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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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Part A: Supplemental Analyses Assessing Sample Selectivity

To examine the influence of YVV on dating debut timing, our analytic sample for the current study was necessarily limited to respondents who had not yet experienced a serious dating relationship as reported at their Wave I interview ("Wave I non-daters"). About 40 percent of respondents (n = 7,566) had already experienced a "serious" dating relationship at Wave I. As described in the main text, this exclusion of respondents who had already experienced dating debut is a type of left-censoring (Allison 1984). To the extent that left-censoring is random—unrelated to the process under study—such exclusions are inconsequential for model estimates. If the left-censoring, however, is "informative" and associated with *both* the focal independent *and* dependent variables, this may indicate endogenous selection bias (Elwert and Winship 2014).

Given this potential, it is important to illustrate key differences between the analytic sample and excluded cases to ascertain whether there is any evidence of informative left-censoring and thus endogenous selection. To that end, we conducted a series of sensitivity analyses, as detailed below. We begin first, however, by describing how we dealt with several measurement challenges to identify cases among the Wave I daters that were comparable to those in the analytic sample.

Creating Comparable Samples, Excluded Cases vs. Analytic Sample

To assess whether there is evidence of informative left-censoring, we had to create a subsample of excluded cases that was "at risk" of the same process as the analytic sample. The excluded subsample of Wave I daters contains two types of respondents: (1) victims of youth violence who may have experienced dating debut *after* their victimization (the process tested in the current analysis) and (2) youth who experienced dating debut *before* their violent victimization (a reverse causal process that is not possible among the analytic sample in the current analysis). Because the current analyses focus on the effect of YVV on dating debut, to create a sample of excluded cases comparable to the analytic sample, it was first necessary to isolate the Wave I daters whose dating debut occurred *after* any reported experience of YVV. A challenge here is that although we have fairly precise data on the timing of dating debut (based on the reported month and year their first dating relationship began), the Add Health data do not contain information on the timing of victimization; rather, respondents were asked to report any victimization occurring within the 12 months preceding the interview.

To capture dating experiences that theoretically could have preceded youths' victimization and thus maintain the correct temporal ordering, we identified respondents whose dating debut occurred more than 12 months prior to their interview. These excluded respondents thus experienced the focal outcome (dating debut) *prior* to becoming at risk for the focal predictor (YVV). Among the 7,565 Wave I daters with valid sampling weights (after deleting cases with missing or implausible dating debut dates or respondents already married at Wave I [using the same sample selection criteria for the analytic sample, as detailed in the main text]), 3,033 of the remaining 6,474 respondents reported a dating debut occurring within the 12 months prior to their WI interview, meaning they were (theoretically) "at risk" for the focal process under examination (YVV predicting dating debut). This is the appropriate sample for the closest "apples to apples" comparison between cases included in the analytic sample (n = 8,738) and those excluded because they had already experienced dating debut. Of course, even with this restriction—given the absence of detailed YVV timing information — it is still possible that for an unknown number of respondents the theorized causal order is reversed. Nevertheless, limiting the excluded cases to those who started dating within the same period as the YVV reports is the best approach available given the measurement limitations.[1]

[1] In further supplemental analyses, we replicated the analyses using subsamples of Wave I daters who debuted up to 15 months and up to 18 months prior to the Wave I interview to account for potential imprecision in the timing of the YVV reports. Findings from these analyses are substantively similar to those presented here.

Descriptive Comparison of the Analytic Sample vs. Excluded Cases

After identifying the appropriate subset of cases excluded from the analytic sample that is most comparable to the analytic sample, we examined detailed differences between the excluded (n = 3,033 Wave I daters) and included (n = 8,738 Wave I *non*-daters) cases across all covariates measured at Wave I or that reference experiences at or before Wave I (i.e., child abuse) used in the focal analyses. Table S1 presents these descriptive comparisons. Note that, as with the main analysis, the findings presented here were weighted, adjusted for the complex survey design, and missing data was handled via multiple imputation (MICE).

As would be expected, Wave I daters (excluded cases) were, on average, about 1 year older than cases retained in the analytic sample (16.4 versus 15.5 years, respectively). Wave I daters were also more likely to be non-Hispanic white, U.S.-born, and live in a stepfamily or some other non-parent family arrangement. Given that they were older, it is not surprising that Wave I daters reported feeling more physically developed than their non-dating peers, reflecting the links between puberty and intimate relationship formation, and had greater expectations of being married by age 25. Wave I daters also reported less parental supervision and more deviant behavior than did respondents in the analytic sample. Wave I daters were also more likely than non-daters to have experienced youth violent victimization in the past year (23.6 versus 17.2 percent, respectively).

Multivariate Analyses Predicting Sample Exclusion and Age at Dating Debut

We next estimated a multivariate logit model predicting Wave I dating status to assess the net association between our focal independent variable (YVV) and being a Wave I dater (i.e., being excluded from the analytic sample). Again, this model includes all of the applicable control variables included in the main analyses. As the results in Table S2 show, net of all covariates, victims of youth violence remained more likely to have already started dating by Wave I (b = .245, OR = 1.278, p = .005). The effects of the other covariates were largely consistent with the pattern in Table S1, although the multivariate model revealed that female respondents were significantly more likely to have already started dating by Wave I net of other factors.

A final question of concern with respect to potential endogenous selection bias is whether there is a difference in the effect of YVV on the *dependent* variable between the analytic sample and the excluded cases. Because the dependent variable in the main analysis is time to dating debut following the Wave I interview (when victimization was reported at Wave I), we are unable to replicate this exact measure among the excluded cases (since, by definition, they had already experienced dating debut at the Wave I interview). Instead, we used *age at dating debut* as a proxy for the primary outcome.

Table S3 displays results of the OLS regression model assessing the associations between YVV and age at dating debut among Wave I daters. Again, this model adjusts for the Wave I covariates from the full analysis. Note, however, that in this model we controlled for age using a dummy variable for *early adolescent* (≤ 14). Because the subsample of Wave I daters is limited to those who reported an age at debut no more than 12 months prior to their interview date in order to isolate respondents who could (at least theoretically) have the correct temporal ordering between YVV and dating debut, a linear specification of age was collinear with the dependent variable of age at debut.

The key finding illustrated in Table S3 is that YVV is *not* significantly associated with dating debut age among youth who had begun dating prior to their Wave I interview (b = .076, p = .389). That YVV is not associated with age at debut among the excluded sample indicates that the analytic sample is not systematically biased toward early or later debuters. If, for instance, YVV was associated with later dating debut among the excluded sample, then our finding among the analytic sample that victims debut sooner

than non-victims following Wave I might reflect that those later (older) debuting respondents had been systematically excluded. The analyses in Table S3 indicate this is *not* the case. Thus, we do not have any evidence of endogenous selection because having already debuted at Wave I is not significantly associated with YVV and dating debut timing.

Table S1. **Sample Descriptive Statistics, by Sample Exclusion Criteria: Means (Standard Errors) and *t* Tests**

	Wave I Non-daters (Analytic Sample)		Wave I Daters[a] (Excluded Cases)		
Variables	**Mean**	**(SE)**	**Mean**	**(SE)**	***t* Test[b]**
Youth Violent Victimization	.171		.236		***
Demographic Characteristics					
Age	15.458	(.123)	16.436	(.093)	***
Female	.488		.509		
Race/Ethnicity					
Non-Hispanic White	.644		.728		***
Black	.166		.126		**
Hispanic	.124		.105		
Asian	.047		.022		***
Other Race	.018		.018		
Immigrant	.074		.044		***
Urban	.540		.517		
Family SES	4.493	(.121)	4.584	(.116)	
Family Structure					
Both Biological Parents	.575		.514		***
Single Parent	.253		.249		
Step-parent	.131		.172		***
Other Arrangement	.040		.065		***
Parental Supervision					
Parental Autonomy	2.923	(.056)	3.446	(.045)	***
Lie to Parents	.189		.317		***
Disposition					
Pubertal Development	.131	(.021)	.401	(.026)	***
College Expectations	3.285	(.039)	3.300	(.032)	
Marital Expectations	2.143	(.031)	2.360	(.033)	***
Deviant Behavior					
Violent Perpetration	.716	(.027)	.814	(.031)	*
Nonviolent Delinquency	.209	(.006)	.280	(.010)	***
Alcohol Use	.785	(.036)	1.546	(.047)	***
Childhood Abuse					
Physical Abuse	.273		.291		
Sexual Abuse	.055		.065		
N of Respondents[c]	8,738		3,033		

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.
[a]Wave I daters are respondents who began dating within 12 months of the Wave I interview.
[b]Test for statistically significant difference between means for included and excluded cases.
[c]Unweighted *N*.
*$p < .05$; **$p < .01$; *** $p < .001$ (two-tailed tests).

Table S2. Analytic Sample Exclusion Model, Predicting Dating Experience at Wave I (Logistic Regression Model)

	b	(SE)	OR
Youth Violent Victimization	.245**	(.086)	1.278
Demographic Characteristics			
Age	.313***	(.033)	1.368
Female	.240**	(.062)	1.271
Race/Ethnicity[a]			
Black	-.354**	(.100)	.702
Hispanic	-.164	(.119)	.849
Asian	-.569**	(.186)	.566
Other Race	.026	(.323)	1.016
Immigrant	-.432*	(.172)	.649
Urban	-.047	(.084)	.954
Family SES	-.000	(.016)	1.000
Family Structure[b]			
Single Parent	.117	(.079)	1.124
Step-parent	.465***	(.085)	1.591
Other Arrangement	.430***	(.158)	1.537
Parental Supervision			
Parental Autonomy	.090***	(.029)	1.094
Lie to Parents	.348***	(.084)	1.417
Disposition			
Pubertal Development	.183***	(.028)	1.201
College Expectations	.120***	(.031)	1.127
Marital Expectations	.267***	(.031)	1.306
Deviant Behavior			
Violent Perpetration	.013	(.033)	1.013
Nonviolent Delinquency	.024	(.089)	1.024
Alcohol Use	.199***	(.026)	1.220
Childhood Abuse			
Physical Abuse	.017	(.097)	1.017
Sexual Abuse	.131	(.179)	1.140
Intercept	-7.917***	.530	.000
N of Respondents[c]	11,771		

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

Note: *b* = beta coefficient; SE = standard error; OR = odds ratio; SES = socioeconomic status. Estimates are weighted and adjusted for complex survey design. OR = exp(*b*). Sample exclusion is defined as Wave I dating experience, limited to experiences occurring within 12 months of the Wave I interview.

[a]Non-Hispanic White is the reference.

[b]Two biological parents is the reference.

[c]Unweighted *N*.

*$p < .05$; **$p < .01$; *** $p < .001$ (two-tailed tests).

Table S3. Age at Dating Debut among Wave I Daters (OLS Regression Model)

	b	(SE)
Youth Violent Victimization	.076	(.088)
Demographic Characteristics		
Early Adolescent (≤ 14)	-2.891***	(.101)
Female	-.323***	(.057)
Race/Ethnicity[a]		
Black	.096	(.121)
Hispanic	-.048	(.121)
Asian	-.014	(.230)
Other Race	.107	(.187)
Immigrant	.366*	(.143)
Urban	.027	(.085)
Family SES	-.005	(.153)
Family Structure[b]		
Single Parent	-.114	(.076)
Step-parent	-.160*	(.079)
Other Arrangement	.410***	(.110)
Parental Supervision		
Parental Autonomy	.220***	(.022)
Lie to Parents	.025	(.076)
Disposition		
Pubertal Development	-.155***	(.030)
College Expectations	-.056	(.032)
Marital Expectations	.024	(.029)
Deviant Behavior		
Violent Perpetration	-.103**	(.039)
Nonviolent Delinquency	-.402**	(.100)
Alcohol Use	.155***	(.019)
Childhood Abuse		
Physical Abuse	-.060	(.095)
Sexual Abuse	.185	(.163)
Intercept	15.684***	(.186)
N of Respondents[c]	3,033	

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

Note: *b* = beta coefficient; SE = standard error; SES = socioeconomic status. Estimates are weighted and adjusted for complex survey design. OR = exp(*b*). Wave I daters are respondents who began dating within 12 months of the Wave I interview.

[a]Non-Hispanic White is the reference.

[b]Two biological parents is the reference.

[c]Unweighted *N*.

*$p < .05$; **$p < .01$; *** $p < .001$ (two-tailed tests).

Part B: Supplemental Analyses of Panel Attrition

Table S4. The Effect of Youth Violent Victimization on (a) Panel Attrition and (b) the Number of Interviews Completed (Logistic Regression Models)

	(a) Panel Attrition			(b) Number of Interviews[c]		
	b	(SE)	OR	*b*	(SE)	OR
Youth Violent Victimization	.061	(.106)	1.063	-.142	(.083)	.868
Demographic Characteristics						
Age	.118**	(.038)	1.126	-.280***	(.029)	.756
Female	-.339***	(.072)	.712	.368***	(.058)	1.445
Race/Ethnicity[a]						
Black	.188	(.102)	1.207	-.275**	(.084)	.760
Hispanic	.327**	(.112)	1.387	-.301*	(.119)	.740
Asian	.375*	(.062)	1.454	-.163	(.187)	.849
Other Race	.390	(.263)	1.478	-.454	(.241)	.635
Immigrant	.609***	(.150)	1.839	-.430**	(.141)	.651
Urban	.305**	(.097)	1.357	-.261**	(.089)	.770
Family SES	-.012	(.013)	0.988	.018	(.012)	1.019
Family Structure[b]						
Single Parent	.261**	(.097)	1.300	-.306***	(.085)	.736
Stepparent	.325**	(.113)	1.383	-.424***	(.100)	.654
Other Arrangement	.461*	(.176)	1.585	-.610***	(.153)	.543
Parental Supervision						
Parental Autonomy	-.055*	(.026)	.946	.049**	(.018)	1.050
Lie to Parents	-.120	(.100)	.887	-.024	(.073)	.976
Disposition						
Pubertal Development	-.076*	(.034)	.926	.068*	(.030)	1.070
College Expectations	-.038	(.043)	.963	.068*	(.034)	1.070
Marital Expectations	-.041	(.037)	.960	-.001	(.034)	.999
Deviant Behavior						
Violent Perpetration	.125**	(.021)	1.133	-.047	(.033)	.954
Non-Violent Delinquency	-.201	(.145)	.818	.190	(.119)	1.209
Alcohol Use Frequency	.034	(.145)	1.035	-.045	(.025)	.956
Childhood Abuse						
Physical Abuse	-.300*	(.113)	.741	.482***	(.095)	1.619
Sexual Abuse	-.723**	(.239)	.485	.576**	(.173)	1.779
Constant	-2.737	(.654)				
Constant 1				-7.086***	(.482)	
Constant 2				-5.675***	(.496)	
Constant 3				-4.359***	(.482)	
N of Respondents[d]			8,738			

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

Note: Panel Attrition is coded 1 if the respondent ever left the panel and 0 otherwise; Number of interviews is the number of interviews completed beyond Wave I (0-3). *b*=logit coefficient; odds ratio (OR)= exp(*b*); SE= standard error; SES= Socioeconomic Status. Estimates are weighted and adjusted for complex survey design.

[a]Non-Hispanic White is the reference.

[b]Two biological parents is the reference.

[c]Preliminary models estimated using a linear and Poisson regression yielded similar results.

[d]Unweighted *N*.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ (two-tailed tests)

Part C: Age Differences in the Effects of Youth Violent Victization on The Rate of Progression to First Cohabitation and First Marriage

Table S5. First Interview Age Differences in the Effect of Youth Violent Victimization on Competing Risks of Progression to First Cohabitation versus First Marriage (Cox Regression Models)

	First Cohabitation			First Marriage		
	b	(SE)	HR	*b*	(SE)	HR
Early Adolescence (≤ Age 14)						
Youth Violent Victimization	-.328* [b,c]	(.154)	.720	-.305 [d,e]	(.289)	.737
Youth Violent Victimization x Time[a]	—			—		
Late Adolescence (> Age 14)						
Youth Violent Victimization	.381**	(.117)	1.464	.788**	(.234)	2.200
Youth Violent Victimization x Time	-.008***	(.002)	.992	-.008*	(.003)	.992
N of Events[f]		3,810			905	
N of Respondents[f]			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.

[a]Preliminary models 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 as indicated by —.

[b]Difference in the effects of YVV in early adolescence and late adolescence is statistically significant (Wald χ^2, F (1, 124.5) = 14.78, p = .0002).

[c]Joint effects of YVV in early adolescence, YVV in late adolescence, and YVV x time in late adolescence are statistically significant (Wald χ^2, F (3, 126.0) = 7.37, p = .0001).

[d]Difference in the effects of YVV in early adolescence and late adolescence is statistically significant (Wald χ^2, F (1, 123.6) = 10.04, p = .0019).

[e]Joint effects of YVV in early adolescence, YVV in late adolescence, and YVV x time in late adolescence are statistically significant (Wald χ^2, F (3, 125.7) = 4.58, p = .0044).

[f]Unweighted *N*.

*$p < .05$; **$p < .01$; *** $p < .001$ (two-tailed tests).

Table S6. Gender 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		
	b	(SE)	HR	*b*	(SE)	HR
Males						
Youth Violent Victimization	.193[*a,c]	(.080)	.796	.285[*d,f]	(.119)	1.329
Youth Violent Victimization x Time[a]	-.003[b]	(.002)		-.006[**e]	(.002)	.994
Females						
Youth Violent Victimization	.265[**]	(.089)	1.366	.527[***]	(.140)	1.695
Youth Violent Victimization x Time	–.005	(.003)	.994	–.008[**]	(.002)	.992
N of Events[g]		6,976			4,715	
N of Respondents[g]		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.

[a]Difference in the effects of YVV for males and females is not statistically significant (Wald χ^2, F (1, 124.4) = .42, p = .5149).

[b]Difference in the effects of YVV x time for males and females is not statistically significant (Wald χ^2, F (1, 115.8) = .47, p = .4948).

[c]Joint effects of YVV for males, YVV x time for males, YVV for females, and YVV x time for females are statistically significant (Wald χ^2, F (4, 124.3) = 3.14, p = .0169).

[d]Difference in the effects of YVV for males and females is not statistically significant (Wald χ^2, F (1, 125.1) = 2.13, p = .1473).

[e]Difference in the effects of YVV x time for males and females is not statistically significant (Wald χ^2, F (1, 125.3) = .45, p = .5036).

[f]Joint effects of YVV for males, YVV x time for males, YVV for females, and YVV x time for females are statistically significant (Wald χ^2, F (4, 126.3) = 6.23, p = .0001).

[g]Unweighted *N*.

*p < .05; **p < .01; *** p < .001 (two-tailed tests).

Table S7. Gender Differences in the Effect of Youth Violent Victimization on Competing Risks of Progression to First Cohabitation versus First Marriage (Cox Regression Models)

	First Cohabitation			First Marriage		
	b	(SE)	HR	*b*	(SE)	HR
Males						
Youth Violent Victimization	.153[a,c,d]	(.134)	1.165	.963[***e,g]	(.261)	2.620
Youth Violent Victimization x Time	-.006[**b]	(.002)	.994	-.007[f]	(.003)	.993
Females						
Youth Violent Victimization	.531[**]	(.153)	1.700	.425[*]	(.394)	1.529
Youth Violent Victimization x Time	-.008[**]	(.003)	.992	-.004	(.005)	.993
N of Events[h]		3,810			905	
N of Respondents[h]			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.

[a]Difference in the effects of YVV for males and females is statistically significant (Wald χ^2, F (1, 125.0) = 4.09, p = .0452).

[b]Difference in the effects of YVV x time for males and females is not statistically significant (Wald χ^2, F (1, 125.4) = .63, p = .4278).

[c]Joint effects of YVV for males, YVV x time for males, YVV for females, and YVV x time for females are statistically significant (Wald χ^2, F (4, 126.0) = 5.78, p = .0003).

[d]Statistically significant difference (t =2.760, p=0.0058) between the coefficient for cohabitation and the coefficient for marriage.

[e]Difference in the effects of YVV for males and females is not statistically significant (Wald χ^2, F (1, 124.9) = 1.52, p = .2202).

[f]Difference in the effects of YVV x time for males and females is not statistically significant (Wald χ^2, F (1, 124.6) = .43, p = .5145.

[g]Joint effects of YVV for males, YVV x time for males, YVV for females, and YVV x time for females are statistically significant (Wald χ^2, F (4, 125.8) = 3.87, p = .0054).

[h]Unweighted *N*.

*p < .05; **p < .01; *** p < .001 (two-tailed tests).

Table S8. Gender Differences in the Effect of Youth Violent Victimization on the Rate of (a) Dating Debut and (b) Progression to First Union among those First Interviewed in Late Adolescence (Cox Regression Models)

	(a) Dating Debut			(b) Progression to First Union		
	b	(SE)	HR	*b*	(SE)	HR
Males						
Youth Violent Victimization	.215[*a,c]	(.086)	1.240	.212[d,f]	(.121)	1.236
Youth Violent Victimization x Time	-.003[b]	(.002)	.997	-.005[*e]	(.002)	.995
Females						
Youth Violent Victimization	.291[*]	(.114)	1.338	.494[**]	(.141)	1.640
Youth Violent Victimization x Time	-.004	(.004)	.996	-.008[**]	(.003)	.992
N of Events[g]		4,278			2,935	
N of Respondents[g]		5,322			4,278	

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*). Late adolescence is > age 14 at first interview. Estimates are weighted and adjusted for complex survey design. Models also include all the variables listed in Table 4.

[a]Difference in the effects of YVV for males and females is not statistically significant (Wald χ^2, F (1, 124.4) = .35, p = .5541).

[b]Difference in the effects of YVV x time for males and females is not statistically significant (Wald χ^2, F (1, 111.9) = .14, p = .7045).

[c]Joint effects of YVV for males, YVV x time for males, YVV for females, and YVV x time for females are statistically significant (Wald χ^2, F (4, 124.1) = 2.62, p = .0384).

[d]Difference in the effects of YVV for males and females is marginally statistically significant (Wald χ^2, F (1, 125.0) = 2.86, p = .0932).

[e]Difference in the effects of YVV x time for males and females is not statistically significant (Wald χ^2, F (1, 124.9) = 1.35, p = .2471).

[f]Joint effects of YVV for males, YVV x time for males, YVV for females, and YVV x time for females are statistically significant (Wald χ^2, F (4, 126.0) = 4.54, p = .0018).

[g]Unweighted *N*.

*p < .05; **p < .01; *** p < .001 (two-tailed tests).

Table S9. Gender Differences in the Effect of Youth Violent Victimization on Competing Risks of Progression to First Cohabitation versus First Marriage among those First Interviewed in Late Adolescence (Cox Regression Models)

	First Cohabitation			First Marriage		
	b	(SE)	HR	*b*	(SE)	HR
Males						
Youth Violent Victimization	.057[a,c,d]	(.134)	1.058	.960[**e,g]	(.272)	2.611
Youth Violent Victimization x Time	-.004[b]	(.002)	.996	-.008[*f]	(.003)	.922
Females						
Youth Violent Victimization	.545[**]	(.158)	1.725	.077	(.461)	1.080
Youth Violent Victimization x Time	-.008[**]	(.003)	.992	-.002	(.006)	.998
N of Events[h]		2,296			639	
N of Respondents[h]			2,925			

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*). Late adolescence is > age 14 at first interview. Estimates are weighted and adjusted for complex survey design. Models also include all the variables listed in Table 4.

[a]Difference in the effects of YVV for males and females is statistically significant (Wald χ^2, F (1, 121.9) = 6.71, p = .0107).

[b]Difference in the effects of YVV x time for males and females is not statistically significant (Wald χ^2, F (1, 124.5) = 1.61, p = .2075).

[c]Joint effects of YVV for males, YVV x time for males, YVV for females, and YVV x time for females are statistically significant (Wald χ^2, F (4, 125.9) = 4.44, p = .0022).

[d]Statistically significant difference (t =2.974, p=0.0029) between the coefficient for cohabitation and the coefficient for marriage.

[e]Difference in the effects of YVV for males and females is marginally statistically significant (Wald χ^2, F (1, 115.3) = 3.22, p = .0755).

[f]Difference in the effects of YVV x time for males and females is not statistically significant (Wald χ^2, F (1, 116.6) = .79, p = .3761).

[g]Joint effects of YVV for males, YVV x time for males, YVV for females, and YVV x time for females are statistically significant (Wald χ^2, F (4, 125.1) = 3.43, p = .0107).

[h]Unweighted *N*.

*p < .05; **p < .01; *** p < .001 (two-tailed tests).

Part E: Supplemental Analyses of Repeat Youth Violent Victimization

One limitation of our analyses is that the measurement of youth violent victimization (YVV) in Add Health precludes us from assessing the extent to which a respondent had experienced multiple YVV incidents at a given wave because respondents were simply asked whether they had experienced any of the items comprising YVV "in the last 12 months." Accordingly, our measure of YVV at Wave I reflects some unknown mix of first and repeat victimization experiences. As we noted in the text, if we assume that repeat victimization has more severe consequences than a single victimization experience, then this limitation should lead our estimates to be somewhat conservative.

Nevertheless, respondents were also asked about YVV at Wave II and this affords us the opportunity to assess whether respondents who report YVV at both waves differ from those who only reported victimization at Wave I.[2] Doing this is a far from perfect test of repeat YVV, however, for several reasons. First, it remains the case that youth victimization reported at Wave I only could be a mix of single and repeat experiences and this makes for a less clear comparison. Second, the Wave II interviews were, on average, just 11 months after the Wave I interview and yet report of YVV refers to experiences "in the last 12 months," which raises the possibility of duplicate reporting. Third, Add Health did not reinterview Wave I high school seniors who had graduated at Wave II and this reduces statistical power, given that the oldest respondents—who were more likely to be victims and to begin dating—are eliminated.

With these challenges in mind, we performed supplemental analyses limited to respondents who participated in Waves I and II to determine whether there was any evidence that repeat violent victimization was differentially associated with the risk of dating debut and first coresidential union formation ($N = 6{,}728$). Limiting the analyses in this way reduced our sample by 23 percent and eliminated nearly a quarter (24.78 percent) of Wave I victims of youth violence. To reduce the potential for duplicate reporting given the close spacing of the Wave I and II interviews, we followed Shaffer and Ruback (2002) and identified unique Wave II YVV experiences only among the respondents whose Wave II interview was more than 12 months after their Wave I interview. We then created two mutually exclusive dummy variables for *YVV Wave I only* and *YVV Waves I and II*, the latter of which corresponds to "repeat" YVV— although, again, we cannot be certain that *YVV at Wave I only* reflects a single instance of YVV. We coded respondents who reported YVV at Wave II and had still not started dating as repeat victims to maintain the hypothesized sequence of YVV affecting dating behavior. Based on this definition, just under 12 percent of Wave I victims reported repeat victimization at Wave II ($\bar{X} = 11.73$). There were too few cases of YVV at Wave II alone to analyze separately. As with the main analysis, the findings presented here were weighted, adjusted for the complex survey design, and missing data was handled via multiple imputation (MICE).

Table S10 presents the Cox proportional hazard model results for the rate of (a) dating debut and (b) relationship progression for respondents interviewed at both Waves I and II. Model 1 in each column replicates the analyses presented in Table 3 of the main text to demonstrate how the original specification of YVV performs in the more limited sample of respondents interviewed at Waves I and II. Model 2 in each column shows the results when repeat victimization is specified. Preliminary analyses again indicated non-proportionality in the effects of YVV under both specifications, although there was no evidence that the effect of time since victimization differed between *YVV Wave I only* and *YVV Waves I and II* reports.

[2] Respondents were also asked about YVV at Waves III and IV, but these reports are not useful for the present analyses as approximately 95 percent of daters had reported dating debut by Wave III.

Among this more limited sample, we replicate the findings that YVV is associated with both an increased rate of dating debut (Model 1a) and progression to first union formation (Model 1b) and that the effects of YVV wane with time. Compared to the results in Table 3 of the main text, the estimated effects are slightly smaller, especially for dating debut, as would be expected due to the exclusion of the oldest respondents.

We do not find any evidence, however, to suggest that repeat YVV is differentially associated with the rate of dating debut or first union formation. Model 2a shows that, while the effect of *YVV Wave I only* is significantly associated with an increase rate of dating debut ($b = .180$, $p = .017$, the effect of *YVV at Waves I and II* on the rate of dating debut is far from statistically significant ($b = –.154$, $p = .337$)—although it is in the opposite direction of the *YVV Wave I only* effect and thus the two effects are significantly different from one another. Model 2b shows that both the effect of *YVV Wave I only* ($b = .383$, $p = .001$) and *YVV Waves I and II* ($b = .393$, $p = .089$) are associated with a statistically significant increase in the rate of first union formation (although the effect of repeat victimization is only marginally significant); these effects do not significantly differ from one another, however. Models (not shown) examining the competing risks of first union formation via cohabitation compared to marriage also did not indicate any difference between *Wave I only* and *Waves I and II* victimization. Similarly, models (not shown) examining first interview age differences also did not suggest any differential effects for repeat victimization.

Overall, these supplemental results seem to suggest that a single report of YVV is sufficient to induce the effects identified in the main text, as we did not detect any additional effect for a second YVV report at Wave II. Given the reduction in sample size and the fact that Wave I YVV continues to be a mix of single and multiple experiences, we are nonetheless hesitant to conclude that repeat victimization is inconsequential. Further analyses with data containing more precise information on the timing of first YVV victimization and subsequent experiences are needed.

References

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Table S10. Supplemental Analyses of the Effect of Repeat Youth Violent Victimization (YVV) on the rate of (a) Dating Debut and (b) Relationship Progression among Wave I and II Respondents (Cox Proportional Hazard Models)

	(a) Dating Debut						(b) Relationship Progression					
	Model 1			Model 2			Model 1			Model 2		
	b	(SE)	HR	*b*	(SE)	HR	*b*	(SE)	HR	*b*	(SE)	HR
Original Specification												
YVV	.156[*b]	(.074)	1.169				.372[** e]	(.114)	1.450			
YVV x Time	-.004[*]	(.002)	.996				-.006[***]	(.002)	.994			
Repeat Victimization												
YVV Wave I Only				.180[* c,d]	(.075)	1.197				.383[** f,g]	(.110)	1.467
YVV Waves I and				-.154	(.160)	.857				.396	(.229)	1.481
YVV x Time [a]				-.004[*]	(.004)	.996				-.007[***]	(.002)	.993
N of Events[h]			5,697						3,883			
N of Respondents[h]			6,728						5,535			

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*). Models are limited to respondents with valid Wave II interviews to identify repeat youth violent victimization (see text for details). Estimates are weighted and adjusted for complex survey design. Models also include controls for demographic characteristics, parental supervision, disposition, violent and delinquent behavior (see Table 1 in the main text), and panel attrition.

[a]Preliminary models indicated that the effect of time since victimization did not differ for YVV at Wave I only compared to YVV at Waves I and II.

[b]Joint effects of YVV and YVV x time are statistically significant (Wald χ^2, F (2, 123.0) = 3.13, p = .0473).

[c]Difference in the effects of YVV Wave I only and YVV Waves I and II is statistically significant (Wald χ^2, F (1, 125.7) = 5.02, p = .000).

[d]Joint effects of YVV Wave I only, YVV Waves I and II, and YVV x time are statistically significant (Wald χ^2, F (3, 124.0) = 3.38, p = .0206).

[e]Joint effects of YVV and YVV x time are statistically significant (Wald χ^2, F (2, 125.9) = 7.87, p = .0006).

[f]Difference in the effects of YVV Wave I only and YVV Waves I and II is not statistically significant (Wald χ^2, F (1, 125.7) = .00, p = .9579).

[g]Joint effects of YVV Wave I only, YVV Wave I and II, and YVV x time are statistically significant (Wald χ^2, F (3, 126.0) = 5.77, p = .0010).

[h]Unweighted *N*.

*p < .05; **p < .01; *** p < .001 (two-tailed tests).