**Are you still bringing me down?**
**Romantic involvement and depressive symptoms from adolescence into young adulthood**

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**Abstract**

Romantic involvement and mental health are dynamically linked, but this interplay can vary across the life course in ways that speak to social and psychological underpinnings of healthy development. To explore this variation, this study examined how romantic involvement in adolescence and young adulthood was associated with trajectories of depressive symptomatology across the transition between these life course stages. Growth mixture modeling of data from the National Longitudinal Study of Adolescent Health identified trajectories of depressive symptomatology as teens grew into the early 20s ($n$ = 10,003). Although adolescent dating was associated with more depressive symptoms early on, this risk faded over time, and a developmental progression of involvement (adolescent dating into young adult union formation) was associated with the healthiest trajectories. Overall, boys appeared to more consistently benefit from romantic involvement, in its varied forms, across the early life course.

Adolescents who partner romantically with the opposite gender often demonstrate higher levels of depressive symptomatology than those who do not, but adults who partner romantically with the opposite gender often demonstrate better mental health than those who are single (Joyner and Udry 2000; Umberson and Williams 1999; Umberson, Thomeer and Williams 2013). This "flip" in the link between heterosexual romantic involvement and mental health suggests a dynamic pattern in which intertwined developmental and interpersonal trajectories of psychosocial maturation and relational experience allow the balance between the costs and benefits of romance to gradually shift from one stage of the life course to another. The added layer of complexity in this dynamic pattern is that gender differentiates romantic involvement, mental health, and the links between the two. Indeed, girls experience more costs from romantic involvement early on and men experience more benefits from involvement later on in ways that create and stabilize gender disparities in mental health favoring boys and men from adolescence into adulthood (Joyner and Udry 2000; Thomeer, Umberson and Pudrovska 2013; Kiecolt-Glaser and Newton 2001; Simon 2002).

The purpose of this study is to connect the dots in this life course framework of interpersonal relations, personal functioning, and population disparities in mental health by tracking how romantic involvement in adolescence, union formation in young adulthood, and continuity and change between the two factor into trajectories of depressive symptomatology as adolescent girls and boys grow up into adult women and men. We do so by extending a seminal study of Joyner and Udry (2000) with data from National Longitudinal Study of Adolescent Health (Add Health) across seven years in the transition from adolescence into adulthood. Growth mixture modeling allowed us to test—by gender—whether the initially higher levels of depression among adolescent daters persisted or declined into young adulthood as well as

whether these dynamic patterns varied according to whether adolescent dating led into young adult union formation, continued dating, or singlehood.

The value of this line of research is that it helps to build the theoretical scaffolding for a better understanding of the evolving link between romantic involvement and mental health across the life course. This scaffolding is useful for unpacking how mental health disparities are reinforced or broken down over time and determining who is at greatest risk for depressive symptomatology changes associated with romantic involvement (Umberson, Crosnoe, and Reczek 2010). By highlighting the transition to adulthood, we focus on a dynamic point between two life course stages that may have particular significance for both mental health and romantic relationships (Crosnoe and Johnson 2011).

*Tracking Romance and Depression from Adolescence into Young Adulthood*

In 2000, an influential study by Joyner and Udry used the first two waves of Add Health to show that adolescents (especially girls) who engaged in romantic activity had elevated levels of depression compared to those who were not romantically involved. These findings are notable for two reasons.

First, the gender difference found by Joyner and Udry is relevant to the reversal in gender differences in mental health (a girl advantage replaced by a boy advantage), in adolescence that persists into adulthood (Nolen-Hoeksema 1990; Cyranowski et al. 2000). Compared to boys, girls are more vulnerable to romantic involvement during adolescence in many ways, including in terms of mental health. This early romance-related disadvantage has troubling implications for women's mental health across the life course given that much of the gender gap in prevalence of adult depression can be explained by earlier onset of symptoms for girls (Kessler 2003; Kessler et al. 1993). Less unclear is whether the negative implications of adolescent dating for

depressive symptomatology and their connections to gender endure enough to contribute to mental health disparities in adulthood or, conversely, whether the gendered romantic risk is confined to adolescence.

Second, this dating risk documented by Joyner and Udry is in stark contrast with clear advantages of coupling in adulthood. A vast literature recognizes the mental health benefits that are associated with adult union formation in general and marriage in particular (Williams 2003; Waite and Gallagher 2000, for review). Regardless of gender, married adults enjoy better mental health than never-married and formerly-married adults (Simon 2002; Williams 2003). The well-established positive association between romantic involvement and mental health in adulthood suggests that, at some point between adolescence to adulthood, the nature of the relationship between romantic involvement and depressive symptomatology changes, likely because the nature of romantic involvement itself is evolving. As adolescents transition into adulthood, therefore, they enter a life course stage in which romantic relationships will carry positive, rather than negative, implications for their well-being. This connection between the early negatives and later positives needs to be unpacked

Theoretically, Joyner and Udry (2000) motivated their study and interpreted their findings within a developmental framework that emphasized the progression of young people through stages of romantic partnership as they gained more experience with relationships and developed more fully in psychosocial maturity. In early adolescence, dating can be volatile and stressful because adolescents are relatively immature and inexperienced, not to mention the sensation-seeking drive related to brain development that is a hallmark of adolescence. Adolescents ascribe stronger emotions to relationships than to other arenas of their social life, such as school or family (Crosnoe and Johnson 2011; Larson, Clore and Wood 1999; Silk,

Steinberg, and Morris 2003). As adolescents mature, however, they develop psychosocial skills and gain romantic experience, allowing for more successful management of the volatility, stress, and emotion of relationships. Potentially, their psychosocial maturation and the experience they gain romantically enable them to better derive benefits from their romantic relationships. As youth mature and develop, relationships also change dramatically—becoming more common, deeper, and longer-lasting (Collins, Welsh, and Furman 2009; Brown 1999). Across developmental time, therefore, romantic relationships may become less detrimental to mental health and eventually health-promoting as the benefits balance the costs. This developmental framework captures a life course process, and so it deserves to be tested in a life course approach—thinking of both romance and depression as trajectories that unfold in relation to each other in ways that differ across stages of the life course.

The transition between adolescence and young adulthood is, we argue, a critical period for such a life course process. This transitional period is the launching point into adulthood (Crosnoe and Johnson 2011; Hogan and Astone 1986). If adolescence is a stage in which youth are slowly developing the experience and skills to derive more benefit from romantic involvement, then young adulthood would likely be time when the benefits begin to outweigh the costs. As adolescents navigate this transition, begin occupying adult roles, and engage in union formation, they are entering a life stage associated with the exploration of relationship possibilities (Collins and vanDulmen 2006). As they do so, adolescents carry with them their relationship experiences, and their dating behavior in adolescence is often a precursor to union formation in young adulthood (Raley, Crissey, and Muller 2007). Romantic relationships, moreover, are normative for young adults and are considered essential for achieving adult status (Meier and Allen 2009). At the same time, a delay in marriage and increase in the prevalence of

cohabitation during recent decades has led to greater variability in relationship statuses among young adults (Manning, Brown and Payne 2014; Arnett 2000; Cherlin 2009). These statuses have implications for mental health given that, in adulthood, romantic involvement provides benefit for well-being over remaining single. Marriage and cohabitation, for example, have similar, strong benefits for mental health (Musick and Bumpass 2012). The connection between dating experiences in adolescence and varied relationship statuses in young adulthood should therefore be highlighted when looking across this transition. What does dating in adolescence lead to, and how does the match or mismatch of romantic experiences across the transition into adulthood shape depressive trajectories?

*Study Aims*

The developmental framework based on Joyner and Udry's (2000) study and expanded by life course insights focuses on the interplay between psychosocial maturation and relationship experience and its role in continuity and change in links between romantic involvement and depressive symptomatology across the transition into adulthood. This general framework leads to three specific aims.

The first aim is to examine whether the mental health risks of adolescent dating persist as young people transition into adulthood. Is the increase in depressive symptomatology associated with adolescent dating a short term state or something that carries over into the long term? To address this question, we look at trajectories of depressive symptomatology for adolescents who were and were not romantically involved during high school. The hypothesis is that, as adolescents mature into young adults, they will overcome the stressors of early dating and recover to the point that they no longer differ from adolescents who did not date.

The second aim is to highlight how young adulthood union formation factors link adolescent dating and depressive trajectories. Does the potential lingering of or recovery from the mental health risks of adolescent dating into young adulthood vary according to the kinds of young adult relationship experiences into which adolescent dating leads? To investigate whether later romantic involvement offsets the initial costs of early romantic involvement, we will examine romantic histories from adolescence into young adulthood. The hypothesis is that, as young people progressively gain more romantic experience, they will be better equipped to enjoy the benefits of romantic involvement and have healthier trajectories of depressive symptomatology. More specifically, the most positive changes in mental health are expected to occur when dating in adolescence is followed by union formation (e.g., cohabitation, marriage).

The third aim of this study is to examine gender differences in the dynamic links between romantic involvement and depressive symptomatology. Because girls' mental health is more at risk early on in general and particularly in relation to romantic involvement (Nolen-Hoeksema 1994; Meadows, Brown, and Elder 2006; Giordano 2003), girls could have more to gain from the psychosocial maturation and relationship experience that may redefine the link between romance and depression. Because the mental health of adult men is more closely tied to being partnered (Williams and Umberson 2004; Horwitz, White, and Howell-White 1996), young men may have more to lose from not being romantically involved after adolescence. Thus, we will compare the results of our life course model by gender, hypothesizing that the expected decline in depressive symptomatology of adolescent daters into young adulthood will be more pronounced among girls and that the expected uptick in depressive symptoms when adolescent dating is followed by young adult singlehood will be more pronounced among boys.

## Methods

### *Data and Sample*

Add Health followed a nationally representative sample of adolescents into young adulthood in a series of four waves (Harris et al., 2009). It launched in 1994 with an in-school survey of 90,118 students in 132 middle and high schools across the U.S. This survey created a sampling frame for the nationally representative sample of 20,745 students in the Wave I in-home interviews in 1995, which then led to additional in-home interviews in 1996 (Wave II; $n$ = 14,738, with Wave I high school seniors excluded), in-home interviews were also conducted in 2001-2002 (Wave III; $n$ = 15,197, with Wave I high school seniors brought back in) and 2007-2008 (Wave IV; $n$ = 15,701). The age rangers across waves were: 11 to 18 (Wave I), 12 to 18 (Wave II), 18 to 26 (Wave III), and 24 to 32 (Wave IV). Wave IV data was not analyzed in order to focus on individuals experiencing the transition to adulthood, which is generally referred to as the span between ages 18 to 24 (Jekielek and Brown 2005).

Following Joyner and Udry (2000), the analytical sample for this study started with all adolescents who were between the ages of 12 and 17 at Wave I. We further narrowed the sample to those who persisted through Waves I, II, and III and had valid longitudinal sampling weights (necessary to adjust for study design effects but also to correct for differential attrition across waves). The final study sample included 10,003 adolescents. All item-level missingness was estimated through multiple imputation (techniques described below).

### *Measures*

Table 1 presents the univariate statistics for all variables described in this section.

[Table 1 approximately here]

*Depressive symptomatology.* Add Health included a modified Center for Epidemiologic Studies-Depression scale in all waves (Pereira et al. 2005). In each wave, respondents reported the frequency of nine feelings in the past week (e.g., "You felt that you could not shake off the blues, even with help from your family and your friends," "You felt sad"). Responses, which ranged from 0 (never or rarely) to 3 (most of the time or all of the time), were summed into a 27-point scale of escalating symptomatology (average Cronbach's $\alpha = 0.58$). Consequently, higher values indicated greater levels of distress. As described in the plan of analyses, the four CES-D measures were combined across waves through growth mixture modeling.

*Romantic involvement.* In adolescence, the binary romantic involvement variable from Joyner and Udry's (2000) study was created based on self-report of having either a romantic or liked relationship in Wave I (1 = romantically involved). In young adulthood, relationship status was operationalized in a more complex way through dummy variables for whether the young person was married, cohabiting but not married, dating, or single (Cavanagh 2011). To gauge relationship histories across adolescence and into young adulthood, the two sets of romantic involvement variables were cross-classified into a series of categories: romantically involved in adolescence to married in young adulthood, romantically involved in adolescence to cohabiting in young adulthood, romantically involved in adolescence to dating in young adulthood, romantically involved in adolescence to single in young adulthood, not romantically involved in adolescence to married in young adulthood, not romantically involved in adolescence to cohabiting in young adulthood, not romantically involved in adolescence to dating in young adulthood, and not romantically involved in adolescence to single in young adulthood.

*Covariates.* Based on the Joyner and Udry (2000) study, several controls were measured to account for sociodemographic position and possible spuriousness: gender (1 = female), age,

race/ethnicity (non-Hispanic white, non-Hispanic black, non-Hispanic Asian, Hispanic, other/multi-racial), family structure (1 = lived with both biological parents at Wave I, 0 = other family form), and parent education (an ordinal variable ranging from 1, less than high school, to 5, post-college degree). Age at Wave I was centered around its mean to avoid multicollinearity (Jaccard, Turrisi, and Wan 1990). Age at Wave I was also squared and included as an additional covariate to account for the effect of age on change in depression (Joyner and Udry 2000).

*Analytical Strategy*

The first step was to identify trajectories of depressive symptomatology from adolescence into young adulthood. Growth mixture modeling (GMM) is a type of structural equation model estimated in M*plus* (Muthén and Muthén 2006). This statistical technique reflects the theory that several categories of trajectories may occur within a population. GMM, therefore, identifies major heterogeneities in growth curves in a sample. Here, GMM produced a categorical variable of depressive symptomatology trajectories, grouping cases according to the various types of trajectories respondents followed from Waves I to III. Each category represents a unique trajectory (e.g., low increasing, stable, high decreasing). The appropriate number of categories (or classes) was determined through several criteria, including a loglikelihood-based test, Bayesian information criterion (BIC) and sample size adjusted BIC (ABIC). The dependent variable in all analyses was the class of depressive trajectory.

The second step was to estimate models in which the categories of depressive symptomatology trajectories (derived from GMM) were predicted by various stage-specific and cross-stage measures of romantic involvement using multinomial logistic regression. These analyses, which were performed in Stata (StataCorp 2011), generated relative risk ratios (RRR) of "membership" in each category of depressive symptomatology trajectory. To get at the

persistence or fade of links between adolescent romance and depressive symptoms, Model 1 predicted the adolescent-to-young adulthood trajectory categories by Wave I romantic involvement. To get at whether these dynamic patterns varied according to what young adult experiences followed adolescent dating, Models 2-3 added the young adult romantic involvement variables and then the set of variables that combined adolescent relationship status with all of the young adult relationship statuses.

These multinomial logistic regression models were estimated for the full analytical sample and then separately by gender. Missing data were accounted for with multiple imputation, which estimated missing values for all youth based on simulated versions. The STATA suite of *mi* commands created five imputed data sets and then averaged results across these data sets for final estimates (StataCorp 2011).

## Results

### *Romantic Involvement in Adolescence and Trajectories of Depressive Symptoms*

Table 2 provides the criteria used to determine how many different types of Wave I-III trajectories of depressive symptomatology existed in the sample. In this case, there were four basic trajectories (see Figure 1). The four classes included 1) adolescents with moderate levels of depressive symptoms that increased slightly during the transition to young adulthood (labeled Slight Increasing), 2) adolescents with moderate levels of depressive symptoms that increased more sharply during the transition to young adulthood (labeled Sharp Increasing), 3) adolescents with low levels of depressive symptoms that decreased during the transition to young adulthood (labeled Low Decreasing), 4) and adolescents with high levels of depressive symptoms that decreased sharply during the transition to young adulthood (labeled High Decreasing). Low Decreasing was the majority group, accounting for over 70% of the sample.

[Table 2 approximately here]

[Figure 1 approximately here]

Our first aim was to examine how adolescent romantic involvement was related to trajectories of depressive symptomatology from adolescence into young adulthood, not just in adolescence alone. In this spirit, multinomial logistic models were estimated in which the various classes of trajectories of depressive symptomatology were regressed on adolescent romantic status and the covariates. The results in Table 3 are for models in which the Low-Decreasing class served as the reference for the dummy variable outcomes, although all pairwise comparisons were estimated in ancillary models and will be discussed in the text.

[Table 3 approximately here]

In general, romantic involvement in adolescence was associated with higher risk of membership in the Slight Increasing ($p < 0.10$) and the High Decreasing ($p < 0.001$) classes as compared to the Low Decreasing class. Romantically involved adolescents at Wave I, in fact, were two times more likely to follow the High Decreasing trajectory than the Low Decreasing trajectory. This pattern is consistent with Joyner and Udry's (2000) finding that dating in adolescence was associated with higher depressive symptoms. Importantly, however, the High Decreasing trajectory is characterized by a sharp decline in depressive symptoms as the adolescent transitioned into young adulthood. In line with our first hypothesis, therefore, the negative implications of adolescent dating did not linger into young adulthood.

Adolescent girls had similar results as the full sample, but boys had different results. Their adolescent romantic involvement was not associated with their trajectories of depressive symptomatology into young adulthood, echoing but not exactly replicating the finding of Joyner and Udry that boys were less at risk than girls from dating in adolescence.

*The Role of Young Adult Romantic Involvement*

Our second aim was to examine how links between adolescent dating and trajectories of depressive symptomatology into young adulthood varied according to relationship histories stretching between adolescence and young adulthood. To pursue this aim, we estimated a new set of multinomial logistic models, switching out adolescent dating status for the dummy variables connecting adolescent romantic involvement to young adult romantic involvement. Before presenting these results, we lay some context by first describing how young adult romantic involvement predicted trajectories of depressive symptomatology, regardless of the adolescent dating statuses that might have preceded the young adult involvement (see Table 4).

[Table 4 approximately here]

For the full sample, being married, cohabiting, or dating in young adulthood (relative to being single) was associated with lower risk of being in the Sharp Increasing trajectory than the Low Decreasing trajectory ($p < 0.05$, 0.01, 0.05, respectively). These associations were weaker for young women, with only the link between dating (vs. single) and the Sharp Increasing trajectory (vs. Low Decreasing) marginally significant. They were stronger for young men, with all three patterns found in the full sample (i.e., for marriage, cohabitation, and singlehood) generally holding. In sum, romantic involvement in young adulthood appeared to protect against increasing depressive symptomatology from adolescence into young adulthood, primarily for boys. Their advantage from adolescence carried over into young adulthood.

Turning to the focal models that combined romantic involvement across adolescence and young adulthood, Table 5 reveals that, in general, being romantically involved in adolescence is associated with higher odds of following the High Decreasing trajectory (i.e., doing less well initially but better over time), regardless of what happens next romantically. In some instances,

however, relationship histories did seem to matter. Being romantically involved in Wave I but single in Wave III was associated with higher risk of being in the Slight Increasing trajectory, as compared to the Low Decreasing trajectory ($p < 0.10$), than the reference group of youth who were single in both waves. On the other hand, being romantically involved in Wave I and cohabiting in Wave III was associated with lower risk of being in the Sharp Increasing trajectory, as compared to the Low Decreasing trajectory ($p < 0.10$). Although only marginally significant, these associations were in line with our hypothesis. A developmental progression of romantic involvement—from dating in adolescence to cohabiting in young adulthood—appeared to be protective against increasing depressive symptomatology, but a less incremental history of growing involvement (e.g., romantic involvement in adolescence followed by singlehood in young adulthood) appeared to expose young people to higher risk for a trajectory of increasing depressive symptomatology.

[Table 5 approximately here]

For girls, the tendency for adolescent dating status to have declining relevance for depressive symptomatology regardless of young adult relationships seen in the full sample was clearly evident. The association between romantic involvement and elevated depressive symptomatology seemed to be confined to their adolescence, did not persist as they transitioned into young adulthood, and was not responsive to further relationship experience. For boys, cohabitation in young adulthood was important, regardless of their adolescent experience. Thus, adolescent experiences mattered for girls (independent of young adult experiences), and young adult experiences mattered for boys (independent of adolescent experiences).

## Discussion

By examining the dynamics link between romantic involvement and depressive symptomatology across the transition from adolescence into young adulthood, this study helped to elucidate the ways in which cross-stage psychosocial maturation and relational experience can shape the social aspects of health. In the process, we built on a well-cited study of adolescent dating and depression to uncover what the life course implications of its focal patterns are.

Consistent with our first hypothesis, the negative implications of romantic involvement in adolescence did not persist into young adulthood. Although dating in adolescence was associated with increased depressive symptomatology, it was not associated with elevated symptomatology in young adulthood. At the same time, we found partial support for our second hypothesis about romantic histories and depressive trajectories. Independent of adolescent relationship experiences, romantic involvement in young adulthood appeared to protect against increasing depressive symptomatology. This protective function also seemed to reflect the progression of dating in adolescence into cohabitation in young adulthood.

As the median age of first marriage continues to increase, cohabitation is on the rise for younger cohorts, and young adults commonly transition into cohabiting unions prior to marriage (Cohen and Manning 2010; Manning 2014; Cherlin 2009). The mental health benefits of cohabitation over other relationship statuses in young adulthood, however, may be specific to that life course stage, given the similarities between the benefits of marriage and cohabitation on mental health over the long term (Musick and Bumpass 2012). Focusing on the transition to adulthood allows us to enter the conversation surrounding the importance of cohabitation at this point in the life course; but, future research should further unpack how relationship histories

interplay with mental health not only during the transition to adulthood but also throughout the life course.

Finally, we also found support for our two-fold hypothesis that girls would be more likely to have decreasing dating-related depressive symptomatology across the transition to adulthood and that boys would be more likely to demonstrate a link between young adult singlehood and elevated depressive symptomatology. Our results suggest that boys, who were less at risk than girls in adolescence, are also more protected against depressive symptomatology by romantic involvement in adulthood. We additionally found a shift in the significance of romantic involvement for mental health by gender. Independent of young adult experiences, adolescent experiences mattered for girls; and, independent of adolescent experiences, young adulthood experiences mattered for boys.

Seminal work by Joyner and Udry highlighted the mental health risks associated with dating in adolescence, particularly for girls. Given a vast literature documenting benefits associated with union formation in adulthood, these authors thus revealed a dynamic link between romantic involvement and mental health. Building on past research in the arena of dating and depression allows for not only an extension of implications across a longer-term, but also for a further probe at how and why the association of romantic involvement and mental health flips from positive to negative. By expanding Joyner and Udry's analyses to include a more recent wave of Add Health data and by contemplating depressive and relationship trajectories, we were able to expose whether the adolescent dating penalty carried into young adulthood and reconcile the flipover in the association between romantic involvement and mental health. Ultimately, however, the findings of this study raise more questions, and consequently, call for future research. First, our theoretical framework of the overlapping psychosocial

maturation and relationship experiences of interpersonal and developmental trajectories does not explain the cohabitation advantage in young adulthood. Continued research on cohabitation and mental health in young adulthood may help to further unpack the mechanisms through which romantic involvement protects against increasing depressive symptomatology. Second, the highly gendered component of the association between mental health and romantic involvement, particularly as it develops over time, remains an area for exploration. In other words, the question remains whether the early advantages of boys (and young men) explain the gap in mental health disparities by gender across the life course.

When researchers focus on either adolescent or adult populations, they often fall short of understanding the overarching, cumulative effects of how, for example, romantic involvement impacts mental health. A life course approach, therefore, bridges the gap between childhood, adolescence, and adulthood literatures and highlights how implications of experiences and statuses accumulate and cascade into the future (Umberson, Crosnoe, and Reczek 2010). In this vein, we take a life course approach, focusing on the transition to adulthood in order to connect the literatures on mental health and romantic involvement between adolescent and adult populations. Our conclusions support the necessity of situating young adult relationships in the context of adolescent relationship experiences, and looking forward, we encourage further study of how and why early life mental health disadvantages associated with romantic relationships persist into later life.

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Table 1. Univariate descriptive statistics, full sample

| | Mean | (SD) | % |
|---|---|---|---|
| Depression | | | |
| Wave I | 5.822 | 4.244 | |
| Wave II | 5.781 | 4.220 | |
| Wave III | 4.622 | 4.073 | |
| Romantic Involvement | | | |
| In a relationship at Wave I | | | 50.94 |
| Married Wave III | | | 14.20 |
| Cohabiting Wave III | | | 14.67 |
| Dating Wave III | | | 40.16 |
| Single Wave III | | | 25.89 |
| Romantic History | | | |
| Romantic Wave I - married Wave III | | | 10.95 |
| Romantic Wave I - cohabiting Wave III | | | 10.53 |
| Romantic Wave I - dating Wave III | | | 20.54 |
| Romantic Wave I - single Wave III | | | 11.99 |
| Single Wave I - married Wave III | | | 5.75 |
| Single Wave I - cohabiting Wave III | | | 6.71 |
| Single Wave I - dating Wave III | | | 19.62 |
| Single Wave I - single Wave III | | | 13.90 |
| Covariates | | | |
| Gender (female) | | | 53.60 |
| Age (Wave I) | 15.053 | 1.439 | |
| Age squared | 228.675 | 42.784 | |
| Parent education | | | |
| Less than high school | | | 11.93 |
| High school graduate | | | 29.15 |
| Some higher education | | | 20.35 |
| College graduate | | | 25.22 |
| Post-college degree-earner | | | 13.35 |
| Race/ethnicity | | | |
| Non-Hispanic white | | | 53.44 |
| Non-Hispanic black | | | 19.42 |
| Hispanic | | | 15.50 |
| Non-Hispanic Asian | | | 6.24 |
| Other/multi-racial | | | 5.40 |
| Two-biological parent household (Wave I) | | | 56.17 |

Note: $n$ = 10,003.

Table 2. GMM criteria for class determination

| | 1 Class | 2 Classes | 3 Classes | 4 Classes | 5 Classes |
|---|---|---|---|---|---|
| Loglikelihood | -82470 | -81429 | -80951 | -80611 | -80409 |
| # parameters | 8 | 11 | 14 | 17 | 20 |
| BIC | 165015 | 162960 | 162030 | 161379 | 161003 |
| ABIC | 164989 | 162925 | 161986 | 161325 | 160939 |
| LRT *p*-value | | 0.000 | 0.000 | 0.000 | 0.045 |
| Entropy | | 0.877 | 0.855 | 0.848 | 0.831 |
| Distribution | | 11.5%, 88.5% | 82.6%, 7.3%, 10.1% | 16.0%, 3.0%, 76.8%, 4.3% | 3.1%, 3.1%, 6.8%, 18.4%, 68.6% |

Note: $n$ = 10,003

Table 3. Multinomial logistic regression of depressive trajectory on romantic relationship involvement in adolescence

| | Slight Increasing | | Sharp Increasing | High Decreasing | |
|---|---|---|---|---|---|
| | *RRR (SE)* | | *RRR (SE)* | *RRR (SE)* | |
| Full Sample | | | | | |
| Romantic Wave I | 1.147 | † | 1.040 | 1.976 | *** |
| | (0.089) | | (0.168) | (0.295) | |
| Girls | | | | | |
| Romantic Wave I | 1.209 | † | 1.106 | 2.331 | *** |
| | (0.126) | | (0.209) | (0.396) | |
| Boys | | | | | |
| Romantic Wave I | 1.072 | | 0.909 | 1.309 | |
| | (0.127) | | (0.277) | (0.395) | |

Note: † $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$; Low Decreasing is the reference for depressive trajectory; All models control for age, age squared, parent's education, race/ethnicity, and family structure in adolescence; Full sample model controlled for gender.

Table 4. Multinomial logistic regression of depressive trajectory on romantic relationship involvement in young adulthood

| | Slight Increasing | | Sharp Increasing | | High Decreasing | |
|---|---|---|---|---|---|---|
| | *RRR (SE)* | | *RRR (SE)* | | *RRR (SE)* | |
| Full Sample | | | | | | |
| Married Wave III | 0.908 | | 0.569 | * | 1.345 | |
| | (0.130) | | (0.153) | | (0.294) | |
| Cohabiting Wave III | 0.907 | | 0.529 | ** | 1.033 | |
| | (0.126) | | (0.129) | | (0.243) | |
| Dating Wave III | 0.795 | † | 0.604 | * | 1.044 | |
| | (0.100) | | (0.120) | | (0.200) | |
| Romantic Wave I | 1.148 | † | 1.073 | | 1.945 | *** |
| | (0.090) | | (0.174) | | (0.293) | |
| Girls | | | | | | |
| Married Wave III | 0.884 | | 0.675 | | 1.276 | |
| | (0.156) | | (0.200) | | (0.306) | |
| Cohabiting Wave III | 0.878 | | 0.727 | | 0.973 | |
| | (0.151) | | (0.212) | | (0.257) | |
| Dating Wave III | 0.798 | | 0.672 | † | 0.868 | |
| | (0.127) | | (0.160) | | (0.199) | |
| Romantic Wave I | 1.208 | † | 1.121) | | 2.272 | *** |
| | (0.127) | | (0.213) | | (0.389) | |
| Boys | | | | | | |
| Married Wave III | 0.913 | | 0.388 | † | 1.452 | |
| | (0.230) | | (0.210) | | (0.694) | |
| Cohabiting Wave III | 0.911 | | 0.186 | ** | 1.087 | |
| | (0.182) | | (0.106) | | (0.477) | |
| Dating Wave III | 0.779 | | 0.506 | † | 1.656 | |
| | (0.130) | | (0.190) | | (0.639) | |
| Romantic Wave I | 1.079 | | 0.967 | | 1.284 | |
| | (0.129) | | (0.288) | | (0.390) | |

Note: † $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$; Low Decreasing is the reference for depressive trajectory; Single is the reference group for romantic relationship involvement in Wave III; All models control for age, age squared, parent's education, race/ethnicity, and family structure in adolescence; Full sample model controlled for gender.

Table 5. Multinomial logistic regression of depressive trajectory on match/mismatch of romantic relationship involvement across adolescence to young adulthood

| | Slight Increasing *RRR (SE)* | | Sharp Increasing *RRR (SE)* | | High Decreasing *RRR (SE)* | |
|---|---|---|---|---|---|---|
| Full Sample | | | | | | |
| Romantic WI - married WIII | 1.063 | | 0.738 | | 2.403 | ** |
| | (0.173) | | (0.252) | | (0.746 | |
| Romantic WI - cohabiting WIII | 0.988 | | 0.560 | † | 1.690 | † |
| | (0.163) | | (0.175) | | (0.534) | |
| Romantic WI - single WIII | 1.337 | † | 1.068 | | 1.993 | * |
| | (0.198) | | (0.326) | | (0.616) | |
| Romantic WI - dating WIII | 1.026 | | 0.667 | | 1.990 | * |
| | (0.147) | | (0.202) | | (0.623) | |
| Single WI - married WIII | 1.070 | | 0.581 | | 1.487 | |
| | (0.210) | | (0.227) | | (0.662) | |
| Single WI - cohabiting WIII | 1.128 | | 0.610 | | 1.308 | |
| | (0.202) | | (0.236) | | (0.533) | |
| Single WI - dating WIII | 0.833 | | 0.663 | | 1.077 | |
| | (0.122) | | (0.192) | | (0.358) | |
| Girls | | | | | | |
| Romantic WI - married WIII | 1.101 | | 0.904 | | 2.677 | ** |
| | (0.227) | | (0.354) | | (1.008) | |
| Romantic WI - cohabiting WIII | 0.890 | | 0.817 | | 1.853 | |
| | (0.193) | | (0.310) | | (0.727) | |
| Romantic WI - single WIII | 1.337 | | 1.428 | | 2.251 | * |
| | (0.277) | | (0.558) | | (0.879) | |
| Romantic WI - dating WIII | 1.055 | | 0.788 | | 1.902 | † |
| | (0.205) | | (0.284) | | (0.692) | |
| Single WI - married WIII | 0.903 | | 0.733 | | 1.353 | |
| | (0.241) | | (0.349) | | (0.685) | |
| Single WI - cohabiting WIII | 1.134 | | 0.946 | | 1.208 | |
| | (0.261) | | (0.442) | | (0.594) | |
| Single WI - dating WIII | 0.754 | | 0.783 | | 0.838 | |
| | (0.144) | | (0.278) | | (0.322) | |

Table 5, continued

| | Slight Increasing *RRR (SE)* | Sharp Increasing *RRR (SE)* | High Decreasing *RRR (SE)* |
|---|---|---|---|
| Boys | | | |
| Romantic WI - married WIII | 0.923 | 0.542 | 1.553 |
| | (0.264) | (0.416) | (1.032) |
| Romantic WI - cohabiting WIII | 1.082 | 0.197 * | 1.085 |
| | (0.279) | (0.136) | (0.694) |
| Romantic WI - single WIII | 1.344 | 0.727 | 1.513 |
| | (0.285) | (0.347) | (0.937) |
| Romantic WI - dating WIII | 0.964 | 0.539 | 2.297 |
| | (0.209) | (0.281) | (1.336) |
| Single WI - married WIII | 1.354 | 0.430 | 2.198 |
| | (0.432) | (0.317) | (1.940) |
| Single WI - cohabiting WIII | 1.080 | 0.185 * | 1.546 |
| | (0.300) | (0.128) | (1.129) |
| Single WI - dating WIII | 0.921 | 0.536 | 1.942 |
| | (0.201) | (0.278) | (1.092) |

Note: † $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$; Low Decreasing is the reference for depressive trajectory; Single WI - Single WIII is the reference group for romantic relationship involvement match/mismatch; All models control for age, age squared, parent's education, race/ethnicity, and family structure in adolescence; Full sample model controlled for gender.

Figure 1. Five classes of depressive trajectories from adolescence into young adulthood