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## Cut to the Quick: The Consequences of Youth Violent Victimization for the Timing of Dating Debut and First Union Formation

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### Abstract

Concentrated in adolescence, violent victimization is developmentally disruptive. It undermines physical, mental, and socioemotional well-being and compromises youths' transitions into and progression through key life course tasks. Youth violent victimization (YVV) has been linked to precocious exits from adolescence and premature entries into adulthood. This includes early entry into coresidential romantic unions, which is but one stage of a relationship sequence generally beginning via dating debut. Using data from the National Longitudinal Study of Adolescent to Adult Health (Add Health) and Cox regression, we examine the effects of YVV on the timing of dating debut and progression to first coresidential unions during adolescence and the transition to adulthood. We pay particular attention to how these effects may be structured by age and gender. Overall, we find that victims begin dating sooner and progress more quickly from dating to first unions than do non-victims. However, youths victimized in early adolescence withdraw from dating and union formation, whereas late adolescent victims appear to overinvest in relationships—at least temporarily—displaying accelerated entry into dating and rapid progression to first unions. We conclude by discussing the implication of these age-graded patterns for intervention efforts and youth well-being more broadly.

### Keywords

adolescence; romantic relationships; victimization; life course

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Adolescence is a developmental period characterized by increasing autonomy and, as a result, greater exposure to various risks. Particularly troubling is the risk of violent victimization, which is disproportionately concentrated among youth (Finkelhor et al. 2013; Truman, Langton, and Planty 2013). Youth violent victimization (YVV)—also referred to as community or “street” victimization (Hagan and Foster 2001; Haynie et al. 2009)—has long-term negative ramifications for adolescent well-being. It compromises mental health (e.g., depression, fatalism, anxiety) and is associated with increased likelihood of subsequent victimization and involvement in risky/problem behaviors. These include substance use,

delinquency, and unsafe sex (Brady and Donenberg 2006; Schreck, Stewart, and Osgood 2008). Victimization risks are particularly high during a period of the life course characterized by rapid physical, psychological, interpersonal, and institutional change (Crosnoe and Johnson 2011).

Despite understanding that adolescence entails numerous transitions, the extant sociological and criminological literature largely conceptualizes adolescence, perhaps unintentionally, as a monolithic developmental period. Such treatment neglects the *timing* and *sequencing* of experiences and their consequences—what Hagan and Foster (2001:892) refer to as “cascading” influences. In the current study, we utilize a life course perspective to offer more explicit attention to the heterogeneity of environments and expectations that characterize the adolescent developmental period, and which shape the consequences of experiences (e.g., violent victimization) incurred during adolescence.

In addition to compromising well-being, YVV has explicit developmental consequences. It is associated with transitions that mark precocious (“off-time”) exits from adolescence (Hagan and Foster 2001; Haynie et al. 2009). These early transitions further compromise adolescent well-being. Scholarship on precocious exits often focuses on outcomes such as high school dropout, running away, and criminal justice contact. However, YVV is also associated with premature *entry* into ostensibly pro-social adult roles such as coresidential intimate relationships (Kuhl, Warner, and Wilczak 2012).

There is nothing inherently problematic about such developmentally normal transitions. Nevertheless, what is of concern is the *timing* of these transitions. For instance, early, off-time, coresidential union formation may further disadvantage victims of youth violence given that early union formation is associated with numerous negative outcomes. Although cohabitation has become a normative part of young adulthood, such unions occurring during the teenage years have increased instability and conflict (Zito 2015). Early marriages are also problematic, as they are often of lower quality (Amato et al. 2007), linked to health-compromising behaviors such as substance abuse (Wickrama, Wickrama, and Baltimore 2010), and more likely to end in divorce (Teachman 2002). Of particular concern for victims of youth violence is that early union formation puts them at long-term risk for intimate partner victimization (Kuhl, Warner, and Warner 2015).

Despite the negative life course consequences of early union formation, the sequence of events that leads from YVV to early coresidential union formation remains unknown. Coresidential union formation is not a spontaneous occurrence. Instead, it is a stage of relationship progression that—for most adolescents—begins via entry into dating (“debut”). There is thus a critical need to examine how YVV affects adolescents’ dating behavior in order to understand how precocious coresidential unions among victims are set in motion.

In this study, we draw on the conceptualization of the life course as a *sequence* of socially defined roles (Elder, Johnson, and Crosnoe 2003). We examine the implications of youth violent victimization for the timing of entry into and movement through romantic relationship stages during adolescence and the transition to adulthood. We use data from the National Longitudinal Study of Adolescent to Adult Health (Add Health) and focus on youth

who were not yet dating. We ask whether youth violent victimization spurs rapid initiation of dating relationships and whether victimized youth subsequently move from dating into cohabitation at a faster rate than their non-victimized peers. We draw from diverse literatures—integrating research from sociology, criminology, victimology, and human development—to advocate for a more developmentally attuned approach to understanding the long-term relational consequences of youth violent victimization.

## BACKGROUND

A sizeable portion of youth experience violent victimization. These experiences are developmentally disruptive, having life-altering emotional and behavioral consequences (Hagan and Foster 2001). Youth violent victimization (YVV) is a risk factor for depressive symptoms (Latzman and Swisher 2005), anger and aggression (Turner, Finkelhor, and Ormrod 2006), fatalism (Warner and Swisher 2014), and substance abuse (Brady and Donenberg 2006). Victimized youth are at risk of subsequent victimization and becoming violent perpetrators themselves (Schreck et al. 2008). Furthermore, YVV disrupts the normative age-graded transition to adulthood as it is linked to precocious exits from adolescence. These early exit behaviors include high school dropout, teen pregnancy, running away from home, and having contact with the criminal justice system (Hagan and Foster 2001; Haynie et al. 2009).

With YVV linked to a host of deviant behaviors and diminished psychological wellbeing, one may expect that such victimization also undermines victims' socioemotional development. For instance, as Margolin and Gordis (2000:450) note, victimization may “shatter the essential assumptions fundamental to the developmental task of learning to trust others and form secure attachment relationships, in turn leading to difficulties in subsequent relationships throughout life.” Thus, youth victims of violence may become “rejection sensitive” (Downey, Bonica, and Rincon 1999): hostile, withdrawn, and distrusting of intimate relationships with others. Indeed, victimized youth frequently manifest their rejection sensitivity via avoidance strategies such as isolating themselves and shunning relationships (Simons et al. 2012).

Downey and colleagues (1999), however, describe a second—seemingly contradictory—strategy rejection-sensitive adolescents may adopt: *overinvestment* in securing intimacy and love, and thus transitioning to relationships more quickly than their peers. A similar connection appears in research linking early childhood physical and sexual abuse with attachment anxiety (i.e., intense desire for intimacy, fear of rejection [Rapoza and Baker 2008]). Overinvestment may be even more likely to occur during developmental periods of increased emphasis on social interaction and belonging, such as the transition to high school (Isakson and Jarvis 1999).

Kuhl and colleagues (2012) find evidence of this overinvestment strategy, in which YVV spurred premature entry into coresidential unions. Attention to coresidential unions (especially marriage) among life course criminologists tends to characterize marital union formation as a *prosocial* role transition that facilitates desistance (e.g., Sampson and Laub 1990): that is, the “good marriage effect” (but see Giordano, Cernkovich, and Rudolph

2002). One recent exception directly addressing the good marriage assumption shows that coresidential unions place female victims of youth violence at increased risk of intimate partner violence (Kuhl et al. 2015). This is a continuation of their increased risks of being in violent and abusive dating relationships (Scott, Stewart, and Wolfe 2005). These findings parallel research in family sociology consistently showing early union formation to be associated with a wide range of negative outcomes. These include depression, STI contraction, obesity, smoking (Wickrama et al. 2010), lower-quality marital unions, and higher risk of divorce (Amato et al. 2007).

Although victimized youth enter coresidential unions earlier in young adulthood than do their non-victimized peers, it is important to recognize that these relationships (for the most part, at least) do not suddenly begin at cohabitation (or marriage). Instead, they are anchored in a larger sequence of progression through various relational stages (Meier and Allen 2009). Yet considerations of relationship timing and progression—as well as the broader dynamics of intimate relationship formation among victimized adolescents—remain under-examined in life course criminology and victimology research. Criminologists' overwhelming focus on marriage overlooks the fact that marriage is but the *capstone* of a dynamic searching, sorting, and selecting process (Cherlin 2009) that begins with dating.<sup>1</sup> This is a notable omission given that victimization risks peak at approximately ages 16 to 17 (Macmillan 2001)—precisely when dating becomes especially common (Carver, Joyner, and Udry 2003).

### The Significance of Adolescent Dating

Once regarded as trivial, romantic relationships are now recognized as a hallmark of adolescence (Furman, Low, and Ho 2009) and a focal experience accompanying the transition from middle to high school (Isakson and Jarvis 1999). Prior research often problematizes dating, approaching it from a risk framework. Indeed, dating relationships are a significant source of stress for adolescents; they are associated with depressive symptoms (Joyner and Udry 2000) and delinquent behavior (Crosnoe and Johnson 2011; Kreager and Haynie 2011). Adolescents embarking into this new realm of interpersonal relationships are challenged to navigate conflicting family, peer, and partner pressures; to negotiate increasingly complex peer relations; and to manage intense emotions.

Despite these risks, however, adolescent dating may offer developmental benefits. Dating influences adolescents' self-evaluations (e.g., self-esteem, self-confidence), identities (and associated corresponding roles and behaviors), and sense of authenticity (Collins 2003; Giordano, Longmore, and Manning 2006). Positive dating experiences help teens learn how to handle emotions, be secure, and be socially competent (Larsen and Jensen-Campbell 1999). Moreover, dating may facilitate resilience for at-risk (e.g., previously victimized) youth by providing support and companionship, helping them form adaptive, functioning relationships (McCarthy and Casey 2008; Scott et al. 2005). The social acceptability of

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<sup>1</sup>Although a few life course criminologists have begun to consider non-coresidential dating relationships (Lonardo et al. 2010; McCarthy and Casey 2008), most continue to do so either with respect to the role of such relationships for criminal/deviant desistance or to risk factors for within-relationship victimization.

adolescent dating may thus allow victimized youth to secure needed intimacy and love (Downey et al. 1999).

The mixed nature of the findings on the consequences of adolescent romantic relationships may be due to variations in the *timing* of such events (Ivanova, Veenstra, and Mills 2012). As Collins, Welsh, and Furman (2009) note, “off-time” dating or romantic relationship experiences (those occurring in early adolescence) are associated with misconduct, poor academic performance, and externalizing behaviors. These are all risk factors for later problem behaviors. Adolescents with early romantic activity are also at increased risk of maladjustments because they are unprepared for the intimacy demands of such relationships, and they lack the support of peers engaged in similar relationship activity (Connolly et al. 2013). Early relationships may be uniquely intense and require relationship management skills that young daters lack (Collins and Laursen 2004; Furman, Ho, and Low 2008).

### **Risk Factors for Precocious Dating Debut**

Several risk factors may accelerate adolescents’ entry into dating, particularly among victimized youth. Violent victimization leads to increases in loneliness and depression (Boivin, Hymel, and Hodges 2001). YVV is also associated with reduced self-efficacy, feelings of mistrust, and separation anxiety (Macmillan 2001). Because it compromises individuals’ self-esteem (Overbeek et al. 2010), youth victims may seek out intimate relationships to reaffirm their sense of self-worth. This is especially likely given that romantic relationships are a normative context in which to find emotional and social support. Indeed, positive, pro-social relationships can mitigate some of the negative consequences of victimization (e.g., externalizing behaviors, loneliness, depression, anxiety [Ruback and Thompson 2001; Storch, Brassard, and Masia-Warner 2003]). Furthermore, specific role identities (e.g., girlfriend/boyfriend) can provide psychological benefits, including a sense of purpose and meaning to one’s life (Thoits 1991). Romantic relationships offer individuals the chance to develop new identities (as girlfriends, boyfriends, partners). These identities can change the way others think of them and how they see themselves (Raley, Crissey, and Muller 2007). As such, entry into a romantic relationship may be appealing to victims seeking to shed that stigmatized identity for a more socially accepted one.

In addition to the socioemotional and psychological consequences, YVV also has physiological and behavioral consequences that may lead to accelerated dating initiation. For instance, adolescent dating debut is often associated with pubertal onset (Connolly et al. 2013; Friedlander et al. 2007), itself a correlate of violent victimization (Haynie and Piquero 2006; Margolin and Gordis 2000). Early life course traumas lead to subjectively feeling older (Johnson and Mollborn 2009); thus, victimized youth may progress through the normative, age-graded sequences of life course transitions at a faster rate than their non-victimized peers. Family stressors—such as parental divorce and weakened parental monitoring—are also risk factors for early dating in adolescence (Collins 2003; Ivanova, Mills, and Veenstra 2011). Finally, violent victimization may be linked to relationship initiation via its effect on sensation-seeking (Brady and Donenberg 2006) as a coping mechanism (see also Ivanova et al. 2012).

## The Progression from Dating to Union Formation

Violently victimized youth may enter coresidential unions sooner than their non-victimized peers simply because they had a head start with these earlier dating experiences. An alternative (yet complementary) explanation is that victimized youth progress through relational stages *more quickly*. That is, young victims may or may not begin dating sooner (than non-victims); however, once dating, their relationship sequences unfold at a whirlwind, frantic pace and thus become coresidential faster. The period of adolescent and young adult courtship should involve exploration and decision-making; but when relationships are entered into hastily, these processes may be cut short. This leads to what some family scholars characterize as “sliding” into—rather than “deciding” to enter—coresidential unions, which itself compromises relationship quality (Stanley, Rhoades, and Markman 2006). Romantic relationships whose progression is “event-driven”—motivated by a specific, immediate need (e.g., needing a place to live)—are risk of event-driven relationship progression, as living with a partner can provide a means of escape from or coping with a difficult environment or negative label.

Scholars have documented patterns of and variation in the sequence of adolescents’ relationship stages (Harding 2007; Meier and Allen 2009). However, there is scant work examining variation in *the timing of* youths’ movement through these stages. In addition, prior studies have not directly examined the link between YVV and the rate of progression through relationship stages. One line of research that may be relevant for the current inquiry comes from Sassler and Joyner (2011), who apply a social exchange perspective to understanding the tempo of transitions in young adult intimate relationships. Their study shows that relationships characterized by a power imbalance (e.g., relationships between White men and non-White women) progress at a more rapid pace (from dating to cohabitation) than do relationships among more power-balanced couples. Extending this logic to relationships involving youth victims suggests that victims have less relational power (i.e., status) than non-victims and therefore may be pressured to move a relationship to the coresidential stage faster than they desire. Alternatively, victims of youth violence may be motivated to progress to a coresidential stage in an attempt to solidify or stabilize a fragile relationship—perhaps one in which they feel they have precarious standing (Harper, Dickson, and Welsh 2006). This is consistent with the overinvestment strategy that rejection-sensitive adolescents may display (Downey et al. 1999). If (or when) their emotional well-being or sense of self becomes dependent on their romantic relationship, then concern about maintaining that relationship may constrain decision-making and accelerate the transition to a more serious stage.

## Age Differences in the Consequences of Youth Violent Victimization

The life course perspective has become a major theoretical framework in the study of criminal offending (and desistance). Nevertheless, its application to victimization research remains limited (Macmillan 2001). This is in spite of the fact that both the nature of victimization (Sullivan, Wilcox, and Ousey 2011; Warner and Settersten 2017), and the developmental changes that affect individuals’ risk of and reactions to victimization are likely structured by age. As such, the life course perspective provides a useful conceptual framework within which to situate analyses of victimization and its consequences. As



Finkelhor (2007:21) argues, “[W]e could expect the nature, quantity, and impact of victimization to vary across childhood [and adolescence] with the different capabilities, activities, and environments characteristic of different stages of development.” Nevertheless, attention to such developmental heterogeneity is limited with little examination of age differences (e.g., Haynie et al. 2009; Macmillan and Hagan 2004). This is despite calls for scholarship to measure the timing of events more precisely (Hagan and Foster 2001:892) to capture “cascading” adolescent experiences. Thus, more attention is needed on developmental variation in the consequences of victimization—consistent with life course criminologists’ focus on the age-graded ways that experiences become meaningful (Sampson and Laub 2005).

Developmental scholars note that social environments and expectations vary across early, middle, and late adolescence. These are particularly diverse with respect to identity development, independence (McLean, Breen, and Fournier 2010), emotional reactivity (Silvers et al. 2012), and interpersonal relationships (Clark-Lempers, Lempers, and Ho 1991). For instance, in early adolescence, friendships are the dominant source of social support. However, by middle adolescence many youth have experienced at least one romantic relationship. By late adolescence most youth are in ongoing romantic relationships (Collins and Laursen 2004). Additionally, early, middle, and late adolescents differ in their motivations for and experiences within romantic relationships. In choosing romantic partners, early adolescents appear more concerned with superficial features (e.g., fashionable clothes). By contrast, late adolescents increasingly choose romantic partners based on characteristics related to intimacy, support, compatibility, and potential partners’ future plans (Collins 2003; Roscoe, Diana, and Brooks 1987).

Youth thus experience a constellation of developmental (physical, intellectual, emotional) changes, structural transitions, and shifting interpersonal relationships during adolescence (Crosnoe and Johnson 2011). These changes combine with increased risks of violent victimization. As such, particular attention needs to be directed to the question of whether (and how) the developmental consequences of YVV may vary depending on when the victimization occurred (Boney-McCoy and Finkelhor 1995). A life course perspective attuned to timing in lives motivates our expectation that the age at which victimization occurs may influence the socioemotional and relational consequences of that experience. Some scholars have observed age heterogeneity in youths’ responses to victimization. Even though this work is largely focused on peer victimization (e.g., bullying) it highlights the importance of considering how age conditions YVV. For instance, Pellegrini and Bartini (2000) find that victimization in early adolescence is associated with decreases in casual peer contacts and close relationships. Silvers and colleagues (2012) observe that rejection-sensitive early adolescents (age 10 to 13) exhibit a negative emotional response to social stimuli (photographs of social situations, people interacting). Such decreases in relational ties among victimized youth correspond to the withdrawal strategy discussed earlier (Downey et al. 1999).

The ubiquity of dating in middle and late adolescence may have implications for adolescents’ responses to victimization. That is, as dating becomes more normative and expected, it may emerge as a coping mechanism for the emotional, social, and psychological

challenges brought on by YVV. Indeed, social stimuli do not elicit negative emotional responses among rejection-sensitive older adolescents (Silvers et al. 2012). Increased appeal of dating (even among victims) is also understandable given observed increases in social competence and decreases in social anxiety in middle and late adolescence (Marston, Hare, and Allen 2010). In addition, victimization in late adolescence coincides with entry into high school. This is an environment where dating takes center stage. As such, YVV during this period may lead to overinvestment in romantic relationships. In late adolescence, romantic experiences are associated with higher perceived social acceptance (Furman et al. 2009). Moreover, dating relationships among high school–aged youth can help mitigate social anxiety (La Greca and Harrison 2005). Late adolescents' choice of romantic partners is guided more by intimacy, compatibility, and support needs (Scharf and Mayseless 2007), rendering these relationships as “safe havens” (Kobak et al. 2007). The desire for these socioemotional benefits may be particularly pressing for victimized adolescents in the thrust of developmental and structural transitions during these years.

### **Gender Differences in Victimization and Adolescent Relationships**

Gender is another key factor consistently shaping both the risk of YVV and the context of adolescent romantic relationships. Much of the literature on gender differences in YVV focuses on relational (e.g., intimate partner violence [IPV], dating violence) or familial (e.g., child abuse) violence. Nevertheless, existing work does show that males are significantly more likely than females to be victims of “street” violence (Lauritsen and Heimer 2009), especially assault (Finkelhor et al. 2005). Additionally, the salience of—and involvement in—romantic relationships is considerably gendered. Because of differential gender socialization, interpersonal relationships become particularly important for girls' status and sense of self during adolescence (Eder 1985). Expectations and preferences about desirable progression through relational stages are also gendered (Choukas-Bradley et al. 2015). Girls tend to express desire for greater commitment whereas boys want more intimate activities (Bradshaw, Kahn, and Saville 2010). This dynamic may facilitate girls moving into coresidential unions sooner. Indeed, women transition to first marriage and cohabitation at younger ages than men (Manning, Brown, and Payne 2014). Interestingly, however, this difference may reflect girls' earlier dating debut. As Raley and colleagues (2007) find, once involved in romantic relationships, rates of union formation do not differ by gender.

This suggests that the consequences of YVV for both dating debut and progression to first coresidential unions may also be gendered. For instance, violent victimization is rarer for women. It is thus possible that the social, psychological, and behavioral implications will be more acute when women are victimized. Previous research supports this claim. This research shows that PTSD-related symptomatology and depression (Fitzpatrick 1993) are higher among female victims of violence compared to male victims (Boney-McCoy and Finkelhor 1995). This suggests that female victims may be particularly apt to turn to romantic relationships for support. Furthermore, victimization may exacerbate boys' already higher rejection sensitivity (Marston et al. 2010) and lower levels of confidence with respect to their ability to navigate romantic relationships (Giordano et al. 2006). In this way, victimization may propel young men into relationships for which they are unprepared as well as leading them to progress toward more serious stages more rapidly.



## Current Study

The current study situates the implications of youth violent victimization within the key developmental context of adolescents' romantic relationship formation (Macmillan 2001). We seek to delineate the relationship behaviors leading to accelerated first coresidential union entry among victimized youth (Kuhl et al. 2012). We seek to do so with particular attention to the ways in which the consequences of YVV may be structured by age and gender. Our analysis is guided by the following research questions: (1) Do victims of youth violence begin dating sooner than their non-victimized peers? (2) Do victims of youth violence progress from dating to first union formation more quickly? (3) To what extent are both processes—the victimization effect on the rate of dating debut and progression to first union—differentially patterned by (a) the age at which victimization occurred and (b) gender?

In addressing these questions, the current study makes significant theoretical contributions. In particular, we integrate diverse bodies of literature to argue for more targeted attention to the developmental context of adolescence. With increasing attention to adolescence (Collins 2003; Crosnoe and Johnson 2011), sociological scholarship has begun to recognize the developmental significance of romantic relationship formation during this period of the life course (Giordano 2003; Meier and Allen 2009). We move this literature forward by addressing youth violent victimization as a key early life disadvantage that has implications for trajectories of interpersonal relationship formation and progression. We integrate perspectives from developmental research to show how (and why) sociological scholarship on victimization can (and should) move beyond conceptualizing adolescence as a homogenous developmental period (bookended by childhood and young adulthood) to instead consider the significant heterogeneity *within* this particular period.

Furthermore, by focusing on romantic relationships, this article adds to a small but growing body of work within life course criminology treating union formation as an important outcome. This approach shows how unions (particularly marriage) are more than catalysts for criminal desistance. We also expand on and challenge a core premise in victimology research, namely, that victimization experiences are wholly detrimental to socioemotional functioning in a way that substantially inhibits interpersonal relationships. We argue that victimized youth may instead form intimate relationships at accelerated rates to meet needs for social support, self-efficacy, and status. Finally, whereas much victimization scholarship focuses on either victimization risk factors or delinquent/deviant outcomes (e.g., offending, substance use), we focus on romantic relationship formation. This is an outcome that is a normative part of adolescent development but whose *timing* has significant long-term consequences and may be affected by violent victimization.

## DATA AND METHODS

We use data from the nationally representative National Longitudinal Study of Adolescent to Adult Health (Add Health) containing detailed information on romantic relationship experiences as well as youth violent victimization (YVV). At Wave I (1994 to 1995), a random subsample of adolescents in grades 7 to 12 (ages 11 to 21) in sampled schools completed an in-home questionnaire. A subset of these respondents was reinterviewed in

1996 (Wave II). The full sample was reinterviewed in 2001 to 2002 (Wave III) and 2007 to 2008 (Wave IV), when respondents were 18 to 26 and 24 to 32 years old, respectively. All analyses were weighted and adjusted for the complex survey design (for sampling details, see Harris 2005) using Stata 14 (StataCorp 2015).

### Analytic Sample

Because our first research question focuses on the consequences of YVV for the timing of dating debut, only respondents who had not yet begun dating when YVV was reported at the Wave I interview were at risk of dating debut. Using the Relationship Experiences Inventory in Add Health, we identified adolescents as having already dated by Wave I if they reported a “serious” relationship that involved going out together in a group, telling others they were a couple, going out alone together, holding hands, giving partner (or partner giving you) a gift, and kissing. This categorization is consistent with Collins’s (2003) criteria for evaluating the developmental significance of adolescent romantic relationships: involvement, partner identity, content, quality, and cognitive/emotional processes (see also Connolly et al. 1999). These criteria capture the mixed-gender, affiliative, group-based activities shown to emerge in early adolescence (Friedlander et al. 2007). Thus, from the pool of respondents with valid sampling weights ( $n = 18,924$ ), we excluded the 40 percent of respondents ( $n = 7,566$ ) who had already experienced a “serious” dating relationship at Wave I.<sup>2</sup>

Further sample exclusions related to dating and first union formation timing (not cumulative) include 548 respondents (4.8 percent) whose subsequently reported dating debut date preceded the date of their Wave I interview; 712 cases (6.6 percent) with first union dates that preceded their dating debut; cases with implausible relationship dates ( $n = 14$  [.1 percent]) implying debut in childhood (under age 11); and cases missing information on dating timing ( $n = 1,351$  [13.4 percent]) either because the relationship was not selected for Wave III detailed relationship queries or because respondents’ first reported relationship at Wave IV was a coresidential union and the relationship start date was not asked (only the date the relationship became coresidential). These exclusions resulted in a final analytic sample of 8,738 adolescents.<sup>3</sup>

We recognize that limiting our analytic sample to Wave I non-daters is a type of left-censoring (Allison 1984). Informative left-censoring may present endogenous selection bias (Elwert and Winship 2014), to the extent that the sample selection criteria are associated with both the independent and dependent variables. We therefore performed supplemental analyses predicting sample exclusion and whether YVV was associated with dating debut among the excluded cases (Wave I daters). These analyses (see Part A of the online supplement) show that Wave I daters were more likely to have been the victim of youth violence. They were also older, more likely to be female, more often non-Hispanic White, and more likely to have been raised in a family structure other than two married biological parents. These youth also reported more autonomy and lying to parents, violent perpetration,

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<sup>2</sup>At Wave I, approximately 55 percent of adolescents reported having experienced a “special relationship” with someone during the past 18 months; prior dating research frequently uses this measure to identify respondents with dating experience. This, however, does not capture the *meaningful* dating experience described by Collins (2003) and Connolly and colleagues (1999).

<sup>3</sup>We excluded cases with missing information on our dependent variables following Allison (2010:420), given that multiple imputation routines are ill-equipped to deal with complex event-timing data.

and alcohol use; were more physically developed; and held greater expectations to marry and to attend college. Importantly, however, YVV was *not* associated with dating debut timing among the excluded cases. This suggests the left-censoring was not informative and, net of the other covariates, our model estimates are not biased by endogenous selection.<sup>4</sup>

### Outcome Variables

*Dating debut timing* following the initial interview was assessed beginning at Wave II. The methods and questions used to collect relationship information varied across waves. At Wave II, respondents were asked, “In the last 18 months, have you had a romantic relationship with anyone?” Respondents answering “yes” then listed up to three recent partners, and detailed relationship information was collected for each partner. Dating debut date was calculated from the question, “In what month [year] did your romantic relationship with [partner] begin?” We identified dating debut date as the earliest date reported across any of the serious relationships.

At Wave III, respondents were asked to report “any romantic and sexual relationships” they had experienced since the first interview. Detailed information was collected about each relationship meeting certain criteria (e.g., current, sexual, involving cohabitation or marriage). Relationship start date was again assessed via the month and year the romantic relationship began. For some relationships, respondents identified the relationship as sexual but not romantic; in those instances, relationship start date was assessed from questions about the month and year the sexual relationship began. We identified the dating debut date at Wave III as the earliest date reported for the formation of the romantic or sexual relationship.

At Wave IV, respondents were asked to report the number of persons with whom they had married, cohabited, had a pregnancy, had a romantic relationship of at least six months (since 2001), and had a relationship of less than six months (since 2001). Relationship start date was asked of serious (involving marriage, cohabitation, or pregnancy), current, or most recent relationships. For respondents who had not experienced dating debut before Wave IV, the dating debut date at this wave was identified as the earliest date reported from the question, “In what month [and year] did your relationship with [partner] start?” As noted in the discussion of the analytic sample, coresidential (marriage or cohabitation) relationships identified at Wave IV include only the date the relationship first became coresidential, not when it started.<sup>5</sup>

Across waves, we coded *dating debut timing* as the difference in months between the Wave I interview and the identified earliest dating debut date. Respondents who never reported a serious dating relationship in any wave were right-censored at the date of their last interview (discussed below).

<sup>4</sup>Code used to generate our analytic file and key results are available from the first author upon request.

<sup>5</sup>This means Wave IV dating debut reports are biased toward current/most recent relationships, and dating relationships that began and ended between Waves III and IV may be missing from the Wave IV measure of dating debut. Although this is a limitation, we do not believe it has serious implications, as approximately 95 percent of daters had already debuted prior to Wave IV.

To measure *progression from dating to first union formation*, we calculated the amount of time between respondents' dating debut and their first union (marriage or cohabitation) dates. Respondents who did not form a union by Wave IV were right-censored (discussed below). It is important to note here that we measured the duration of individuals' movement between developmental *stages* (initiating dating to forming a coresidential union) rather than tracing the timing of stages within a single relationship with a single partner (see also Longmore, Manning, and Giordano 2001). Romantic relationships were not followed longitudinally in Add Health, and thus it is not possible to link specific relationships with a given partner across waves. We identified the timing of respondents' first unions based on detailed histories of all coresidential partnerships collected at Waves III and IV. Information about coresidential relationships was not collected at Wave II, but if respondents were in such relationships at that time, these relationships were captured at Wave III (where respondents were asked if they had ever lived with someone). Respondents indicated the month and year each coresidential relationship began and ended, and whether it was a marriage or cohabitation. We sorted these relationships in chronological order to identify respondents' earliest coresidential union. We calculated the length of time for *progression to first union* as the difference in months between respondents' first coresidential union and dating debut dates. Because prior research identifies different effects of YVV on the timing of cohabitation and marriage (Kuhl et al. 2012), we also created separate measures for progression to first cohabitation and progression to first marriage (without prior cohabitation).

### Main Predictor Variable

We assess *youth violent victimization* with Wave I reports of how often in the past 12 months (1) "someone had pulled a knife or gun" on them, (2) "someone cut or stabbed" them, (3) "someone shot" them, or (4) they "were jumped." Original response options were "never," "once," and "more than once." Given the low prevalence of each item, we created a dummy indicator for any experience of YVV (Fang and Corso 2007). Although the identity of the perpetrator is unknown, prior research indicates that these items broadly capture community or "street" violence (Hagan and Foster 2001; Haynie et al. 2009). This interpretation is further reinforced by our controls for childhood family violence (described below).

### Additional Predictors

We statistically adjusted for several sets of factors to avoid spurious interpretations of the effect of YVV. To guard against overcontrol bias (Elwert and Winship 2014), we only consider variables that were measured at Wave I (with two exceptions, described below) and that prior work suggests may be common causes of both YVV and the timing of romantic relationships. We conducted preliminary analyses to determine which variables were correlated with our event variables and retained the ones with a statistically significant bivariate association or whose exclusion from the multivariate model resulted in a meaningful (substantive and/or statistically significant) change in the estimates. We briefly describe the additional predictors included in our final models below and note candidate measures that were tested in preliminary models. Table 1 presents details on item coding.

Seven *sociodemographic* indicators adjust for well-established group differences in YVV and relationship formation: *age*, *female*, *race/ethnicity*, *immigrant status*, *family SES*, *family structure*, and *urban* residence. We also considered region of residence in preliminary models.

Analyses include two measures as proxies for *parental supervision*, which is implicated in both the potential for YVV and subsequent dating behavior (Longmore et al. 2001): *parental autonomy* (respondents' independent decision-making about personal behaviors and social activities) and *lying to parents* about their whereabouts in the past year. In preliminary models, we considered other measures of parent-child relations, including self-reported closeness to parents and perceived parental caring.

In terms of *disposition*, prior studies (Hagan and Foster 2001; Haynie et al. 2009) have found several physiological and attitudinal measures related to both YVV and various "early exits" from adolescence (although these studies have not examined relationship formation). We adjust for respondents' self-assessed *pubertal development*, expectation to *marry by age 25*, and *educational aspirations*. We considered religious importance, depressive symptoms, self-esteem, impulsivity, parent's assessment of the respondent's temper, and intelligence (as measured by the Add Health Picture-Vocabulary Test) in preliminary models.

We adjust for three indicators of respondents' *deviant behavior* that may co-occur with YVV (Schreck et al. 2008) and are linked to relationship formation (McCarthy and Casey 2008): *violent perpetration*, *nonviolent delinquency*, and *alcohol use*. In preliminary analyses, we also considered a measure of illicit drug use.

*Abuse during early childhood* is developmentally disruptive and undermines physical, mental, behavioral, and socioemotional well-being (Silverman, Reinherz, and Giaconia 1996) and is associated with a reduced likelihood of coresidential union formation (Cherlin et al. 2004). Therefore, our analyses also adjust for respondents' reports of *physical abuse* and *sexual abuse* perpetrated by a parent or caregiver prior to 6th grade (age 12). These questions were asked retrospectively at Waves III and IV, using slightly different age referents, and were recoded for consistency.

Finally, we include a count of *number of interviews* to adjust for panel attrition. Net of the other covariates, this measure captures any unmeasured time-invariant characteristics related to right-censoring. Supplemental analyses indicate that net of other study variables, YVV does not significantly predict dropping out of the panel or the total number of interviews completed (see Part B of the online supplement).

### Analytic Strategy

To examine the effect of YVV on the rates of dating debut and first union formation over time, we use a common event history technique: Cox regression. Event history methods are appropriate when we are interested in the effects of a given set of predictors on the time it takes an event to happen. The specific advantage of Cox models for studying the timing of events is that they are semiparametric, allowing for estimation of covariate effects on the underlying hazard rate without requiring specification of the baseline hazard rate (Allison

1984). Thus, in leaving it unestimated, Cox regression makes no assumptions about the functional form (or shape) of the baseline hazard rate with time.<sup>6</sup> These models have been used in a number of studies of union formation (e.g., Raley et al. 2007; Teachman 2003). Because we are examining two different events (dating debut and progression to first union), we have two separate Cox models—although they use the same specification.

Beginning with non-daters at Wave I, our model for Research Question 1 predicts dating debut after Wave I as follows:

$$\log h_i \text{ dating}(t) = \lambda_{0i}(t) + \beta_1 YVV_{1i} + \beta_2 YVV_{2i}(t) + \sum \beta_m X_{mi}$$

Here the rate of dating debut for individual  $i$ , given that the individual has survived to at least time  $t$ , is a function of an unspecified baseline hazard rate ( $\lambda_{0i}(t)$ ), the effect of youth violent victimization ( $\beta_1 YVV_{1i}$ ), the interaction between YVV and time ( $\beta_2 YVV_{2i}(t)$ )—which allows for the diminishing effect of YVV on the risk of dating debut, and a vector of time-invariant additional predictors ( $\sum \beta_m X_{mi}$ ) indexing demographic characteristics, parent-child relations, deviant behavior, disposition, childhood abuse, and attrition. Time is measured in months since the Wave I interview; respondents remain at risk until they debut or are right-censored at their final interview because they never dated (Allison 1984).

We include the interaction between YVV and time ( $\beta_2 YVV_{2i}(t)$ ) because preliminary analyses showed non-proportionality in the effect of YVV on the rate of dating debut (as well as the rate of progression to first union). This signals that the effect of YVV is not constant with time (see also Kuhl et al. 2012) and the effect is so strong it would be misleading to ignore it. Extending the Cox model to allow the effect of a given variable to interact with time is the standard way to account for such non-proportionality (Allison 1984), and we use a Wald  $\chi^2$  test to assess the joint significance of  $\beta_1 YVV_{1i}$  and  $\beta_2 YVV_{2i}(t)$ .

Among respondents who began dating, we address our second research question by estimating the rate of progression to first union formation using a model analogous to that for dating debut:

$$\log h_i \text{ First Union}(t) = \lambda_{0i}(t) + \beta_1 YVV_{1i} + \beta_2 YVV_{2i}(t) + \sum \beta_m X_{mi}$$

where the rate of first coresidential union formation for individual  $i$ , given that the individual has started dating and has survived to at least time  $t$ , is a function of an unspecified baseline hazard rate ( $\lambda_{0i}(t)$ ), the effect of youth violent victimization ( $\beta_1 YVV_{1i}$ ), the interaction

<sup>6</sup>As Mirowsky (2013:144, 151) explains, moderators can be either external (applying to everyone under study) or internal (applying only to those in a specific group). Researchers interested in internal moderators often limit their analyses to the group in question (e.g., limiting the analysis of age differences to just victims), but such an approach eliminates comparison with those not in that group (e.g., non-victims). That comparison is essential to the relationship processes examined here.



between YVV and time ( $\beta_2 YVV_{2,t}(t)$ ), and a vector of additional predictors  $\left( \sum \beta_m X_{mi} \right)$  as described earlier.

Because progression to first coresidential union may occur through either cohabitation or marriage, we also estimate a competing risks model of first union formation. Under competing risks, first union formation through cohabitation removes an individual from the risk of forming a first union directly through marriage (and vice versa). Our basic competing risks model is identical to Equation 2, save that the rate of union formation is estimated separately for the two types of unions. We test for the equality of coefficients (Paternoster et al. 1998) to determine whether the effect of a given parameter differs between the models for first cohabiting and first marital unions. Across progression models, we measure time in months since dating debut; respondents remain at risk until they form a union or are right-censored at their final interview because they never entered into a coresidential union (Allison 1984).

We examine whether the effect of YVV on the rate of dating debut and progression to first union differs for youth who were victimized at earlier versus later ages (Research Question 3a). To do this, we use an internal moderator approach (see Mirowsky 2013), which allows inclusion of variables applicable only to some respondents (i.e., age at YVV only applies to victims).<sup>7</sup> An internal moderator approach enables examination of whether “the qualities of a situation determine the effect of being in it” (Mirowsky 2013:158) and comparisons with those not in the situation (i.e., non-victims). Thus, we created separate YVV dummy variables (and the interactions with time) based on age at Wave I; non-victims are coded as zero on each variable and serve as the reference (see also Simons and Barr 2014; Warner and Swisher 2015). We distinguish between respondents victimized at age 14 and younger (“early” adolescence) and those victimized after age 14 (we refer to this as “late” adolescence to avoid any confusion between middle adolescence and middle school). These age categorizations mirror (approximately) the transition from middle to high school and allow us to explore heterogeneity in experiences and their consequences during adolescence.<sup>8</sup> We use a Wald  $\chi^2$  test to assess whether the age-specific YVV terms differ from one another.

Finally, as in the analysis of age differences, we examine gender differences in the effect of YVV by specifying separate victimization variables for males and females (Research Question 3b). We repeat our analyses to assess the extent to which the effect of YVV on dating debut and relationship stage progression differ by gender, and we use Wald  $\chi^2$  tests to assess whether the gender-specific YVV terms differ from one another. Unfortunately, given

<sup>7</sup>The semiparametric nature of Cox regression restricts the ability to generate a predicted time-to-event for a given set of covariates (Allison 2010)—especially when non-proportionality is specified, as is the case in this analysis.

<sup>8</sup>A limitation is that respondents were not asked the timing of victimization. This is less a methodological problem for the early adolescent sample (those just entering the period of increased victimization risk), but may matter for the late adolescent sample—which could contain youth first victimized during late adolescence *and* those victimized in both early and late adolescence. This conflation should work against detecting significant effects between YVV in early and late adolescence, and findings that emerge would be somewhat conservative. We explored the extent and consequences of repeat victimization in supplemental analyses (see Part E of the online supplement).

limited statistical power for some age-by-gender-by-YVV groups, we are not able to consider the potential for age differences in the effect of YVV to be gendered.

Missing data are minimal—with the exception of family SES and childhood abuse. On the focal independent variable of YVV, just 1.2 percent of respondents are missing. For the other control variables, missing data are less than 2 percent (and often considerably lower). Family SES is missing for 6.1 percent of respondents. Reports of childhood physical and sexual abuse are missing for 17.7 and 16.3 percent of respondents, respectively, largely because these questions were not asked until Waves III and IV. To handle the missing data on the independent variables (see note 3), we use multiple imputation using the Multivariate Imputation using Chained Equations (MICE) procedure via Stata's *mi impute chained* command. MICE imputes the missing values for each variable as a function of the other variables in the analysis (including the dating and first union measures; White, Royston, and Wood 2011).

We performed 20 imputations, following the guideline that the number of imputations should be similar to the percentage of incomplete cases (White et al. 2011). Estimates using MICE vary slightly from preliminary models using listwise deletion (where family SES and childhood abuse measures are retained using a dummy variable approach), but the major substantive conclusions are unchanged.

## RESULTS

### Descriptives

Table 2 presents descriptive statistics for the total analytic sample as well as stratified by YVV status. Among our sample of youth who had not yet started dating at the Wave I interview, 17 percent had experienced violent victimization in the past year. Much of this YVV experience is attributable to “being jumped” (reported by 55.4 percent of victims) and “having a gun/knife pulled on you” (reported by 56.0 percent of victims); 22.4 percent of victims reported being stabbed, and just 5.7 percent reported being shot. Two-thirds (67.1 percent) of victims reported experiencing only one of the four individual YVV items, about equally divided between having a weapon pulled on them or being jumped.

Differences between victims and non-victims on the other variables are consistent with prior studies. Victims were older; more likely to be male; more likely to be Black, Hispanic, or other race; to live in urban areas; to be from lower-SES families; and to live in single parent, step-parent, or some other non-biological parent arrangement. Victims were more likely to have lied to parents about their whereabouts. Victims expressed lower future college and marital expectations than did non-victims and reported engaging in more deviant behavior. Victims also reported that their pubertal development was marginally more advanced than their peers ( $p = .057$ ). Retrospective reports of childhood physical abuse were greater among victims, but reports of childhood sexual abuse did not differ by YVV. Victims provided slightly fewer interviews than did non-victims, although this difference was not significant in a multivariate model (see Part B of the online supplement).

Table 3 summarizes differences in relationship events and their timing for the full analytic sample and by YVV. About four out of five youth (79.1 percent) began dating before the end of the observation period (Wave IV). More than two-thirds of daters (68.7 percent) progressed to a first union (55.8 percent to cohabitation and 13.0 percent directly to marriage). Victims were significantly less likely than non-victims to ever experience dating debut (74.4 versus 80.1 percent), but among daters there was no difference between victims and non-victims in the proportion who eventually formed a first union. Importantly, however, examining the timing of these relationship events reveals differences by YVV that are obscured by comparisons of event indicators alone.

The bottom panel of Table 3 presents the median survival time derived from non-parametric estimates of the survivor function using the Kaplan-Meier method (Cleves, Gould, and Marchenko 2016). The median survival time is the length of time that passes before 50 percent of the population has experienced an event (e.g., dating debut). These results indicate that half of respondents had experienced dating debut by 32 months following the Wave 1 interview and, even though fewer eventually debuted, the median survival time for victims of violence was nine months *earlier* than for non-victims (24 versus 33 months). Following dating debut, the median survival time until first union formation for the full sample was 69 months and occurred eight months earlier for victims than for non-victims (63 versus 71 months). Thus, there is preliminary evidence that victims of youth violence begin dating and then progress to coresidential unions more quickly than their non-victimized peers—even as they are less likely to ever begin dating.

## Multivariate Results

**Dating debut timing**—Our first research question asked whether victims of youth violence begin dating sooner than their non-victimized peers. Table 4 (column a) shows the Cox regression results (see Equation 1) addressing this question. We present the full model for the total sample, as preliminary analyses entering our controls in a stepwise fashion were substantively similar to those presented. The covariate estimates in Cox regression represent the effect on the rate (log hazard) of the focal event (e.g., dating debut) conditional on survival to time  $t$ . As these hazard coefficients lack intuitive meaning, we also present the exponentiated effects or hazard ratios ( $HR = \exp^b$ ). Hazard ratios are more intuitive than the hazard rate coefficients because they correspond to notions of the risk of an event in a given unit of time (Allison 1984; for further description of hazard ratios, see note 9).<sup>9</sup>

As indicated in Table 4, net of additional predictors, victims of youth violence experienced dating debut following the Wave I interview sooner than their non-victimized counterparts. However, the negative interaction with time indicates that the effect of YVV wanes as the experience recedes into the past and dating becomes more developmentally normative. Youth experiencing violent victimization in the year prior to their first interview had 1.240 times the risk of dating debut compared to non-victims. This means victims were about 55

<sup>9</sup>The hazard ratio reflects the expected number of events per a unit of time for a one-unit change in a covariate, with values  $> 1$  indicating the expectation of more events compared to the baseline rate ( $=1$ ), and values  $< 1$  indicating the expectation of fewer events. For dichotomous variables (e.g., YVV), the hazard ratio is particularly useful because it reflects the relative likelihood of the event for one group (e.g., victims) compared to the reference group (e.g., non-victims) per a unit of time.

percent ( $p = HR/(1 + HR) = 1.226/(1 + 1.226) = .554$ ) more likely to begin dating. However, for each additional month that passed after the Wave I interview, the risk of dating debut declined by a factor of .996 (or about .4 percent). The decline over time is such that, provided they had not already debuted, around four-and-a-half years after the Wave I interview, victims and non-victims were about equally likely to begin dating, and then after that point victims were actually less likely to begin dating (see Figure 1, panel a). This helps explain why, as presented in Table 3, victims had a shorter median survival time to debut but were less likely to ever begin dating.

Turning to the other predictors the effects follow anticipated patterns. Dating debut occurred more quickly for older respondents, females, and those living with step-parents (compared to two biological parents), and it was delayed for Asians (compared to non-Hispanic Whites). Youth who had more parental autonomy debuted more quickly, as did those who rated their pubertal development more advanced and expressed higher marital expectations. Interestingly, youth with greater college expectations also had higher rates of dating debut—perhaps indicative of greater social competency. Nonviolent delinquency (albeit only marginally,  $p = .055$ ) and alcohol consumption were linked to more rapid dating debut. Youth who reported physical abuse by a parent/caregiver were also more likely to begin dating. Respondents who provided more interviews were more likely to have their dating debut observed.

**Progression to first union**—With evidence that victimized youth begin dating sooner than their peers, we next consider whether YVV increased the rate at which respondents progressed from dating to first union formation (see Equation 2). As with dating debut, Cox regression estimates suggest that YVV is associated with accelerated relationship progression, but the effect diminishes over time (Table 4, column b). Following dating debut, youth who experienced violent victimization in the year prior to their first interview formed first unions at a rate about one and a half times faster than non-victims. More specifically, YVV increased the rate of union formation among daters by about 59 percent. However, for each additional month that passed after dating debut, the elevated rate of dating progression for victims declined by a factor of .993 (or about .7 percent), such that victims and non-victims crossed-over after four and a half years (see Figure 1, panel b). Thus, YVV is associated with a more rapid progression from dating to first union formation (recall that we are not modeling the progress with a single partner), and this is especially pronounced in the months immediately following dating debut.

Additional sociodemographic predictors had the expected effect on the rate of progression to first union formation and largely parallel the results for dating debut. Union formation occurred more rapidly for daters who were older; female; non-Hispanic White; living in non-urban areas; from lower-SES families; lived with a single parent, step-parents, or other arrangements (compared to two biological parents); and reported childhood sexual abuse. Respondents who provided more interviews were more likely to have their first union formation observed.

The effect of other variables on the rate of progression to first union differ from that of dating debut. Whereas relative pubertal development and college expectations are positively

associated with dating debut, these factors are associated with slower rates of union formation (the effect of relative pubertal development is marginally significant,  $p = .055$ ). Violent perpetration is not associated with dating debut, but it increases the rate of union formation among daters. Nonviolent delinquency and frequency of alcohol use are not associated with the rate of union formation. Neither expectations to marry nor the parental supervision measures are associated with the rate of union formation (although both are associated with dating debut).

Progression to a first union may occur through either cohabitation or marriage, and YVV is associated with the rate by which daters formed both (see Table 5). However, the effect on the rate of first marriage formation is larger, although of marginal statistical significance ( $p = .055$ ). Immediately following dating debut, YVV increases the rate of first cohabitation formation by about 58 percent and the rate of first marriage formation (without prior cohabitation) by about 69 percent. The effect of YVV declines similarly over time for both types of unions. Despite YVV having a larger effect on the rate of progression to first marriage, its effect on the rate of overall union formation is similar to its effect on cohabitation because the overwhelming majority of first unions are cohabitations.

**Age differentiation in the effects of youth violent victimization**—We next examine whether the effects of YVV on the rates of dating debut and progression to first union differ between “early” adolescence (age 14 or younger at Wave I) and “late” adolescence (older than age 14 at Wave I). As described earlier, to do this, we include two dummy variables for the age-specific YVV effects (and terms for their interaction with time) in our models. Preliminary results, however, indicated that the early adolescent YVV x time interaction is not statistically significant for either dating debut or first coresidential union formation; thus, we exclude that term. Table 6 presents evidence of an age-differentiated relational response to youth violent victimization.

For early adolescents, YVV is associated with about a 20 percent *reduction* in the risk of dating debut and this delay *persisted* over time (Table 6, column a). Thus, YVV in early adolescence appears to compromise romantic relationship formation throughout the entirety of young adulthood. The effect of YVV on dating debut among late adolescents, however, is consistent with results showing an increased rate of dating debut for victims. YVV accelerated dating debut for youth victimized in late adolescence by about 58 percent, but the effect waned over time (see Figure 2, panel a).

We observe a similar age-differentiated pattern in the progression from dating to first union formation (see Table 6, column b). As displayed in Figure 2, panel b, even though early adolescent victims were less likely to debut, for those who began dating YVV exerts a permanent halting effect. Early adolescent victims are about 29 percent less likely to form a coresidential union than are their non-victimized counterparts. Late adolescent victims who started dating, however, show the familiar pattern of an initially accelerated rate of union formation that diminishes over time (about 61 percent higher in the month immediately following debut, but declining by about .8 percent each additional month thereafter).

Age differences in the effect of YVV on progression to cohabitation follow the same pattern as the model that did not differentiate by union type (see Part C of the online supplement). The rate of progression to marriage also differs between early and late adolescent victims; however, the effect for early adolescent victims is not statistically significant ( $p = .294$ ). The effects of YVV on first cohabitation and first marriage formation differ from one another within age groups. Taken together, these findings suggest that for the successful daters among early adolescents, the lingering effect of YVV depends on the type of union under consideration. Early adolescent victims are clearly more resistant to begin cohabiting with a partner, but only late adolescent victims appear especially at risk of moving more quickly into marriage immediately following dating debut.

**Gender differences in the effect of youth violent victimization**—Finally, we consider gender differences in the effect of YVV on the rate of dating debut and progression to first unions. Women initiated dating and progressed into unions more quickly. Nevertheless, as presented in Part D of the online supplement, we find little evidence that the effect of YVV on dating debut or progression to first unions differs by gender. We also do not detect a clear pattern of differences in the rate of progression to first unions when we consider cohabitation and marriage as competing union types. That said, there is some evidence that victimized young men progress to cohabiting unions *less quickly* and to marital unions *more quickly*. These differences are not apparent in the models of general union progression because few coresidential unions begin at marriage, and this is especially true for men. This suggests that for victimized men, YVV may have a greater effect on the risk of first marriage formation than on the risk of cohabitation.

Sample size limitations preclude us from examining fully age- and gender-differences in the effect of YVV. However, in supplemental analyses we explored whether there are gender differences among the larger subset of respondents victimized in late adolescence. We did not find any significant gender differences in the rates of dating debut or progression to first unions. There was some evidence suggesting that late adolescent YVV is associated with a more rapid progression to first cohabiting unions for women and to first marriage for men. Nevertheless, the overall pattern of findings indicates that victims of youth violence face similar risks of dating debut and progression to first unions regardless of gender.

## CONCLUSIONS AND DISCUSSION

### Summary of Findings

Violent “street” victimization is disproportionately concentrated in adolescence, undermining development and well-being in numerous ways. Recent data on youth violent victimization (YVV) indicates an especially high prevalence of assault with injury among juveniles (Finkelhor et al. 2013). In addition, research attuned to the life course principle of “timing in lives” documents the link between YVV and precocious exits from adolescence (e.g., teenage pregnancy, high school dropout) and premature entry into adulthood (Hagan and Foster 2001; Haynie et al. 2009; Kuhl et al. 2012). Integrating a diverse interdisciplinary literature, we sought to illuminate the means by which the socioemotional consequences of adolescent victimization culminate in premature union formation. In particular, we focused



on the adolescent dating behavior that precedes it: entry into dating and subsequent progression to a first union. Overall, we found that, relative to non-victimized peers, victims began dating sooner and progressed from dating to first unions more quickly. These effects varied by age but not by gender. We expand on our four key findings below.

First, YVV is associated with faster initiation of dating, although the effect is greatest during the months immediately following victimization—or, more precisely, its report at Wave I—and then wanes over time. This is consistent with prior work indicating violent victimization presents at least a short-term psychological crisis (Macmillan 2001), and suggests YVV leads to a tumultuous and consequential period for romantic relationship initiation. The developmental normativity of dating during this time may present a socially acceptable outlet with the potential to mitigate some of the negative consequences of victimization (Ruback and Thompson 2001; Storch et al. 2003). In this way, youth victims can try to reaffirm their self-worth and restore trust in others. Additionally, romantic relationships can offer individuals the chance to develop new identities (as girlfriends, boyfriends, partners), thus altering how they see themselves and how others view them (Raley et al. 2007).

Second, victims of youth violence progress more rapidly into coresidential unions. This suggests that immediately following dating debut, violently victimized youth may be at greater risk of “event-driven” (Sassler 2004) relationship progression (e.g., investing in the relationship as a means of escape from or coping with a difficult environment or a negative label). Consistent with the logic of social exchange theory (Sassler and Joyner 2011), victims may have less relational power (i.e., status) than non-victims and therefore might be pressured to move a relationship to the coresidential stage sooner than desired. That is, victims of violence may be motivated to begin living with a partner to solidify the relationship, especially if victims feel they have less power (Harper et al. 2006). Taken together, these findings suggest violent victimization has the potential to alter multiple stages of adolescents’ romantic relationship trajectories and shape their subsequent life courses.

Third, we find that the consequences of YVV for dating debut and relationship progression differ based on the age at which victimization occurred. Taking heed of Finkelhor’s (2007) assertion that the consequences of victimization likely vary at different stages of development, we anticipated such differences given that early and late adolescents differ considerably in their motivations for and expectations of romantic relationships. This is consistent with the claim that there are at least two potential socioemotional and interpersonal responses to violent victimization: withdrawal and overinvestment (Downey et al. 1999).

For early adolescents, victimization leads to a slowing or halting of entry into dating—a withdrawal response. Early adolescent victims are less likely to initiate dating, and this effect of YVV appears to be long-term, as it does not decline with time since victimization. Instead, early adolescent (age 14 and younger) YVV may be fundamentally transformative, potentially reducing early adolescents’ motivation, ability, or opportunity to move to romantic relationship formation. Moreover, even if they begin dating, early adolescent victimized youth remain less likely to progress to a coresidential union. In this respect, YVV

appears to leave a lasting effect on early adolescents' capacity or motivation to achieve a fundamental developmental marker of later adolescence and early adulthood.

By contrast, youth victimized in late adolescence (older than age 14) show a general pattern of temporarily elevated rates of dating initiation and progression to first unions—an overinvestment response. This suggests that as dating becomes more normative in late adolescence, it emerges as a coping mechanism for the social and psychological challenges brought on by YVV (Brady and Donenberg 2006; Lutzman and Swisher 2005; Turner et al. 2006; Warner and Swisher 2014). This is understandable given that older adolescents increasingly choose romantic partners based on intimacy and support needs (Collins 2003; Roscoe et al. 1987). The developmental normalcy of dating, therefore, provides a readily accessible outlet for dealing with the emotional consequences of YVV. Future research will need to examine the mechanisms that lead to the YVV consequences for dating debut and progression we identify.

Finally, we did not find any evidence of systematic gender differences in the consequences of YVV. This is surprising, given that YVV is more common among men and relationship events occur earlier for women. This null result may be a product of diminishing statistical power to model gender differences in the age-differentiated effects due to limitations in sample size. This could especially be the case if the gender effects run in opposite directions in early versus late adolescence. In supplemental analyses (see Part D of the online supplement) we did find evidence suggesting that late adolescent female victims progress to cohabiting unions and male victims progress to marital unions more quickly. However, ultimately we cannot conclude whether or not gender matters. Collecting data with large enough samples (particularly of victimized youth) to allow for examination of the possible existence of gender differences with respect to the age-specific effects of YVV is an important avenue for future research. This is especially necessary because early dating debut puts youth at risk for STIs, pregnancy, and relational violence (Connolly et al. 2013), and early unions—especially cohabitations—are low quality, unstable, and prone to conflict and violence (Amato et al. 2007; Brown and Bulanda 2008; Zito 2015).

### **Practical and Policy Implications**

Taken together, our findings have a number of implications for parents/caregivers, teachers, and counselors, as well as intervention programs directed at victims of youth violence. Lack of involvement in romantic relationships stands out because it represents the avoidance of a normative developmental task. In this respect, the withdrawal response we observe among early adolescents will likely draw the attention of practitioners. This possibility is highlighted by the bulk of scholarship on victimization (Osofsky 1999). However, a key distinction emerges from our findings: the early victims who *do* overcome the hindering effect of YVV on dating initiation continue to be impeded in their intimate relationships, as they progress to first coresidential unions at consistently slower rates than non-victims. Awareness and identification of the socioemotional skills or interpersonal contexts that facilitate successful coping among these early adolescent victims would be beneficial for helping other early adolescent victims rebuild trust and increase self-efficacy, self-confidence, and self-worth (Margolin and Gordis 2000; Ruback and Thompson 2001; Storch

et al. 2003). Future research using a range of methodological strategies is needed to identify which early adolescent victims withdraw from dating altogether and which begin dating but nonetheless remain hesitant to form more committed, coresidential intimate relationships.

On the other hand, the more rapid movement of late adolescent victims into dating relationships may not elicit the same sort of concern from practitioners. This is especially the case given that dating is a developmentally normative behavior and thus to outside observers might suggest successful coping. However, special attention should be given to the earlier *timing* with which late adolescent victims initiate romantic relationships compared to their non-victimized peers. Of issue here is not that these victims are engaging in this normative behavior. Rather, the problem is that they are doing so more quickly than may be appropriate given the psychological and socioemotional trauma of YVV. The temporary overinvestment response of late adolescent victims could be problematic because premature initiation of dating sets into motion a cascading process. This creates a type of “relationship inertia” propelling adolescents into dating relationships and then swiftly into coresidential unions. This is important given that early coresidential unions carry a host of negative consequences (e.g., depression, obesity, smoking [Wickrama et al. 2010]). These negative outcomes may be even more dire for victims of violence (e.g., IPV [Kuhl et al. 2015]). If victimized youth are able to halt the desire/motivation for coresidential union formation so quickly following dating initiation, then some of the negative consequences could be avoided. In this respect, it is crucial to intervene after dating debut but prior to the premature formation of coresidential unions. This could be done via education programs targeted to promote healthy adolescent relationships and interpersonal skills (Karney et al. 2007).

### Limitations and Suggestions for Further Research

Our conclusions must be considered in light of some study limitations. First, Add Health is a school-based study, and as such, our population of interest could be more likely than non-victims to be truant or to have dropped out of school altogether. To the extent that these victims have different dating and coresidential experiences, our results may be biased toward more conventional relationships and less differentiation between victims and non-victims.

Second, we were unable to measure repeated YVV incidents or the timing of first violent victimization. The Wave I survey questions ask about YVV experiences only in the past 12 months. Accordingly, we do not have information on repeat victimization. This means we do not know if reported victimization at Wave I is the first incident. We stratified the analytic sample by respondent age as a rough proxy for timing. However, this means the late adolescent subsample may contain individuals victimized in *both* late and early adolescence (see also note 8). Respondents were asked about YVV at Wave II, and in supplemental analyses we used this measure to assess whether respondents who reported YVV at both waves (repeat victims) differed from those reporting YVV at Wave I only. As we detail in Part E of the online supplement, due to limitations in data collection and measurement, such analysis is a rough approximation of the extent and consequences of repeat victimization. With that in mind, we found that slightly less than 12 percent of Wave I victims reported victimization at Wave II. Yet, we did not find any evidence to suggest that repeat victimization is differentially associated with the rate of dating debut or first union

formation. As such, a single report of YVV appears sufficient to induce the effects observed here.

A third but related issue concerns the implications of *cumulative* exposure to multiple different types of victimization, or “polyvictimization.” For example, co-occurring experiences of conventional crime, child maltreatment, peer and sibling abuse, sexual victimization, or witnessing/indirect victimization. Polyvictimization is linked to worse socioemotional and behavioral outcomes than is single-context victimization (Turner et al. 2016). Add Health is limited in its measurement of victimization across multiple domains compared to the Juvenile Victimization Questionnaire used in most polyvictimization research (Finkelhor et al. 2011). The current analyses controlled for the two types of other victimization experiences (childhood physical and sexual abuse).<sup>10</sup> We do not intend to suggest that *only* YVV matters; instead, we see attention to polyvictimization as an important avenue for future relational development research.

A fourth limitation concerns the discrepancy between Waves III and IV with respect to the relationship information collected, as respondents at Wave IV were asked detailed questions about only their current or most recent relationship. We do not see this as a major limitation for our dating models given that 95 percent of the daters had already experienced debut at Wave III (see note 5). Nevertheless, future data collection on adolescent and young adult relationships should collect full dating and relationship histories, rather than simply information on the most recent relationship. Such detailed histories are necessary to verify our assumption here. This information would also permit the investigation of whether YVV is also associated with relationship instability as evidenced by the formation of multiple, sequential relationships (Halpern-Meekin et al. 2013).

Finally, we follow adolescent movement through relationship *stages*, rather than movement through a specific relationship with a single partner. Being unable to follow the trajectories of a relationship means we cannot identify which aspects are problematic. Future research is needed to identify, for example, the characteristics of specific relationships and romantic partners that progress rapidly from dating to union formation.

### Contributions to the Literature on Adolescence and Violent Victimization

Notwithstanding these limitations, the current study fills a notable gap in the scholarship on adolescence, violence and victimization, and intimate relationship formation (Macmillan 2001). The notion that victimized youth could be propelled into romantic relationships sooner may seem counterintuitive. This is especially likely given research illustrating that violent victimization instills anger and hostility and leads victims to withdraw from, and become untrustworthy of, others. Our findings show that avoidance is but one strategy for dealing with the anxieties victimization often brings (Downey et al. 1999). Instead of withdrawing from interpersonal situations, some victims (particularly late adolescent

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<sup>10</sup>Among all respondents, 1.00 percent experienced both YVV and childhood sexual abuse; 5.33 percent reported YVV and physical abuse. Among victims of youth violence, 5.17 and 33.70 percent reported sexual and physical abuse at Wave III, respectively. This latter percentage should be interpreted with caution—Wave III measures being “slapped, kicked, or hit” by a parent/caregiver, whereas Wave IV measures whether a parent/caregiver ever “hit you with a fist, kick[ed] you, or [threw] you down on the floor, into a wall, or downstairs.” At Wave IV, 3.73 and 15.38 percent of victims experienced childhood sexual and physical abuse, respectively.

victims) engage temporarily in the opposite strategy: overinvesting in relationships. Given that prior research finds victimization increases loneliness and depression, engenders mistrust, and undermines self-esteem and self-concept (Boivin et al. 2001; Ruback and Thompson 2001), victims—especially those also in the throes of the transition to high school (Isakson and Jarvis 1999)—may turn to romantic relationships for social support; a means of coping; a source of renewed self-efficacy, trust in others, and self-worth; and status and identity management. Future studies are needed to explore whether the motivations and decision-making processes suggested by prior studies underlie the relationship behaviors we identify.

The experience of YVV has clear consequences for when adolescents form romantic relationships and how such relationships progress. A key implication of this study is that both potential socioemotional responses to violent victimization—withdrawal and overinvestment—can occur among adolescent victims depending on *timing*. The life course timing of YVV is thus a critical dimension of which parents, teachers, counselors, and other victim advocates should be aware. Especially among late adolescents, romantic relationship behaviors that look like normal development could be obscuring a victim's continued vulnerability if they occur too quickly. Early dating, rapid movement into coresidential unions, and tumultuous movement through numerous relationships (e.g., “churning” [Halpern-Meekin et al. 2013]) are unlikely to provide meaningful resolution to the emotional consequences of youth violent victimization. Instead these behaviors are associated with negative consequences that reverberate across the lifespan. More effective interventions require awareness of the implications of life course timing, recognition of the considerable heterogeneity of environments and expectations within adolescence, and attention to the motivations for/expectations of adolescent romantic relationships.

## Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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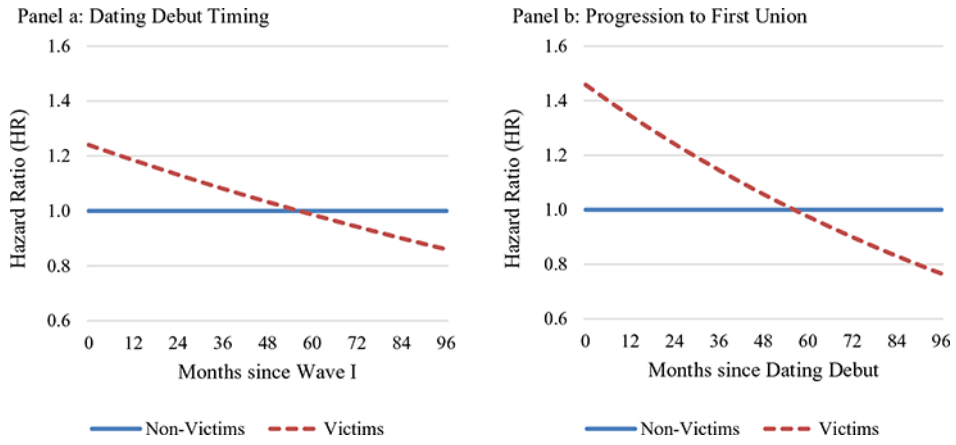
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**Figure 1. Hazard Ratios for (a) Dating Debut Timing and (b) Progression to First Union by Youth Violent Victimization**  
*Source:* National Longitudinal Study of Adolescent to Adult Health (Add Health), 1994 to 2008.  
*Note:* Estimates from Cox regression models presented in Table 4 with all covariates held constant.

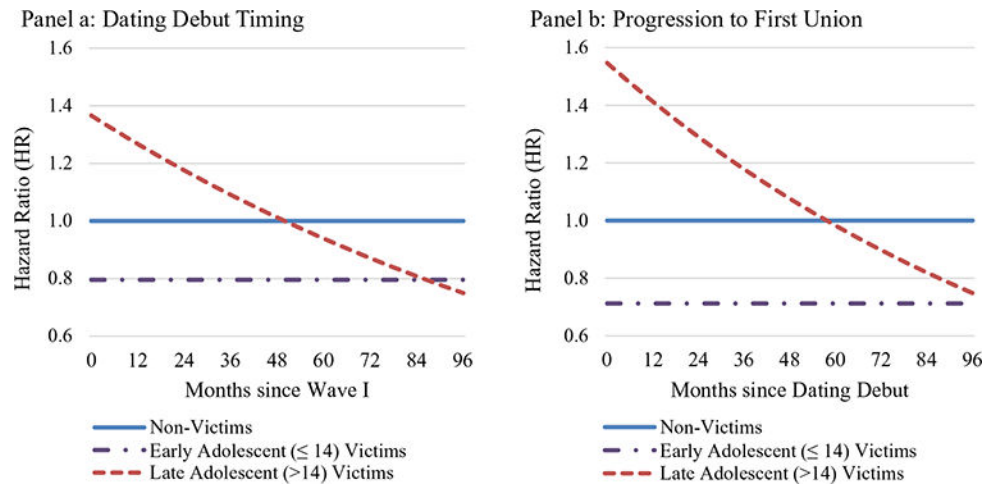
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**Figure 2. Hazard Ratios for (a) Dating Debut Timing and (b) Progression to First Union by Age at Youth Violent Victimization**

*Source:* National Longitudinal Study of Adolescent to Adult Health (Add Health), 1994 to 2008.

*Note:* Estimates from Cox regression models presented in Table 6 with all covariates held constant.

**Table 1****Control Variables**

<b>Construct</b>	<b>Indicators and Response Options</b>
Demographic Characteristics	
Age	Continuous indicator; centered at 16 in multivariate analyses.
Female	Dummy variable for female (0/1).
Race/Ethnicity	Dummy variables for (a) non-Hispanic White [reference], (b) Black, (c) Hispanic, (d) Asian, and (e) other (includes American Indian) races (0/1).
Immigrant Status	Dummy variable for respondent not born in the United States (0/1).
Urban	Dummy variable for residing in an urban area (0/1).
Family SES	Combined scale of parent's education and parent's occupational level (0 to 9 [Bearman and Moody 2004]).
Family Structure	Dummy variables for lived with (a) both biological parents [reference], (b) a single parent, (c) a step-parent, or (d) some other arrangement (0/1).
Parental Supervision	
Parental Autonomy	Seven-item count of whether parents let respondent make decisions (1 = yes, 0 = no) about their curfew, friends, clothing, TV, etc.
Lying to Parents	Past year frequency of lying to parents/guardians about where respondent has been or with whom they were (range: 0 = never to 3 = 5 or more times).
Disposition	
Pubertal Development	Self-rated physical development compared to same-aged peers (range: -2 = "I look younger than most" to 2 = "I look older than most").
College Expectations	Mean of "How much do you want to go to college?" and "How likely is it that you will go to college?" (range: 0 [low] to 4 [high]).
Marital Expectations	"What do you think the chances are that you will be married by age 25?" (range: 0 = almost no chance to 4 = almost certain).
Violent and Delinquent Behavior	
Violent Perpetration	Four-item count of any past year perpetration (e.g., "been in a serious fight"; range 0 to 4).
Nonviolent Delinquency	10-item mean rating scale of frequency of past year perpetration (e.g., vandalism, theft; range: 0 = never to 3 = 5 or more times).
Alcohol Use	Past year frequency of alcohol use (range: 0 = never to 6 = every day or almost every day).
Childhood Abuse	
Physical Abuse	Dummy variable for any parent/caregiver physical abuse experienced before 6th grade/age 12 (0/1); measured at Wave III or IV.
Sexual Abuse	Dummy variable for any parent/caregiver sexual abuse (including forced touching) experienced before 6th grade/age 12 (0/1); measured at Wave III or IV.
Number of Interviews	Count of the number of interviews provided beyond Wave 1 (range: 0 to 3).

*Note:* SES = socioeconomic status. Unless otherwise noted, all indicators are measured at Wave I. Preliminary analyses considered additional indicators that were ultimately excluded from the final models (see text for details).

Sample Descriptive Statistics, Overall and by Youth Violent Victimization: Means (Standard Errors) and *t* Tests

Table 2

Variables	Mean	(SE)	Non-victims		Victims		<i>t</i> Test <sup>a</sup>
			Mean	(SE)	Mean	(SE)	
Youth Violent Victimization	.170						
Demographic Characteristics							
Age	15.458	(.123)	15.406	(.124)	15.715	(.147)	**
Female	.488		.528		.289		***
Race/Ethnicity							
Non-Hispanic White	.644		.669		.523		***
Black	.166		.150		.244		***
Hispanic	.124		.115		.170		***
Asian	.047		.049		.037		
Other Race	.018		.016		.026		*
Immigrant	.074		.073		.078		
Urban	.541		.523		.625		***
Family SES	4.491	(.122)	4.610	(.129)	3.924	(.120)	***
Family Structure							
Both Biological Parents	.575		.608		.417		***
Single Parent	.253		.235		.344		***
Step-parent	.131		.126		.157		*
Other Arrangement	.040		.032		.082		***
Parental Supervision							
Parental Autonomy	2.920	(.057)	2.921	(.058)	2.917	(.082)	
Lie to Parents	.189		.161		.324		***
Disposition							
Pubertal Development	.130	(.021)	.118	(.020)	.185	(.051)	
College Expectations	3.284	(.039)	3.347	(.038)	2.979	(.056)	***
Marital Expectations	2.142	(.031)	2.175	(.032)	1.983	(.044)	***
Deviant Behavior							
Violent Perpetration	.716	(.027)	.511	(.021)	1.723	(.053)	***

Variables	Mean	(SE)	Non-victims		Victims		<i>t</i> Test <sup>a</sup>
			Mean	(SE)	Mean	(SE)	
Nonviolent Delinquency	.209	(.006)	.162	(.006)	.441	(.022)	***
Alcohol Use Frequency	.785	(.036)	.676	(.036)	1.320	(.068)	***
Childhood Abuse							
Physical Abuse	.266		.256		.313		**
Sexual Abuse	.053		.052		.059		
Number of Interviews	2.338	(.030)	2.376	(.028)	2.156	(.045)	***
<i>N</i> of Respondents <sup>b</sup>	8,738		7,209		1,529		

Source: National Longitudinal Study of Adolescent to Adult Health (Add Health), 1994 to 2008.

Note: SE = standard error (omitted for dummy variables); SES = socioeconomic status. Means for dummy variables can be interpreted as the proportion of the sample coded 1 on that indicator. Estimates are weighted and adjusted for complex survey design.

<sup>a</sup>Test for statistically significant difference between means for non-victims and victims.

<sup>b</sup>Unweighted *N*.

\*  $p < .05$ ;

\*\*  $p < .01$ ;

\*\*\*  $p < .001$  (two-tailed tests).

**Table 3**  
Descriptive Statistics for Relationship Events and Timing, Overall and by Youth Violent Victimization

Relationship Event <sup>a,b</sup>	Non-victims			Victims			Sig. <sup>d</sup>
	Mean	(SE)	Median	Mean	(SE)	Median	
Dating Debut	.791	.801	.801	.744	.744	.744	***
First Union Formation <sup>c</sup>	.687	.688	.688	.683	.683	.683	
First Cohabitation	.558	.559	.559	.544	.544	.544	
First Marriage	.130	.130	.130	.130	.130	.130	
Survival Time (months) <sup>e,f,g</sup>	Median	(SE)	Median	(SE)	Median	(SE)	Wilcoxon Test <sup>h</sup>
Dating Debut	32	(.556)	33	(.576)	24	(1.558)	***
First Union Formation	69	(.926)	71	(1.061)	63	(1.773)	***
First Cohabitation	82	(1.344)	85	(1.534)	71	(2.496)	***
First Marriage	44 <sup>i</sup>	(1.773)	44 <sup>i</sup>	(1.935)	45 <sup>i</sup>	(4.530)	
N of Respondents <sup>j</sup>	8,738		7,209		1,529		

Source: National Longitudinal Study of Adolescent to Adult Health (Add Health), 1994 to 2008.

Note: SE = standard error (omitted for dummy variables).

<sup>a</sup> Means for dummy variables can be interpreted as the proportion of the sample coded 1 on that indicator.

<sup>b</sup> Estimates are weighted and adjusted for complex survey design.

<sup>c</sup> Mean limited to respondents who were observed to start dating and thus were at risk of first union formation.

<sup>d</sup> Test for statistically significant difference between means for non-victims and victims.

<sup>e</sup> Derived from non-parametric Kaplan-Meier (K-M) estimates of the survivor function, which is the probability of remaining at risk (i.e., not experiencing the event) to at least time  $t$ .

<sup>f</sup> The median survival time is the amount of time that passes before 50 percent of respondents experience the event.

<sup>g</sup> K-M estimates are from non-imputed data.

<sup>h</sup> Test for statistically significant differences in the K-M estimates of the survival functions between victims and non-victims. The Wilcoxon test is preferred over the standard log-rank test when there is evidence of non-proportionality in the hazard rates, as is the case here (Cleves et al. 2016).

<sup>i</sup> The median survival time for first marriage was not observed as slightly less than 13.0 percent of daters married directly. The survival time until 6 percent of marriages occurred (about half of the marriages observed) is reported in its place.

$p < .001$  (two-tailed tests).

$p < .10$  \*

$p < .05$  \*\*

$f^2$  Unweighted  $N$

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The Effect of Youth Violent Victimization on the Rate of (a) Dating Debut and (b) Progression to First Union (Cox Regression Models)

Table 4

	(a) Dating Debut			(b) Progression to First Union		
	<i>b</i>	(SE)	HR	<i>b</i>	(SE)	HR
Youth Violent Victimization	.215*** (.064)	1.240 (.099)	.377*** (.099)	1.458		
Youth Violent Victimization x Time	-.004* (.002)	.996 (.001)	-.007*** (.001)	.993		
Demographic Characteristics						
Age <sup>d</sup>	.056*** (.014)	1.058 (.016)	.069*** (.016)	1.071		
Female	.144*** (.038)	1.155 (.040)	.315*** (.040)	1.370		
Race/Ethnicity <sup>b</sup>						
Black	-.033 (.052)	.968 (.069)	-.348*** (.069)	.706		
Hispanic	-.008 (.055)	.992 (.071)	-.171* (.071)	.843		
Asian	-.202** (.062)	.817 (.145)	-.281 (.145)	.755		
Other Race	.011 (.107)	1.011 (.157)	-.019 (.157)	.982		
Immigrant	.040 (.068)	1.040 (.102)	.097 (.102)	1.102		
Urban	-.044 (.041)	.957 (.059)	-.150* (.059)	.861		
Family SES	-.011 (.007)	.989 (.007)	-.067*** (.007)	.935		
Family Structure <sup>c</sup>						
Single Parent	-.049 (.040)	1.001 (.052)	.116* (.052)	1.123		
Step-parent	.158** (.053)	1.171 (.058)	.207*** (.058)	1.230		
Other Arrangement	.092 (.108)	1.096 (.136)	.282* (.136)	1.326		
Parental Supervision						
Parental Autonomy	.059*** (.015)	1.061 (.016)	.002 (.016)	1.002		
Lie to Parents	.054 (.041)	1.055 (.058)	.064 (.058)	1.066		
Disposition						
Pubertal Development	.075*** (.015)	1.077 (.017)	-.033 (.017)	.968		
College Expectations	.119** (.035)	1.126 (.024)	-.085*** (.024)	.919		
Marital Expectations	.064** (.018)	1.066 (.021)	.002 (.021)	1.002		

	(a) Dating Debut		(b) Progression to First Union	
	<i>b</i>	HR (SE)	<i>b</i>	HR (SE)
Deviant Behavior				
Violent Perpetration	-.013	(.021)	.987	.055* (.027)
Nonviolent Delinquency	.146	(.075)	1.158	.049 (.076)
Alcohol Use Frequency	.117***	(.016)	1.124	.003 (.017)
Childhood Abuse				
Physical Abuse	.056*	(.044)	1.058	.041 (.044)
Sexual Abuse	.136	(.083)	1.145	.208*** (.078)
Number of Interviews	.639***	(.031)	1.895	.370*** (.047)
<i>N</i> of Events <sup><i>f</i></sup>		6,976		4,715
<i>N</i> of Respondents <sup><i>f</i></sup>		8,738		6,976

Source: National Longitudinal Study of Adolescent to Adult Health (Add Health), 1994 to 2008.

Note: *b* = hazard coefficient; hazard ratio (HR) = exp(*b*); SE = standard error; SES = socioeconomic status. Estimates are weighted and adjusted for complex survey design.

<sup>a</sup>Centered at age 16.

<sup>b</sup>Non-Hispanic White is the reference.

<sup>c</sup>Two biological parents is the reference.

<sup>d</sup>Joint effects of YVV and YVV x time are statistically significant (Wald  $\chi^2$ ,  $F(2,120.9) = 5.38, p = .0058$ ).

<sup>e</sup>Joint effects of YVV and YVV x time are statistically significant (Wald  $\chi^2$ ,  $F(2,125.9) = 10.92, p = .0000$ ).

<sup>f</sup>Unweighted *N*.

\*  $p < .05$ ;

\*\*  $p < .01$ ;

\*\*\*  $p < .001$  (two-tailed tests).

The Effect of Youth Violent Victimization on Competing Risks of Progression to First Cohabitation versus First Marriage (Cox Regression Models)

Table 5

	First Cohabitation		First Marriage	
	<i>b</i>	(SE)	<i>b</i>	(SE)
Youth Violent Victimization	.302 *** <sub>c</sub>	(.111)	1.353	.783 *** <sub>b</sub> (.225)
Youth Violent Victimization x Time	-.007 ***	(.002)	.993	-.006* (.003)
<i>N</i> of Events <sup>d</sup>		3,810		905
<i>N</i> of Respondents <sup>d</sup>			6,976	

Source: National Longitudinal Study of Adolescent to Adult Health (Add Health), 1994 to 2008.

Note: *b* = hazard coefficient; SE = standard error; HR = hazard ratio (HR) = exp(*b*). Estimates are weighted and adjusted for complex survey design. Models also include all the controls listed in Table 3.

<sup>a</sup> Joint effects of YVV and YVV x time are statistically significant (Wald  $\chi^2$ , F (2,126.0) = 9.25 *p* = .0002).

<sup>b</sup> Joint effects of YVV and YVV x time are statistically significant (Wald  $\chi^2$ , F (2,125.4) = 6.75, *p* = .0017).

<sup>c</sup> Marginally significant difference (*t* = 1.917, *p* = .0553) between the coefficient for cohabitation and the coefficient for marriage.

<sup>d</sup> Unweighted *N*.

\* *p* < .05;

\*\* *p* < .01;

\*\*\* *p* < .001 (two-tailed tests).

**Table 6**  
 First Interview Age Differences in the Effect of Youth Violent Victimization on the Rate of (a) Dating Debut and (b) Progression to First Union (Cox Regression Models)

	(a) Dating Debut		(b) Progression to First Union	
	<i>b</i>	(SE)	HR	(SE)
<i>Early Adolescence ( Age 14)</i>				
Youth Violent Victimization	-.228 <sup>*bc</sup>	(.091)	.796	(.137)
Youth Violent Victimization x Time <sup>d</sup>			-.339 <sup>*de</sup>	.712
<i>Late Adolescence (&gt; Age 14)</i>				
Youth Violent Victimization	.312 <sup>***</sup>	(.074)	1.366	(.106)
Youth Violent Victimization x Time	-.006 <sup>**</sup>	(.002)	.994	(.002)
<i>N</i> of Events <sup>f</sup>		6,976		4,715
<i>N</i> of Respondents <sup>f</sup>		8,738		6,976

Source: National Longitudinal Study of Adolescent to Adult Health (Add Health), 1994 to 2008.

Note: *b* = hazard coefficient; SE = standard error; HR = hazard ratio (HR) = exp(*b*). Estimates are weighted and adjusted for complex survey design. Models also include all the variables listed in Table 4.

<sup>a</sup>Preliminary analyses indicated that the effect of YVV x time in early adolescence is not statistically significant but is significantly different from the effect of YVV x time in late adolescence, and thus is constrained to be zero.

<sup>b</sup>Difference in the effects of YVV in early adolescence and late adolescence is statistically significant (Wald  $\chi^2$ , F (1,124.5) = 24.21, *p* = .0000).

<sup>c</sup>Joint effects of YVV in early adolescence, YVV in late adolescence, and YVV x time in late adolescence are statistically significant (Wald  $\chi^2$ , F (3,123.9) = 8.55 *p* = .0000).

<sup>d</sup>Difference in the effects of YVV in early adolescence and late adolescence is statistically significant (Wald  $\chi^2$ , F (1,125.8) = 7.98, *p* = .0055).

<sup>e</sup>Joint effects of YVV in early adolescence, YVV in late adolescence, and YVV x time in late adolescence are statistically significant (Wald  $\chi^2$ , F (2,126.0) = 9.85 *p* = .0000).

<sup>f</sup>Unweighted *N*.

\* *p* < .05;

\*\* *p* < .01;

\*\*\* *p* < .001 (two-tailed tests).