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Individual and Relationship Characteristics of Adolescent Girls With Histories of Physical Dating Violence

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Abstract

The objective of this article is to examine the individual and relational characteristics of adolescent girls with a history of physical DV, as well as to utilize partner-specific, temporal data to explore links between these factors and recent or ongoing DV experiences. Participants were 109 high school girls (ages 14–17) identified as having a history of DV through a school-based screening procedure. Details regarding the timing of DV and links with specific dating partners were gathered using Timeline Followback (TLFB) interview methodology. At study entry, 30% endorsed clinical levels of depression symptoms and 89% reported delinquent behaviors. Forty-four percent reported vaginal intercourse in their lifetime and of those, 35% reported not using a condom at last sex. During the 90 days prior to study entry, 69% of youth reported having a romantic relationship and 58% of those youth reported physical/sexual violence. Data revealed that more physical/sexual violence was associated with longer relationship length, Wald $\chi^2(2) = 1,142.63$, $p < .001$. Furthermore, depressive symptoms, not delinquency, contributed significantly to recent DV experiences, even when relationship length was controlled. Our findings suggest that prevention programs for this population should teach participants how to quickly recognize unhealthy relationship characteristics, as violence severity increases with relationship length. Programs for adolescent girls should also address depressive symptoms, which are linked to DV severity when other risks are taken into account. Finally, the TLFB calendar method appears useful for gathering the temporal and partner-specific data needed to understand the complexity of dating relationships and violence experiences in this population.

Keywords

adolescents; dating violence; depression; prevention; girls

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Adolescents may experience dating violence (DV) through forms of psychological (disparaging and/or controlling behaviors), physical (physically attacking one's partner), and/or sexual abuse (forced sexual contact toward one's romantic partner; Wolfe et al., 2001). Over the past 15 years, mounting research has documented the high rates of DV and its associated negative outcomes. For instance, Silverman, Raj, Mucci, and Hathaway (2001) showed that approximately 20% of adolescent girls in their sample experienced physical and/or sexual abuse by their dating partner. In addition, the Centers for Disease Control and Prevention (CDC) indicated that 9% of adolescents were victimized by physical DV within the 12 months before data collection (CDC, 2014). To date, many community- and school-based studies have focused on identifying the correlates and predictors of DV to inform the development of primary prevention programs. Although studies have consistently reported both similar and higher rates of nonsexual DV for females compared with males, girls are more likely to fall victim to physical injury and experience psychological consequences from DV exposure (Archer, 2000, 2002). Hence, the present study focuses on the characteristics of adolescent girls who were exposed to physical DV as victims, perpetrators, or both. Existing population-based studies, where a subset of participants has experienced DV in the past year or over their lifetime, have largely focused on individual factors (i.e., DV attitudes, depression, and delinquency) and to a lesser extent on relational factors (i.e., relationship length, breakup, sexual activity, condom self-efficacy, and sexual knowledge) that may relate to DV involvement. However no studies to date have used temporal assessment strategies, such as calendar methods, to examine how recent or ongoing DV experiences relate to both individual and relational factors in the affected group. In addition, it is investigated whether the characteristics reported by adolescent girls with a history of DV differ based on the type of violence experienced (e.g., psychological vs. physical/sexual violence). Understanding these associations may provide implications for prevention and intervention programs to more effectively reach adolescent girls actively involved in abusive relationships.

Individual Characteristics

The association between DV and acceptance of DV among adolescents and young adults is well documented. Specifically, perpetrators and victims of DV are likely to justify the use of violence depending on the circumstance such as if one is challenged to a fight and/or humiliated by one's romantic partner (Brendgen, Vitaro, Tremblay, & Wanner, 2002; Foo & Margolin, 1995; Lichter & McCloskey, 2004; Miller, Gorman-Smith, Sullivan, Orpinas, & Simon, 2009; Orpinas, Hsieh, Song, Holland, & Nahapetyan, 2013; Williams, Connolly, Pepler, Craig, & Laporte, 2008). From a social-cognitive perspective (Bandura, 1978, 2001), aggression is a behavior learned from the benefits and consequences gained after its enactment. Within the context of romantic relationships, adolescents with a history of DV may continue their involvement in an aggressive relationship if acting out with such behaviors previously led to optimal outcomes for the perpetrator (e.g., the victim giving in to the perpetrator's demands). The victim may also learn that engagement in DV is an acceptable means of dealing with conflicts. Under this logic, adolescent girls in the present study are expected to endorse positive attitudes about the use of violence in romantic relationships. However, because attitudes can change based on experience, it is examined

whether the presence and type of recent or ongoing DV is related to concurrent levels of DV acceptance.

Another aspect to consider is the role of depression among adolescents with a history of DV. Past studies suggest that levels of depressive symptoms are generally higher among adolescents who perpetrated and/or were victimized by dating aggression (Ackard & Neumark-Sztainer, 2002; Champion, Collins, Reyes, & Rivera, 2009; Chase, Treboux, & O'Leary, 2002; Exner-Cortens, Eckenrode, & Rothman, 2013; Rich, Gidycz, Warkentin, Loh, & Weiland, 2005). Social-cognitive models of depression generally suggest that negative interpersonal experiences and individuals' interpretations of these experiences can lead to depressive symptoms (Cicchetti & Schneider-Rosen, 1984; Rudolph & Hammen, 1999; Sroufe & Rutter, 1984). DV involvement is likely a stressful experience for adolescents and can understandably lead to negative interpretations about the self and/or relationships. Such interpretations can also contribute to feelings of depression. Sussex and Corcoran (2005) indicated that teen mothers in violent dating relationships reported higher levels of depression that were sustained even after relationship violence has ceased. Moreover, depression can serve as a precipitant to DV exposure. For instance, a 5-year longitudinal study in high schools found that girls with more days in depressive episodes were more likely to suffer later psychological and physical abuse victimization by boyfriends over the follow-up period (Rao, Hammen, & Daley, 1999). Although the contribution of prior DV experiences was not accounted for, the authors note that depression was likely both a contributor and an outcome of the relationship problems. In a prospective study of adolescent females, depressive symptomatology yielded an 86% greater likelihood of physical abuse victimization by an intimate partner 5 years later (Lehrer, Buka, Gortmaker, & Shrier, 2006). These findings remained significant when childhood physical and sexual abuse as well as prior DV experiences were controlled. Elevated depression among adolescent girls has also been found to predict violence perpetration toward their dating partners (Capaldi & Crosby, 1997; McCloskey & Lichter, 2003). Thus, adolescent girls' depression appears to be an important individual-level risk factor for DV perpetration, as well as both a risk and consequence of DV victimization. Because depression is episodic in nature, the presence and type of DV may relate to concurrent levels of depressive symptoms.

It is also possible for adolescents with a history of DV to have a history of deviant behaviors. Deviant behaviors can best be described as behaviors that can cause psychological and/or physical harm to adolescents' well-being (Vézina et al., 2011). According to problem-behavior theory (PBT), deviant behaviors may covary across domains and, therefore, should be regarded as a constellation of risk behaviors as opposed to being investigated as specific conduct problems perpetrated in a particular context (Jessor, 1991). From this perspective, it may be argued that DV perpetration, when not enacted as self-defense, is a type of aggressive delinquency that ought to be examined along with other forms of deviant behaviors (i.e., delinquent acts involving aggression). Past studies suggest that adolescents who perpetrate and/or are victimized by physical DV are likely to engage in various forms of aggressive delinquent behaviors ranging from carrying a weapon to perpetrating physical violence toward a peer (Brendgen et al., 2002; Chiodo et al., 2012; Ozer, Tschann, Pasch, & Flores, 2004; Simons, Lin, & Gordon, 1998; Vézina et al., 2011; Williams et al., 2008). In

addition, Williams and colleagues (2008) indicated that adolescents who possess attitudes that are accepting of aggression may follow a “delinquency trajectory,” whereby aggressive behaviors in romantic relationships are ongoing and co-occur with aggressive behaviors in other contexts. Therefore, adolescent girls previously involved in an aggressive relationship are expected to report that they have engaged in aggressive forms of delinquency as well. It is also examined whether the type of DV experienced in a recent or ongoing relationship is related to active delinquent behaviors.

Relational Characteristics

Findings from the CDC (2008) reveal that female victims of intimate partner violence have a threefold increased risk of HIV or sexually transmitted infections (STIs). Previous studies of intimate partner violence among adults have found a significant association between violence victimization and exposure to sexual risk behavior (Alleyne, Coleman-Cowger, Crown, Gibbons, & Vines, 2011; Eby, Campbell, Sullivan, & Davidson, 1995; Wingood & DiClemente, 2000). Emerging research has also revealed a significant relation between DV and sexual risk behaviors in adolescence (see Teitelman, Dichter, Cederbaum, & Campbell, 2007, for a review). Among adolescent girls, DV contributes to several HIV sexual risk behaviors including unprotected sex, having multiple partners, and alcohol use prior to sexual encounters (Roberts, Auinger, & Klein, 2005; Silverman et al., 2001; Wingood, DiClemente, McCree, Harrington, & Davies, 2001). A number of investigators have found physical DV to be associated with the failure to use a condom during the most recent sex (Wingood et al., 2001), as well as inconsistent condom use (Roberts et al., 2005). In one investigation, verbal abuse was found associated with decreased condom use (Silverman et al., 2001). Silverman and colleagues also found physical DV victimization to be associated with an increased risk of pregnancy and younger age of first intercourse. The link between DV exposure and sexual risk behavior has important health implications for adolescents, particularly females; one in four sexually active adolescent females have an STI, such as chlamydia or human papillomavirus (HPV; Forhan et al., 2009). The disproportionately high rates of STIs among adolescent girls are important because the presence of these infections is known to facilitate HIV transmission. Despite the public health significance of these associations, relatively little is known about the sexual knowledge and attitudes of DV-exposed girls. Studies of other high-risk groups of adolescents have found relatively low levels of HIV knowledge coupled with low self-efficacy to negotiate condom use with their dating partner (J. L. Brown et al., 2014; Wingood et al., 2001). Thus, a goal of the current study is to characterize rates of sexual activity, unprotected sex, HIV knowledge, and self-efficacy for condom use among this selected sample of DV-exposed girls, and to determine whether sex-related attitudes, knowledge, and behavior relate to DV experiences.

Like sexual behavior, relationship structure is another important characteristic of dating partnerships that may be different for DV-exposed girls and link with recent or ongoing DV experiences. Given the typical short length of adolescent romantic relationships (Carver, Joyner, & Udry, 2003; Connolly & McIsaac, 2009), it is critical to understand the influence of change in dating partner on adolescent DV. If the relationship is violent, a longer partnership may lead to a continuation of DV, and may even increase the likelihood of more severe violence due to an increased opportunity for such behaviors to take place. Also, the

abuse and controlling behaviors (i.e., psychological abuse) when unaccompanied by physical or sexual violence may be qualitatively different than concurrent psychological, physical, and sexual abuse (Jouriles, Garrido, Rosenfield, & McDonald, 2009; Silverman et al., 2001). Indeed, these forms of DV are associated with their own set of negative psychosocial outcomes (Holt & Espelage, 2005; Lawrence, Yoon, Langer, & Ro, 2009; Silverman et al., 2001). We, therefore, examined relationships with psychological and physical/sexual abuse separately. Finally, analyses were compared across race and socioeconomic status (SES), given that some studies have found minority adolescents and adolescents from lower SES backgrounds more likely to be involved in an aggressive relationship (Aldarondo & Sugarman, 1996; Caetano, Field, Ramisetty-Mikler, & McGrath, 2005; Holt & Espelage, 2005; O'Keefe, 1998).

Method

Participants and Procedures

Data were collected as part of a randomized controlled trial designed to evaluate the efficacy of an intervention to reduce DV and sexual risk behaviors among adolescents with histories of physical DV perpetration and/or victimization (Project Date Skills to Manage Aggression in Relationships for Teens (SMART)). Although the participants were followed over time, only the baseline data were used for the current study.

Female high school students ($n = 655$) were approached during their health and physical education classes. Teens were given a presentation regarding the study and were provided with parental consent forms that gave permission to complete a screening questionnaire at school. Confidential drop boxes were placed in the high schools for students to return completed consent forms. Students were compensated US\$5 for returning the consent forms, regardless of their parent's decision regarding participation. Participants who returned parental consent forms indicating permission to be screened were assessed for lifetime physical abuse perpetration and victimization utilizing items from the CADRI (Wolfe et al., 2001) to determine eligibility. Youth who screened positive for a history of physical DV perpetration and/or victimization were contacted by phone and offered the opportunity to enroll in the study. Parental consent for participation in the full study, separate from the screening consent, was obtained once the teen expressed interest in participating. Once informed consent was obtained, participants completed a survey, administered using audio computer-assisted structured interviews (ACASI) on laptop computers. The teen assessment also included a TLFB interview with a trained research assistant to track DV and sexual behavior. Teens received US\$20 for completing the assessment.

The self-report surveys administered did not gather adequate information to establish whether or not any participant was at imminent risk of life-threatening DV; however, all families were aware that if any teen spontaneously shared information during the assessment interviews or group sessions, which indicated that the teen was at imminent risk of life-threatening DV (e.g., threat made on their life), that information would be immediately shared with the teen's parent or guardian. This procedure was explained in full to families prior to obtaining their consent to participate. Furthermore, this study was approved by the affiliated hospital institutional review board.

The participants include female high school students (ages 14–17) enrolled in five public high schools in the urban areas surrounding Providence, Rhode Island. The average age of participants at baseline was 15.75 years ($SD = 0.94$ years). During the 3-year recruitment period, 358 girls were screened for a history of physical DV perpetration or victimization. Of those, 144 were found eligible to participate in the study based on their history of physical DV perpetration and/or victimization and 109 ultimately participated. Self-reported ethnicity and race among the sample was 50% Hispanic, 35% African American, 22% White, 8% American Indian, and 3% Asian; participants were able to endorse multiple options for race and ethnicity. Regarding family structure, 96% reported having a mother figure at home and 62% reported having a father figure at home. Participants reported on their eligibility for free or reduced-price school lunch, which was examined as a measure of SES; 81% reported that they currently qualified for free or reduced-price lunch (see Table 1).

Measures

The screening survey gathered data on lifetime experiences. The Beck Depression Inventory–II (BDI-II) assessed the past 2 weeks; all other measures assessed solely the past 90 days.

Screening

CADRI—The CADRI (Wolfe et al., 2001) is a 35-item measure completed by teens in reference to actual conflict or disagreement with a current or recent dating partner. It assesses abuse perpetration and victimization. Each question is asked twice, first in relation to perpetration, then in relation to victimization. The CADRI has strong internal consistency (total $\alpha = .83$) and 2-week test–retest reliability, $r = .68$, $p < .01$ (Wolfe et al., 2001), as well as acceptable partner agreement ($r = .64$, $p < .01$) on the basis of 35 couples (Wolfe et al., 2003). At screening, the CADRI was utilized to assess lifetime physical DV perpetration and victimization.

Individual characteristics

Acceptance of Couple Violence (ACV) Questionnaire—This questionnaire was developed to assess beliefs and attitudes about couple violence among adolescents and has been validated in longitudinal studies of adolescent DV behavior (Foshee, Fothergill, & Stuart, 1992). Participants rated how much they agree with a series of statements about DV on a scale from 1 (*strongly disagree*) to 4 (*strongly agree*), with higher scores indicating greater ACV. A mean ACV score for acceptance of general DV was computed for each participant by averaging across the 11 items. Internal consistency for this measure was excellent (Cronbach's $\alpha = .90$).

The BDI-II—The BDI-II (Beck, Steer, & Brown, 1996) is a 27-item self-report instrument intended to assess the existence and severity of symptoms of depression during the past 2 weeks, according to the American Psychiatric Association's (1994) *Diagnostic and Statistical Manual of Mental Disorders–Fourth Edition (DSM-IV)*. The BDI-II has shown excellent internal consistency ($\alpha = .93$ for the college students) and validity. In the present study, scores on each BDI item were summed to create a total score.

Shortened Peer Delinquency Scale (SPDS)—The SPDS (Moffitt & Silva, 1988) is a self-report questionnaire that includes 16 items covering a range of deviant acts (e.g., running away, stealing). Participants were asked to rate the frequency of their engagement in each deviant act in the past 3 months on a scale of 0 (never), 1 (once or twice), or 2 (three or more times). Internal consistency is good ($\alpha = .86$; Moffitt & Silva, 1988). In the present study, we computed a count for number of aggressive delinquent behaviors endorsed by each participant from the following five items: getting in a physical fight, beating someone up, bringing a knife or razor to school, bringing a gun to school, and bringing a bat or stick to school to use as a weapon.

Relationship characteristics—For all surveys gathering information on romantic partners, the term *partner* was defined broadly as “a boyfriend/girlfriend, sexual partner, or someone you are going out with. You could be committed to this person (dating only them) or you could be in an open relationship where you are dating other people.”

Recent/ongoing DV—Psychological, physical, and sexual DV perpetration and victimization questions from the CADRI (Wolfe et al., 2001) were administered. Participants were asked to answer each question for each of up to three separate partners (identified by their initials) over the past 90 days. The partner-specific DV data were then used to categorize participant’s romantic relationships based on the type of violence: *nonviolent* (no perpetration or victimization items were endorsed), *psychologically violent* (emotional violence and controlling behaviors were reported but not physical or sexual violence), and *physically/sexually violent* (relationships involved physical and/or sexual violence).

Timeline Followback–Dating Violence (TLFB-DV)—The TLFB-DV is a semistructured calendar-based interview method for assessing recent relationship violence. The interview was adapted for this project based on the TLFB–Spousal Violence version developed by Fals-Stewart and colleagues (2003). The TLFB-DV was administered by a trained research staff member. Participants were asked to retrospectively describe their recent DV and sex history over the past 90 days. Fals-Stewart et al. (2003) reported excellent test–retest reliability (intraclass correlations = .91–1.0) and evidence for both concurrent and discriminant validity.

For the current study, the TLFB was used to measure the number of days each participant was engaged in a romantic relationship during the 90 days prior to the baseline assessment. Each partner was identified by initials so that the exact number of days with that partner could be summed. In addition, specific dates for *breakups* with a specific partner, *initiation* of a relationship with a new partner, *concurrent* relationships with multiple partners, and *reinitiation* of a relationship with a previous partner were gathered. Using these dates, we derived the length of each participant’s relationship with each partner and the duration and number of breakups in each relationship during the 90-day TLFB window.

The Adolescent Risk Behavior Assessment (ARBA)—The ARBA (Donenberg, Emerson, Bryant, Wilson, & Weber-Shifrin, 2001) is a reliable and valid computer-assisted survey assessing self-reported behaviors associated with HIV infection. The measure was adapted to assess dating and sexual behaviors for up to three separate partners in the past 3

months (using partner initials to link these data with our other partner-specific measures, the CADRI and TLFB). Sexual risk questions ask about type of sexual behavior (i.e., anal, oral, vaginal), frequency of sex, age of sexual debut, number of partners, and condom use. A romantic relationship breakup question developed for this study asks about the presence of a breakup with each partner.

HIV Knowledge—This scale was developed to assess adolescents' knowledge about HIV and AIDS using 23 true/false items (L. K. Brown, DiClemente, & Beausoleil, 1992). A total HIV knowledge score was computed for each participant by summing the number of correct items. Higher scores indicate greater HIV knowledge. Internal consistency for the HIV Knowledge Scale in this sample was acceptable (Cronbach's $\alpha = .71$).

Partner-Related Condom Self-Efficacy—This 13-item measure was derived from a longer scale of condom self-efficacy attitudes and has been used in previous HIV prevention projects to assess self-confidence in condom use (e.g., could you use a condom if your partner did not want to; L. K. Brown, Lourie, Zlotnick, & Cohn, 2000; Lescano, Brown, Miller, & Puster, 2007). Participants rated how sure they were that they could use a condom in each situation on a scale from 1 (*very sure*) to 4 (*couldn't do it*). A mean condom self-efficacy score was computed for each participant by averaging across the 13 items. Internal consistency for this scale in the present sample was excellent (Cronbach's $\alpha = .93$).

Analysis Plan

Bivariate relations between individual and relational characteristics with DV in the past 90 days were analyzed first, then differences in individual and relational characteristics by DV level were examined using ANOVA and chi-square analyses. We then utilized generalized linear models (GLMs) in SPSS 22.0 to examine the collective relationship between these variables to acute DV level in our selected sample of DV-exposed girls.

Results

Individual Characteristics

Acceptance of DV—Interestingly, accepting attitudes regarding DV were low. Participants tended to *strongly disagree* or *disagree* with most examples of DV on the ACV scale ($M = 1.46$, $SD = 0.50$). Acceptance of DV did not differ by DV type (see Table 2).

Depression—A sizable percentage of participants (29%) had BDI-II depressive symptom scores in the moderate to severe range (> 20). Depression did not differ by DV type.

Delinquency—Rates of delinquent behaviors involving aggression were as follows: 17% had a physical fight with a peer and 12% have carried a weapon. Delinquency did not differ by DV type.

Relational Characteristics

DV—At study entry, 67% ($n = 73$) of participants enrolled in the study due to their lifetime history of DV were involved in a romantic relationship in the past 3 months. Those

participants reported on 87 romantic relationships during the study period. The majority of relationships were classified as physically violent (53%), with 36% classified as psychologically violent and 12% having no reported emotional, controlling, physical, or sexual DV in the past 90 days (see Table 3). For each form of DV, perpetration and victimization experiences were correlated (Pearson $r_s = .20-.67$, all $p_s < .10$), suggesting mutual aggression.

Sexual knowledge, attitudes, and behavior—One study goal was to characterize rates of sexual activity, unprotected sex, HIV knowledge, and self-efficacy for condom use within our sample of DV-exposed girls. During the past 3 months, 44% of the participants reported having had vaginal sex in their lifetime, and of those, 35% reported not using a condom at last sex. The average participant rated her self-efficacy for condom use in sexual situations as between “very sure” and “sure” ($M = 1.87$, $SD = 0.85$). HIV knowledge was low, with participants getting only half of the questions correct, on average ($M = 12.03$, $SD = 3.53$). Sexual activity, unprotected sex, and self-efficacy for condom use did not differ by the type of DV. However, HIV knowledge did differ by DV type: Participants in relationships characterized by psychological violence had the lowest rates of HIV knowledge ($M = 10.00$), followed by participants in physically and/or sexually violent relationships ($M = 13.57$), whereas participants in nonviolent relationships had the highest levels of HIV knowledge ($M = 14.05$). Post hoc Tukey tests showed that participants whose relationships were psychologically violent had significantly lower HIV knowledge scores than participants whose relationships were nonviolent ($p < .01$) or physically/sexually violent ($p < .01$).

Relationship length and concurrency—The TLF method was used to calculate relationship length in days for each participant, as well as to record breakups and the presence of concurrent partners. Among participants reporting active dating in the past 90 days, 12% of the participants reported breaking up with and subsequently repartnering with their current partner at least once within the 90-day study period, ($M = 0.26$ breakups per participant, $SD = 0.94$). Seven percent of the participants reported two or more concurrent partners during the past 3 months. Among these 10 concurrent relationships, three were nonviolent, one psychologically violent, and five were physically/sexually violent. However, concurrent partnerships did not differ from independent relationships based on the type of DV, $\chi^2(2) = 5.87$, $p > .05$.

GLMs

Depression and delinquency—We examined the relationship between depressive symptoms and delinquency with DV. Given the link between relationship length and DV, we controlled for relationship length in this analysis. We also controlled for the inclusion of multiple relationships per participant with a dummy variable indicating whether or not a participant had multiple relationships included in the analysis. We employed GLM analysis using a multinomial distribution with cumulative logistic link function. The model form provided a good fit to the data, Pearson $\chi^2(63) = 71.58$, value/df = 1.14, and the omnibus test of the model coefficients was marginally significant, likelihood ratio $\chi^2(5) = 9.95$, $p < .10$. Parameter estimates indicated that BDI depression score was positively associated with

DV, $\beta = .09$, Wald $\chi^2(1) = 4.14$, $p < .05$. The odds ratio (OR) for BDI score was 1.10, 95% CI = [1.00, 1.20]. Delinquency was not positively associated with DV, $\beta = .68$, Wald $\chi^2(1) = 1.25$, $p > .05$; OR = 1.98 [0.60, 6.58].

Sexual knowledge, attitudes, and behavior—To examine links between sex-related knowledge, attitudes, and behaviors with DV, we conducted GLM analyses, again controlling for multiple relationships and relationship length, using a Poisson distribution with log link function for dichotomous variables (condom use at last sex and lifetime history of sexual activity) and a normal distribution with identity link for continuous variables (condom use self-efficacy and HIV knowledge). DV was not significantly associated with condom use at last sex, lifetime history of sexual activity, or condom use self-efficacy for relationships that began in the 90-day study window, all $ps > .05$. DV was significantly associated with HIV knowledge, $\beta = .40$, Wald $\chi^2(2) = 24.16$, $p < .05$.

Relationship length and concurrency—Figure 1 graphically depicts the length of romantic relationship reported by participants during the past 90 days. These relationships are clustered by DV type. As observed in Figure 1, some of the relationships described by our participants preceded the 90-day assessment period (depicted by arrows). For these relationships, we did not have a precise count of the number of days the couple was together. Thus, we were left with 35 relationships that were fully observed within the assessment time frame (i.e., relationships were initiated during the 90-day assessment window; see Figure 1).

We used GLMs in SPSS 22.0 to compare differences in relationship length based on DV type ($N = 35$). We used a GLM for continuous outcomes with a normal distribution and identity link, controlling for the inclusion of multiple relationships per participant with a dummy variable indicating whether or not a participant had multiple relationships included in the analysis. Among relationships that began during the 90-day study period, more physical/sexual violence was associated with longer relationship length, Wald $\chi^2(2) = 1,142.63$, $p < .001$.

Race, Ethnicity, and SES

Descriptive statistics are presented in Table 3. Results on the primary variables of interest were compared for (a) participants who identified their race as White and students who did not, (b) participants who identified their race as Black and students who did not, (c) participants who identified their ethnicity as Hispanic versus those who did not, and (d) students who did and did not qualify for free or reduced-price school lunch as a measure of SES. Participants' relationships did not differ in terms of length or DV type based on their race, ethnicity, or SES. There were no individual differences between White and non-White participants or between students who did and did not qualify for reduced lunch. Black students were more likely than non-Black students to have dated in the past 90 days, Pearson $\chi^2(1) = 4.57$, $p < .05$. Hispanic participants reported more HIV knowledge than non-Hispanic students, $t(106) = -2.19$, $p < .05$, and were more likely to have dated in the 3 months prior to the study, Pearson $\chi^2(1) = 8.07$, $p < .01$.

Discussion

These data indicate that a selected group of adolescent girls who report a lifetime history of abusive dating relationships present with a broad range of serious behavioral health concerns including clinically meaningful levels of depressive symptoms, serious delinquent behaviors involving aggression, and continued involvement in violent dating relationships.

Furthermore, the majority of our sample who reported dating relationships at the time of assessment were involved in violent relationships. This was despite the fact that the majority of our sample rated their acceptance of DV as relatively low. These findings highlight the disconnect between attitudes and behaviors that is often observed in behavioral research. Even more important is the recognition that interventions targeting attitudes alone are unlikely to be adequate for promoting behavior change in this population.

Although 44% of participants reported being sexually active and just above one third did not use a condom at last sex, these rates are comparable with national averages, which estimate that 46% of high school students are currently sexually active and 40% did not use a condom at last sex (Martinez, Copen, & Abma, 2011). Similarly, participant reports of sexual activity and unprotected sex did not differ based on the type of recent or ongoing DV experienced, and multivariate models adjusting for relationship length were not significant. These findings are surprising given research showing that female victims of physical DV are 2.8 times more likely to fear the perceived consequences of negotiating condom use than nonabused girls (Wingood et al., 2001). One possible explanation for our findings is that all participants had prior experience with physical DV and, thus, the dynamics of their non-violent relationships may mirror those of violent ones. Furthermore, given our sample size incidents of sexual coercion that would involve unprotected sex were infrequent.

Interestingly, participants rated themselves as having a high degree of self-efficacy regarding condom use with no differences based on recent or ongoing DV experiences; however, they also lacked knowledge regarding HIV. The combination of high self-efficacy with a lack of understanding regarding HIV and its transmission may put DV-exposed girls at particular risk of HIV and other STIs. In addition, participants with recent DV experiences had even less knowledge about HIV than those in nonviolent relationships. Unlike attitudes and behaviors, knowledge about HIV is most likely acquired through school-based health classes or through conversations with a physician regarding contraception or pregnancy. Individuals with acute DV experiences may have more difficulty accessing this type of information due to the impact of their stressful relationship on recall of factual information. Given these findings, combining efforts to strengthen the knowledge, attitudes, and skills involved in safe sex behavior along with the relevant risk factors for DV may become a best practice in the future.

Another interesting finding relates to the significant association between depression and DV, over and above aggressive delinquency and the length of time in a violent relationship. Depression has been one of the most frequently cited risk factors for DV among adolescent girls (Exner-Cortens et al., 2013) and predicts continued DV and other future health risks. Depressive symptoms are in many ways an ideal target for DV prevention efforts because evidence-based approaches are available for symptom reduction that are well established

from years of adolescent mental health research. Cognitive-behavioral approaches target the thoughts, feelings, and behaviors that underlie depressive symptoms. Future studies should examine whether depression treatment alone can have a positive impact on DV, as well as whether depressive symptom reduction, in conjunction with traditional DV prevention content, is an effective secondary prevention strategy for affected young women.

As predicted, rates of delinquent acts involving aggression such as carrying a weapon and engaging in fights exceeded expected rates, as less than 10% of adolescent girls present with conduct disorder symptoms (Sholevar & Sholevar, 1995) and even fewer (2%–3%) present with serious delinquency. These findings are consistent with research linking delinquency with non-physical forms of DV such as cyber dating abuse. For example, Zweig and colleagues (Zweig, Lachman, Yahner, & Dank, 2014) found significant associations between adolescent cyber dating abuse and committing a greater number of delinquent behaviors (Zweig et al., 2014). Although aggressive delinquency was not significantly associated with the type of recent or ongoing DV in our sample, the elevated rates among those with a history of physical DV suggests that it may be beneficial to target both issues in preventive intervention programs for this population. A future study that captures additional details regarding delinquency severity could determine whether increased severity of delinquency is associated with increased severity of DV.

Although some studies have identified differences in rates of DV and associations with individual risk factors based on race, ethnicity, and SES, we did not observe these differences in our sample. As with incidents of forced sex, we were underpowered to fully explore these factors. Future research into the contribution of sociodemographic variables is warranted.

One innovative aspect of this study was the use of a TLFB calendar method to obtain relationship data from participants. This method of exploring DV was found to be essential for characterizing the duration of romantic partnerships in our study. The methodology allows researchers to capture the presence, frequency, and duration of each dating partnerships, as well as the frequency of breakups and repartnering with the same or different partner. We found that when relationship length was measured, longer relationships were associated with more physical/sexual DV. Indeed most research on the length of violent relationships suggests a positive link between relationship length and the likelihood of physical violence (Giordano et al., 2010). These findings are important for a number of reasons. First, Ackard, Neumark-Sztainer, and Hannan (2003) found that 50% of girls and boys reporting both physical and sexual DV reported staying in relationships out of fear of physical harm. It is possible that violent relationships are of longer duration due to this fear of breakup. It is also possible that longer relationships simply provide more opportunities for violence to develop (Giles-Sims, 1983). In our sample, the small number of participants who initiated a breakup, got back together with that same partner soon after. This suggests that it may be difficult for this population of DV-exposed girls to fully disengage from romantic relationships that are troublesome.

There are several important limitations to this study. The cross-sectional nature of the survey data makes it difficult to draw conclusions regarding causal relationships. However details

from the TLFB interview allowed us to examine some temporal features of the data. In addition, our selected sample of DV-exposed adolescent girls was relatively small. Only a subset of those participants were involved in dating relationships over the assessment period (past 90 days), which further limited the number of observed relationships and, thus, the power to test our hypotheses. However, a strength of the study was the ethnic/racial heterogeneity of our sample as well as the representation of economically disadvantaged youth. Future studies would benefit from an examination of both DV frequency and type to better understand structure and impact of these behaviors.

This study is the first to focus on the individual and relationship characteristics, as well as recent DV experiences, of adolescent girls with histories of physical DV. Given that our study participants are at elevated risk of future violence due to their DV histories, the current study serves as a crucial first step in identifying important targets for intervention. Specifically, our data suggest that interventions for DV-exposed girls should address depressive symptoms as a primary treatment target. Given that aggressive delinquency and sexual risk behavior are related ongoing risks in this population, interventions should further address the underlying mechanisms that link these problem behaviors with DV. Finally, our findings inform assessment practices in research of DV behaviors. Future studies should capitalize on the TLFB method for gathering DV data. The rich information provided may elevate our understanding of relationship processes that confer risk or protection beyond individual factors.

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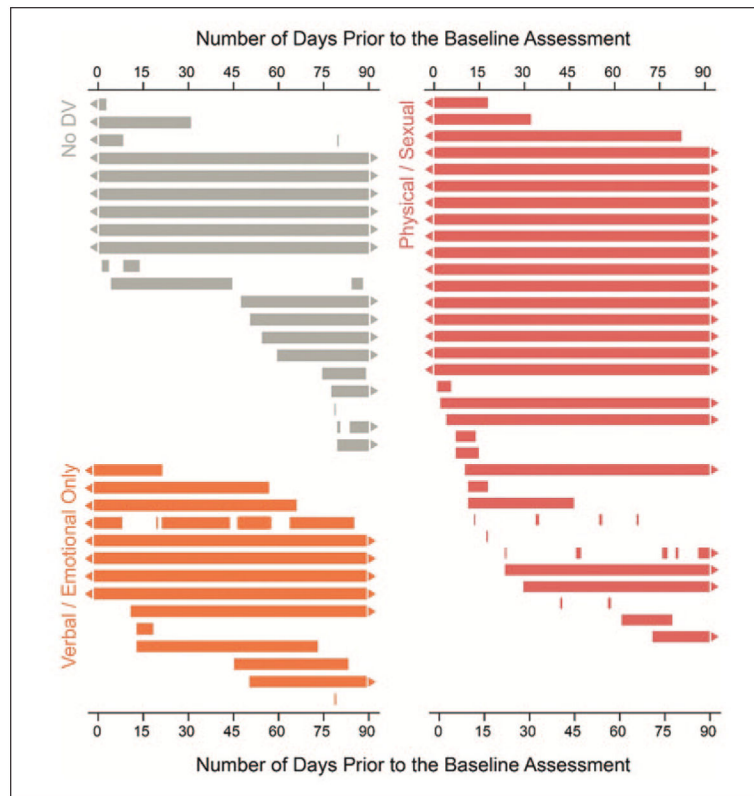


Figure 1. Number of days in a romantic relationship by DV type (perpetration and/or victimization).
Note. DV = dating violence.

Table 1

Unadjusted Descriptive Statistics.

	<i>n</i> (%) <i>M</i> (<i>SD</i>)	Scale Range
Race		
American Indian or Alaskan Native	9 (8%)	
Asian	3 (3%)	
Black	38 (35%)	
White	24 (22%)	
Other race	50 (46%)	
Ethnicity (% Hispanic)	54 (50%)	
Age	15.75 (0.94)	15–18
Free or reduced-price lunch	88 (81%)	
Mother figure at home	105 (96%)	
Father figure at home	67 (62%)	
Had vaginal sex	48 (44%)	
Used condom at last sex	31 (65%)	
Acceptance of couple violence	1.46 (0.50)	
Partner-related condom self-efficacy	1.87 (0.85)	1–4
HIV knowledge	12.03 (3.53)	1–5
Beck Depression Inventory–II	16.75 (11.33)	1–4
Delinquency	96 (89%)	

Table 2

Relationship Characteristics.

	<i>n</i> (%)
Dating violence	
None	10 (12)
Psychological	31 (36)
Physical/sexual	46 (53)
Relationship length	
<30 days	23 (34)
30–59 days	11 (16)
60–89 days	10 (15)
90+ days	24 (35)
No. of relationships with breakups/re-partnerships	8 (12)
No. of participants with concurrent partnerships	8 (7)

Note. $n = 87$ relationships among 109 participants; $n = 68$ had valid relationship length data, and $n = 36$ were observed to begin during the 90-day study period.

Table 3

Differences in Individual and Relational Characteristics by Type of DV.

	No DV		Psychological DV		Physical/Sexual DV		F(df)/ χ^2 (df)	Tukey's HSD
	n (%)	M (SD)	n (%)	M (SD)	n (%)	M (SD)		
Acceptance of couple violence	1.38	(0.42)	1.35	(0.45)	1.45	(0.44)	0.48	
Beck Depression Inventory-II	14.14	(10.43)	12.85	(7.69)	18.73	(11.51)	2.71	
Delinquency	0.14	(0.38)	0.31	(0.74)	0.57	(0.77)	1.57	
Ever had vaginal sex	5	(71%)	13	(52%)	18	(50%)	1.09	(2)
Used condom at last sex	4	(80%)	11	(73%)	10	(53%)	2.19	(2)
HIV knowledge	14.57	(2.07)	10.00	(4.19)	13.05	(2.77)	8.65	***
Partner-related condom self-efficacy	1.85	(1.04)	2.08	(0.94)	1.73	(0.80)	1.25	1 > 2***, 2 < 3**

Note. DV = dating violence; HSD = honest significant difference.

** $p < .01$.

*** $p < .001$.