Older Romantic Partners and Depressive Symptoms During Adolescence

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Abstract

Although developmental theory predicts that adolescent romantic relationships have important benefits, empirical evidence suggests that they may also carry substantial psychosocial risk. This study uses data from 4,948 respondents (50% female) in Wave I and Wave II of the National Longitudinal Study of Adolescent Health to examine the association between involvement with an older romantic partner and depressive symptoms during adolescence. Ordinary least squares regression models compared Wave II depressive symptoms among respondents with older partners (defined as an age difference of 2 or more years) to respondents with same-age or younger partners, controlling for baseline depressive symptoms and sociodemographic characteristics. Ten percent of females and two percent of males reported having an older romantic partner at Wave II. Among females only, involvement with an older romantic partner was associated with a modest but significant increase in depressive symptoms between waves. This association was largely mediated by increases in substance use. Findings suggest that involvement with an older male partner during adolescence may increase the risk of poor emotional outcomes among females.

Keywords

Depression; Romantic relationships; Longitudinal

Introduction

The formation of romantic attachments is a normative developmental task during adolescence (Havighurst 1972; Sullivan 1953). National estimates indicate that approximately 65% of adolescents between the ages of 12 and 18 have been in a romantic relationship in the last 18 months (Carver et al. 2003). Theories of adolescent development suggest that romantic relationships serve important developmental functions (Furman and Shaffer 2003). For example, Eriksonian identity theory posits that adolescents seek to test and clarify different self-images through interactions with romantic partners (Erikson 1968). The increasing salience of peers and romantic partners also leads to changes in family relationships (Furman and Shaffer 2003) and developmentally appropriate increases in autonomy and individuation (Zimmer-Gembeck and Collins 2003). Finally, positive adolescent romantic experiences may contribute to a sense of oneself as a competent and

worthy romantic partner (Barber and Eccles 2003; Bouchey 2007), which in turn is predictive of general psychosocial adjustment and greater overall perceptions of self-worth and competence across multiple domains (Masten et al. 1995)

Despite a strong theoretical basis for developmental benefits, however, empirical data indicate that romantic relationships constitute significant sources of emotional distress and behavioral risk for many adolescents (Joyner and Udry 2000; Monroe et al. 1999; Quatman et al. 2001; Welsh et al. 2003). In the first study to examine the association between adolescent depressive symptoms and romantic relationships using nationally representative data, Joyner and Udry (2000) found that adolescents who become romantically involved experience greater increases in depressive symptoms compared to those who do not become romantically involved. Females appear to be particularly vulnerable to experiencing emotional distress as a result of interpersonal and romantic stressors (Cyranowski et al. 2000; Joyner and Udry 2000; Rudolph 2002), perhaps because they are more likely than males to negatively appraise interpersonal events (Davis et al. 1999; Hankin et al. 2007).

The apparent paradox between developmental theory and empirical findings suggests that *specific features* of adolescent romantic relationships are more important in contributing to developmental outcomes than romantic involvement per se. Recent theoretical work describes five such features that are critical to understanding the developmental implications of romantic experiences: romantic involvement, partner identity, cognitive and emotional processes, relationship content, and relationship quality (Collins 2003). In general, however, existing research on the association between romantic relationships and depression has focused primarily on identifying individual cognitive patterns that increase vulnerability (Davila et al. 2004; Harper et al. 2006). Additional attention to specific features of adolescent romantic relationships, and romantic partners in particular, will enhance our understanding of the mechanisms by which these relationships lead to positive or negative developmental outcomes.

Health Consequences of Involvement with Older Romantic Partners

Partner age differences are one feature of romantic relationships often examined in studies of adolescent and young adult health outcomes. Adolescents with older romantic partners are more likely to test positive for sexually transmitted infections (STIs) and to report having received a past STI diagnosis (Begley et al. 2003; Ford and Lepkowski 2004; Kraut-Becher and Aral 2006), and are less likely to use condoms or other contraceptive methods (Ford et al. 2001; Manlove et al. 2007; Manning et al. 2000) compared to those with same-age partners. Among adolescents who have not had sexual intercourse, involvement with an older romantic partner increases the likelihood that sexual initiation will occur (Kaestle et al. 2002; Marin et al. 2000, 2006). While the exact mechanisms that underlie these associations are unknown, proposed explanations generally point to unique communication dynamics and power differentials among adolescent couples in which one partner is substantially older (Kaestle et al. 2002).

In spite of the wide body of literature on the sexual and reproductive health implications of involvement with an older romantic partner, very few studies have looked beyond these outcomes to examine whether involvement with older partners is associated with emotional health as well. In one notable exception, Shrier et al. (2009) examined associations between sexual risk behavior and depressive symptoms in a clinic-based sample of adolescent and young adult dyads in which at least one member tested positive for *Chlamydia trachomatis*. They found that partner age differences were greater within dyads with a depressed female partner. These results are based upon cross-sectional analyses of a select sample at high STI risk, however, and whether they extend to sociodemographically diverse populations or would be evident in longitudinal designs is unclear.

Romantic Relationships in Ecological Perspective

We draw upon an ecological perspective on adolescent romantic relationships to identify factors that might account for an observed association between entering a romantic relationship with an older partner and changes in depressive symptoms. Ecological views of adolescent romance suggest that romantic relationships both influence and are influenced by events and experiences in other settings, such as family, school, peer networks, and religious and other community institutions (Collins et al. 2009). We focus, in particular, on processes described by the *attention impairment model*, which represents a natural elaboration of the ecological perspective. This model proposes that romantic relationships shift attention from other domains, such as school and family relationships, thereby impairing functioning in these domains and subsequently increasing emotional distress (Davila 2008). Recent findings that romantic relationships are negatively associated with school performance and parent relationship quality, particularly among younger adolescents and females, support this model (Joyner and Udry 2000; Neemann et al. 1995).

Processes proposed by the attention impairment model may be particularly relevant to adolescents involved with an older romantic partner. For example, parent–adolescent conflict, which typically increases as adolescents begin dating and forming other attachments outside the family unit (Laursen 1995), may be heightened if parents perceive older romantic partners as age-inappropriate. The developmental demands of negotiating a relationship with an older romantic partner may also distract from academic work to a greater extent than a romantic relationship with a same-age peer who has similar academic responsibilities. Finally, because adolescent couples in which one partner is significantly older may also be characterized by unique interpersonal dynamics—such as perceived or real power differentials—the ability of the younger partner to balance these competing demands may be substantially limited.

While the attention impairment model focuses on family and academic domains, other research suggests that peer-based substance use may be an important correlate of adolescent romantic involvement. Adolescents involved in romantic relationships report higher levels of substance use compared to those without romantic partners (Halpern et al. 2007; Joyner and Udry 2000), and substance use is associated both cross-sectionally and longitudinally with depressive symptoms (Hallfors et al. 2005). Existing evidence suggests that substance use may be a particularly salient feature of relationships with older adolescent partners. In general, substance use increases from early to late adolescence (Johnston et al. 2007); adolescents with older partners may therefore be more likely to be exposed to—and experiment with—alcohol, marijuana, and other substances. In addition, adolescent males with significantly younger female partners appear more likely to exhibit a constellation of risk behaviors, including substance use problems. In one recent study, older adolescent males (ages 18–19) who reported that, hypothetically, they had some likelihood of having a sexual relationship with a younger adolescent (ages 13–14) were also more likely to report substance use problems, as well as poor psychosocial adjustment and conduct problems in general (Hegna et al. 2004). Taken together, these findings indicate that substance use represents an additional pathway—beyond changes in family and academic domains—through which involvement with an older romantic partner may contribute to emotional distress.

Differences in Vulnerability Between Younger and Older Adolescents

Evidence suggests that the developmental significance of romantic experiences varies by the stage of adolescence during which it occurs. Young adolescents—and particularly young females—are especially vulnerable to experiencing emotional distress as a result of romantic involvement (Joyner and Udry 2000). Romantic involvement during early adolescence also

appears to carry a heightened risk of impairment in other domains compared to involvement in late adolescence (Neemann et al. 1995). Early romantic involvement with an older partner may confer additional risk. To the extent that they lack the maturity and experience to negotiate competing interpersonal, familial, and academic demands, young adolescents may find the developmental challenges of having an older romantic partner particularly difficult and potentially distressing. Young adolescents with older partners may also be exposed to situations and activities, such as experimentation with substances, for which they are not developmentally prepared.

The Present Study

The purpose of the present study was to better understand the association between romantic relationships and depressive symptoms during adolescence by examining the role of older partners. We took advantage of the prospective design of the National Longitudinal Study of Adolescent Health (Add Health) to compare changes in depressive symptoms among respondents who enter a relationship with an older partner, respondents who enter a relationship with a same-age or younger partner, and respondents with no romantic partner (controlling for baseline depressive symptoms). Consistent with an ecological perspective on adolescent romantic experiences, we also consider the mediating role of changes in parent relationship quality, academic achievement, and substance use.

Our analyses were structured around three hypotheses. First, we expected that entering a romantic relationship with an older partner would be associated with increases in depressive symptoms among females but not among males (Hypothesis 1). Previous empirical findings indicating that females may be more likely than males to report negative appraisals and emotional distress in response to interpersonal events, particularly romantic relationships (Joyner and Udry 2000), support this prediction. Second, we hypothesized that the association between entering a relationship with an older partner and increases in depressive symptoms would be mediated by changes in parent relationship quality, substance use, and academic achievement (Hypothesis 2). This hypothesis is based on an ecological view of adolescent romantic relationships, which predicts bidirectional influences between romantic experiences and other domains of adolescent life. Predictions regarding the mediating role of parent relationship quality and academic achievement are motivated in particular by the attention impairment model. Finally, because the relational challenges of having older romantic partner may require greater interpersonal skill and maturity, we expected that age would moderate this association. Specifically, we predicted that entering a relationship with an older partner would have greater consequences for mental health among younger females (Hypothesis 3). We based this hypothesis on prior work indicating that younger adolescents are more vulnerable to experiencing distress and dysfunction as a result of romantic involvement (Joyner and Udry 2000; Neemann et al. 1995).

Method

Participants

Add Health is a nationally representative, school-based probability sample of US adolescents in grades 7–12 in 1994–1995. To construct the Add Health sample, eighty high schools were first selected with unequal probability of selection using a stratification scheme based on the Quality Education Database. For each high school, a feeder middle school was also selected with probability proportional to its contribution to the high school student population. All students from participating schools who were present on the day of survey administration were eligible to complete an in-school questionnaire. In 1995, 20,745 respondents (drawn from the population of all students on the school rosters and all students who completed the in-school questionnaire) were selected to complete a 90 min Wave I in-

home interview. Respondents who were in grades 7 through 11 at the time of the Wave I interview completed a second in-home interview (Wave II) in 1996 (n = 14,738). Both interviews were administered via laptop computer, with information on sensitive topics collected using audio computer-assisted self-interviewing technology (ACASI). Add Health informed consent forms, questionnaires, and procedures were reviewed and approved by the Institutional Review Board for the Protection of Human Subjects at the University of North Carolina at Chapel Hill.

The present analysis includes respondents who participated in both Wave I and Wave II of Add Health (n = 14,736). Although Wave III (ages 18–26) also includes data on romantic relationships, we limited our analyses to prior waves because existing research suggests that the developmental significance of romantic involvement changes from adolescence to young adulthood (Neemann et al. 1995; Roisman et al. 2004). Respondents were excluded from the present analysis if they did not have a valid sample weight at Wave II (n = 1,168), reported a romantic relationship at Wave I (n = 8,476), reported one or more same-sex relationships at Wave II (n = 39), or were missing data on partner age (n = 26) or any other covariates (n = 79). Applying these exclusion criteria yielded a final sample size of 4,948 (males: n = 2,468; females: n = 2,480). Limiting the sample to respondents who were not romantically involved at Wave I allowed for baseline estimates of depressive symptoms that were not influenced by existing or recent past romantic relationships.

Measures

Depressive Symptoms—Waves I and II of Add Health include a modified, 19-item version of the Center for Epidemiological Studies Depression Scale (CES-D) (Radloff 1977). (Questions assessing the frequency of restless sleep and crying spells were omitted from the Add Health version, and an additional question assessing the extent to which the respondent felt life was not worth living was added.) Responses were coded using a four-point Likert scale ranging from *never or rarely* (0) to *most or all of the time* (3). Items were summed to create an overall depressive symptom score at each wave (possible range: 0–57; Wave I Cronbach's alpha = 0.86; Wave II Cronbach's alpha = 0.87).

Romantic Relationship Status and Partner Age—At both Wave I and Wave II, respondents were asked whether they had had a "special romantic relationship" with anyone over the past 18 months. Respondents who reported no romantic relationships were asked if, in the past 18 months, they had held hands, kissed someone who was not a member of their family, and told someone who was not a member of their family that they liked or loved them; if they reported doing all these things with the same person, they were classified as having had a "liked" relationship. Respondents who reported having a special romantic relationship or who met criteria for a liked relationship were asked a series of detailed questions on up to three romantic partners. We calculated the age difference between partners as the partner's age (reported by the respondent) minus the respondent's age. Based on this information, we constructed dummy variables to indicate whether the respondent had an older partner, a same age/younger partner, or no romantic partner in the last 18 months. If a respondent reported multiple romantic relationships, we used the largest calculated age difference to determine dummy group membership. We defined an "older partner" as a partner who is 2 or more years older than the respondent; this definition is consistent with previous research suggesting that an age difference of 2 or more years has meaningful implications for health and well-being during adolescence (Ford et al. 2002; Halpern et al. 2007; Marin et al. 2000). Because the analytic sample was restricted to those respondents who reported no romantic relationships at Wave I, the older partner dummy variable was interpreted as whether or not the respondent entered a romantic relationship with an older partner between Wave I and Wave II. Among respondents in our analytic sample who

entered at least one romantic relationship with an older partner between Wave I and Wave II, approximately three quarters of respondents reported that their oldest partner was between 2 and 5 years older.

Substance Use—We constructed a composite substance use scale at each wave based on respondent's reported tobacco, marijuana, alcohol, and illegal drug use. This scale was designed to capture both the severity and variety of adolescent substance use, with illegal and/or hard drug use receiving the greatest weight. Respondents were assigned one point if they reported tobacco or cigarette use in the last 30 days; two points if they reported marijuana use in the last 30 days; two points if they reported alcohol use in the last 12 months (information on alcohol use in the past 30 days was not available); and three points if they reported using hard drugs (such as cocaine, inhalants, or illegal injectable drugs) in the last 30 days. Points were summed across substance categories to create an overall substance use score for each respondent, ranging from 0 to 8 (Wave I Cronbach's alpha = 0.61; Wave II Cronbach's alpha = 0.60).

Parent Relationship Quality—Consistent with past research using Add Health data, we assessed parent relationship quality by summing responses to four questions regarding respondents' perceptions of closeness, communication satisfaction, relationship satisfaction, and warmth with each resident parent (Cronbach's alpha = 0.85). Values on this variable were represented by the higher of the two scores in cases in which both parents were present in the household, or by the score reflecting the respondent's relationship with his or her resident parent if only one parent was present.

Academic Achievement—Academic achievement was defined based on the respondent's self-reported grades in English/language arts, social science/history, mathematics, and science classes during the most recent grading period. We constructed this measure by converting the reported letter grades to a numeric scale ($A = 4$, $B = 3$, $C = 2$, D or lower = 1) and obtaining the average grade across all subjects for which grades were nonmissing. All mediating variables (substance use, parent relationship quality, and academic achievement) were measured at both Wave I and Wave II to capture change over time.

Family Structure—Family structure at Wave I was classified as two biological parents, other two parent family (e.g., stepfamily), single mother, single father, or any other family structure.

Parent Education—We used respondent's report of the highest educational level attained by each resident parent to create a five-category variable: less than high school; high school diploma or GED; some college or post-high school business, trade, or vocational education; college graduate; or missing. In households where both parents were present, the higher of their two educational levels was used.

Race/Ethnicity—We used information from the Wave I interview to derive a self-reported, mutually exclusive measure of race/ethnicity consisting of the following categories: non-Hispanic Black, non-Hispanic Asian, non-Hispanic White, non-Hispanic Native-American, and Hispanic (any race).

Age—Age at Wave II was calculated by subtracting the month and year of birth from the date of the Wave II interview. We include age squared in multivariate models to allow for a curvilinear relationship between age and depressive symptoms.

Biological Sex—Biological sex was self-reported at Wave I.

Analysis Plan

We first present descriptive statistics on the sociodemographic characteristics, depressive symptoms, and Wave II romantic relationship status (older partner, same-age or younger partner, or no romantic partner) of our analytic sample, as well as mean levels of depressive symptoms for each romantic relationship group. Next, we test Hypothesis 1—that entering a romantic relationship with an older partner will be associated with an increase in depressive symptoms among females, but not among males—using ordinary least squares (OLS) regression, and stratifying by biological sex. We fit three separate models. Model 1 estimates the crude association between romantic relationship status and depressive symptoms at Wave II. Extant research suggests that pre-existing psychosocial characteristics, such as emotional distress, may increase the likelihood that adolescents will enter a relationship with an older partner (Young and d'Arcy 2005). In order to account for selection into these partnerships, Model 2 controls for depressive symptoms at Wave I as well as sociodemographic characteristics. The outcome variable in this model was therefore interpreted as the change in depressive symptoms between Wave I and Wave II.

To test Hypothesis 2, Model 3 includes three possible mediators of the association between entering a romantic relationship with an older partner and change in depressive symptoms: parent relationship quality, substance use, and academic achievement. Mediation analyses followed the logical criteria proposed by Baron and Kenny (1986). We selected this approach because it requires that independent variables, mediators, and dependent variables be related in a theoretically meaningful and causal manner, and is thus consistent with our goal of identifying specific mechanisms that contribute to any observed association between adolescent romantic relationships and depressive symptoms. We began by first regressing each potential mediator variable on the key independent variable (entering a relationship with an older romantic partner), controlling for sociodemographic characteristics. Second, we regressed the dependent variable (depressive symptoms at Wave II) on each mediator variable, controlling for sociodemographic characteristics and entering a relationship with an older romantic partner. Finally, we examined the extent to which the coefficient for entering a relationship with an older partner was reduced after mediator variables that were significantly related to both the independent and dependent variables were added in Model 3. We also conducted Sobel's test to determine if the change in association between our independent and dependent variables following inclusion of the mediators was statistically significant (Sobel 1982).

We test whether the association between entering a relationship with an older partner and changes in depressive symptoms varied by respondent age (Hypothesis 3) by including interaction terms between chronological age and romantic relationship status. All analyses were conducted in Stata 10.1 using the *svy* commands to correct for Add Health's complex survey design; sampling weights were applied to obtain population estimates. Models were stratified by biological sex, consistent with Hypothesis 1 and with evidence that risk factors for depressive symptoms may affect males and females differently (Hyde et al. 2008). Because the key comparison of interest was between those with same-age/younger partners and those with older partners, same-age/younger partners served as the reference category in all models.

Results

Table 1 presents descriptive statistics for the analytic sample. Among both males and females, over half of respondents reported no romantic relationship at Wave II. Older romantic partners were more common among female adolescents (10%) compared to male

adolescents (2%). The majority of respondents lived with two biological parents (62%) and identified as non-Hispanic White (64%). Just over half (53%) reported at least one parent with post-high school education. Respondents ranged in age from 13 to 22 years, with a mean age of 15.9 at Wave II. Overall levels of depressive symptoms were relatively low among both males and females. As expected based on prior research documenting sex differences in depressive symptoms, females reported a slightly higher mean level of depressive symptoms compared to males at both Wave I (10.1 vs. 9.3) and Wave II (10.5 vs. 9.3). In preliminary bivariate analyses, romantic relationship status was significantly associated with mean depressive symptoms at both Wave I and Wave II among females, but not males. Females who entered a romantic relationship with an older partner between Wave I and Wave II had a mean depressive symptom score of 12.9 at Wave I and 14.3 at Wave II, while those who entered a romantic relationship with a same-age or younger partner had a mean score of 9.8 at Wave I and 10.7 at Wave II, and those with no romantic partners at either wave had a mean score of 9.9 at Wave I and 9.8 at Wave II.

Association Between Involvement with an Older Romantic Partner and Change in Depressive Symptoms

To test Hypothesis 1, we regressed depressive symptoms at Wave II on romantic relationship status at Wave II, with same-age or younger partner serving as the reference category, controlling for sociodemographic characteristics and Wave I depressive symptoms, and stratifying by biological sex. These results are displayed in Table 2 (females) and Table 3 (males). As expected, the association between entering a romantic relationship with an older partner and depressive symptoms was limited to females (Table 2). Consistent with previous literature on the depressogenic effect of romantic relationships during adolescence, females with no romantic partner at Wave II reported decreases in depressive symptoms between Wave I and Wave II relative to female respondents with same age or younger romantic partners. In contrast, entering a romantic relationship with an older partner between Wave I and Wave II was associated with a statistically significant, but modest, increase in depressive symptoms in both unadjusted bivariate analyses (Table 2, Model 1) and after adjusting for Wave I depressive symptoms and other covariates (Table 2, Model 2). Associations between Wave II depressive symptoms and control variables were similar for both sexes, with lower parent education predicting a modest increase in depressive symptoms at Wave II, controlling for baseline (Wave I) depressive symptoms.

Mediation Models

We next tested Hypothesis 2 by examining whether the coefficient for the effect of entering a romantic relationship with an older romantic partner was attenuated after adjusting for parent relationship quality, academic achievement, and substance use. Mediation analyses were limited to females because there was no association between entering a relationship with an older partner and depressive symptoms among males. In preliminary analyses among females, entering a romantic relationship with an older partner (as compared to a younger or same-age partner) was not associated with significant changes in either parent relationship quality or academic achievement; Sobel tests further confirmed that neither variable was a significant mediator. Therefore, only substance use was retained in final mediation analyses. After accounting for changes in substance use between Wave I and Wave II, the effect of having an older romantic partner declined in magnitude and was only marginally significant (Table 2, Model 3). Sobel's test indicated that the attenuation of the association between entering a relationship with an older romantic partner and depressive symptoms after adjusting for changes in substance use between waves was statistically significant, $Z = 2.73$, $p = 0.006$. In contrast, the inverse relationship between having no partner and depressive symptoms remained significant though reduced in size.

Interactions by Age

We tested Hypothesis 3—that the association between entering a relationship with an older partner and depressive symptoms would be more pronounced during specific developmental periods—by adding a cross-product interaction term between chronological age and romantic relationship status (involvement with an older romantic partner or no romantic partner, with same age or younger partner again serving as the reference category). The global test of this interaction was nonsignificant for both males ($p = 0.87$) and females ($p = 0.64$), indicating that the association between romantic relationship status and depressive symptoms does not vary by age for either sex within the age range tested.

Discussion

Although developmental theory predicts that romantic relationships during adolescence may have important developmental benefits, empirical evidence suggests that they also carry substantial psychosocial risk. The present analysis explored this apparent paradox by examining whether one feature of romantic relationships—age differentials between partners—is associated with depressive symptoms during adolescence. Our results indicate that such age differences have important implications for emotional wellbeing. As expected, we found that for adolescent girls, entering a romantic relationship with an older partner is associated with significant increases in depressive symptoms relative to entering a relationship with a same age or younger partner, even after controlling for baseline symptoms. Adolescent girls who report no romantic involvement, however, experience declines in depressive symptoms relative to their peers with same-age or younger partners, and this association persists after adjustment for sociodemographic characteristics and other factors. Our results are consistent with existing research indicating that romantic involvement in general may increase the risk of depressive symptoms during adolescence (Joyner and Udry 2000; Welsh et al. 2003). However, we extend prior findings by identifying specific relationship- and partner-level factors that contribute to this risk.

Interpersonal perspectives on adolescent romantic relationships suggest that the stability, quality, and developmental significance of these experiences hinge in large part on the characteristics of interactions between partners (Collins et al. 2009). Relationships in which one partner is substantially older may be characterized by particularly challenging interpersonal dynamics. In prior research, for example, explanations for the behavioral and reproductive health risks associated with older male partners generally cite power differentials related to age differences and normative gender roles in romantic and sexual relationships (Gowen et al. 2004). Perceived inequalities in romantic relationships appear, in turn, to increase depressive symptoms among girls (Bentley et al. 2007; Welsh et al. 1999), and may also undermine female adolescents' agency within the relationship and diminish their ability to resist pressure to engage in multiple health risk behaviors. While we were unable to explicitly test the potential contributions of gender roles and linkages to power differentials in the present study, our findings are consistent with these hypotheses.

Girls' greater sensitivity to interpersonal stress, particularly during adolescence, may explain their unique vulnerability to adolescent relationships with older partners. To the extent that relationships with older romantic partners present unique challenges, such relationships may lead to increases in depressive symptoms via their association with elevated interpersonal stress. These associations are consistent with biopsychosocial models of depression which posit that gender differences in depression prevalence reflect the combined action of affective, biological, and cognitive vulnerabilities among adolescent girls and women (Hyde et al. 2008). Although we had expected that these developmental and relational challenges would be particularly salient for younger females, we found no evidence that younger

females were more likely to report increases in depressive symptoms after entering a relationship with an older romantic partner.

Our results only partially support Hypothesis 2, which stated that associations between having an older partner and changes in depressive symptoms would be mediated by changes in academic achievement, family relationship quality, and substance use. In the present analysis, respondents who entered a relationship with an older romantic partner were no more likely to experience declines in parent relationship quality and academic achievement than respondents who became involved with a younger or same-age partner. Instead, the association between entering a relationship with an older romantic partner, as compared to a same-age or younger partner, and depressive symptoms was largely attributable to increases in substance use. Our findings therefore suggest that, although mean levels of substance use were fairly low overall at both waves, increased use is a particularly salient feature of relationships with older partners. These results are consistent with past research suggesting that, while romantic relationships in general appear to increase risk in multiple domains (Quatman et al. 2001), involvement with an older romantic partner confers particularly high behavioral risk (Halpern et al. 2007). Because having an older romantic partner increases an individual's subjective experience of age (Arbeau et al. 2007), it is possible that this sense of "feeling older" encourages (and is also reinforced by) experimentation with substances. Substance use, in turn, is associated with increased risks of depression and suicidal ideation, particularly among girls (Hallfors et al. 2004, 2005).

Limitations

These findings should be considered in light of several limitations. While our analyses exploit Add Health's prospective study design by examining only those romantic relationships initiated between Wave I and Wave II and accounting for baseline levels of depressive symptoms, they do not consider whether or not a relationship is still current or, if not, the date on which it ended. Thus, the relationship in question may no longer be as relevant to current emotional wellbeing as more immediate life circumstances. Although we accounted for selection into relationships with older romantic partners on the basis of pre-existing emotional distress, it is also possible that other unknown factors may influence both the likelihood of selecting an older partner and individual vulnerability to experiencing depressive symptoms; future research is needed to better understand such selection effects. Finally, the average increase in depressive symptoms we observed among adolescent females with older romantic partners was modest in size, and the clinical significance of this increase, if any, is not clear. However, prior research suggests that even subclinical or mild depressive symptoms during adolescence may be associated with substantial impairment (Sihvola et al. 2007) and can increase the subsequent likelihood of major depression and other mental health disorders (Fergusson et al. 2005).

There are many other factors—such as romantic relationship quality and content, real and perceived power differentials, previous romantic experiences, and family and peer dynamics —that condition the association between romantic involvement and emotional wellbeing during adolescence. However, data limitations prevented us from exploring whether these factors vary as a function of partners' age. Because of these data limitations, our finding regarding the apparent protective effect of not being romantically involved should also be interpreted with caution, and does not imply that romantic relationships during adolescence are necessarily detrimental. Indeed, romantic relationships that are mutually supportive, occur in the context of prosocial peer groups, and are characterized by high relationship quality may confer important developmental benefits and contribute to romantic relationship satisfaction and quality in early adulthood (Seiffge-Krenke 2003).

Conclusions

The present analysis moves beyond binary measures of romantic involvement to consider the importance of specific relationship characteristics to emotional health. Such research is necessary to reconcile the theoretical benefits of adolescent romantic relationships with their apparent risks. Our findings, based on a nationally representative sample of adolescents, suggest that entering a romantic relationship with an older partner is a significant risk factor for depressive symptoms among adolescent girls, due in large part to increases in substance use.

The past several decades have seen growing recognition among both researchers and policymakers of the developmental significance of romantic relationships during adolescence, and the ways in which romantic relationships coact with other domains of adolescent experience, such as family interactions, peer relationships, and academic and emotional wellbeing. Identifying and encouraging features of healthy, developmentally appropriate relationships during adolescence is therefore an empirical and programmatic priority (Barber and Eccles 2003). By providing new information on aspects of adolescent romantic relationships that may lead to distress or dysfunction, these findings identify characteristics of likely interest to program designers and policy makers seeking to promote healthy romantic experiences during adolescence.

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Table 1

Sociodemographic characteristics, depressive symptoms, and romantic relationship status at Wave II in the study sample

	Females (n = 2,480)		Males (n = 2,468)		Full sample (n = 4,948)	
	%	n	%	n	%	n
Romantic relationship status at Wave II						
No partner	62.2	1,538	64.4	1,587	63.3	3,125
Same age/younger	28.2	685	33.3	828	30.8	1,513
Older	9.6	257	2.3	53	5.9	310
Family structure						
Two biologic parents	62.9	1,484	61.7	1,480	62.3	2,964
Single mom	20.8	556	17.0	450	18.9	1,006
Other two parent	11.3	307	15.5	387	13.4	694
Single dad	2.3	52	3.0	75	2.6	127
Other family structure	2.9	81	2.7	76	2.8	157
Race/ethnicity						
NH White	61.2	1,211	66.3	1,268	63.8	2,479
NH Black	16.6	573	13.3	483	14.9	1,056
Hispanic	14.6	413	10.8	373	12.7	786
Asian	5.0	216	6.3	272	5.8	488
NH Am. Indian	1.7	43	2.3	49	2.0	92
Other race	0.9	24	1.0	23	0.9	47
Parent education						
College graduate	32.5	887	34.9	961	33.7	1,848
Some college	21.0	471	17.5	415	19.2	886
HS diploma/GED	29.6	693	30.8	700	30.2	1,393
Less than HS	12.6	312	11.0	257	11.8	569
Missing	4.3	117	5.9	135	5.1	252
	Mean	SD	Mean	SD	Mean	SD
Wave I substance use	0.7	1.5	1.0	1.6	0.9	1.5
Wave II substance use	1.0	1.6	1.2	1.7	1.1	1.6
Age (13–22 years)	15.8	1.6	16.1	1.6	15.9	1.6

	Females (*n* = 2,480)		Males (*n* = 2,468)		Full sample (*n* = 4,948)	
	%	*n*	*%*	*n*	*%*	*n*
Wave I depressive symptoms (0–50)	10.1	7.2	9.3	6.5	9.7	6.9
Wave II depressive symptoms (0–56)	10.5	7.6	9.3	6.8	9.9	7.2

Percentages are weighted to yield national probability estimates for youth in grades 7–12 in the 1994–1995 school year

Table 2

OLS regression of Wave II depressive symptoms score on Wave I depressive symptoms score, entering a romantic relationship between Wave I and Wave II, and sociodemographic characteristics, among females ($n = 2,480$)

	Model 1		Model 2		Model 3	
	Coefficient	Std. error	Coefficient	Std. error	Coefficient	Std. error
Wave II romantic relationship status						
Same age or younger partner	–	–	–	–	–	–
Older partner	3.59**	0.83	1.33*	0.61	1.00‡	0.6
No partner	−0.90**	0.38	−1.00**	0.32	−0.71*	0.32
Family structure						
Two bio parents			–	–	–	–
Other two parent			0.34	0.51	0.26	0.49
Single mom			0.86‡	0.44	0.74	0.44
Single dad			1.65	1.22	1.43	1.23
Other			0.62	1.01	0.55	1
Race/ethnicity						
NH White			–	–	–	–
NH Black			0.18	0.42	0.52	0.42
NH Asian			0.81	0.68	1.06	0.68
NH Am. Indian			1.1	1.31	0.88	1.33
Hispanic			0.48	0.53	0.46	0.54
Other race			1.08	1.41	1.16	1.45
Parent education						
College graduate			–	–	–	–
Less than HS			1.68**	0.52	1.80**	0.53
HS diploma/GED			1.52**	0.39	1.50**	0.39
Some college			0.49	0.39	0.46	0.38
Missing			0.79	0.92	0.91	0.89
Age			0.92	1.8	0.66	1.78
Age squared			−0.02	0.06	−0.01	0.05
Wave I depressive symptoms			0.57**	0.03	0.56**	0.03

	Model 1		Model 2		Model 3	
	Coefficient	Std. error	Coefficient	Std. error	Coefficient	Std. error
Wave I substance use					−0.17	0.14
Wave II substance use					0.62**	0.12

‡
p < 0.10,

*
p < 0.05,

**
p < 0.01

Table 3

OLS regression of Wave II depressive symptoms score on Wave I depressive symptoms score, entering a romantic relationship between Wave I and Wave II, and sociodemographic characteristics, among males ($n = 2,468$)

	Model 1		Model 2	
	Coefficient	Std. error	Coefficient	Std. error
Wave II romantic relationship status				
Same age or younger partner	–	–	–	–
Older partner	2.57	2.23	2.93	2.17
No partner	−0.09	0.38	0.02	0.30
Family structure				
Two bio parents			–	–
Other two parent			0.01	0.40
Single mom			0.66	0.50
Single dad			−0.05	0.87
Other			1.05	1.92
Race/ethnicity				
NH White			–	–
NH Black			−0.22	0.52
NH Asian			1.08[*]	0.46
NH Am. Indian			−0.88	1.29
Hispanic			0.37	0.49
Other race			0.56	1.32
Parent education				
College graduate			–	–
Less than HS			1.83[**]	0.55
HS diploma/GED			1.30[**]	0.40
Some college			0.77	0.43[‡]
Missing			1.24	0.74[‡]
Age			2.34	1.99
Age squared			−0.06	0.06
Wave I depressive symptoms			0.58[**]	2.17

Among males, the large coefficient and standard error for the effect of entering a relationship with an older partner on Wave II depressive symptoms was largely attributable to a single case with a very high Wave II depressive symptom score. When analyses were repeated after excluding this case, the coefficient was substantially smaller (results available upon request)

[‡] $p < 0.10$,

[*] $p < 0.05$,

[**] $p < 0.01$