1), 8. https://doi.org/10.3390/bs6010008

Bőthe, B., T th-Kir ly, I., Griffiths, M. D., Potenza, M. N., Orosz, G., & Demetrovics, Z. (2021). Are sexual functioning problems associated with frequent pornography use and/or problematic pornography use? Results from a large community survey including males and females. *Addictive Behaviors, 112*, 1–9. https://doi.org/10.1016/j.addbeh.2020.106603

Campbell, O., Bann, D., & Patalay, P. (2020). The gender gap in adolescent mental health: a cross-national investigation of 566,827 adolescents across 73 countries. *MedRxiv*, 2020-06. https:// doi. org/ 10. 1101/ 2020. 06. 12. 20129 312.

Carter, M. J. (2014). Gender socialization and identity theory. *Social Sciences*, *3*(2), 242-263. https://doi.org/10.3390/socsci3020242

Casique, I. (2019). Gender differences in the sexual well-being of Mexican adolescents. *International Journal of Sexual Health*, *31*(1), 1-16. https://doi.org/10.1080/19317611.2018.1561587

Centers for Disease Control and Prevention. (2016). *Understanding teen dating violence*. Atlanta, GA.

Coker, A. L., Clear, E. R., Garcia, L. S., Asaolu, I. O., Cook-Craig, P. G., Brancato, C. J., Williams, C. M., Bush, H. M., & Fisher, B. S. (2014). Dating violence victimization and perpetration rates among high school students. *Violence Against Women*, *20*(10), 1220–1238. https://doi.org/10.1177/1077801214551289

Connolly, J. A., & McIsaac, C. (2009). Romantic relationships in adolescence. In R. M. Lerner & L. Steinberg (Eds.), *Handbook of adolescent psychology: Contextual influences on adolescent development* (pp. 104–151). John Wiley & Sons, Inc. https://doi.org/10.1002/9780470479193.adlpsy002005

Dank, M., Lachman, P., Zweig, J. M., & Yahner, J. (2014). Dating violence experiences of lesbian, gay, bisexual, and transgender youth. *Journal of Youth and Adolescence*, *43*(5), 846-857. https://doi.org/10.1007/s10964-013-9975-8

Derogatis, L., Clayton, A., Lewis-D'Agostino, D., Wunderlich, G., & Fu, Y. (2008). Validation of the female sexual distress scale-revised for assessing distress in women with hypoactive sexual desire disorder. *Journal of Sexual Medicine*, *5*(2), 357-364. https://doi.org/10.1111/j.1743-6109.2007.00672.x

Derogatis, L. R., Rosen, R., Leiblum, S., Burnett, A., & Heiman, J. (2002). The Female Sexual Distress Scale (FSDS): Initial validation of a standardized scale for assessment of sexually related personal distress in women. *Journal of Sex & Marital Therapy*, *28*(4), 317–330. https://doi.org/10.1080/00926230290001448

Dion, J., Smith, K., Dufour, M. P., Paquette, L., Dubreuil, J., & Godbout, N. (2021). The mediating role of dispositional mindfulness in the associations between intimate violence, self-esteem, and distress among adolescents. *Mindfulness*, *12*(12), 3060-3072. https://doi.org/10.1007/s12671-021-01767-6

Fernandez-Gonzalez, L., Wekerle, C., & Goldstein, A. L. (2012). Measuring adolescent dating violence: Development of 'conflict in adolescent dating relationships inventory' short form. *Advances in Mental Health*, *11*(1), 35-54. https://doi.org/10.5172/jamh.2012.11.1.35

Furman, W., & Rose, A. J. (2015). Friendships, romantic relationships, and peer relationships. In M. E. Lamb & R. M. Lerner (Eds.), *Handbook of child psychology and developmental science: Socioemotional processes* (pp. 932–974). John Wiley & Sons, Inc. https://doi.org/10.1002/9781118963418.childpsy322

George, D., & Mallery, P. (2003). *SPSS for Windows step by step: A simple guide and reference. 11.0 update (4th ed.)*. Boston: Allyn & Bacon.

Girouard, A., Dion, J., Bőthe, B., O'Sullivan, L., & Bergeron, S. (2021). Bullying victimization and sexual wellbeing in sexually active heterosexual, cisgender and sexual/gender minority adolescents: The mediating role of emotion regulation. *Journal of Youth and Adolescence*, *50*(11), 2136–2150. https://doi.org/10.1007/s10964-021-01471-7

Gómez-López, M., Viejo, C., & Ortega-Ruiz, R. (2019). Well-being and romantic relationships: A systematic review in adolescence and emerging adulthood. *International Journal of Environmental Research and Public Health*, *16*(13), 2415. https://doi.org/10.3390/ijerph16132415

Güvenç, R., Hacıoğlu Yıldırım, M., & Yıldırım, E. A. (2022). The overlooked relationship between subtle partner sexual violence and sexual dysfunction?. *Sexual and Relationship Therapy*, 1-14.

Hamby, S., & Turner, H. (2013). Measuring teen dating violence in males and females: Insights from the national survey of children's exposure to violence. *Psychology of violence*, *3*(4), 323.

Harden, K. P. (2014). A sex-positive framework for research on adolescent sexuality. *Perspectives on Psychological Science*, *9*(5), 455–496. https://doi.org/10.1177/1745691614535934

Hébert, M., Blais, M., & Lavoie, F. (2017). Prevalence of teen dating victimization among a representative sample of high school students in Quebec. *International Journal of Clinical and Health Psychology*, *17*(3), 225-233. https://doi.org/10.1016/j.ijchp.2017.06.001

Hellemans, S., Loeys, T., Buysse, A., Dewaele, A., & De Smet, O. (2015a). Intimate partner violence victimization among non-heterosexuals: Prevalence and associations with mental and sexual well-being. *Journal of Family Violence*, *30*(2), 171-188. https://doi.org/10.1007/s10896-015-9669-y

Hellemans, S., Loeys, T., Dewitte, M., De Smet, O., & Buysse, A. (2015b). Prevalence of intimate partner violence victimization and victims' relational and sexual well-being. *Journal of Family Violence*, *30*(6), 685-698. https://doi.org/10.1007/s10896-015-9712-z

Hendricks, M. L., & Testa, R. J. (2012). A conceptual framework for clinical work with transgender and gender nonconforming clients: An adaptation of the Minority Stress Model. *Professional Psychology: Research and Practice*, *43*(5), 460.

Hunter, J., Butler, C., & Cooper, K. (2021). Gender minority stress in trans and gender diverse adolescents and young people. *Clinical Child Psychology and Psychiatry*, *26*(4), 1182–1195. https://doi.org/10.1177/13591045211033187

Johns, M. M., Liddon, N., Jayne, P. E., Beltran, O., Steiner, R. J., & Morris, E. (2018). Systematic mapping of relationship-level protective factors and sexual health outcomes among sexual minority youth: The role of peers, parents, partners, and providers. *LGBT Health*, *5*(1), 6-32. https://doi.org/10.1089/lgbt.2017.0053

Kansky, J., & Allen, J. P. (2018). Long-term risks and possible benefits associated with late adolescent romantic relationship quality. *Journal of Youth and Adolescence*, *47*(7), 1531–1544. https://doi.org/10.1007/s10964-018-0813-x

Kaura, S. A., & Lohman, B. J. (2007). Dating violence victimization, relationship satisfaction, mental health problems, and acceptability of violence: A comparison of men and women. *Journal of Family Violence, 22*(6), 367–381. https://doi.org/10.1007/s10896-007-9092-0

Lawrance, K. A., & Byers, E. S. (1992). Development of the interpersonal exchange model of sexual satisfaction in long term relationships. *Canadian Journal of Human Sexuality, 1,* 123–128.

Lawrance, K. A., & Byers, E. S. (1995). Sexual satisfaction in long-term heterosexual relationships: The interpersonal exchange model of sexual satisfaction. *Personal Relationships, 2*, 267-285. https://doi.org/10.1111/j.1475-6811.1995.tb00092.x

Li, D. H., Remble, T. A., Macapagal, K., & Mustanski, B. (2019). Stigma on the streets, dissatisfaction in the sheets: Is minority stress associated with decreased sexual functioning among young men who have sex with men? *Journal of Sexual Medicine, 16*(2), 267–277. https://doi.org/10.1016/j.jsxm.2018.12.010

Martin-Storey, A. (2015). Prevalence of dating violence among sexual minority youth: Variation across gender, sexual minority identity and gender of sexual partners. *Journal of Youth and Adolescence*, *44*(1), 211-224. https://doi.org/10.1007/s10964-013-0089-0

Martin-Storey, A., & Fromme, K. (2021). Mediating factors explaining the association between sexual minority status and dating violence. *Journal of Interpersonal Violence*, *36*(1-2), 132-159. https://doi.org/10.1177/0886260517726971

Martin-Storey, A., Pollitt, A. M., & Baams, L. (2021). Profiles and predictors of dating violence among sexual and gender minority adolescents. *Journal of Adolescent Health*, *68*(6), 1155-1161. https://doi.org/10.1016/j.jadohealth.2020.08.034

Mauer, V. A., & Reppucci, N. D. (2019). Legal and psychological approaches to understanding and addressing teen dating violence. In B. H. Bornstein, & M. K. Miller (Eds.), *Advances in Psychology and Law: Volume 4* (pp. 277-317). Springer International Publishing. https://doi.org/10.1007/978-3-030-11042-0_9

Merwin, K. E., & Rosen, N. O. (2019). Perceived partner responsiveness moderates the associations between sexual talk and sexual and relationship well-being in individuals in long-term relationships. *Journal of Sex Research*, *57*(3), 351-364. https://doi.org/10.1080/00224499.2019.1610151

Meyer I. H. (2003). Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: conceptual issues and research evidence. *Psychological Bulletin*, *129*(5), 674–697. https://doi.org/10.1037/0033-2909.129.5.674

Mitchell, K. R., Geary, R., Graham, C., Clifton, S., Mercer, C. H., Lewis, R., Macdowall, W., Datta, J., Johnson, A. M., & Wellings, K. (2016). Sexual function in 16- to 21-year-olds in Britain. *The Journal of Adolescent Health: Official Publication of the Society for Adolescent Medicine*, *59*(4), 422–428. https://doi.org/10.1016/j.jadohealth.2016.05.017

Mitchell, K. R., Lewis, R., O'Sullivan, L. F., & Fortenberry, J. D. (2021). What is sexual wellbeing and why does it matter for public health? *The Lancet Public Health*, *6*(8), e608-e613. https://doi.org/10.1016/ S2468-2667(21)00099-2

Muth n, L.K., & Muth n, B.O. (1998–2017). Mplus user's guide (8th ed.). Muth n & Muth n, Los Angeles, CA.

Newcomb, M. E., Hill, R., Buehler, K., Ryan, D. T., Whitton, S. W., & Mustanski, B. (2020). High burden of mental health problems, substance use, violence, and related psychosocial factors in transgender, non-binary, and gender diverse youth and young adults. *Archives of Sexual Behavior*, *49*(2), 645–659. https://doi.org/10.1007/s10508-019-01533-9

Norris, A. L., & Orchowski, L. M. (2020). Peer victimization of sexual minority and transgender youth: A cross-sectional study of high school students. *Psychology of Violence, 10*(2), 201–211. https://doi.org/10.1037/vio0000260

O'Sullivan, L. F., Brotto, L. A., Byers, E. S., Majerovich, J. A., & Wuest, J. A. (2014). Prevalence and characteristics of sexual functioning among sexually experienced middle to late adolescents. *The Journal of Sexual Medicine, 11*(3), 630–641. https://doi.org/10.1111/jsm.12419

O'Sullivan, L. F., Byers, E. S., Brotto, L. A., Majerovich, J. A., & Fletcher, J. (2016). A longitudinal study of problems in sexual functioning and related sexual distress among middle to late adolescents. *Journal of Adolescent Health, 59*(3), 318–324. https://doi.org/10.1016/j.jadohealth.2016.05.001

O'Sullivan, L. F., Byers, E. S., & Dawson, S. J. (2022). Individual and relationship predictors of trajectories of sexual function across adolescent and young adult relationships. *Journal of Sex Research*, *59*(1), 53-68. https://doi.org/10.1080/00224499.2021.1948497

O'Sullivan, L. F., & Thompson, A. E. (2014). Sexuality in adolescence. In D. L. Tolman, L. M. Diamond, J. A. Bauermeister, W. H. George, J. G. Pfaus, & L. M. Ward (Eds.), *APA handbook of sexuality and psychology, Vol. 1. Person-based approaches* (pp. 433–486). American Psychological Association. https://doi.org/10.1037/14193-015

Parish, W. L., Wang, T., Laumann, E. O., Pan, S., & Luo, Y. (2004). Intimate partner violence in China: National prevalence, risk factors and associated health problems. *International Family Planning Perspectives*, *30*(4), 174–181. https://doi.org/10.1363/3017404

Petit, M. P., Blais, M., & Hébert, M. (2021). Prevalence, co-occurrence, and recurrence of teen dating violence across dimensions of sexual orientation: A longitudinal study using a representative sample of adolescents. *Psychology of Violence*, *11*(2), 175. https://doi.org/10.1037/vio0000349

Ripper, L., Ciaravino, S., Jones, K., Jaime, M., & Miller, E. (2017). Use of a Respondent-Generated Personal Code for Matching Anonymous Adolescent Surveys in Longitudinal Studies. *Journal of Adolescent Health*, *60*(6), 751–753. https://doi.org/10.1016/j.jadohealth.2017.01.003

Roberts, A. L., Rosario, M., Corliss, H. L., Koenen, K. C., & Austin, S. B. (2012). Elevated risk of posttraumatic stress in sexual minority youths: mediation by childhood abuse and gender nonconformity. *American journal of public health*, *102*(8), 1587-1593.

Rotermann M. (2012). Sexual behaviour and condom use of 15- to 24-year-olds in 2003 and 2009/2010. *Health Reports*, *23*(1), 41–45.

Satorra, A., & Bentler, P. M. (2010). Ensuring positiveness of the scaled difference chi-square test statistic. *Psychometrika*, *75*(2), 243–248. https://doi.org/10.1007/s11336-009-9135-y

Seiffge-Krenke, I. (2003). Testing theories of romantic development from adolescence to young adulthood: Evidence of a developmental sequence. *International Journal of Behavioral Development, 27*(6), 519–531. https://doi.org/10.1080/01650250344000145

Sierra, J. C., Arcos-Romero, A. I., Álvarez-Muelas, A., & Cervilla, O. (2021). The impact of intimate partner violence on sexual attitudes, sexual assertiveness, and sexual functioning in men and women. *International journal of environmental research and public health*, *18*(2), 594.

United Nations General Assembly. (2018, 26 September). *UN Human Rights Council: Preventable maternal mortality and morbidity and human rights in humanitarian settings, A/HRC/39/L.13/Rev.1.* https://documents-dds-ny.un.org/doc/UNDOC/LTD/G18/286/90/PDF/G1828690.pdf?OpenElement

Valdivia-Salas, S., Lombas, A. S., Jiménez, T. I., Lucas-Alba, A., & Villanueva-Blasco, V. J. (2022). Profiles and risk factors for teen dating violence in Spain. *Journal of Interpersonal Violence*, 8862605221114305. https://doi.org/10.1177/08862605221114305

Weinrich, J. D. (2014). On the design, development, and testing of sexual identity questions: A discussion and analysis of Kristen Miller and J. Michael Ryan's work for the National Health Interview Survey. *Journal of Bisexuality, 14*, 502–523. https://doi.org/10.1080/15299716.2014.952052

Wincentak, K., Connolly, J., & Card, N. (2017). Teen dating violence: A meta-analytic review of prevalence rates. *Psychology of Violence*, *7*(2), 224.

Whitton, S. W., Newcomb, M. E., Messinger, A. M., Byck, G., & Mustanski, B. (2019). A longitudinal study of IPV victimization among sexual minority youth. *Journal of Interpersonal Violence*, *34*(5), 912-945. https://doi.org/10.1177/0886260516646093

Wolfe, D. A., Scott, K., Reitzel-Jaffe, D., Wekerle, C., Grasley, C., & Straatman, A.-L. (2001). Development and validation of the Conflict in Adolescent Dating Relationships Inventory. *Psychological Assessment*, *13*(2), 277-293. https://doi.org/10.1037/1040-3590.13.2.277

Yurek, L. A., Vasey, J., & Sullivan Havens, D. (2008). The use of self-generated identification codes in longitudinal research. *Evaluation Review*, *32*(5), 435–452. https://doi.org/10.1177/0193841X08316676

Table 1

Descriptive Statistics according to Gender Identity

		Boys					Girls					Varying				
Wave	Variables	n	M	%	SD	Range	n	M	%	SD	Range	n	M	%	SD	Range
1	Sexual Distress	418	1.26		1.72	0 – 10	441	1.87		2.10	0 – 10	24	2.21		2.41	0 – 7
	Sexual Satisfaction	413	29.45		5.99	5 - 35	423	28.95		6.17	5 – 35	24	30.38		4.21	21 – 35
	Physical Violence	418	.07	8.37	.31	0 – 3	441	.06	5.67	.29	0 – 3	24	.17	20.83	.43	0 – 2
	Psychological Violence	418	.19	42.58	.29	0 – 2	441	.22	51.02	.36	0 – 2.5	24	.20	45.83	.39	0 – 2
	Sexual Violence	418	.03	3.83	.17	0 – 2	441	.10	11.56	.33	0 – 3	24	.06	8.33	.22	0 – 1
2	Sexual Distress	241	1.79		2.02	0 – 9	304	2.68		2.41	0 – 11	20	2.80		2.86	0 – 9
	Sexual Satisfaction	245	29.69		5.99	5 – 35	299	29.19		6.18	5 – 35	19	28.05		6.83	14 – 35
	Physical Violence	245	.07	7.35	.26	0 – 1.5	305	.04	4.59	.25	0 – 3	20	.10	10.00	.34	0 – 1.5
	Psychological Violence	245	.19	49.80	.29	0 – 2	305	.21	44.92	.38	0 – 2.5	20	.26	55.00	.39	0 – 1.5
	Sexual Violence	245	.03	2.86	.22	0 – 3	305	.11	13.11	.36	0 – 3	20	.30	25.00	.53	0 – 1.5
3	Sexual Distress	369	1.72		1.98	0 – 12	527	2.40		2.28	0 – 11	31	2.58		2.74	0 – 11
	Sexual Satisfaction	363	30.58		5.15	5 – 35	525	29.75		5.76	5 – 35	30	29.43		6.64	12 – 35
	Physical Violence	369	.10	9.76	.38	0 – 3	529	.04	4.91	.20	0 – 2	31	.05	6.45	.19	0 – 1
	Psychological Violence	369	.19	51.49	.29	0 – 2	529	.21	52.55	.33	0 – 2.5	31	.19	48.39	.32	0 – 1.5
	Sexual Violence	369	.03	3.25	.20	0 – 3	529	.14	15.31	.40	0 – 3	31	.10	12.90	.27	0 – 1

Note. % - Percentage of participants who endorsed at least one DV event.

Table 2

Descriptive Statistics according to Sexual Minority Status

		Heterosexual					Minority					Varying				
Wave	Variables	n	M	%	SD	Range	n	M	%	SD	Range	n	M	%	SD	Range
1	Sexual Distress	684	1.47		1.89	0 – 10	64	2.38		2.13	0 – 8	135	1.84		2.14	0 – 10
	Sexual Satisfaction	665	29.49		5.98	5 - 35	62	28.34		6.14	11 – 35	132	28.44		6.00	5 – 35
	Physical Violence	684	.06	6.87	.26	0 – 3	64	.19	15.62	.54	0 – 3	135	.07	5.93	.31	0 – 2
	Psychological Violence	684	.17	45.61	.29	0 – 2	64	.30	54.69	.48	0 – 2.5	135	.24	49.63	.40	0 – 2.5
	Sexual Violence	684	.05	6.14	.25	0 – 3	64	.13	17.19	.32	0 – 1.5	135	.10	11.85	.29	0 – 2
2	Sexual Distress	419	2.17		2.21	0 – 10	25	2.92		2.53	0 – 8	121	2.66		2.54	0 – 11
	Sexual Satisfaction	418	29.48		6.17	5 – 35	24	28.08		4.85	13 – 35	121	29.23		6.18	5 – 35
	Physical Violence	423	.06	6.38	.27	0 – 3	25	.06	8.00	.21	0 – 1	122	.04	4.10	.20	0 – 1.5
	Psychological Violence	423	.20	47.75	.34	0 – 2.5	25	.33	64.00	.41	0 – 2	122	.21	42.62	.35	0 – 2
	Sexual Violence	423	.06	7.57	.26	0 – 3	25	.14	20.00	.30	0 – 1	122	.15	12.30	.49	0 – 3
3	Sexual Distress	711	1.97		2.07	0 – 12	48	2.77		2.46	0 – 11	168	2.68		2.55	0 – 11
	Sexual Satisfaction	703	30.43		5.28	5 – 35	46	28.91		6.05	8 – 35	169	28.86		6.36	5 – 35
	Physical Violence	711	.06	6.61	.28	0 – 3	48	.10	10.42	.35	0 – 2	170	.07	7.06	.28	0 – 2
	Psychological Violence	711	.19	51.20	.30	0 – 2.5	48	.30	62.50	.43	0 – 2	170	.21	52.35	.33	0 – 2
	Sexual Violence	711	.08	9.28	.32	0 – 3	48	.19	16.67	.57	0 – 3	170	.10	13.53	.29	0 – 2

Note. % - Percentage of participants who endorsed at least one DV event.

Table 3

Associations between Sexual Distress, Sexual Satisfaction, and Dating Violence in Wave 1, Wave 2, and Wave 3

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. DistressT1															
2. DistressT2	.40***														
3. DistressT3	.30***	.38***													
4. SatisfT1	-.17***	-.18**	-.08												
5. SatisfT2	-.19***	-.25***	-.13*	.23**											
6. SatisfT3	-.14**	-.19***	.31***	.19**	.26***										
7. PhyT1	.05	.13	.05	-.05	-.17	-.01									
8. PhyT2	.10	.15*	.17**	-.07	-.01	-.15	.30								
9. PhyT3	.01	.09	.05	.03	.03	-.02	.31**	.36*							
10. PsyT1	.17***	.12	.13*	-.10**	.01	-.01	.46***	.19*	.15*						
11. PsyT2	.20***	.18***	.23***	-.07	-.08	-.14*	.28*	.54***	.25*	.37***					
12. PsyT3	.09*	.07	.18***	.00	.03	-.16***	.23***	.20*	.41***	.28***	.37***				
13. SexT1	.21***	.10*	.16***	-.15***	-.04	-.22***	.22**	.09	.08	.42***	.13*	.19***			
14. SexT2	.16**	.30***	.21***	-.14**	.19***	-.21**	.40**	.49***	.27*	.23*	.40***	.16	.27**		
15. SexT3	.04	.14*	.20***	-.03	-.03	-.23***	-.03	.17	.21***	-.01	.16	.37***	.12	.31*	

Note. 2389 observations from 1442 participants.

* $p < .05$; **; $p < .01$; *** $p < .001$. T1 = Wave 1; T2 = Wave 2; T3 = Wave 3; Distress = Sexual Distress; Satisf = Sexual Satisfaction; Phy = Physical Violence; Psy = Psychological Violence; Sex = Sexual Violence.

Table 4

Comparisons of Participants according to Gender Identity

Variables	Boys	Girls	Varying	Boys vs. Varying $\Delta\chi^2$	Boys vs. Varying $\Delta\chi^2$	Girls vs. Varying $\Delta\chi^2$
Sexual Distress	1.54 [b]	2.28[a]	2.33 [a]	**53.98*** **	**7.03** **	.02
Sexual Satisfaction	29.79 [a]	29.28 [a]	29.56 [a]	3.64	.08	.12
Physical Violence	.08[a]	.05[b]	.10 [a]	**6.07***	.23	**7.42** **
Psychological Violence	.17 [a]	.21 [b]	.21 [a b]	**8.00** **	.99	.00
Sexual Violence	.03[b]	.12[a]	.14[a]	**45.00*** **	**29.60*** **	.17

Note. *B*etween 2341 – 2382 observations.

The $\Delta\chi^2$ value represents the difference in fit between two nested models. Significant effects are in bold. * $p < .05$; ** $p < .01$; *** $p < .001$. Estimates marked by different superscript letters were found to be statistically different.

Table 5

Comparisons of Participants according to Sexual Minority Status

Variables	Heterosexual	Minority	Varying	Heterosexual vs. Minority $\Delta\chi^2$	Heterosexual vs. Varying $\Delta\chi^2$	Minority vs. Varying $\Delta\chi^2$
Sexual Distress	1.80[b]	2.61[a]	2.42[a]	**19.11*** **	**26.60*** **	.61
Sexual Satisfaction	29.81[a]	29.46	28.69	**7.29** **	**11.54*** **	.14
Physical Violence	.06[a]	.14[b]	.06[a]	**23.60*** **	.03	**15.45*** **
Psychological Violence	.18[a]	.30[b]	.22[c]	**18.98*** **	**4.40***	**5.35***
Sexual Violence	.07[b]	.18[a]	.11[a]	**26.72*** **	**32.34*** **	2.60

Note. *B*etween 2338 – 2382 observations.

The $\Delta\chi^2$ value represents the difference in fit between nested models. Significant effects are in bold. * $p < .05$; ** $p < .01$; *** $p < .001$. Estimates marked by different superscript letters were found to be statistically different.

Table 6

Estimates of the Associations between Age and Sexual Outcomes

Parameter	Sexual Satisfaction		Sexual Distress	
	Unstnd. (SE)	95% CI	Unstnd. (SE)	95% CI
$b_{SX.Agei}$: Age_{it} → $Sex.Out_{.it}$	.36 (.12)**	.03, .73	.30 (.06)***	.19, .41
$b_{SX.AgexAgei}$: Age_{it} X Age_{it} → $Sex.Out_{.it}$			-.10 (.04)*	-.18, -.02
Mean($Sex.Out_{.i}$)	29.31 (.15)***	28.96, 29.65	1.92 (.06)***	1.79, 2.04
Var($\varepsilon_{Sex.Out.it}$)	26.93 (2.07)***	21.16, 31.32	3.07 (.17)***	2.73, 3.41
Var($\varsigma_{Sex.Out.i}$)	8.04 (1.44)***	5.64, 12.81	1.58 (.16)***	1.26, 1.91

Note. 2344 observations from 1420 participants for the sexual satisfaction model; 2379 observations from 1437 participants for the sexual satisfaction model.

* p < .05; ** p < .01; *** p < .001.

"Unstnd" = Unstandardized; "CI" = Confidence interval; "Sex.Out." = Sexual outcome variables; "Psy Vio." =Psychological violence; "i" = subscript indicating participant; "t" = subscript indicating timepoint; Var = Variance; "$b_{SX.Agei}$" = Within-person random slope of sexual outcome variable on (linear) age; "$b_{SX.AgexAgei}$" = Within-person random slope of sexual outcome variable on (quadratic) age squared; "$\varepsilon_{Sex\ Out.it}$" = residual error at the within-person level; "$\zeta_{Sex.Out.i}$" = variance of the random intercept, $Sex.Out_{.i}$. The variance of random linear age slope, $b_{SX.Agei}$, the variance of the random quadratic age slope, and the covariance between random intercept and random linear age slope were fixed to zero.

Table 7

Estimates of the Associations between Psychological Violence, Age, and Sexual Outcomes

Parameter	Sexual Satisfaction		Sexual Distress	
	Unstnd. (SE)	95% CI	Unstnd. (SE)	95% CI
$b_{SX.Agei}$: Age_{it} → $Sex.Out_{.it}$	.39 (.12)***	.16, .61	.28 (.06)***	.17, .39
$b_{SX.Agei}$: Age_{it} X Age_{it} → $Sex.Out_{.it}$			-.09 (.04)*	-.17, -.01
$b_{SX.Psyi}$: $Psy\ Vio_{it}$ → $Sex.Out_{.it}$	-2.20 (.59)***	-3.35, -1.05	.67 (.26)*	.16, 1.18
$b_{SX.Psy}$: $Psy\ Vio_{i}$ → $Sex.Out_{.i}$	-1.94 (.53)***	-2.97, -.90	1.24 (.19)***	.87, 1.61
Intercept($Sex.Out_{.i}$)	29.31 (.15)***	29.01, 29.56	1.91 (.06)***	1.79, 2.04
Var($\varepsilon_{Sex.Out.it}$)	26.57 (2.07)***	22.53, 30.62	2.86 (.18)***	2.50, 3.23
Var($\zeta_{Sex.Out.i}$)	8.02 (1.43)***	5.21, 10.37	1.55 (.17)***	1.26, 1.91

Note. 2342 observations from 1419 participants for the sexual satisfaction model; 2376 observations from 1435 participants for the sexual satisfaction model.

* p < .05; ** p < .01; *** p < .001.

"Unstnd" = Unstandardized; "CI" = Confidence interval. "Sex.Out." = Sexual outcome variables; "Psy Vio." =Psychological violence; "i" = subscript indicating participant; "t" = subscript indicating timepoint; Var = Variance; "$b_{SX.Agei}$" = Within-person random slope of sexual outcome variable on (linear) age; "$b_{SX.AgexAgei}$" = Within-person random slope of sexual outcome variable on (quadratic) age squared; "$b_{SX.Psyi}$" = Within-person random slope of sexual outcome variable on psychological violence; "$b_{SX.Psy}$" = Between-person slope of sexual outcome variable on psychological violence; "$\varepsilon_{Sex\ Out.it}$" = residual error at the within-person level; "$\zeta_{Sex\ Out.i}$" = residual variance of the random intercept, $Sex.Out_{.i}$. The variance of random linear age slope, the variance of the random quadratic age slope, the variance of the random slope, $b_{SX.Psyi}$, and the covariance between random intercept and random linear age slope were fixed to zero.

Table 8

Estimates of the Associations between Physical Violence, Age, and Sexual Outcomes

Parameter	Sexual Satisfaction		Sexual Distress	
	Unstnd. (SE)	95% CI	Unstnd. (SE)	95% CI
$b_{SX.Agei}$: Age_{it} → $Sex.Out_{.it}$	.36 (.12)**	.13, .59	.30 (.06)***	.19, .41
$b_{SX.Agei}$: Age_{it} X Age_{it} → $Sex.Out_{.it}$			-.10 (.04)*	-.18, -.02
$b_{SX.Phyi}$: $Phy\ Vio_{it}$ → $Sex.Out_{.it}$	.07 (.60)	-1.10, 1.25	.04 (.29)	-.53, .60
$b_{SX.Phy}$: $Phy\ Vio_{i}$ → $Sex.Out_{.i}$	-.50 (.70)	-1.86, .87	.61 (.19)***	.23, .99
Intercept($Sex.Out_{.i}$)	29.31 (.15)***	29.01, 29.60	1.91 (.06)***	1.79, 2.04
Var($\varepsilon_{Sex.Out.it}$)	26.99 (2.08)***	22.92, 31.06	3.06 (.17)***	2.72, 3.40
Var($\zeta_{Sex.Out.i}$)	7.97 (1.44)***	5.15, 10.80	1.56 (.16)***	1.23, 1.88

Note. 2342 observations from 1419 participants for the sexual satisfaction model; 2376 observations from 1435 participants for the sexual satisfaction model.

* p < .05; ** p < .01; *** p < .001.

"Unstnd" = Unstandardized; "CI" = Confidence interval; "Sex. Out." = Sexual outcome variables; "Phy Vio." =Physical violence; "i" = subscript indicating participant; "t" = subscript indicating timepoint; Var = Variance; "$b_{SX.Agei}$" = Within-person random slope of sexual outcome variable on (linear) age; "$b_{SX.AgexAgei}$" = Within-person random slope of sexual outcome variable on (quadratic) age squared; "$b_{SX.Phyi}$" = Within-person random slope of sexual outcome variable on physical violence; "$b_{SX.Phy}$" = Between-person slope of sexual outcome variable on physical violence; "$\varepsilon_{Sex\ Out.it}$" = residual error at the within-person level; "$\zeta_{Sex\ Out.i}$" = residual variance of the random intercept, $Sex.Out_{.i}$. The variance of random linear age slope, the variance of the random quadratic age slope, the variance of the random slope, $b_{SX.Phyi}$, and the covariance between random intercept and random linear age slope were fixed to zero.

Table 9

Estimates of the Associations between Sexual Violence, Age, and Sexual Outcomes

Parameter	Sexual Satisfaction		Sexual Distress	
	Unstnd. (SE)	95% CI	Unstnd. (SE)	95% CI
$b_{SX.Agei}$: Age_{it} → $Sex.Out_{.it}$	.37 (.12)**	.14, .60	.29 (.06)***	.18, .40
$b_{SX.Agei}$: Age_{it} X Age_{it} → $Sex.Out_{.it}$			-.10 (.04)*	-.18, -.02
$b_{SX.Sexi}$: $Sex\ Vio_{it}$ → $Sex.Out_{.it}$	-1.90 (.61)**	-3.11, -.70	1.00 (.26)***	.49, 1.50
$b_{SX.Sex}$: $Sex\ Vio_{i}$ → $Sex.Out_{.i}$	-4.09 (.63)***	-5.33, -2.86	1.80 (.24)***	1.34, 2.26
Intercept($Sex.Out_{.i}$)	29.32 (.15)***	29.03, 29.61	1.91 (.06)***	1.79, 2.04
Var($\varepsilon_{Sex.Out.it}$)	26.96 (2.06)***	22.93, 30.99	2.99 (.17)***	2.66, 3.33
Var($\zeta_{Sex.Out.i}$)	6.76 (1.36)***	4.10, 9.42	1.40 (.16)***	1.09, 1.71

Note. 2342 observations from 1419 participants for the sexual satisfaction model; 2376 observations from 1435 participants for the sexual satisfaction model.

* p < .05; ** p < .01; *** p < .001.

"Unstnd" = Unstandardized; "CI" = Confidence interval; "Sex. Out." = Sexual outcome variables; "Sex Vio." = Sexual violence; "i" = subscript indicating participant; "t" = subscript indicating timepoint; Var = Variance; "$b_{SX.Agei}$" = Within-person random slope of sexual outcome variable on (linear) age; "$b_{SX.AgexAgei}$" = Within-person random slope of sexual outcome variable on (quadratic) age squared; "$b_{SX.Sexi}$" = Within-person random slope of sexual outcome variable on sexual violence; "$b_{SX.Sex}$" = Between-person slope of sexual outcome variable on sexual violence; "$\varepsilon_{Sex\ Out.it}$" = residual error at the within-person level; "$\zeta_{Sex\ Out.i}$" = residual variance of the random intercept, $Sex.Out_{.i}$. The variance of random linear age slope, the variance of the random quadratic age slope, the variance of the random slope, $b_{SX.Sexi}$, and the covariance between random intercept and random linear age slope were fixed to zero.

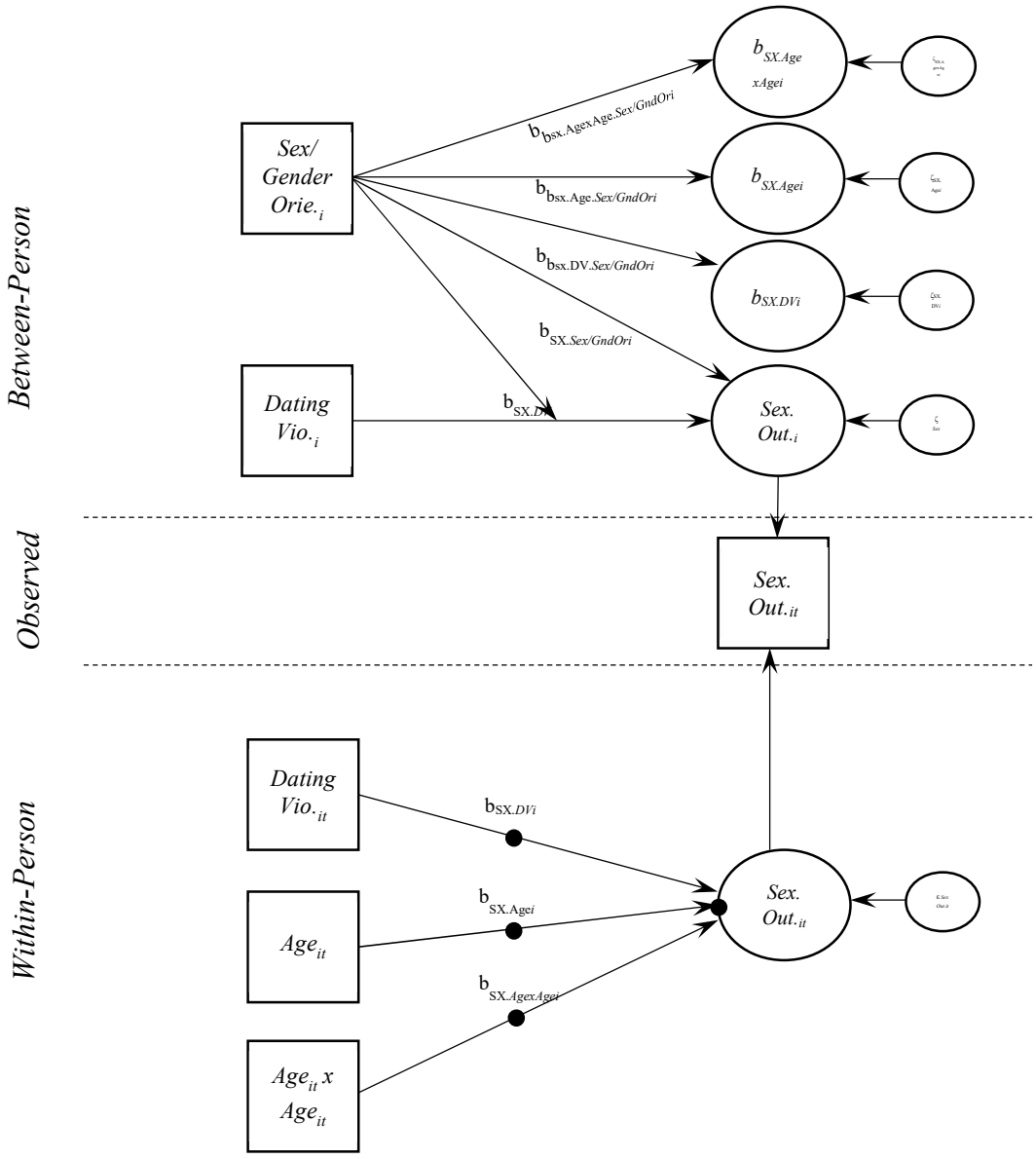

Figure 1. *Diagram of the multilevel growth model analyzed. Note, not all parameters are diagramed. The covariances among random intercept and random slopes are excluded. Squares represent observed variables, ovals represent latent variables, black filled circles represent random slopes. "Sex. Out." = Sexual outcome variables; "Dating Vio." =Dating violence variables;"Sex/Gender Orie." = Sexual/Gender identity; "*$b_{SX.DVi}$*" = Within-person random slope of sexual outcome variable on dating violence variable; "*$b_{SX.Agei}$*" = Within-person random slope of sexual outcome variable on (linear) age; "*$b_{SX.AgexAgei}$*" = Within-person random slope of sexual outcome variable on (quadratic) age squared; "*$_i$*" = subscript indicating participant; "*$_t$*" = subscript indicating timepoint; "*$\varepsilon_{Sex\ Out.it}$*" = residual error at the within-person level; "*$\zeta_{Sex\ Out.i}$*" = residual variance of the random intercept, Sex.Out.i; "*$\zeta_{SX.DVi}$*" = residual variance of the random slope,* $b_{SX.DVi}$*; "*$\zeta_{SX.Agei}$*" = residual variance of the random linear age slope,* $b_{SX.Agei}$*; "*$\zeta_{SX.AgexAgei}$*" = residual variance of the random quadratic age slope,* $b_{SX.AgexAgei}$*. "*$b_{SX.DV}$*" = between-person slope of sexual outcome variable on dating violence variable; "*$b_{SX.Sex/GndOri}$*" = between-person slope of sexual outcome variable on dating violence variable; "*$b_{bsx.DV.Sex/GndOri}$*" = between-person slope of* $b_{SX.DVi}$ *on sexual identity or gender identity variable; "*$b_{bsx.Age.Sex/GndOri}$*" = between-person slope of* $b_{SX.Agei}$ *on sexual identity or gender identity variable; "*$b_{bsx.AgexAge.Sex/GndOri}$*" = between-person regression slope of* $b_{SX.AgexAgei}$ *on sexual identity or gender identity variable.*

Supplementary Material

Table S1

Estimates of the Association between Age and Sexual Outcomes

Parameter	Sexual Satisfaction		Sexual Distress	
	Unstnd. (SE)	95% CI	Unstnd. (SE)	95% CI
$b_{SX.Age_i}$: Age_{it} → $Sex.Out_{.it}$	.37 (.12)**	.13, .61	.30 (.05)***	.19, .40
$b_{SX.AgexAge_i}$: Age_{it} X Age_{it} → $Sex.Out_{.it}$			-.10 (.04)*	-.18, -.02
Mean($Sex.Out_{.i}$)	29.30 (.15)***	29.00, 29.60	1.92 (.06)***	1.79, 2.04
Var($\varepsilon_{Sex.Out.it}$)	26.32 (2.53)***	21.36, 31.29	3.00 (.21)***	2.58, 3.39
Var($\zeta_{Sex.Out.i}$)	9.15 (1.80)***	5.61, 12.68	1.47 (.19)***	1.10, 1.85
Var($\zeta_{SX.Age.i}$)	.54 (1.45)	-2.30, 3.39	.05 (.15)	-.25, .34
Var($\zeta_{SX.AgexAge.i}$)			.01 (.05)	-.08, .10
Cov($\Psi_{Sex.Out,SX.Age.i}$)	-1.02 (1.12)	-3.22, 1.17	.11 (.12)	-.12, .34

Note. 2344 observations from 1420 participants for the sexual satisfaction model; 2379 observations from 1437 participants for the sexual satisfaction model.
* p < .05; ** p < .01; *** p < .001.
"Unstnd" = Unstandardized; "CI" = Confidence interval; "Sex.Out." = Sexual outcome variables; "Psy Vio." =Psychological violence; "i" = subscript indicating participant; "t" = subscript indicating timepoint; Var = Variance; "$b_{SX.Age_i}$" = Within-person random slope of sexual outcome variable on (linear) age; "$b_{SX.AgexAge_i}$" = Within-person random slope of sexual outcome variable on (quadratic) age squared; "$\varepsilon_{Sex\ Out.it}$" = residual error at the within-person level; "$\zeta_{Sex.Out.i}$" = Variance of the random intercept, $Sex.Out_{.i}$. "$\zeta_{SX.Age_i}$" = Variance of the random linear age slope, $b_{SX.Age_i}$; "$\zeta_{SX.AgexAge_i}$" = Variance of the random quadratic age slope, $b_{SX.AgexAge_i}$. "$\Psi_{Sex.Out,SX.Age.i}$" = Covariance of the random intercept and random linear age slope.