

The association between romantic relationships and delinquency in adolescence and young adulthood

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Abstract

This study examined the association between romantic relationships and delinquency in adolescence and young adulthood. Using a large, longitudinal, and nationally representative sample, results from negative binomial regressions showed a positive association between romantic involvement and delinquency in adolescence. Furthermore, the cumulative number of romantic relationships from adolescence to young adulthood was positively related to delinquency in young adulthood even after controlling for earlier delinquency in adolescence. These analyses also controlled for the effects of participants' gender, age at initial assessment, puberty, race/ethnicity, and other demographic characteristics (e.g., family structure and parents' education). Findings are discussed in terms of their implications for understanding the role of romantic relationships in the development of young people and for stimulating future research questions.

As adolescents approach young adulthood, romantic relationships become increasingly

central to their social world (Furman & Buhrmester, 1992). However, researchers have only recently begun to focus attention on the developmental significance of romantic relationships during adolescence (e.g., Brown, Feiring, & Furman, 1999; Collins & Steinberg, 2006; Collins & van Dulmen, 2006). Studies have revealed that involvement in romantic relationships is a fairly common adolescent experience but that the associations between romantic relationships and developmental outcomes are complicated. One particularly complicated issue involves the potentially positive association between involvement in romantic relationships and adolescent delinquency (e.g., Meeus, Branje, & Overbeek, 2004; Neeman, Hubbard, & Masten, 1995). This positive association is somewhat different from the finding that involvement in romantic relationships such as marriage is often negatively associated with criminal behavior in adults (see, e.g., Sampson, Laub, & Wimer, 2006). In light of this issue, the goal of this study is to examine the association between romantic

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relationships and delinquency,¹ both concurrently in adolescence and prospectively to young adulthood. Specifically, we will use a large, longitudinal, and nationally representative sample to examine (a) whether romantic involvement is positively associated with delinquency in adolescence and (b) whether the cumulative number of romantic relationships from adolescence to young adulthood is associated with greater delinquency in young adulthood.

Romantic involvement and delinquency in adolescence

Until recently, it was assumed that romantic relationships among adolescents are trivial and transitory (see Brown et al., 1999; Collins, 2003). However, recent estimates based on the National Longitudinal Study of Adolescent Health (Add Health) project indicate that 25% of 12-year-olds report having a romantic relationship in the past 18 months, and more than 70% of 18-year-olds have been involved in a romantic relationship within the past 18 months, with the median length of romantic relationship for individuals 16 years of age or older being 20.5 months (Carver, Joyner, & Udry, 2003). In addition to the prevalence of romantic relationships in adolescence, involvement in a romantic relationship may be associated with delinquency (Meeus et al., 2004). However, such a topic has been largely ignored until recently (Haynie, Giordano, Manning, & Longmore, 2005). Accordingly, the first focus of this article is to evaluate the connection between involvement in romantic relationships and delinquency in adolescence.

A few studies found that romantic involvement in adolescence was positively associated with alcohol and drug use, and participation in delinquent behavior (e.g., Farrington, 1995; Thomas & Hsiu, 1993; Wong, 2005; Wright, 1982; Zimmer-Gembeck, Siebenbruner, & Collins, 2001). In particular, Meeus and

colleagues (2004) found that for youth aged 12–20, those who had been involved in romantic relationships demonstrated a higher level of delinquency than those who did not have romantic relationships. The results of existing research are, however, not always consistent. For example, van Dulmen, Goncy, Haydon, and Collins (2008) found that there was no association between romantic relationship involvement and delinquent and aggressive behaviors at age 16. To help resolve these inconsistencies, this study will use a large nationally representative sample to evaluate the association between romantic involvement and delinquency in adolescence. There are some general theoretical reasons to expect that involvement in romantic relationships in adolescence might be problematic. For example, psychosocial theory (Erikson, 1959) suggests that romantic involvement may be early for adolescents because their identities are not fully formed; therefore, they are not fully prepared for romantic intimacy. Likewise, a general life-course perspective (Elder, 1985) suggests that early timing of events (e.g., romantic involvement in adolescence) could have negative consequences on subsequent behavior trajectories. Thus, at least two perspectives suggest that involvement in romantic relationships during adolescence might be positively associated with problematic behavior such as delinquency. Based both on the existing findings and the theoretical rationale, we propose our first hypothesis:

H1: *Romantic involvement is positively associated with delinquency in adolescence.*

Cumulative number of romantic relationships and delinquency

In addition to evaluating whether involvement in romantic relationships is associated with delinquency in adolescence, we will also evaluate whether the cumulative history of romantic relationships from adolescence to young adulthood is associated with delinquency in young adulthood. Here, we evaluate whether the total number of relationships is a salient developmental consideration for understanding

1. Although the term *delinquency* is usually applied to criminal and other deviant behaviors committed by adolescents, we use the term for both adolescents and young adults for the sake of consistency.

deviant behavior in young adulthood and propose that the cumulative experiences of romantic involvement in a series of relationships are associated with delinquency in young adulthood.

Several studies have addressed the issue of the cumulative association between romantic relationships and delinquency but only in adolescence. Neemann and colleagues (1995) found that a high degree of romantic interests and involvement in early adolescence (8–12 years old) predicted a modest increase in conduct problem behaviors in middle adolescence (14–19 years, $M = 17$). Similarly, Zimmer-Gembeck and colleagues (2001) found that frequent romantic relationships were associated with increases in externalizing behaviors (e.g., delinquency, aggression) from age 12 to age 16. Likewise, Davies and Windle (2000) found that, compared to single relationships, multiple romantic relationships were associated with increasing problem behaviors (e.g., delinquency, alcohol use) over a 1-year period during middle adolescence.

Although these studies have consistently demonstrated the negative effect of cumulative experiences in romantic relationships on delinquency over time, these findings, with one exception, have not been extended into young adulthood. Extending the research into young adulthood is particularly important in that romantic relationships become more central in young adulthood and that the influence of cumulative experience in romantic relationships on other aspects of development is more salient in young adulthood (Fincham & Cui, 2011). Meeus and colleagues (2004) found that those consistently involved in romantic relationships (“systematic partner experience” group) during adolescence showed a higher level of delinquency than those who had a romantic relationship at a later time (“Time 3 partner” group) or those who never had a romantic relationship (“never partner” group), but they found no differences in delinquency trajectories from late adolescence to young adulthood among different groups. However, in Meeus and colleagues’ study, the systematic partner experience group was identified if a participant was involved in a romantic

relationship at all three time points, which reflected to some degree frequent romantic involvement but did not capture the total number of romantic relationship during the three time points. By taking into account all romantic relationships between study time points, this study will be the first to examine the association between accumulation of romantic relationships and delinquency from adolescence to young adulthood. This research question again follows from a life-course perspective (Elder, 1985) that posits that earlier experiences have a cumulative impact on later life trajectories. Based on the life-course perspective and extending the literature on adolescence, we propose that involvement in a greater number of romantic relationships over time will be associated with more delinquent behaviors in young adulthood. This leads to our second hypothesis:

H2: *The number of romantic relationships from adolescence to young adulthood is positively associated with delinquency in young adulthood.*

The present study

The goal of this study was to examine (a) whether there is a positive association between romantic involvement and delinquency in adolescence (H1) and (b) whether those who had more romantic relationships report more delinquency in young adulthood than those who had fewer romantic relationships (H2). In addition, several adolescent characteristics will be controlled for because earlier studies have demonstrated their association with delinquency, including adolescent age (Meeus et al., 2004), pubertal timing (e.g., Ge, Brody, Conger, & Simons, 2006; Haynie, 2003), gender (Cauuffman, Farruggia, & Goldweber, 2008; Odgers & Moretti, 2002), and race and ethnicity (e.g., Elliot, Ageton, & Canter, 1980; Paschall, Flewelling, & Ennett, 1998). Furthermore, Collins (2003) suggested that relationship quality is important beyond relationship involvement. Therefore, for a subsample of those currently in a romantic relationship in young adulthood, we also

controlled for relationship quality and length. Finally, because previous studies have demonstrated the effect of demographic variables on romantic relationships and delinquency (e.g., Cavanagh, Crissey, & Raley, 2008), demographic variables—family structure and parents' education—were also included in the analyses. Thus, we attempted to provide a conservative test of our research hypotheses.

Method

Sample and procedures

To evaluate our hypotheses we draw data from Add Health. Add Health is a school-based longitudinal study of a nationally representative sample of adolescents in Grades 7–12 in the United States during the 1994–1995 school years. Detailed descriptions of the sample and procedures can be found in Harris and colleagues (2008) and at the website <http://www.cpc.unc.edu/projects/addhealth/design>. Briefly, Add Health used a multistage, stratified, cluster sampling design. In the initial stage, 132 schools were selected from a list of all U.S. schools sorted by enrollment size, school type, region, urbanicity, and racial composition (i.e., “implicit stratification”). From each school, students were randomly selected while oversampling certain youth groups such as racial and ethnic minorities and those with disabilities to allow more precise estimates for these small groups.

At Wave I, in-home interviews ($N = 20,745$) were administered to students in Grades 7–12 in 1995. The topics included social and demographic characteristics of respondents, household structure, family composition and dynamics, risk behaviors, sexual partnerships, and formation of romantic partnerships. Wave II surveyed students from the original sample (except for those who graduated) 1 year after Wave I. Data were collected from respondents during an in-home interview ($N = 14,738$). In 2001, 15,197 respondents from the original sample, 18- to 27-year-olds, were reinterviewed in Wave III to investigate the influence that adolescence has on young adulthood.

This study used data from Waves I, II, and III. Among respondents in the primary sample, 18,924 participated in Wave I, 13,570 participated in Waves I and II, and 14,322 participated in Waves I and III (Chantala, 2006). In order to address our research questions, which are specific to life stages, we restricted our operational sample to those who were adolescents at Wave I (i.e., between ages 13 and 18). As a result, our final samples included $N = 16,279$ for analyses using Wave I only, $N = 12,243$ for analyses using Waves I and II, and $N = 10,256$ for analyses using Waves I and III for those who had at least one romantic relationship between Waves I and III. Analyses of the missing data suggested that in Wave III, males, African Americans, and those in lower grade levels in earlier waves were more likely to have dropped out from the study. This study will focus on the $N = 16,279$ at Wave I and $N = 12,243$ from Waves I to II for testing H1, and the $N = 10,256$ from Waves I to III for testing H2.

Measures

Delinquency (Waves I, II, and III)

Delinquency was measured at Waves I, II, and III. To compare their mean levels, only the same items across Waves I, II, and III were used. There were seven items asking the target adolescents, during the past 12 months, how often did you deliberately damage property, steal something worth more than \$50, go into a house or building to steal something, use or threaten to use a weapon to get something from someone, sell marijuana or other drugs, steal something worth less than \$50, and take part in a fight where a group of your friends was against another group. All items ranged from 0 (*never*) to 3 (*5 or more times*). The seven items were then summed together for each wave to serve as the primary variable of interest.

Romantic involvement (Wave I)

At Wave I, participants were asked “In the last 18 months, have you had a special romantic relationship with any one?” The item was coded as 0 (*no*) and 1 (*yes*). In addition, the Add Health survey included a section on

“liked” relationships to address the underreporting of romantic relationships in the direct question. Liked relationships were defined as relationships that involved hand holding, kissing, and telling the other that the respondent liked or loved him or her, based on respondents’ self-report. Because these relationships involved romantic behaviors, we treated them as romantic relationships, following previous Add Health researchers’ strategy (see Carver et al., 2003; Cavanagh et al., 2008).

Number of romantic relationships (Wave III)

Number of romantic relationships was used to assess the accumulation of romantic relationships between Waves I and III. At Wave III, respondents were asked to list all their romantic relationships since Wave I. Number of romantic relationships was measured by the total number of relationships they listed. As indicated earlier, the sample included those who reported at least one romantic relationship between Waves I and III.

Other variables

Adolescent *age* was assessed at Wave I and measured as age in years. Adolescent *gender* was measured at Wave I and coded as 0 (*male*) and 1 (*female*). *Pubertal timing* was measured at Wave I using different items for girls and boys. For girls, three questions on their development of breasts, body curve, and age at first menstruation were standardized and combined. For boys, three questions on their development of underarm hair, facial hair, and voice change were standardized and combined. The composite scores were then standardized within age. Such a *z* score within age and gender therefore measured adolescents’ pubertal timing as compared to their peers of same age and gender. *Race and ethnicity* were assessed at Wave I by five dummy variables for Hispanic, White (reference category), African American, Asian, and Other. In order to control for family effects, we also included in our analyses control variables for family structure and parents’ education. *Family structure* was assessed at Wave I also

by five dummy variables for two-biological parent families (reference category), stepfamilies, single-mother families, single-father families, and other families. *Parents’ education* was assessed at Wave I by asking the target adolescent his/her mother and father’s years of schooling. The item ranges from 1 (*eighth grade or less*) to 9 (*professional training beyond a 4-year college or university*), and those who reported that their parents never went to school were coded as 0. When target adolescents reported both parents’ education, the level of the highest parents’ education was used (Armour & Haynie, 2007). Furthermore, responses were coded into four dummy variables: college education or more, some college education, high school graduation (reference category), or less than a high school education (Cavanagh et al., 2008).

At Wave III, a subsample of those currently in a romantic relationship was obtained and relationship length and quality were added as control variables. Relationship *length* was measured using their relationship starting month and year subtracting from their interview month and year. Relationship *quality* was measured using one item asking the respondents “In general, how satisfied are you with your relationship with your partner?” (1 = *very satisfied* to 5 = *very dissatisfied*).

Results

Following the convention of Add Health researchers, the stratified and clustered nature of the data design (e.g., students nested in schools) were adjusted (Chantala & Tabor, 1999). Throughout the analysis, Stata’s “svy” estimation was used. The estimation method accounted for clustering of data (i.e., students nested within schools) in the computation of standard deviations and standard errors using the Taylor series approximation of variance (Chantala, 2006). The svy estimation also used weight variables to correct for oversampling in the initial wave as well as attrition in each follow-up wave. The appropriate weight variable was selected for each analysis depending on which sample and which waves were used for each analysis (Chantala, 2006). Recall that our analysis

focused on respondents who were originally aged between 13 and 18 at Wave I. We specified these people as a “subpopulation” in the svy estimation, so Stata used sampling weights to generate the results that are generalizable to this group, rather than the whole population of students attending the U.S. schools (Chantala, 2006).

For the primary analysis, we used negative binomial models because such models are best suited for analyses with dependent variable (delinquency) being extremely skewed—a large number of zeroes (no delinquent behavior) and a small number of very high values (high level of delinquency). Such models are also easy to interpret (by exponentiating

coefficients so that each unit increase in the independent variable translates into a percent increase or decrease in delinquency) and have been used by other researchers with similar dependent variables (e.g., Armour & Haynie, 2007; Haynie et al., 2005). Because traditional goodness-of-fit statistics such as chi-square and pseudo R^2 were not appropriate for the svy estimation, F scores were reported instead (StataCorp, 2005).

Descriptive statistics

Table 1 provides descriptive information about the sample. There are several findings worth mentioning. First, the overall mean

Table 1. *Descriptive information with demographic characteristics (weighted; N = 8,055)*

Variables	<i>M</i> or %	<i>SD</i>	Range
Delinquency Wave I (1995)	1.222	2.247	0–21
Delinquency Wave II (1996)	1.041	2.049	0–21
Delinquency Wave III (2001)	0.665	1.590	0–21
Romantic involvement (Wave I)	66.3%		
Number of romantic relationships (Wave III)	3.564	3.077	1–48
Other variables (Wave I)			
Age	15.460	1.508	13–18
Pubertal timing	–0.164	2.169	–6.018–5.920
Gender (female)	51.4%		
Race and ethnicity			
White (reference)	70.4%		
Hispanic	11.2%		
African American	13.9%		
Asian	3.1%		
Other races and ethnicities	1.4%		
Family structure			
Two-biological parents (reference)	57.6%		
Stepfamilies	17.2%		
Single-mother families	19.5%		
Single-father families	2.9%		
Other families	2.8%		
Parents' education			
College or more	36.3%		
Some college	21.8%		
High school graduation (reference)	30.8%		
Less than a high school education	11.1%		

Note. $N = 8,055$ is based on those who met the criteria (e.g., age 13–18, reported at least one relationship at Wave III) and completed data on ALL three waves. So the N is smaller than those used in subsequent analyses where only one or two waves of data were used in any single model. Weighting variable GSWGT3 is used. Relationship length and quality were not included because they were only applicable for a small subsample at Wave III.

level of delinquency was highest at Wave I, then decreased over time. Second, 66% of the adolescents reported having had romantic involvement in the past 18 months at Wave I. Third, the average number of relationships during the 6-year study period from Wave I to Wave III was 3.56.

Hypotheses testing

First, in order to test the association between romantic involvement and delinquency in adolescence (H1), we regressed delinquency at Wave I on romantic involvement at Wave I. Age, puberty, gender, race and ethnicity, and other family demographic variables were included. The results were shown in Table 2.

Results from Table 2 suggested that there was a significant positive association between romantic involvement and adolescent delinquency at Wave I, $b = 0.662$, 95% CI [0.560, 0.765], $\exp(b)$ or $OR = 1.939$, $p < .001$. The

odds ratio of 1.939 suggested that compared to adolescents who had no involvement in romantic relationships during the past 18 months, adolescents who had reported romantic involvement during this period were at increased risks for reporting delinquency. The association between age and delinquency was also significant, $b = -0.089$, $OR = 0.915$, $p < .001$, suggesting that younger adolescents were at higher risks of engaging in delinquent behavior (Table 1) controlling for all the predictors in the model. Pubertal timing was significantly associated with delinquency, suggesting that early puberty timing is associated with heightened risks of delinquent behavior. Adolescent girls reported lower risks of delinquency than adolescent boys. Furthermore, Hispanics and Asian American adolescents reported higher risks of delinquency than White adolescents controlling for

Table 2. Negative binomial regression of the association between romantic involvement (Wave I) and delinquency (Wave I; $N = 16,279$)

Variables	<i>b</i>	<i>SE</i>	<i>OR</i>	95% CI (<i>b</i>)	
Romantic involvement	0.662***	.052	1.939	0.560	0.765
Age	-0.089***	.017	0.915	-0.123	-0.055
Pubertal timing	0.073***	.011	1.076	0.051	0.096
Female	-0.629***	.040	0.533	-0.708	-0.550
Race and ethnicity					
Hispanic	0.303***	.069	1.354	0.165	0.440
African American	-0.007	.067	0.993	-0.138	0.125
Asian American	0.355***	.089	1.426	0.179	0.532
Other races and ethnicities	0.123	.245	1.131	-0.361	0.607
Family structure					
Stepfamilies	0.154**	.053	1.166	0.050	0.258
Single-mother families	0.289***	.054	1.335	0.182	0.395
Single-father families	0.476***	.093	1.610	0.293	0.659
Other family structure	0.325**	.104	1.384	0.119	0.532
Parents' education					
College or more	0.006	.049	1.006	-0.091	0.103
Some college	0.081	.054	1.084	-0.026	0.187
Less than high school	0.087	.063	1.091	-0.037	0.212
Constant	1.122***	.271		0.587	1.658
$F(15, 116) = 44.56, p < .001$					

Note. Weighting variable GSWG1 was used.

** $p < .01$. *** $p < .001$.

other predictors in the model. Finally, adolescents from stepfamilies, single-parent families, and other family structures all reported higher risks of delinquency than those from two-biological parent families.

To extend the cross-sectional findings in Table 2, Wave II delinquency was used as the outcome (1 year after romantic involvement), and the results were shown in Table 3. As can be seen, the results showed the same pattern. The only minor difference was that Asian American adolescents reported no higher risks of delinquency than White adolescents.

Next, we tested whether number of romantic relationships from Wave I to Wave III was associated with delinquency at Wave III (H2). Delinquency at Wave I was included in the model to control for previous levels. Age, puberty, gender, race and ethnicity, and other family demographic variables were also included. The results are presented in Table 4.

In Table 4, despite the considerable continuity of delinquency across time, the number of romantic relationships during the period also contributed significantly to higher risks of delinquency in young adulthood, $b = 0.066$, 95% CI [0.048, 0.085], $OR = 1.068$, $p < .001$. Age was significantly and negatively associated with risks of delinquency, suggesting that younger participants demonstrated higher risks of delinquency at Wave III than older participants. Pubertal timing was slightly negatively associated with risks of delinquency at Wave III in this model. This effect might capture a lagged effect whereby early maturing young people are “faster” to age out of delinquency relative to their later maturing peers. Regarding gender, female participants demonstrated much lower risks of delinquency at Wave III than male participants. Those individuals whose parents had a college degree showed higher risks of

Table 3. Negative binomial regression of the association between romantic involvement (Wave I) and delinquency (Wave II; $N = 12,243$)

Variables	<i>b</i>	<i>SE</i>	<i>OR</i>	95% CI (<i>b</i>)	
Romantic involvement	0.499***	.056	1.647	0.388	0.610
Age	-0.135***	.020	0.874	-0.175	-0.096
Pubertal timing	0.052***	.010	1.053	0.032	0.072
Female	-0.581***	.048	0.559	-0.676	-0.487
Race and ethnicity					
Hispanic	0.377***	.084	1.458	0.211	0.543
African American	-0.050	.087	0.951	-0.223	0.123
Asian American	0.091	.135	1.095	-0.175	0.357
Other races and ethnicities	0.294	.192	1.342	-0.086	0.673
Family structure					
Stepfamilies	0.195**	.063	1.215	0.071	0.319
Single-mother families	0.244***	.060	1.276	0.126	0.363
Single-father families	0.481***	.147	1.618	0.190	0.773
Other family structure	0.293**	.115	1.340	0.066	0.521
Parents' education					
College or more	-0.023	.074	0.977	-0.169	0.124
Some college	0.028	.077	1.028	-0.125	0.180
Less than high school	0.015	.088	1.015	-0.159	0.188
Constant	1.852***	.313		1.233	2.471
$F(15, 116) = 28.13, p < .001$					

Note. Weighting variable GSWGT2 was used.

** $p < .01$. *** $p < .001$.

Table 4. Negative binomial regression of the association between number of romantic relationships and delinquency (Wave III; $N = 10,256$)

Variables	<i>b</i>	<i>SE</i>	<i>OR</i>	95% CI (<i>b</i>)	
Number of romantic relationships	0.066***	0.009	1.068	0.048	0.085
Delinquency at Wave I	0.173***	0.014	1.189	0.145	0.202
Age	-0.187***	0.023	0.829	-0.232	-0.142
Pubertal timing	-0.037*	0.018	0.964	-0.072	-0.001
Female	-1.187***	0.071	0.305	-1.327	-1.047
Race and ethnicity					
Hispanic	0.064	0.112	1.066	-0.157	0.285
African American	0.109	0.104	1.115	-0.096	0.313
Asian American	-0.114	0.178	0.892	-0.466	0.238
Other races and ethnicities	0.056	0.235	1.058	-0.409	0.522
Family structure					
Stepfamilies	0.088	0.083	1.092	-0.076	0.252
Single-mother families	0.108	0.085	1.114	-0.061	0.276
Single-father families	0.216	0.214	1.241	-0.208	0.640
Other family structure	0.197	0.278	1.218	-0.354	0.748
Parents' education					
College or more	0.300***	0.083	1.350	0.135	0.465
Some college	0.134	0.095	1.143	-0.054	0.321
Less than high school	0.040	0.126	1.041	-0.210	0.290
Constant	2.084***	0.364		1.363	2.805
$F(16, 115) = 38.51, p < .001$					

Note. Weighting variable GSWGT3_2 was used.

* $p < .05$. *** $p < .001$.

delinquency at Wave III than those whose parents had a high school degree.

In addition, in order to examine the potential effects of romantic relationship involvement on specific delinquent behaviors, we tested all seven of the individual delinquency item as separate outcomes. Results from the seven models (not shown) suggested that the number of romantic relationships had a significant effect on five of the seven individual items, including taking part in a fight, $b = 0.072$, 95% CI [0.050, 0.094], $OR = 1.075$, $p < .001$; damaging property, $b = 0.063$, 95% CI [0.039, 0.087], $OR = 1.065$, $p < .001$; selling marijuana or other drugs, $b = 0.061$, 95% CI [0.035, 0.087], $OR = 1.063$, $p < .001$; stealing something worth less than \$50, $b = 0.064$, 95% CI [0.037, 0.091], $OR = 1.066$, $p < .001$; and using or threatening to use a weapon, $b = 0.071$, 95%

CI [0.028, 0.114], $OR = 1.074$, $p = .001$. The number of romantic relationships did not have a significant independent effect on stealing something worth more than \$50, $b = 0.026$, 95% CI [-0.012, 0.065], $OR = 1.026$, $p = .17$, and going into a house or building to steal something, $b = -0.012$, 95% CI [-0.066, 0.042], $OR = 0.988$, $p = .67$.

Finally, a subsample of participants was used to test the model adding relationship length and quality. The criteria for inclusion in the model were participants who reported a current relationship at Wave III and had complete data on relationship length and quality of that relationship, as well as other variables of interests included in previous models. As a result, a subsample of $N = 2,789$ was used for these analyses. The results (not shown) showed that even though dissatisfaction with current relationship was positively associated

with delinquency, $b = 0.309$, 95% CI [0.139, 0.478], $OR = 1.362$, $p < .001$, and the number of relationships still remained significant, $b = 0.095$, 95% CI [0.053, 0.138], $OR = 1.100$, $p < .001$. Length of the current relationship was not significantly associated with delinquency in these analyses, $b = -0.003$, 95% CI [-0.010, 0.003], $OR = .997$, $p = .34$.

Discussion

The goal of this investigation was to examine the association between romantic relationships and delinquency in adolescence and young adulthood. Based on psychosocial development theory (Erikson, 1959) and the life-course perspective (Elder, 1985), we hypothesized that the association between romantic involvement and delinquency would be positive during adolescence (H1) and that cumulative number of relationships in adolescence and young adulthood was positively associated with delinquency in young adulthood (H2). Findings from negative binomial regressions supported both hypotheses.

Documenting a positive association between romantic involvement and risks of delinquency during adolescence is consistent with findings from earlier studies (e.g., Farrington, 1995; Meeus et al., 2004; Zimmer-Gembeck et al., 2001). Indeed, as we suggested in the Introduction, there are theoretical reasons to argue that involvement in romantic relationships in adolescence might be problematic. From a psychosocial perspective, Erikson (1959) proposed that development of identity is the central task of adolescence. He also suggest that a firm identity should be developed before individuals can meaningfully achieve "real intimacy" (p. 101) with a romantic partner (the central task of early adulthood). Similarly, from a life-course perspective (Elder, 1985), romantic involvements, especially during early adolescence, are "off-timing" events that could pose more challenges and have more negative consequences on subsequent behavioral trajectories than those that are age appropriate. In short, involvement in romantic relationships in adolescence may interfere with

normative developmental tasks and otherwise be associated with problematic functioning such as delinquency and depression (Joyner & Udry, 2000; Neemann et al., 1995; Zimmer-Gembeck et al., 2001).

Several potential processes could explain such an association between involvement in relationship and delinquency in adolescence. For example, because adolescents are still trying to figure out who they are (i.e., identity development), premature involvement in a romantic relationship could be a source of distress for adolescents (Davies & Windle, 2000). It might be the case that adolescents become overwhelmed by the demands in romantic relationships and therefore demonstrate more problem behaviors, including delinquency (Neemann et al., 1995; Wright, 1982). Another possibility is that romantic involvement may introduce adolescents to deviant partners who influence adolescent behavior toward additional delinquency. Several studies suggested that romantic involvement with problem partners may exacerbate existing problems, and association with deviant partners are associated with higher level of delinquency (Haynie et al., 2005; Meeus et al., 2004; van Dulmen et al., 2008). Future studies are needed to test these and other explanations of this association.

Extending investigation of the association between romantic involvement and delinquency, we further examined how the cumulative romantic relationships were related to delinquency in young adulthood. We used the frequency of relationships from Wave I to Wave III to capture the cumulative nature of the history and experience of romantic experience during the study period. Findings from negative binomial regressions suggested that the number of romantic relationships was significantly associated with risks of delinquency, even after controlling for delinquency at Wave I. These findings demonstrated that frequent romantic relationships are associated with greater risks of delinquency in young adulthood, highlighting the potential importance of cumulative romantic relationship history for statistically predicting criminal behaviors in young adulthood.

Several reasons may contribute to the association between frequent relationships from adolescence to adulthood and delinquency in young adulthood. First, involvement in frequent relationships could indicate that these people may lack the interpersonal skills to successfully maintain a romantic relationship (e.g., Cui, Fincham, & Pasley, 2008). This will generate a higher number of shorter term relationships. Such short relationships are usually marked by lack of companionship, support, and intimacy, high level of conflict and low relationship quality. In fact, studies have shown that low relationship quality was associated with problem behaviors (Collins, 2003; Meeus et al., 2004; van Dulmen et al., 2008). Second, youth involved in frequent short-term relationships may have a different attitude toward relationships. Some youth may choose to have casual relationships because of reluctance to make a commitment to any single relationship. As Davies and Windle (2000) pointed out, casual relationships, which eventually result in frequent relationships, are associated with an increase in psychosocial adjustment problems (including delinquency). Finally, it is also possible that individual characteristics may contribute to the association between frequent romantic relationships and behavioral problems. For example, involvement in frequent relationships may reflect their predispositions to unconventionality, and unconventionality has been linked to behavioral problems (Costa, Jessor, Donovan, & Fortenberry 1995; Leon, Carmona, & Garcia, 2010). Also, studies have found relations among romantic involvement, impulsivity, and problem behaviors such that impulsive youth were more involved in romantic relationships (Persson, Kerr, & Stattin, 2004) and conduct problems (Babinski, Hartsough, & Lambert, 1999). This work suggests that impulsivity may play a role in the association between frequent romantic involvement and delinquency (Eklund, Kerr, & Stattin, 2010).

An important caveat to add is that we observed the association between frequency of relationships and delinquency in young adulthood controlling for delinquency at Wave I to reduce the possibility of selection effects for predicting delinquency at Wave III. Thus,

it appears that frequency of relationships is predictive of young adult delinquency net of prior levels of delinquency. Likewise, several studies have suggested that the quality and duration of romantic relationships could be important factors in influencing youth adjustment problems (Collins, 2003; Farrington, 1995; van Dulmen et al., 2008). To address these concerns, we also controlled for relationship quality and length in a subset of participants and we still found a significant effect of number of relationships. Such findings may suggest that frequent involvement in relationships is not only an indication of repeated exposure to low relationship quality but perhaps is a unique factor beyond current relationship quality and security worthy of additional study.

The findings should, however, be viewed in the light of several limitations. First, even though this study examined the effect of romantic relationships on delinquency, the association, however, could be reciprocal. The inclusion of delinquency at Wave I when examining romantic relationships and delinquency at Wave III, however, increased our confidence in our findings. Second, the measures used in this study were all from target youth's self-report, which may inflate the association among the constructs (Bank, Dishion, Skinner, & Patterson, 1990). Third, due to the limitation in the data, cumulative romantic relationships were assessed by numbers of relationships between Waves I and III. A measure of number of relationships including those before Wave I would be more precise. Nevertheless, number of relationships is "cumulative" by nature and the period between Waves I and III used in this study captured most, if not all, participants from adolescence to young adulthood. Finally, this study focused on the target youth; therefore, limited information was included regarding partners' characteristics. Partners' characteristics are important because romantic relationships are of course dyadic phenomena. For example, regarding partner's age, studies have shown that adolescents (especially adolescent girls) who are affiliated with older partners in the course of early romantic relationships could be more likely to be exposed

to a more delinquent environment that could increase their own delinquent behavior (see Zimmer-Gembeck et al., 2001). More studies are needed that include partners' characteristics to further clarify the association between romantic relationships and delinquency.

Despite these limitations, the present study addressed important theoretical issues regarding romantic relationships and delinquency in adolescence and young adulthood. The findings suggested that romantic involvement in adolescence was associated with higher risks of delinquency and, importantly, that cumulative number of romantic relationships from adolescence to young adulthood was associated with higher risks of delinquency in young adulthood. These findings generally point to the fact that involvement in romantic relationships is positively associated with delinquency and that involvement in more relationships rather than fewer is statistically diagnostic of delinquency in young adulthood. This is important information as it can be used to bolster the case that interventions designed to improve the experiences of youth in romantic relationships might have significant consequences. For example, educational programs that focus on the skills necessary to maintain a relationship as well as skills about making informed decisions about romantic relationships may generate positive societal dividends that extend to arenas beyond happy and satisfying personal relationships.

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