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Perpetration of Adolescent Dating Relationship Abuse: The Role of Conditional Tolerance for Violence and Friendship Factors

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Abstract

Research has pointed to the salience of friendships in predicting abuse in adolescent dating relationships. The current study investigates the perpetration of physical and sexual dating abuse as predicted by individual conditional tolerance for dating abuse within the context of friendship behaviors and group characteristics. Using two waves of the National Survey of Teen Relationships and Intimate Violence (STRiV; $N = 511$ daters aged 12-18 years), we investigated the effects of baseline individual tolerance for hitting dating partners and friendship factors on perpetration of physical and sexual adolescent dating abuse (ADA) approximately 1 year later. Conditional tolerance for hitting boyfriends was associated with ADA perpetration in the absence of friendship characteristics. Daters who reported recent discussion of a problem with friends and female daters who named all-girl friendship groups were more likely to report ADA perpetration. Close friendships are an avenue for preventing ADA perpetration. Furthermore, ADA perpetration may be reduced by targeting conditional tolerance for violence particularly against male partners within female friendship groups.

Keywords

adolescent dating abuse; attitudes; peer effects; Survey of Teen Relationships and Intimate Violence (STRiV)

Introduction

Abusive behavior in adolescent dating relationships is widespread, distinguished primarily by age, and, depending on the measures and assessment of victimization versus perpetration, occurring at similar rates among boys and girls (Hamby & Turner, 2013; Taylor & Mumford, 2016). As of 2014, drawing on the National Survey of Teen Relationships and Intimate Violence (STRiV; Taylor & Mumford, 2016), two thirds of U.S. adolescents in a

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Authors' Note

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current- or past-year dating relationship experienced psychological victimization, and nearly as many admitted to perpetrating the same. One in five reported physical and/or sexual victimization, whereas one in eight adolescents reported perpetrating physical and/or sexual violence in a dating relationship. These rates are consistent with local and regional studies that fielded detailed measures of adolescent dating abuse (ADA), also termed *teen dating violence* (Manganello, 2008). Beyond the direct effects incurred during incidences of perpetration or victimization, ADA is associated with mental health disorders, risky sexual behavior, eating disorders, substance use, poor academic outcomes, and adult intimate partner violence (IPV; Banyard & Cross, 2008; Exner-Cortens, Eckenrode, & Rothman, 2013). The broad prevalence of ADA as well as the extent of direct and indirect consequences impels further prevention research. Specifically, we still know too little for effective prevention design about the implications of attitudes condoning abuse in dating relationships in the context of the characteristics of close friendship behaviors and group structures as they relate to ADA perpetration.

Theories of adolescent developmental processes concur that adolescent development and behavioral patterns occur in the context of social interaction. Of the multiple components of the adolescent social context examined to understand violence in dating relationships, peer factors have been a central area of investigation (Vagi et al., 2013). The most commonly examined factor is that of peers' own behavior and experiences, with considerable empirical support for social learning theory (Bandura, 1977) and direct implications for the nature of dating relationships and potential dating abuse (Exner-Cortens, 2014). For example, bullying behavior, a correlate of abuse in dating relationships (Debnam, Waasdorp, & Bradshaw, 2016) and a predictor of dating abuse (Cutbush, Williams, & Miller, 2016; Foshee et al., 2014; Pepler et al., 2006), is bolstered by peer assistants and reinforcers, despite the proven potential deterrence of peer defenders (Salmivalli, 2010). Perceptions of friends' physical abuse of peers have been associated with both boys' and girls' victimization in dating relationships as well as perpetration of dating abuse (Arriaga & Foshee, 2004; Ellis, Chung-Hall, & Dumas, 2013). Support for a significant positive association between peers' aggressive behaviors and dating violence perpetration also comes from a recent meta-analysis of dating violence studies (Garthe, Sullivan, & McDaniel, 2016). Thus, although not all studies find an association (Foshee et al., 2015), the weight of evidence in local samples has indicated that peer aggressive behaviors play a role in ADA perpetration.

However, there has been limited peer research that integrates different facets of peer context. In addition to social learning effects, attachment theory (Hazan & Shaver, 1994) and empirical evidence suggest that friendships offer additional critical input to adolescent dating experiences through the quality and closeness of the relationship (Miller & Hoicowitz, 2004). Adolescent connectedness with friends—significantly stronger for girls than boys (Gorrese & Ruggieri, 2012)—reflects both the relational aspects of bonding with peers and the autonomy that comes through validation by peers (Barber & Schluterman, 2008). Accordingly, better friendship quality and closeness have been found to be protective against subsequent bullying perpetration in adolescence, which the authors suggest may indicate the transmission of norms as well as friends' contributions to psychosocial well-being (Kendrick, Jutengren, & Stattin, 2012). Linder and Collins (2005) have also found that friendship quality—inclusive of the degree of comfort with disclosure was inversely related

to young adult IPV perpetration and victimization. However, although disclosing personal information to friends can be supportive of the relationship and may validate individual views (Reis & Shaver, 1988), this intimacy need not be based on positive interactions. Closeness and sharing within a friendship may also reflect a greater level of aggressive or delinquent behavior serving as fodder for adolescent conversations (Giordano, Cernkovich, & Pugh, 1986). Furthermore, greater sharing of problems can lead to co-rumination, or excessive dwelling on problems to the detriment of healthy coping strategies (Rose, 2002), which has been positively associated with teens' romantic experiences (flirting, dating, kissing) as well as internalizing behaviors (Starr & Davila, 2009). Despite the potential insights to the quality of the dating relationship and the degree of friends' potential support, to our knowledge, there has been no investigation of a direct link between shared confidences within friendships and ADA outcomes. Moreover, shared confidences may also relate to the structure of an adolescent's group of friends, to those friends' own behavior, and to one's personal attitudes about violence in dating relationships. Whether adolescents discuss their problems with their friends has not been investigated within this broader peer context.

It is important not to overstate the role of peer influences and to examine other inputs to ADA behaviors, as illustrated in Bell and Naugle's (2008) model of relationship violence perpetration. Although individual attitudes including dating violence attitudes (Taylor, Sullivan, & Farrell, 2015) are formed in the context of social norms, individuals have a range of different experiences across various contexts. Thus, individual attitudes are not limited to those influenced by peer effects. Subsequently, personal attitudes and agency may result in individual behavior that does not directly mimic the behaviors of peers, including the potential for variation in attitudes according to situational norms and gender differences in interpretation of norms and motivations (Leen et al., 2013). Understanding the role of individual attitudes in the context of peer behaviors better reflects the complexity of conceptual models of abusive behaviors. Empirical studies have shown an association between adolescents' personal beliefs that dating violence is understandable in light of specific circumstances (referred to as conditional tolerance) and dating violence (Taylor et al., 2015; Temple, Shorey, Tortolero, Wolfe, & Stuart, 2013), with distinctions by gender (O'Keefe, 1997; Reeves & Orpinas, 2012; Simon, Miller, Gorman-Smith, Orpinas, & Sullivan, 2010) and age (Orpinas, Hsieh, Song, Holland, & Nahapetyan, 2013). Overall, however, few studies collect data on conditional tolerance for dating violence, and none of these studies have examined personal attitudes about dating violence within the broader context of friends' own behavior and the social interaction between friends that may include personal disclosures and sharing problems.

In sum, there are multiple gaps in our understanding of the relationship between ADA perpetration and friends' violence, closeness to friends, and personal attitudes condoning violence. This study advances the field by using a nationally representative sample to address gaps in terms of the hypothesized relationships between friends' characteristics and dating abuse by distinguishing gender-specific effects on ADA perpetration. We hypothesized, first, that adolescent tolerance for hitting a dating partner under selected conditions would predict ADA perpetration, consistent with the theory of planned behavior (Ajzen, 1991) and empirical research (Leen et al., 2013). However, although individuals

have agency in both their attitudes and behaviors, theory and empirical data show that this agency is formed within their social context. Thus, our second hypothesis was that perceptions of close friends' perpetrating violence against their peers would also predict the respondent's own perpetration of dating abuse. Third, despite some evidence of adolescent conversations drawing on peers' delinquent behavior, we also expected that, overall, social bonding and support would mitigate attitudes tolerating dating abuse and the perceived violence perpetrated by friends. Specifically, we expected that reports of talking to friends about current problems would be protective from ADA perpetration.

Method

Sample

Data are from the nationally representative STRiV (Taylor & Mumford, 2016). The design and protocols for the STRiV study were approved by the institutional review board (IRB) of NORC at the University of Chicago. The baseline wave (Wave 1) was conducted from October 2013 to January 2014. Adolescents aged 10 to 18 years and a parent or adult/caregiver were recruited from the GfK/KnowledgePanel, a national household probability sample of the United States (50,000+ members aged 18 years and above). Sampled KnowledgePanel members were surveyed through an online portal and offered an incentive worth US\$20 for survey completion. The baseline STRiV sample was re-contacted 1 year later for a follow-up survey (Wave 2), conducted from October 2014 to April 2015. Our sample includes respondents who were 12 to 18 years old at Wave 1 and reported at Wave 2 that they were currently in a dating relationship or had been in a dating relationship that had lasted at least a week within the past year ($N = 511$).

Measures

ADA perpetration.—Outcomes were measured at both Wave 1 and Wave 2 using a modified version of the Conflict in Adolescent Dating Relationships Inventory (CADRI; Wolfe et al., 2001). Respondents reported whether the aggressive behaviors occurred within the past year in one specific relationship (their current or most recent dating relationship). The self-report scale includes 13 measures of overt and covert forms of physical and sexual abuse perpetrated within the specified dating relationship (Cronbach's $\alpha = .91$). Respondents reporting any physical or sexual ADA perpetration were coded 1, whereas those respondents who did not endorse any of the items were coded 0 based on their own behavior within the specified dating relationship.

Attitudes.—STRiV Wave 1 measures of *conditional tolerance* for ADA were based on four hypothetical situations in which respondents would “think it was OK for someone to hit” a boyfriend or, separately, a girlfriend. Response categories were a 4-point scale (*strongly agree*, *agree*, *disagree*, or *strongly disagree*). Scenarios included the boy/girlfriend making someone mad, insulting someone in front of friends, making someone jealous on purpose, cheating, or hitting the partner first. Separate indicators of tolerance for violence against a boyfriend (Cronbach's $\alpha = .89$) or a girlfriend (Cronbach's $\alpha = .92$) were coded for any conditional tolerance (1) and no tolerance (0).

Friendship group structural and behavioral characteristics.—Descriptors of the respondents' friendships were captured at Wave 1. STRiV respondents were asked to nominate up to five of their "best" friends, excluding their partner if they were dating. An indicator of *friend connectedness* captures whether the respondent talked with each named friend about a problem in the past 7 days (coded 1 = discussed problem with some or all friends; 0 = did not discuss problem with any nominated friends). Respondents reported their perception of each *friend's perpetration of peer violence*, in response to the question "Has [friend] ever hit, slapped, or physically hurt other kids on purpose?" An indicator of friends' perpetration of peer violence distinguished perceptions that some or all friends perpetrated violence (coded 1) or that no friends had perpetrated peer violence (0).

Structural characteristics of friendship groups are also included as measures known to be relevant to relationship quality and abusive outcomes. Navigating friendships with both genders supports the development of relationship skills and provides additional social support (Collins, Welsh, & Furman, 2009), and there is some evidence of risk for IPV perpetration by young men associated with all-male friendship groups in adolescence (Capaldi, Dishion, Stoolmiller, & Yoerger, 2001; Casey & Beadnell, 2010). *Gender-homogeneous friend group* distinguished same gender friendship groups (coded 1; where all but two girls and four boys reported friends matching their own reported gender) from mixed gender groups (0). The *number of friends nominated* and the absolute value of the *age difference* between respondents and their nominated friends' mean age are continuous variables.

Sociodemographics.—Additional Wave 1 covariates known to correlate with ADA perpetration were included in the analyses. Respondent *age* (continuous) and *gender* (girls coded 1, boys coded 0) were included in all models. Several sociodemographic measures are updated annually as part of each GfK membership profile of the household and were matched to the STRiV survey data by GfK. *Household income* was coded as an indicator marking a value above the 2013 U.S. median income (1) (Noss, 2014) or below median income (0). *Parents' education* reflects the highest education attained in the household, coded as an indicator marked at least some college education (1) or at most a high school education (0). *Race/ethnicity* (refers to household as provided by adult panel member) was coded White non-Hispanic (1) or otherwise (0). An indicator of a *two-parent household* was coded as married or living together (1) or otherwise (0).

Analyses

Analyses were conducted using Stata 14.0 software and applying the KnowledgePanel base weights and sample-specific poststratification weights such that results are representative of U.S. households as of 2013. We provide the univariate and bivariate sample descriptive data stratified by gender. Per the guidance of Garthe and colleagues (2016), gender is included as a moderator in subsequent multivariate models. To investigate the relative role of Wave 1 personal attitudes and of friendship group structural and behavioral characteristics, we conducted logistic regression models of experiences of Wave 2 ADA perpetration (Models 1 and 2). Furthermore, we separately examined the interaction of youth gender with each measure of conditional tolerance of dating violence, the gender distribution of the friendship

group, and the recent disclosure of problems in conversation with a friend(s). Model 3 reports the results for the single significant interaction model. Finally, we controlled for Wave 1 ADA perpetration as a covariate in Model 4.

Results

Sample Description

Two thirds of the sample (68%; see Table 1) were from White non-Hispanic families, 81% reported living in a two-parent household, 63% indicated that one or both parents had at least some college education, and half the sample reported income that exceeded the 2013 median household income. Tolerance for hitting a dating partner conditional on certain circumstances varied by the gender of the partner as well as the gender of the respondent. Both girls and boys endorsed violence against a boyfriend as an acceptable behavior to a greater degree (37%) than their endorsement of violence against a girlfriend (11%), but boys (26%) were significantly less likely to condone hitting a boyfriend than girls (48%). Tolerance for hitting girlfriends was considerably lower among both boys and girls, but girls (15%) were still significantly more likely to condone hitting girlfriends than were boys (8%). Boys and girls both nominated between three and four best friends and indicated, on average, a half-year age difference. About 60% (both boys and girls) nominated a gender-homogeneous group of best friends matching their own gender (1.5% of girls reported an all-male group of friends; 3.4% of boys reported an all-female group of friends). The rate of reported peer violence (13%) was about the same for both boys and girls. A significantly greater proportion of girls (72%) than boys (46%) reported past-week discussion of a problem with at least one close friend. Reported rates of ADA perpetration were similar by gender at the Wave 1 survey (about 12%), but differed significantly for boys (14%) and girls (22%) at Wave 2.

Bivariate Associations

Conditional tolerance of violence against girlfriends was associated with male daters perpetrating ADA (Table 2). Conversely, attitudes tolerating violence against boyfriends was associated with female ADA perpetration. In bivariate models, a slightly greater age spread within girls' friend groups was the only structural measure associated with ADA perpetration. Boys' ADA perpetration status did not vary here significantly by any of the structural measures of the friend group. However, boys who reported ADA perpetration were significantly more likely to have talked over a problem with a friend(s) in the past week than boys who reported no ADA perpetration (69% vs. 43%). ADA perpetration by girls, by contrast, was as likely whether or not they were discussing problems with friends. Girls reporting ADA perpetration were twice as likely to perceive that their friends exhibited purposeful violent peer behavior compared with girls who reported no ADA perpetration (22% vs. 11%). This pattern was the same among boys reporting ADA perpetration, but to a lesser degree, and the association was not significant.

ADA Perpetration

Table 3 presents the adjusted odds ratios (AORs) of any ADA perpetration in the current or a recent dating relationship in four separate models. The first model examined the effects of

adolescent daters' conditional tolerance for hitting a boyfriend or a girlfriend, controlling for youth age and gender, household income, race/ethnicity, parents' education, and whether the home is a two-parent household. This analysis indicated increased odds of subsequent ADA perpetration for those youth daters who expressed at baseline any conditional tolerance for hitting a boyfriend compared with those daters who did not endorse hitting a boyfriend under any of the scenarios (Model 1; odds ratio [OR] = 2.2, $p = .037$).

Model 2 includes the structural and behavioral measures associated with respondents' nominated group of close friends. Neither measure of conditional tolerance for dating violence (either hitting a boyfriend or hitting a girlfriend) was a significant predictor of ADA perpetration in this or subsequent models controlling for friend group characteristics. Youth daters who reported having talked about a problem with at least one friend in the past week were more than twice as likely (OR = 2.6, $p = .035$) to report ADA perpetration at follow-up. Furthermore, female daters were more likely to report ADA perpetration than male daters (Model 1; OR = 2.0, $p = .049$), with a similar but nonsignificant effect size in Model 2 (OR = 2.2, $p = .051$).

Interaction terms for respondent gender times each measure of conditional tolerance of dating violence, the gender distribution of the group of nominated friends, and whether the respondent discussed a problem with a friend(s) in the past week were tested. Only the measure of discussing a problem with a friend(s) interacted with respondent gender (Model 3). The OR of ADA perpetration at follow-up for female daters who nominated a gender-homogeneous group of close friends compared with female daters who nominated a gender-heterogeneous group of friends was 5.3 ($p = .029$). Figure 1 shows the probability of ADA perpetration according to the gender balance among nominated friends. Introduction of this interaction term did not appreciably diminish the increased odds of ADA perpetration (OR = 2.4, $p = .048$) among youth who reported having talked about a problem with at least one friend in the past week compared with youth who had not.

Finally, because those youth dating at Wave 2 who reported perpetrating ADA at Wave 1 were significantly more likely also to have reported Wave 2 ADA perpetration, Model 4 presents the results of the multivariate analyses of the key predictors of interest, controlling for baseline ADA perpetration. As expected, the odds of Wave 2 ADA perpetration for baseline ADA perpetrators compared with nonperpetrators at baseline were significantly greater (OR = 11.7, $p < .001$). Controlling for this historical behavior as well as sociodemographics, this analysis showed that the role of talking to a friend(s) about a problem remained a significant predictor of subsequent ADA perpetration (OR = 2.7, $p = .035$). Subsequent ADA perpetration was also more likely given a larger difference in age between the respondent and the mean age of the nominated group of friends (OR = 1.2, $p = .021$). For every year of age difference, the odds of ADA perpetration increased by 1.2.

Discussion

The current study is the first nationally representative study to assess how ADA perpetration rates vary based on the tolerance that youth daters may have for hitting a boyfriend or a girlfriend under some circumstances. Conditional tolerance of dating violence has been

shown to vary by the gender of the reporter as well as the gender of the dating partner (Reeves & Orpinas, 2012) but, overall, our results suggest a potential ecological shift in norms regarding violence against girlfriends in the past decade. Local data from the Multisite Violence Prevention Project (MVPP; 2004-2005) found that more than one third of ninth-grade students (exposed to a violence prevention intervention) reported tolerance for hitting boyfriends, whereas tolerance for hitting girlfriends was endorsed at less than half that rate (16% of girls, 19% of boys; Reeves & Orpinas, 2012). STRiV rates of tolerance for hitting boyfriends (26% boys endorse and 48% girls endorse) are similar to the MVPP rates, whereas STRiV rates for attitudes tolerating hitting girlfriends (8% boys endorse and 15% girls endorse) are lower. Our nationally representative data—collected nearly a decade later than the MVPP data from a broader age range of adolescents—confirm an enduring disparity in attitudes about hitting girlfriends versus hitting boyfriends. It is possible that respondents (particularly male daters), reflecting social desirability bias, limited their endorsement of hitting girlfriends under selected scenarios more than they self-censored regarding their expression of tolerance for hitting boyfriends. However, the bivariate results that male perpetrators of ADA were more likely to tolerate hitting girlfriends, and female perpetrators of ADA were more likely to tolerate hitting boyfriends, suggest that even given some bias in the estimates, the data support the essential relationship between both genders' conditional tolerance for dating violence and their likelihood of ADA perpetration.

The disparity in tolerance for hitting boyfriends more so than for hitting girlfriends may reflect the advantages of showcasing masculinity as Hertzog and Rowley (2014) suggest. Absent the showcasing restriction, the common tolerance of hitting boyfriends among girls who date is of grave concern and, further, is relevant to youth prevention programs that address relationships and communications within friendship groups. These attitudes are a key point for prevention of dating abuse. Consistent with prior research documenting the association of conditional tolerance and ADA involvement (Foshee et al., 2008; O'Keefe, 1997; Reeves & Orpinas, 2012; Simon et al., 2010), the STRiV data confirm at a national level controlling for respondent age, gender, and a range of sociodemographic measures that conditional tolerance of hitting boyfriends is associated with greater odds of ADA perpetration. Although the cultural message that violence against girlfriends is not tolerable appears to be accepted by most youth, regardless of actual behavior, the enduring tolerance for hitting boyfriends and association with subsequent ADA perpetration presents a targeted prevention opportunity. Notably, conditional tolerance of ADA in this study sample of current and recent daters was statistically consistent with ADA tolerance in the full STRiV cohort inclusive of nondaters (data not shown), indicating that these attitudes are universal within this age group. We need stronger prevention messaging that recognizes that youth might generally condemn violent attitudes but find justifications for violence under certain circumstances (e.g., if you been insulted in front of friends). In that longitudinal patterns of attitudes and behaviors are linked over the teen years (Orpinas et al., 2013), this type of education needs to happen before or during early adolescence.

Statistically controlling for baseline dating abuse and multiple sociodemographic factors, friend connectedness (as measured by talking to friends about problems) at baseline predicted subsequent ADA perpetration. This findings stand in contradiction to the hypothesis that friend connectedness would be a protective factor. Discussion of problems

with friends may be indicative of challenges the respondent has in his or her dating relationship to discuss the problems directly with the partner, that is, of poor communications which in and of itself may contribute to a lower quality dating relationship. Although the STRiV data do not reveal whether these daters are discussing dating problems per se or whether any conversations related to dating relationships result in encouragement to take control through ADA perpetration, the channels of communication are open. Based on a longitudinal study of parents and friends' social support, Richards, Branch, and Ray (2014) have suggested that there is untapped potential for a peer mentor role in preventing dating violence. Although in the absolute girls are more communicative with their friends than boys are (McNelles & Connolly, 1999; Valkenburg, Sumter, & Peter, 2011), the finding that this measure of friend connectedness predicts ADA perpetration regardless of gender supports the potential for designing interventions to capitalize on boys' as well as girls' friendship networks to reduce ADA. Understanding these avenues of communication is critical as the evidence shows that adolescents involved in ADA are more likely to turn to their friends than to adults (Ashley & Foshee, 2005; Black, Tolman, Callahan, Saunders, & Weisz, 2008). However, because there is the risk that friends harbor similar conditional tolerance for violence against a dating partner and because the current results indicated a positive association of peer connectedness with ADA perpetration, the content of peer education programs is critical. It is important to educate youth about how to talk about dating abuse topics *with their friends* (from avoidance and prevention to accessing adult support and treatment), as much as to provide general ADA prevention programming to impart information and change attitudes and behavior. Toward this end, including youth leaders in the education process may be constructive (Weisz & Black, 2010). Given the evidence that bystander education programs can strengthen high school and college students' confidence and willingness to intervene in a situation (Storer, Casey, & Herrenkohl, 2015), findings of the current study also suggest a rationale for adapting bystander education programming to apply to identified close friends as much as to general peer scenarios.

Of further relevance to the design of prevention messaging is the potentially exclusive identification of female daters with close friends who are also girls (although our measurement limited nomination to a maximum of five close friends). Although the gender interaction was not significant once estimates were adjusted for baseline ADA perpetration, the AOR was of similar order and the pattern of several magnitudes greater odds of ADA perpetration among girls reporting only female close friends suggests this effect was robust. There is a known strong overlap between perpetration and victimization for most ADA-involved youth (Foshee et al., 2009; Giordano, Soto, Manning, & Longmore, 2010; Orpinas et al., 2013; Taylor & Mumford, 2016), so it is possible that some of this friendship group effect is support for a victimized female dater. However, there is also as much of a possibility, in the context of stronger tolerance for hitting boyfriends, that all-girl friend groups are supporting (or at least not deterring) girls' ADA perpetration. Qualitative research suggests that although friends may be positive influences in dating relationship formation, they can play an increasingly negative role over the course of the dating relationship (Baker, 2016). Further investigation of the nature of girls' friendship group conversations regarding ADA perpetration, and whether these scripts can be informed by

prevention programming, is needed. The converse association (ADA perpetration by male daters nominating only male friends) was not found in this study. Although the combination of these positive and negative findings about gender-homogeneous friendship groups stands in contrast to prior research identifying risks of IPV perpetration by young men reporting all-male friendship groups (Capaldi et al., 2001; Casey & Beadnell, 2010), the current results may reflect the younger age of the STRiV sample, both in terms of their friendships and the age at which they reportedly perpetrated ADA. The impact of a gender-homogeneous friendship group may also change as adolescents enter young adulthood, such that adolescent dating relationship behaviors known to close friends may be judged differently than are young adult behaviors in dating relationships.

Contrary to the study hypothesis, these analyses did not support prior evidence of the role of social learning in ADA (Tschann et al., 2009) and young adult IPV outcomes (Tyler, Brownridge, & Melander, 2011), likely related to social norms tolerating ADA (Taylor et al., 2015). Reports of friends' intentional physical violence were not associated with ADA perpetration by either male or female daters. It is possible that these adolescent daters are more acculturated to purposeful physical violence in their peer groups and thus may discount such behavior rather than seek social justification. However, further research on this topic should discern friends' intentional violence against a dating partner from hitting any peers, which was the measure in this study.

Additional findings relate to the household sociodemographic variables included as controls in the models. The finding that White non-Hispanic youth were less likely to report ADA perpetration is consistent with the literature, but race/ethnicity does not by itself explain the violent behaviors (Blum et al., 2000; Offenhauer & Buchalter, 2011). Although both household income and education are often considered proxies for socioeconomic status, in the current study, these measures exhibited opposing effects. The negative relationship of household income to ADA perpetration is consistent with other literature showing increased risk behaviors among youth from lower income households (Blum et al., 2000). However, the evidence of greater ADA perpetration from households with greater educational attainment contradicts expectations (Offenhauer & Buchalter, 2011). Further investigation of the differential effects of household income and parents' education is warranted. Although these factors are not malleable characteristics for the purpose of prevention program content (just as some of the results of this study highlight differences between adolescents girls' and boys' profiles), it remains important to understand the correlations of common sociodemographic descriptors of adolescent aggression in terms of appropriately targeting prevention resources and tailoring message content for subgroups of adolescents. This point applies to other characteristics that describe ADA perpetration according to the diversity of this age group, including gender identity, race/ethnicity, sexual orientation, and residential geography, among others. Although earlier cross-sectional research did not find variation in ADA victimization or perpetration in these data by numerous sociodemographic characteristics (Taylor & Mumford, 2016), further longitudinal research might focus on additional measures of adolescent diversity and how this diversity relates to conditional tolerance for ADA perpetration and to friendship characteristics, for instance, as potentially malleable factors.

Additional limitations are important to consider in interpreting these results. First, the STRiV data are self-reported, and social desirability bias may have influenced survey responses. Although the privacy of online surveys, akin to computer-assisted self-interviews, has been supportive of adolescents' candid responses on sensitive topics (Wyrick & Bond, 2011), there is the risk of adolescents misrepresenting their own involvement in ADA out of fear or shame. STRiV estimates of ADA in comparison with other sources do not indicate underreporting (Taylor & Mumford, 2016), and the limitation of ADA reports to the current or recent dating relationship is conservative. Furthermore, STRiV interviews are self-administered, which may minimize the social desirability bias of an interviewer-administered survey (Tourangeau & Yan, 2007). Second, there are several limitations associated with the friendship data. The STRiV measure of friend perpetration of peer violence is limited to a single global measure, which may in part explain the absence of a significant association between peer violence and ADA perpetration in this study. We do not have direct survey reports from the friends to corroborate the perceptions of STRiV respondents, such that respondents' perceptions of friends' intentional violence may reflect a projection bias. Research has shown the association between the perpetration of dating abuse and perceived peer violence (Reed, Silverman, Raj, Decker, & Miller, 2011), and also that perceptions of peer violence are generally closer to the respondents' own behavior than to the self-reported behavior of the peer (Meldrum & Boman IV, 2013; Perkins, Haines, & Rice, 2005). Also, because there is not temporally ordered, self-reported information about peer behaviors relative to the respondent youth's ADA perpetration, these data do not support distinction of peer selection versus peer influence, or investigation of direct peer influences, along the lines of research examining male peers' encouragement to perpetrate dating abuse (Capaldi et al., 2001), as a potential moderator of indirect influences (descriptive and injunctive norms; Hertzog & Rowley, 2014). This study did not specify the nature of the problem discussed with friends or the nature of friends' responses, a critical area for investigation to guide prevention messages to friendship and peer groups. Further research investigating direct encouragement from close friends—for example, to handle a conflict more forcefully, or to seek a mediated resolution—would be constructive. Third, this study does not examine additional measures of the situational context that are potentially important to understanding behavioral choices, such as whether the act was considered one of self-defense (Foshee, Bauman, Linder, Rice, & Wilcher, 2007), or whether there was alcohol use by one or both youth at the time of the dating abuse perpetration (Rothman, Reyes, Johnson, & LaValley, 2012). Fourth, although the national representation of this sample is a strength, and perpetration of physical and sexual abuse is thankfully not occurring in most adolescent dating relationships, the STRiV sample size limits a closer analysis of specific forms of ADA population subgroups.

Despite these limitations, these longitudinal findings controlling for a range of sociodemographic characteristics highlight the importance of addressing tolerance of ADA with prevention messaging that recognizes the justifications youth might use to rationalize violent behavior regardless of dating partner gender, an effort initiated with the Safe Dates program (Foshee et al., 1996) and also implemented in other prevention programs including the Dating Matters initiative (Tharp et al., 2011) and the Shifting Boundaries program (Taylor, Stein, Mumford, & Woods, 2013). Furthermore, in addition to reflecting these

results in training for those who work with adolescents (e.g., counselors and teachers) on potential warning signs of ADA involvement, further consideration of the potential for targeting ADA education within female friend groups, particularly for girls, is warranted. Specifically, it may be constructive to work with the close friends of female-dating adolescents regarding how to prevent or curtail ADA, for example, through bolstering their capacity to provide constructive peer support or mentoring and their confidence in the effectiveness of intervening themselves or referring a friend to supportive adults.

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Bruce G. Taylor, a criminologist, has focused his research on understanding violent and related risky behaviors and evaluating interventions to prevent such behavior. His recent publications cover the prevalence and risk factors for adolescent relationship abuse (ARA) and interventions to prevent ARA. His research also covers the broader violence research field in victimization, violence prevention, violent offenders, victim services, and the effects of social support on victim mental health. He was PI for several completed ARA prevention projects, and is co-PI for the ongoing longitudinal platform for the STRiV.

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References

- Ajzen I (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50, 179–211.
- Arriaga XB, & Foshee VA (2004). Adolescent dating violence: Do adolescents follow in their friends', or their parents', footsteps? *Journal of Interpersonal Violence*, 19, 162–184. [PubMed: 15006000]

- Ashley OS, & Foshee VA (2005). Adolescent help-seeking for dating violence: Prevalence, sociodemographic correlates, and sources of help. *Journal of Adolescent Health*, 36, 25–31. [PubMed: 15661593]
- Baker CK (2016). What role do peers play in adolescent dating? Insights from adolescents with a history of dating violence. *Violence Against Women*, 23, 178–201. doi:1077801216638769 [PubMed: 27059898]
- Bandura A (1977). *Social learning theory*. Englewood Cliffs, NJ: Prentice Hall.
- Banyard VL, & Cross C (2008). Consequences of teen dating violence: Understanding intervening variables in ecological context. *Violence Against Women*, 14, 998–1013. [PubMed: 18703772]
- Barber BK, & Schluterman JM (2008). Connectedness in the lives of children and adolescents: A call for greater conceptual clarity. *Journal of Adolescent Health*, 43, 209–216. [PubMed: 18710674]
- Bell KM, & Naugle AE (2008). Intimate partner violence theoretical considerations: Moving towards a contextual framework. *Clinical Psychology Review*, 28, 1096–1107. [PubMed: 18430501]
- Black BM, Tolman RM, Callahan M, Saunders DG, & Weisz AN (2008). When will adolescents tell someone about dating violence victimization? *Violence Against Women*, 14, 741–758. [PubMed: 18559865]
- Blum RW, Beuhring T, Shew ML, Bearinger LH, Sieving RE, & Resnick MD (2000). The effects of race/ethnicity, income, and family structure on adolescent risk behaviors. *American Journal of Public Health*, 90, 1879–1884. [PubMed: 11111260]
- Capaldi DM, Dishion TJ, Stoolmiller M, & Yoerger K (2001). Aggression toward female partners by at-risk young men: The contribution of male adolescent friendships. *Developmental Psychology*, 37, 61–73. [PubMed: 11206434]
- Casey EA, & Beadnell B (2010). The structure of male adolescent peer networks and risk for intimate partner violence perpetration: Findings from a national sample. *Journal of Youth and Adolescence*, 39, 620–633. [PubMed: 20422351]
- Collins WA, Welsh DR, & Furman W (2009). Adolescent romantic relationships. *Annual Review of Psychology*, 60, 631–652.
- Cutbush S, Williams J, & Miller S (2016). Teen dating violence, sexual harassment, and bullying among middle school students: Examining mediation and moderated mediation by gender. *Prevention Science*, 17, 1024–1033. [PubMed: 27501807]
- Debnam KJ, Waasdorp TE, & Bradshaw CP (2016). Examining the contemporaneous occurrence of bullying and teen dating violence victimization. *School Psychology Quarterly*, 31, 76–90. [PubMed: 26192389]
- Ellis W, Chung-Hall J, & Dumas T (2013). The role of peer group aggression in predicting adolescent dating violence and relationship quality. *Journal of Youth and Adolescence*, 42, 487–499. [PubMed: 22847751]
- Exner-Cortens D (2014). Theory and teen dating violence victimization: Considering adolescent development. *Developmental Review*, 34, 168–188.
- Exner-Cortens D, Eckenrode J, & Rothman E (2013). Longitudinal associations between teen dating violence victimization and adverse health outcomes. *Pediatrics*, 131(1), 71–78. [PubMed: 23230075]
- Foshee VA, Bauman KE, Linder F, Rice J, & Wilcher R (2007). Typologies of adolescent dating violence: Identifying typologies of adolescent dating violence perpetration. *Journal of Interpersonal Violence*, 22, 498–519. [PubMed: 17429020]
- Foshee VA, Benefield T, Suchindran C, Ennett ST, Bauman KE, Karriker-Jaffe KJ, ... Mathias J (2009). The development of four types of adolescent dating abuse and selected demographic correlates. *Journal of Research on Adolescence*, 19, 380–400. [PubMed: 27170829]
- Foshee VA, Karriker-Jaffe KJ, Reyes HLM, Ennett ST, Suchindran C, Bauman KE, & Benefield TS (2008). What accounts for demographic differences in trajectories of adolescent dating violence? An examination of intrapersonal and contextual mediators. *Journal of Adolescent Health*, 42, 596–604. [PubMed: 18486869]
- Foshee VA, Linder GF, Bauman KE, Langwick SA, Arriaga XB, Heath JL, ... Bangdiwala S (1996). The Safe Dates project: Theoretical basis, evaluation design, and selected baseline findings. *American Journal of Preventive Medicine*, 12(5), 39–47.

- Foshee VA, McNaughton Reyes L, Tharp AT, Chang L, Ennett ST, Simon TR, ... Suchindran C (2015). Shared longitudinal predictors of physical peer and dating violence. *Journal of Adolescent Health*, 56, 106–112. [PubMed: 25287983]
- Foshee VA, Reyes HLM, Vivolo-Kantor AM, Basile KC, Chang L-Y, Faris R, & Ennett ST (2014). Bullying as a longitudinal predictor of adolescent dating violence. *Journal of Adolescent Health*, 55, 439–444. [PubMed: 24768162]
- Garthe RC, Sullivan TN, & McDaniel MA (2016). A meta-analytic review of peer risk factors and adolescent dating violence. *Psychology of Violence*, 7, 45–57
- Giordano PC, Cernkovich SA, & Pugh MD (1986). Friendships and delinquency. *American Journal of Sociology*, 91, 1170–1202.
- Giordano PC, Soto DA, Manning WD, & Longmore MA (2010). The characteristics of romantic relationships associated with teen dating violence. *Social Science Research*, 39, 863–874. [PubMed: 21037934]
- Gorrese A, & Ruggieri R (2012). Peer attachment: A meta-analytic review of gender and age differences and associations with parent attachment. *Journal of Youth and Adolescence*, 41, 650–672. [PubMed: 22476726]
- 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, 323–339.
- Hazan C, & Shaver PR (1994). Attachment as an organizational framework for research on close relationships. *Psychological Inquiry*, 5(1), 1–22.
- Hertzog JL, & Rowley RL (2014). My beliefs of my peers' beliefs exploring the gendered nature of social norms in adolescent romantic relationships. *Journal of Interpersonal Violence*, 29, 348–368. [PubMed: 24144721]
- Kendrick K, Jutengren G, & Stattin H (2012). The protective role of supportive friends against bullying perpetration and victimization. *Journal of Adolescence*, 35, 1069–1080. [PubMed: 22464910]
- Leen E, Sorbring E, Mawer M, Holdsworth E, Helsing B, & Bowen E (2013). Prevalence, dynamic risk factors and the efficacy of primary interventions for adolescent dating violence: An international review. *Aggression and Violent Behavior*, 18, 159–174.
- Linder JR, & Collins WA (2005). Parent and peer predictors of physical aggression and conflict management in romantic relationships in early adulthood. *Journal of Family Psychology*, 19, 252–262. [PubMed: 15982103]
- Manganello JA (2008). Teens, dating violence, and media use: A review of the literature and conceptual model for future research. *Trauma Violence, & Abuse*, 9, 3–18.
- McNelles LR, & Connolly JA (1999). Intimacy between adolescent friends: Age and gender differences in intimate affect and intimate behaviors. *Journal of Research on Adolescence*, 9, 143–159.
- Meldrum RC, & Boman JH, IV. (2013). Similarities and differences between perceptions of peer delinquency, peer self-reported delinquency, and respondent delinquency: An analysis of friendship dyads. *Journal of Criminal Justice*, 41, 395–406.
- Miller JB, & Hoicowitz T (2004). Attachment contexts of adolescent friendship and romance. *Journal of Adolescence*, 27, 191–206. [PubMed: 15023518]
- Noss A (2014). Household income: 2013. Retrieved from <https://www.census.gov/content/dam/Census/library/publications/2014/acs/acsbr13-02.pdf>
- Offenhauer P, & Buchalter A (2011). Teen dating violence: A literature review and annotated bibliography. Retrieved from <https://www.ncjrs.gov/pdffiles1/nij/grants/235368.pdf>
- O'Keefe M (1997). Predictors of dating violence among high school students. *Journal of Interpersonal Violence*, 12, 546–568.
- Orpinas P, Hsieh H-L, Song X, Holland K, & Nahapetyan L (2013). Trajectories of physical dating violence from middle to high school: Association with relationship quality and acceptability of aggression. *Journal of Youth and Adolescence*, 42, 551–565. [PubMed: 23233161]
- Pepler DJ, Craig WM, Connolly JA, Yuile A, McMaster L, & Jiang D (2006). A developmental perspective on bullying. *Aggressive Behavior*, 32, 376–384.

- Perkins HW, Haines MP, & Rice R (2005). Misperceiving the college drinking norm and related problems: A nationwide study of exposure to prevention information, perceived norms and student alcohol misuse. *Journal of Studies on Alcohol*, 66, 470–478. [PubMed: 16240554]
- Reed E, Silverman JG, Raj A, Decker MR, & Miller E (2011). Male perpetration of teen dating violence: Associations with neighborhood violence involvement, gender attitudes, and perceived peer and neighborhood norms. *Journal of Urban Health: Bulletin of the New York Academy of Medicine*, 88, 226–239. [PubMed: 21311987]
- Reeves PM, & Orpinas P (2012). Dating norms and dating violence among ninth graders in Northeast Georgia: Reports from student surveys and focus groups. *Journal of Interpersonal Violence*, 27, 1677–1698. [PubMed: 22203621]
- Reis HT, & Shaver P (1988). Intimacy as an interpersonal process In Duck S (Ed.), *Handbook of personal relationships* (Vol. 24, pp. 367–389). Chichester, England: Wiley.
- Richards TN, Branch KA, & Ray K (2014). The impact of parental and peer social support on dating violence perpetration and victimization among female adolescents: A longitudinal study. *Violence and Victims*, 29, 317–331. [PubMed: 24834750]
- Rose AJ (2002). Co-rumination in the friendships of girls and boys. *Child Development*, 73, 1830–1843. [PubMed: 12487497]
- Rothman EF, Reyes LM, Johnson RM, & LaValley M (2012). Does the alcohol make them do it? Dating violence perpetration and drinking among youth. *Epidemiologic Reviews*, 34, 103–119. [PubMed: 22128086]
- Salmivalli C (2010). Bullying and the peer group: A review. *Aggression and Violent Behavior*, 15, 112–120.
- Simon TR, Miller S, Gorman-Smith D, Orpinas P, & Sullivan T (2010). Physical dating violence norms and behavior among sixth-grade students from four US sites. *Journal of Early Adolescence*, 30, 395–409.
- Sterr LR, & Davila J (2009). Clarifying co-rumination: Associations with internalizing symptoms and romantic involvement among adolescent girls. *Journal of Adolescence*, 32, 19–37. [PubMed: 18241914]
- Storer HL, Casey E, & Herrenkohl T (2015). Efficacy of bystander programs to prevent dating abuse among youth and young adults: A review of the literature. *Trauma, Violence, & Abuse*, 17, 256–269.
- Taylor BG, & Mumford EA (2016). A national descriptive portrait of adolescent relationship abuse: Results from the National Survey on Teen Relationships and Intimate Violence. *Journal of Interpersonal Violence*, 31, 963–988. [PubMed: 25548142]
- Taylor BG, Stein ND, Mumford EA, & Woods D (2013). Shifting boundaries: An experimental evaluation of a dating violence prevention program in middle schools. *Prevention Science*, 14, 64–76. [PubMed: 23076726]
- Taylor KA, Sullivan TN, & Farrell AD (2015). Longitudinal relationships between individual and class norms supporting dating violence and perpetration of dating violence. *Journal of Youth and Adolescence*, 44, 745–760. [PubMed: 25274452]
- Temple JR, Shorey RC, Tortolero SR, Wolfe DA, & Stuart GL (2013). Importance of gender and attitudes about violence in the relationship between exposure to interparental violence and the perpetration of teen dating violence. *Child Abuse & Neglect*, 37, 343–352. [PubMed: 23490056]
- Tharp AT, Burton T, Freire K, Hall DM, Harrier S, Latzman NE, ... Vagi KJ (2011). Dating Matters™: Strategies to promote healthy teen relationships. *Journal of Women's Health*, 20, 1761–1765.
- Tourangeau R, & Yan T (2007). Sensitive questions in surveys. *Psychological Bulletin*, 133, 859–883. [PubMed: 17723033]
- Tschann JM, Pasch LA, Flores E, Marin BV, Baisch EM, & Wibbelsman CJ (2009). Nonviolent aspects of interparental conflict and dating violence among adolescents. *Journal of Family Issues*, 30, 295–319.
- Tyler KA, Brownridge DA, & Melander LA (2011). The effect of poor parenting on male and female dating violence perpetration and victimization. *Violence and Victims*, 26, 218–230. [PubMed: 21780536]

- Vagi KJ, Rothman EF, Latzman NE, Tharp AT, Hall DM, & Breiding MJ (2013). Beyond correlates: A review of risk and protective factors for adolescent dating violence perpetration. *Journal of Youth and Adolescence*, 42, 633–649. [PubMed: 23385616]
- Valkenburg PM, Sumter SR, & Peter J (2011). Gender differences in online and offline self-disclosure in pre-adolescence and adolescence. *British Journal of Developmental Psychology*, 29, 253–269. [PubMed: 21199497]
- Weisz AN, & Black BM (2010). Peer education and leadership in dating violence prevention: Strengths and challenges. *Journal of Aggression, Maltreatment & Trauma*, 19, 641–660.
- Wolfe DA, Scott K, Reitzel-Jaffe D, Wekerle C, Grasley C, & Straatman AL (2001). Development and validation of the Conflict in Adolescent Dating Relationships Inventory. *Psychological Assessment*, 13, 277–293. [PubMed: 11433803]
- Wyrick DL, & Bond L (2011). Reducing sensitive survey response bias in research on adolescents: A comparison of web-based and paper-and-pencil administration. *American Journal of Health Promotion*, 25, 349–352. [PubMed: 21534838]

Figure 1. Probability of ADA perpetration (Wave 2) given the gender distribution of nominated friends (Wave 1, STRiV respondents aged 12-18 years).
Note. ADA = adolescent dating abuse; STRiV = National Survey of Teen Relationships and Intimate Violence.

Table 1.

Sample Description, Adolescents Aged 12 to 18 years, STRiV.

	Total Daters (Ages 12-18 Years)	Male Daters (Ages 12-18 Years)	Female Daters (Ages 12-18 Years)
	<i>N</i> = 511	<i>n</i> = 247 (48.3%)	<i>n</i> = 264 (51.6%)
Sociodemographics (Wave 1)			
Mean youth age (<i>SD</i>)	15.4 (1.86)	15.4 (1.89)	15.4 (1.85)
Household income (% greater than median)	50.5%	53.0%	48.1%
Parents' education (% with at least some college)	62.8%	64.4%	61.4%
Two-parent household	81.0%	82.2%	79.8%
White non-Hispanic	67.5%	69.2%	65.9%
Conditional tolerance of ADA (Wave 1)			
Endorsed violence against a girlfriend	11.3%	7.8%	14.7% **
Endorsed violence against a boyfriend	37.3%	26.0%	47.9% ***
Friendship group structural and behavioral characteristics (Wave 1)			
Number of friends nominated (<i>SD</i>)	3.30 (1.84)	3.22 (1.85)	3.38 (1.82)
Age difference (years) between respondent and friends (<i>SD</i>)	0.61 (1.86)	0.62 (1.99)	0.59 (1.74)
Gender-homogeneous friend group	62.1%	64.3%	60.2%
Discussed a problem with friends in past 7 days	60.1%	46.4%	72.5% ***
Friends ever perpetrated physical violence on purpose	12.8%	12.6%	13.1%
ADA perpetration ^a			
ADA perpetrator at Wave 1	11.9%	10.9%	12.9%
ADA perpetrator at Wave 2	18.2%	13.8%	22.4% *

Note. STRiV = National Survey of Teen Relationships and Intimate Violence; ADA = adolescent dating abuse.

^aReporting period is the duration of the current or recent data relationship.

Significant differences by gender marked:

* $p < .05$.

** $p < .01$.

*** $p < .001$.

Table 2.

ADA Perpetration (Wave 2) by Baseline Characteristics, Adolescent Daters Aged 12 to 18 years, STRiV.

	Male Daters (<i>n</i> = 247)		Female Daters (<i>n</i> = 264)	
	No ADA Perpetration	Perpetrated ADA	No ADA Perpetration	Perpetrated ADA
Sociodemographics				
Mean youth age (<i>SD</i>)	15.4 (1.9)	15.3 (2.2)	15.3 (1.8)	15.7 (1.9)
Household income	55.4%	38.2%	48.78	45.76
Parents' education	64.3%	64.7%	60.49	64.41
Two-parent household	83.1%	76.5%	80.00	79.31
White non-Hispanic	70.4%	61.8%	69.76	52.54 *
Conditional tolerance of ADA				
Endorsed violence against a girlfriend	6.2%	17.6% *	12.9%	21.0%
Endorsed violence against a boyfriend	24.4%	36.4%	44.6%	59.3% *
Friendship group structural and behavioral characteristics				
Number of friends nominated (<i>SD</i>)	3.3 (1.8)	2.8 (2.0)	3.3 (1.8)	3.6 (2.0)
Age difference (years) between respondent and friends (<i>SD</i>)	0.6 (2.0)	0.9 (2.4)	0.48 (.08)	1.2 (3.8) *
Gender-homogeneous friend group	65.2%	58.3%	58.9%	65.3%
Discussed a problem with friends in past 7 days	42.7%	69.0% **	73.2%	70.0%
Friends ever perpetrated physical violence on purpose	11.8%	17.2%	10.6%	22.0% *
ADA perpetrator at Wave 1	7.98	29.41 ***	7.32	32.20 ***

Note. ADA = adolescent dating abuse; STRiV = National Survey of Teen Relationships and Intimate Violence.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

Table 3.

ADA Perpetration at Wave 2 by Baseline Characteristics, Adolescent Daters Aged 12 to 18 years, STRiV.

	Model 1			Model 2			Model 3			Model 4		
	AORs	LL	UL	AORs	LL	UL	AORs	LL	UL	AORs	LL	UL
Sociodemographics												
Youth age	1.15	0.95	1.40	1.12	0.91	1.38	1.12	0.90	1.39	0.94	0.74	1.19
Female youth	2.03 *	1.00	4.12	2.22	1.00	4.94	0.73	0.22	2.45	1.14	0.31	4.26
Household income	0.45 *	0.22	0.94	0.35 *	0.15	0.80	0.37 *	0.17	0.82	0.46	0.20	1.04
Parents' education	2.41 *	1.10	5.30	2.38 *	1.02	5.56	2.13	0.94	4.79	3.36 **	1.35	8.36
Two-parent household	1.13	0.48	2.69	1.65	0.66	4.16	1.73	0.68	4.42	1.56	0.57	4.31
White non-Hispanic	0.69	0.36	1.32	0.53	0.25	1.11	0.53	0.26	1.10	0.39 *	0.18	0.85
Conditional tolerance of ADA												
Tolerates violence against girlfriend	2.04	0.73	5.72	0.98	0.34	2.85	1.03	0.36	2.99	0.83	0.27	2.51
Tolerates violence against boyfriend	2.21 *	1.05	4.64	1.62	0.72	3.65	1.68	0.74	3.84	1.60	0.69	3.72
Friendship group structural and behavioral characteristics												
Number of friends nominated				1.02	0.75	1.37	1.04	0.77	1.41	1.07	0.77	1.49
Age difference (years)				1.08	0.93	1.25	1.10	0.96	1.26	1.18 *	1.03	1.35
Gender-homogeneous friend group				2.07	0.97	4.45	0.73	0.23	2.26	0.79	0.22	2.79
Friends ever perpetrated physical violence				1.65	0.63	4.29	1.80	0.71	4.56	1.25	0.49	3.19
Discussed a problem with friends				2.60 *	1.07	6.33	2.42 *	1.01	5.80	2.74 *	1.07	7.01
Youth Gender × Gender-Homogeneous Friend Group							5.31 *	1.19	23.79	3.48	0.66	18.47
ADA perpetration at Wave 1										11.72 ***	4.25	32.32

Note. LL and UL = lower and upper limits of 95% confidence intervals. ADA = adolescent dating abuse; STRiV = National Survey of Teen Relationships and Intimate Violence; AORs = adjusted odds ratios.

* $p < .05$.

** $p < .01$.

*** $p < .001$.