Adolescent Mental Health and Dating in Young Adulthood

Maggie L. Thorsen[1] and Jennifer Pearce-Morris[2]

Abstract

Adolescence is a period of tremendous socioemotional change, when youth develop important relationship skills that they carry with them into adulthood. The mental health of individuals during this period might act as resources or impediments that impact their ability to cultivate such skills as well as outcomes in their later romantic relationships. The current study examines how multiple dimensions of adolescent mental health (depressive symptomology, self-esteem, mastery, and impulsivity) are associated with outcomes in romantic relationships across the transition to adulthood, such as relationship conflict, relationship happiness, and number of dating partners. Youth with higher mastery, self-esteem, and impulsivity during adolescence had more romantic dating partners across the transition to adulthood. High levels of depressive symptomology and low mastery during adolescence were also associated with greater conflict within dating relationships in young adulthood.

Keywords

adolescence, dating, mental health, relationships, young adulthood

During adolescence, changes occur across multiple developmental fronts, including social, pubertal, cognitive, and socioemotional (Crosnoe and Kirkpatrick Johnson 2011). Experiencing poor mental health while navigating myriad developmental changes during adolescence may prove to have significant long-term consequences for the future relationships of youth. Mental health functioning during adolescence may be developmentally significant for the progression and accumulation of relationship skills that facilitate the development of healthy romantic relationships during adulthood. Given the changes in mental health development during adolescence, it is important to consider the long-term implications of various dimensions of mental health functioning for romantic relationships in young adulthood.

The current study uses data from the National Longitudinal Study of Youth Children and Young Adult Supplement to examine how aspects of mental health symptomology experienced during mid-adolescence, ages 14 to 16, is associated with the number, happiness, and conflict within dating relationships in young adulthood, ages 22 to 24. This study extends prior research by considering the influence of a range of mental health indicators, including depression, self-esteem, mastery, and impulsivity, while prior research has tended to only focus on one or two aspects of mental health (e.g., Sandberg-Thoma and Kamp Dush 2014). Furthermore, this study employs

[1]Montana State University–Bozeman, Bozeman, MT, USA
[2]Raritan Valley Community College, Branchburg, NJ, USA

Corresponding Author:
Maggie L. Thorsen, Department of Sociology & Anthropology, Montana State University–Bozeman, Wilson Hall 2-122, Bozeman, MT 59717, USA.
Email: margaret.thorsen@montana.edu

longitudinal data to capture the long-term implications of adolescent mental health across the transition to adulthood, while prior research has largely relied on cross-sectional data focusing only on adolescent or adult experiences (e.g., Robinson and Cameron 2012). By examining the long-term implications of adolescent mental health across the transition to adulthood, this study contributes to scholarship on life course processes and the developmental significance of mental health functioning for romantic relationships.

Conceptual Framework

There may be long-term consequences on later romantic relationship dynamics (e.g., relationship conflict, relationship happiness, and number of dating partners) for those adolescents who struggle with poor mental health while also navigating the development of romantic relationship skills. Adolescence is a critical developmental period because youth begin developing intimacy within interpersonal relationships during this time (e.g., self-disclosure, trust, openness), and mid-adolescence in particular is when intimacy with partners of romantic and/or sexual interest becomes important for psychosocial development (Steinberg 2014). In their adolescent romantic relationships, youth develop a capacity for intimacy through a transactive process that is central to social competence and relationship skill development (Collins and Sroufe 1999). Those youth who are able to successfully adapt and develop social competence during this period will be better suited to meet subsequent challenges and developmental demands, such as those relating to interpersonal relationships (Cicchetti, Rogosch, and Toth 1994). Unfortunately, the experience of poor mental health during this period may be consequential for stunting social competence and the development of romantic relationship skills at later stages in the life course (Cicchetti et al. 1994). The developmental psychopathology perspective argues that differences in adaption, due to mental health functioning, may impact developmental trajectories and shape distal outcomes (Cicchetti et al. 1994). As individuals develop, previous developmental structures and adaptations are incorporated into later ones through the process of hierarchical integration (Cicchetti and Rogosch 2002). Previous maladaptive capabilities become adapted and integrated into current capabilities

and shape outcomes within those domains. Guided by the developmental psychopathology perspective, we would anticipate that mental health functioning during adolescence shapes the adaptations and approaches youth develop within interpersonal relationships and contribute to later outcomes within romantic relationships in young adulthood. Therefore, this life course approach is a useful framework for understanding the developmental significance of adolescent mental health symptomology for later romantic relationships.

We focus on relationship happiness, conflict, and number of dating partners in our assessment of relationship outcomes as each provides a unique perspective on dating life. Happiness and conflict tap into both a positive and negative dimension of romantic relationships, and many scholars have used these measures to assess relationship quality (e.g., Fincham and Rogge 2010). Few empirical studies have examined the role of number of dating partners for individual and romantic relationship development, but several researchers point to its theoretical importance. Having fewer partners (compared to a particularly high number) is associated with exhibiting better relationship processes in the future, such as the ability to negotiate conflict and compromise, and being able to care for and receive care from the partner (Madsen and Collins 2011). High involvement in dating, characterized by a having a high number of dating partners over a short period of time, therefore might contribute to poorer relationship dynamics in future and concurrent relationships. Dating a high number of partners over a short time span has also been linked with poorer psychosocial functioning, poorer academic performance, and more externalizing problems among adolescents (Collins and van Dulmen 2006; Davies and Windle 2000). Research has not examined, however, whether prior mental health might contribute to the degree of later dating involvement. As adolescents transition to young adulthood, having no dating partners or very few may also be negative for future relationship processes as relationship skill building has had little chance to be developed (Manning, Giordano, and Longmore 2008). Prior dating experiences are important because they help youth reflect on both couple-specific practices and one's own traits they would like to improve, incorporate, or stay away from in future relationships (Tashiro and Frazier 2003). Although the limited literature does not identify whether more partners is strictly "better" or "worse" than

fewer partners, some dating involvement appears to be better than no involvement while high dating involvement over a short period might be problematic. The current study includes the number of dating partners, in addition to relationship happiness and conflict, to offer a more extensive picture of young adult dating experiences.

Mental Health

Different dimensions of mental health may act as coping resources or impediments to romantic relationship functioning. For example, the interactional model of depression suggests that the behavior and affect of depressed individuals may negatively impact their intimate relationships and increase the likelihood that they experience rejection within relationships (Coyne 1976; Hames, Hagan, and Joiner 2013). Depressed individuals tend to exhibit certain behavioral and communication patterns that may contribute to difficulties in interpersonal relationships and deficits in social skills, which may make it more difficult to maintain romantic relationships (Hames et al. 2013). The stress generation theory of depression posits that depressed individuals are more likely to experience stress in their interpersonal relationships, including conflict within romantic relationships (Hammen 1991). Poorer mental health therefore may put stress on romantic relationships in ways that lead to greater dysfunction and conflict and lower ratings of relationship quality (e.g., Davila 2001). Prior research also finds that although young adults with depressive symptoms may enter a serious relationship (Davila et al. 2009; Whisman et al. 2014), having more depressive symptoms is associated with lack of relationship progression (Sandberg-Thoma and Kamp Dush 2014). Therefore, not only may depressive symptoms contribute to lower relationship happiness and greater conflict, but depressed individuals may also avoid engaging in future dating relationships due to perceived rejection experienced in prior conflictual relationships or breakups (Coyne 1976; Sandberg-Thoma and Kamp Dush 2014). This withdrawal behavior may then delay the timing of entrance into subsequent relationships. Consequently, such barriers may result in a lower total number of dating partners among those with greater depressive symptoms.

In addition to depression, other aspects of mental health functioning, such as impulsivity, may inhibit relationship functioning and contribute to stress within romantic relationships. Individuals with impulsive personalities tend to lack self-control, are quick to react to external and internal stimuli, and are prone to risk-taking behaviors without thinking through the consequences (de Ridder et al. 2012; Stanford et al. 2009). Impulsive individuals have a greater tendency to do and say potentially hurtful things without thinking them through (Tangney, Baumeister, and Boone 2004). These individuals are also more emotionally reactive and may engage in aggressive or angry outbursts. They may also have a harder time resisting the temptations of becoming involved with alternative partners. Therefore, the affect and behavior of impulsive individuals may negatively impact their interactions within romantic relationships in ways that contribute to higher conflict and less happiness in relationships. Impulsive individuals may have a higher number of dating partners in order to seek out new experiences and relationships, but the quality of each successive relationship may be challenged by the struggles associated with impulsive traits. Prior empirical research on the link between impulsivity and relationships is limited but suggests that individuals with higher levels of conscientiousness—a personality trait consisting of carefulness, thoroughness, and dependability (i.e., traits contrasting that of impulsivity)—have greater relationship satisfaction than those with low conscientiousness (Schaffhuser, Allemand, and Martin 2014). These limited impulsivity studies, however, focus on adults only and ignore the influential role of adolescent impulsivity from a developmental and life course perspective.

Other dimensions of mental health, such as mastery and self-esteem, may act as coping resources for individuals within relationships, helping them to manage stress and maintain social support (Taylor and Stanton 2007). Mastery refers to an individual's sense of personal agency, their beliefs regarding whether they have some influence or control over their environment to help them achieve desired outcomes (Surjadi et al. 2011). Differences in mastery have been linked with individual differences in coping responses to stress, such that those with a greater sense of mastery tend to take more adaptive or active approaches to handling stress whereas the responses of those with a lower sense of mastery may be more maladaptive or avoidant (Taylor and Stanton 2007). Individuals with greater

mastery may be more likely to confront problems within relationships rather than respond with denial or withdrawal. Empirical research examining mastery and romantic relationships is limited, but theory here suggests that mastery can be an important tool for dating relationships by helping youth cultivate their dating skills. Mastery can help youth adapt and respond to relationship stressors, gain dating experience, and apply their relationship skill building to new partners, all the while believing they can find a relationship that works for them. Higher mastery, therefore, might empower youth to feel a greater sense of control in their ability to figure out the qualities and characteristics they are looking for in a romantic partner, either by ending a relationship that isn't working or seeking out a new relationship. This may then contribute to a higher total number of dating partners during the transition to adulthood among youth with higher mastery.

Self-esteem is another component of mental health that may act as a resource within romantic relationships. Individuals with lower self-esteem have been found to respond to potential partner rejection by increased negative behavior toward their partner, while those with higher self-esteem have been found to respond with increased efforts to reestablish closeness (Murray et al. 2003). Not only are young adults with higher self-esteem more likely to exhibit greater relationship satisfaction, but they also rate higher on several relationship-enhancing factors such as commitment, confiding in the other, expressing affection, feeling comfortable with disclosing negative personal details, disclosing positive life experiences with their partner, and being less self-deprecating (Baker and McNulty 2013; MacGregor, Fitzsimons, and Holmes 2013; Murray et al. 2008; Robinson and Cameron 2012; Sciangula and Morry 2009). Therefore, individuals who have higher self-esteem during adolescence may respond more adaptively to stress within later romantic relationships in ways that may increase happiness and decrease conflict within relationships. With regard to the number of dating partners, having low self-esteem may act as a barrier for individuals, making it less likely that they enter relationships due to their perceived lack of worth. Individuals with high self-esteem may be more confident on the dating market, bounce back after breakups, adapt positively to relationship stressors, and develop good dating skills, all of which may act as attractive qualities to potential dating partners and increase the total number of dating partners they have over time.

Prior Research

Prior literature suggests that dimensions of mental health are associated with relationship quality, conflict, and likelihood of dating involvement, with better mental health associated with better relationship dynamics. However, few studies have explored the longitudinal impacts of dimensions of adolescent mental health on relationship dynamics in young adulthood. Many studies were cross-sectional (e.g., Whisman et al. 2014) or consisted of short-term, longitudinal analyses following respondents just one year later (e.g., Davila et al. 2009). Some studies only examined young adults within a university setting, during just one stage of the life course (e.g., MacGregor et al. 2013), and others simply included adults of any age, with little to no attention given toward the formative stage of adolescence (e.g., Schaffhuser et al. 2014). Furthermore, the majority of these cross-sectional studies only examined the way one or two aspects of mental health (self-esteem and/or depression) were associated with romantic relationship quality and conflict. Even less research has examined the link between various aspects of mental health and number of dating partners.

To our knowledge, only four studies have examined the long-term negative implications of poor mental health for relationships. One study found that negative emotionality at age 18 was associated with worse relationship quality, greater conflict, and greater presence of intimate-partner abuse in one's early and mid-20s (Robins, Caspi, and Moffitt 2002). This offers evidence of the longitudinal impacts of poor mental health on future relationship dynamics but does not explore the potential long-term effects of poor mental health from mid-adolescence. Other research has found that lower self-esteem, greater depressive symptoms, and greater neuroticism during mid-adolescence were associated with poorer intimate-partner relationship quality and fewer positive relationship interactions in young adult romantic unions (Johnson and Galambos 2014; Masarik et al. 2013). However, these studies do not account for the potential effects of adolescent mental health on negative dimensions of relationship dynamics, such as conflict. Another study

found that adolescents with more depressive symptoms had greater conflict within their young adulthood relationships, along with less growth in positive, relationship problem-solving skills (Vujeva and Furman 2011). Results from this fourth study highlight the long-term consequences of depressive symptoms for relationship enhancement skills. However, further research is needed to determine the longitudinal impact of a broad range of mental health dimensions on multiple aspects of dating relationships. In particular, adolescent impulsivity and mastery remain understudied dimensions of mental health, whose long-term associations with later dating behavior should be considered. Furthermore, prior research has not examined how mental health during adolescence is linked with later dating involvement, in terms of the number of dating partners across the transition to adulthood, another understudied dimension of dating behavior.

The Current Study

The current study builds on prior research by examining the longitudinal effects of four dimensions of mental health during mid-adolescence (depressive symptoms, mastery, self-esteem, and impulsivity) on romantic relationship happiness, conflict, and number of partners across the transition to adulthood. Drawing from the developmental psychopathology perspective we propose several hypotheses:

Hypothesis 1: Greater self-esteem and mastery will be associated with a higher number of romantic partners across the transition to adulthood in addition to greater relationship happiness and lower relationship conflict during young adulthood.

Hypothesis 2: Higher levels of depressive symptoms will be associated with a fewer romantic partners, less relationship happiness, and greater relationship conflict in young adulthood.

Hypothesis 3: Greater impulsivity will be associated with more romantic partners, less relationship happiness, and greater relationship conflict in young adulthood.

The current study also examines the potential moderating effect of gender in the association between mental health symptomology and relationship outcomes. Girls are more likely to exhibit

depressive symptoms and psychological distress during adolescence and young adulthood than boys (Cheadle and Goosby 2012; Kimmel 2014). A wide body of research also points to gender differences in the way men and women approach dating relationships, including beliefs in relationship functioning, commitment to relationships, how involvement in relationships is perceived, sex within and outside dating relationships, social implications of amount of dating partners, and evaluations of relationship happiness (e.g., Kreager and Staff 2009; Sakalli-Ugurlu 2003; Stackert and Bursik 2003). From a gender socialization perspective, the role that relationships in general (romantic and nonromantic) play in the lives of men and women also varies, with girls more likely to be socialized to perceive relationships as more central to their identity (e.g., Giordano, Manning, and Longmore, 2006). Given that the evaluation of and behaviors within romantic relationships can be different between men and women, the current study also aims to understand how the link between dimensions of mental health and dating outcomes may differ between men and women. We hypothesize that the effect of mental health on number of partners and ratings of romantic relationship happiness and conflict will be stronger for women than men because women are more susceptible to poor mental health and may be socialized to place greater emphasis on the characteristics and functioning of their romantic relationships for their sense of well-being. Therefore, poor mental health may have a stronger impact on women's approaches to dating relationships.

Hypothesis 4: The effects of mental health symptomology on happiness, conflict, and number of relationships will be stronger for women compared to men.

There are several factors that have been shown to be associated with various dimensions of mental health and romantic relationship outcomes, and we therefore include these variables as controls in our analyses. For example, adolescents with higher quality relationships with their parents tend to have better mental health during adolescence along with higher quality romantic relationships during young adulthood (Johnson and Galambos 2014). A wide body of literature points to higher rates of psychological distress among girls compared to boys (Cheadle and Goosby 2012; Elliott 2013; Kling et al. 1999; Nolen-Hoeksema and

Girgus 1994). Adolescents who are black, from lower socioeconomic backgrounds, and from non-intact family households have been found to have greater depressive symptoms during adolescence and young adulthood compared to non–racial-ethnic minorities, those from higher socioeconomic backgrounds, and those from married parent households (Wickrama, Wickrama, and Lott 2009). Girls who have their first sexual experience at a lower mean age than their peers have a greater likelihood of increased depressive symptoms than those whose first sexual experiences were at later ages (Meier 2007). Early, nonmarital mothers may be at greater risk for poorer mental health (Avison, Ali, and Walters 2007). For these reasons, we control for gender, age, race, socioeconomic status, household structure during adolescence, parent-child relationship quality, respondent's parent-hood status, and whether the respondent first engaged in sex at an early age. Finally, because we pool data from multiple years, we control for the respondent's initial survey year.

METHOD

Data

The data for this research come from the Child and Young Adult Supplement to the National Longitudinal Survey of Youth 1979 (CNLSY79). The NLSY79 is a longitudinal survey based on a nationally representative sample of 12,686 women and men who were first interviewed in 1979 when they were between the ages of 14 and 21. Beginning in 1986, a supplement was added to assess the biological children of the women in the NLSY79 sample. This supplement was administered to children every two years since 1986, with additional children added to this sample as they were born. These children were followed into adulthood, with biennial interviews through 2012.

The sample for this study pools adolescents between the ages of 14 and 16 who responded to the questionnaire for the 2000, 2002, or 2004 surveys. Information was gathered from the earliest interview round that the youth was eligible. The analytic sample was further restricted to those adolescents who were reinterviewed eight years later in 2008, 2010, or 2012, when they were between the ages of 22 and 24, and who had valid sample weights. This sampling strategy pools together three groups of youth born between 1984 and

1990 when they were in mid-adolescence (ages 14-16) and follows them into young adulthood, resulting in an analytic sample of 2,173. An indicator of when respondents were interviewed was included in all analyses to control for any differences between adolescents that might stem from the timing of their interview. We refer to these groups as cohorts in all models. This analytic sample was used in analyses evaluating the number of dating relationships experienced by the sample later in adolescence (ages 16-20) and in young adulthood (ages 20-24). Analyses that examined happiness and conflict within dating relationships were further restricted to the subsample of youth who reported that they had a current dating partner at Time 2 (n = 847).

Measures

Independent variables. This study examines four different components of mental health: depressive symptomology, self-esteem, mastery, and impulsivity. These dimensions of mental health, like many components of mental health, may be interrelated (e.g., Cheng and Furnham 2003; Hitlin, Erickson, and Brown 2015), but each is distinct and taps into a unique aspect of mental health and psychological traits. Information from these measures was collected when respondents were between the ages of 14 and 16, during the 2000, 2002, or 2004 survey round.

Depression was measured with seven items from the Center for Epidemiological Studies Depression Scale (CESD; Radloff 1977), with questions such as how often in the past week respondents felt depressed, felt sad, and felt they could not get going. Responses to these items ranged from 1 = rarely to 4 = most of the time. The average of these seven items were taken to create a scale, with higher scores indicating a higher degree of depressive symptomology (alpha = .71).

Self-esteem was measured with 10 items from the Rosenberg Self-esteem Scale (Rosenberg 1965). Respondents were asked how much they agreed or disagreed with statements about themselves, such as whether they were a person of worth, they were inclined to feel like a failure, they were satisfied with themselves, or they have positive attitudes about themselves. Four response options were available, ranging from 1 = strongly disagree to 4 = strongly agree. Items that reflected

more positive evaluations of their life were coded so that strong agreement was given a 4, while items that reflected more negative evaluations were reverse-coded so that strong disagreement was given the highest value. These 10 items were averaged into a scale, with higher scores indicating a higher sense of self-esteem (alpha = .86).

Mastery was measured with seven items from the Pearlin Mastery scale (Pearlin et al. 1981). Respondents indicated how much they agreed or disagreed with statements such as there is no way they can solve the problems they have, they have little control over the things that happen to them, and they can do just about anything they set their mind to. Response options ranged from 1 = strongly disagree to 4 = strongly agree. Items that reflected evaluations of being in control of their lives were coded so that strong agreement was given a 4, while items that reflected feelings of lacking control were reverse-coded so that strong disagreement was given the highest value. These seven items were averaged into a scale, with higher scores indicating a higher sense of mastery (alpha = .69).

Impulsivity was measured using six items that tapped into dimensions of impulsivity, low self-control, and risk-taking. Similar items are found in the Barratt Impulsiveness Scale (Stanford et al. 2009) as well as scales that measure low self-control as conceptualized by Gottfredson and Hirschi (Grasmick et al. 1993). Respondents were asked how much they agreed or disagreed with statements such as: they often get into a jam because they do things without thinking, they have to use a lot of self-control to keep out of trouble, and they enjoy taking risks. Response options ranged from 1 = strongly disagree to 4 = strongly agree. These six items were averaged into a scale, with higher scores indicating a higher degree of impulsivity (alpha = .60).

Dependent variables. This study examines four components of dating relationships in young adulthood: number of dating partners in late adolescence (ages 16-20), number of dating partners in young adulthood (20-24), relationship happiness in current dating relationship, and conflict within current dating relationship. We include measures of number of dating partners in both late adolescence and young adulthood to help parse out in a more nuanced way the impact of earlier mental health for future dating behavior. The intensity of involvement in dating and individual perceptions about the meaning of dating relationships shift over time (Collins, Welsh, and Furman 2009). Phase-based theories of romantic relationship development highlight the changing characteristics and norms of dating as youth age, with increases in relationship commitment, duration, and emotional and sexual intensity across the transition to adulthood (Meier and Allen 2009). Thus, we explore the longitudinal impacts of mental health on number of dating partners for these two developmental periods, late adolescence and young adulthood, to get a better sense of how earlier mental health impacts dating involvement over the short and long terms. Analyses examining the number of dating partners in late adolescence and young adulthood includes the full analytic sample (n = 2,173), while analyses examining relationship happiness and relationship conflict were restricted to those respondents who reported they had a current dating partner at the second interview point (n = 847).

Number of dating partners in late adolescence is a continuous variable that reflects the average number of dating partners in a given year that respondents reported having between the ages of 16 and 20. This variable was created by taking the average responses to the question "how many people have you dated in the past 12 months" for the survey years that corresponded with two years (2002/2004/2006) and four years (2004/2006/2008) after respondents were initially interviewed at Time 1 (2000/2002/2004) when they were between the ages of 14 and 16. This measure captures the average number of dating partners in a given year reported by respondents between the ages of 16 and 20. The average number of dating partners during late adolescence ranged from 0 to 50.5. *Number of dating partners in young adulthood* is a continuous variable that reflects the average number of dating partners in a given year that respondents reported having between the ages of 20 and 24. This variable was created in a similar manner to the measure of dating partners in late adolescence, capturing the number of partners reported for the survey years corresponding with six years (2006/2008/2010) and eight years (2008/2010/2012) after respondents were initially interviewed. This measure captures the average number of dating partners in a given year reported by respondents between the ages of 20 and 24. The average number of dating partners during young adulthood ranged from 0 to 25.5. Both dating variables

were capped at 5 or more dating partners per year (the 97th percentile) in order to deal with outliers. Additional analyses were also conducted where number of dating partners during both late adolescence and young adulthood were treated as categorical variables, with the following categories: 0 = no dating, 1 = some dating (more than 0 people to less than 5 people per year), and 3 = 5 or more dating partners. These analyses were conducted to help better understand the impact of mental health on both the number of dating partners as well as any dating involvement at these two developmental time periods.

Information for the happiness and conflict measures was collected when respondents were between the ages of 22 and 24, during the 2008, 2010, or 2012 survey round. *Relationship happiness* was measured with a single item in which respondents indicated how happy they were with their current boyfriend/girlfriend (1 = very unhappy to 4 = very happy). *Relationship conflict* was measured using four questions about how frequently respondents argued with their boyfriend/girlfriend about showing affection to each other, the amount of time they spend together, dating other people, and friends (1 = never to 4 = often). These four items were averaged into a scale, with higher scores indicating more conflict in the dating relationship (alpha = .65). While this alpha level is fairly low, this is likely due to the limited number of variables that go into this scale as well as the moderate correlations between indicators (ranging from .21 to .48). Factor analyses suggest that these items hold together as a unidimensional construct.[1] Item-test and item-rest correlations also indicated that the reliability level of this scale is highest with the inclusion of all indicators. Supplementary analyses were also conducted treating each indicator as the dependent variable; these analyses are discussed in the results section.

Control variables. Several control variables were also included in analyses. The *gender* of respondents was measured with women serving as the reference group (0 = male, 1 = female). To test for the possibility that gender moderated the association between mental health variables and dating outcomes, multiplicative interaction terms between gender and each main independent variable were created and tested across all models. Only statistically significant interaction terms that significantly improved model fit are discussed in

the results. *Age* of the respondent at Time 1 was measured in years (range, 14-16), and *race* was measured with four categories (1 = non-Hispanic white, 2 = non-Hispanic black, 3 = non-Hispanic other, including Asian and Native American, and 4 = Hispanic). Socioeconomic status during adolescence was measured with two variables: *mother's educational attainment* (1 = less than high school, 2 = high school, 3 = some college, 4 = college degree) and gross family *income* in logged dollars (non-logged range, $0-$356,872). Family structure during adolescence was measured with four categories: 1 = married biological parent family (reference), 2 = stepfamily, 3 = single-parent family, and 4 = other family form. *Parent-child closeness* was measured using information on how close respondents felt to both their mother and father (1 = not very close to 4 = very close), with the highest reported closeness of all available parents given as the value for the parental closeness. Due to a skip pattern for those who answered these questions in the year 2000, which resulted in a high degree of missing, the values of maternal closeness and paternal closeness were averaged over a two-year period (e.g., 2000 and 2002, 2002 and 2004, 2004 and 2006) in order to reduce missingness on this variable. All control variables were measured at Time 1, except for parental status, early sexual initiation, and education, which were measured from Time 2. The variable for *parental status* was created from questions at Time 2 that asked respondents if they had children and the age when they had their first child (0 = not a parent, 1 = first birth as teen, <19 years old, 3 = first birth as young adult, 20-23 years old). In analyses predicting the number of dating partners in late adolescence, this variable was dichotomized (0 = not a teen parent and 1 = teen parent) given the timing of the dependent variable. Respondents who reported at Time 2 that their first sexual initiation occurred before age 15 were coded as having had *early sex* (= 1; 0 = sexual initiation at 15 or later). Finally, the highest level of educational attainment of respondents at Time 2 was categorized into four groups: 1 = less than high school, 2 = high school, 3 = some college, and 4 = college degree.

Analytic Strategy. Data analyses were conducted in Stata 13 using ordinary least squares regression for number of dating partners and relationship conflict and ordinal logistic regression for

relationship happiness. Multinomial logistic regression was used for additional analyses in which number of dating partners was treated as a categorical variable. Missing data were handled using the ICE multiple imputation procedure in Stata (Royston 2009). This procedure allows for chained regression equations to calculate imputed values for continuous and categorical variables. We imputed the data into five data sets using all predictor and outcome variables in each prediction equation. After transforming the data into MI format, analyses were conducted using Stata's MI command. There was very limited missing data, with the majority of variables having less than 1 percent of the data missing. Two variables had greater than 1 percent missing: number of dating partners between ages 16 to 20 (3 percent) and family income (23 percent). Supplementary analyses were conducted to test for the curvilinear effects of mental health variables (e.g., inclusion of squared terms). By including nonlinear terms, we are able to test if the association between the mental health variables and the dependent variable varies at different values of the independent variable. In creating nonlinear terms, for use in regression analyses, the linear version of the independent variable (e.g., depression) was centered at its mean to reduce the correlation between the linear and the squared term (Cohen et al. 2003). Results of significant curvilinear relationships are discussed in the following. Results are based on weighted data. Weights were created by researchers at the National Longitudinal Surveys and adjust for oversampling and sample attrition. Using such weights ensures that the weighted sample represents all children who have been born to a nationally representative sample of women who were 14 to 21 in December of 1978.

RESULTS

Descriptive statistics presented in Table 1 give us a sense of the mental health and relationship experiences of the sample. Individuals on average reported having a fairly high degree of self-esteem (3.20) and mastery (3.09) during adolescence and a low level of depressive symptomology (1.59). Respondents also reported having a marginally high level of impulsivity on average during adolescence, at just over the midpoint of the scale (2.55). On average, individuals reported having a little less than two dating partners per year,

both in late adolescence and young adulthood. Seven percent of the sample reported no dating involvement in late adolescence, while 5 percent of the sample reported no dating involvement in young adulthood. About 5 percent of respondents reported having five or more dating partners per year on average during late adolescence (ages 16-20), and 4 percent of respondents reported having five or more dating partners per year during young adulthood (ages 20-24). Respondents who reported being in a dating relationship at the second time point (n = 847) on average expressed being quite happy within these relationships (3.71) and reported a low degree of conflict (1.62). Additional information on the controls can be found in Table 1. A correlation matrix of the main independent and dependent variables is presented in Table 2. While the correlations between mental health indicators and relationship outcomes are not particularly strong, multivariate regression analyses suggest that adolescent mental health acts as a significant predictor of later romantic relationship outcomes.

Results suggest that the mental health of individuals during adolescence was linked with the average number of dating partners they had per year both in late adolescence (Table 3) and young adulthood (Table 4). Comparing the models across these two time points, however, it appears that dimensions of mental health during mid-adolescence were more strongly related to the number of dating partners in young adulthood than in late adolescence. Looking first at the models for impulsivity (Model 1 in both tables), we see that the more impulsive a person was during adolescence, the more dating partners they reported having both in late adolescence (*b* = .33; Table 3, Model 1) and young adulthood (*b* = .45; Table 4, Model 1). Results suggest, however, that the strength of this relationship varied across gender in young adulthood and was stronger for men (men *b* = .45, women *b* = .04; Table 4, Model 1). Higher levels of impulsivity during mid-adolescence were linked with significantly more dating partners among men in young adulthood than among women (see Figure 1). Individuals who reported having a greater sense of mastery (*b* = .20, Table 4, Model 2) and higher self-esteem (*b* = .27, Table 4, Model 3) during mid-adolescence also had more dating partners in young adulthood, but these factors were not significantly associated with dating involvement in late adolescence. In general, results suggest that dimensions of

Table 1. Descriptive Statistics

	Mean/Proportion	Standard Deviation	Range
Romantic relationship dependent variables			
Average number of dating partners (16-20), mean	1.79	2.14	0-50.5
No dating in late adolescence (16-20)	7	.26	0-1
Some dating in late adolescence	87	.32	0-1
Five or more dating partners in late adolescence	5	.23	0-1
Average number of dating partners (20-24), mean	1.72	2.66	0-25.5
No dating in young adulthood (20-24)	5	.21	0-1
Some dating in young adulthood	91	.28	0-1
Five or more dating partners in young adulthood	4	.19	0-1
Relationship happiness, mean	3.71	.58	1-4
Relationship conflict, mean	1.62	.58	1-4
Mental health variables			
Impulsivity, mean	2.55	.47	1-4
Mastery, mean	3.09	.47	1-4
Self-esteem, mean	3.20	.47	1-4
Depression, mean	1.59	.47	1-4
Controls			
Female	49	.47	0-1
Age at Time 1, mean	14.86	.93	14-16
Cohort 2000	33	.47	0-1
Cohort 2002	34	.47	0-1
Cohort 2004	32	.47	0-1
Race			
White (reference)	72	.47	0-1
Black	16	.47	0-1
Hispanic	10	.47	0-1
Other	2	.47	0-1
Family of origin's income (in dollars), mean	56,048.25	8,4160.00	0-356,872
Mother's education level			
Less than high school	15	.47	0-1
High school	39	.47	0-1
Some college	26	.47	0-1
Bachelor's or more (reference)	20	.47	0-1
Family of origin's structure			
Biological married parents (reference)	54	.47	0-1
Stepfamily	15	.47	0-1
Single parent	28	.47	0-1
Other structure	3	.00	0-1
Parental closeness, mean	2.99	.93	1-4
Respondent experienced early sex	14	.47	0-1
Respondent's parental status			
Not a parent (reference)	77	.47	0-1
Teen parent	10	.47	0-1
Young adult (20s) parent	13	.47	0-1
Respondent's education level			
Less than high school	13	.47	0-1
High school	31	.47	0-1
Some college	31	.47	0-1
Bachelor's or more (reference)	24	.47	0-1

Note. Results are weighted and based on imputed data.

Table 2. Correlation Matrix of Major Independent and Dependent Variables.

	1	2	3	4	5	6	7	8
1. Impulsivity	1.000							
2. Mastery	−.214***	1.000						
3. Self-esteem	−.196***	.656***	1.000					
4. Depression	.185***	−.230***	−.215***	1.000				
5. Number of dating partners, age 16-20	.021***	−.001	.006	.010	1.000			
6. Number of dating partners, age 20-24	.018***	.014**	.018***	.000	.154*	1.000		
7. Relationship happiness	.024	.063*	.032	−.043	−.175	−.250**	1.000	
8. Relationship conflict	.016	−.087***	−.029	.075**	.098	−.030	−.242***	1.000

Note. Results are based on imputed data.
*p < .05. **p < .01. ***p < .001.

Table 3. Adolescent Mental Health and Number of Dating Partners in Late Adolescence (ages 16-20)—Weighted, Ordinary Least Squares Regression Coefficients (Standard Errors in Parentheses), n = 2,173.

	Model 1		Model 2		Model 3		Model 4	
Mental health variables								
Impulsivity	.33***	(.08)						
Mastery			.06	(.07)				
Self-esteem					.09	(.07)		
Depression							.09	(.06)
Controls								
Female	−.24***	(.06)	−.29***	(.06)	−.29***	(.06)	−.30***	(.06)
Age at Time 1	−.07	(.04)	−.07	(.04)	−.07	(.04)	−.07	(.04)
Cohort 2002[a]	−.08	(.07)	−.09	(.07)	−.08	(.07)	−.08	(.07)
Cohort 2004[a]	−.12	(.08)	−.12	(.08)	−.12	(.08)	−.11	(.08)
Race[b]								
Black	.24***	(.08)	.19*	(.08)	.18*	(.08)	.19**	(.08)
Hispanic	.02	(.08)	.02	(.08)	.02	(.08)	.02	(.08)
Other	.12	(.25)	.15	(.24)	.14	(.24)	.13	(.25)
Family of origin's income	.00	(.01)	.00	(.01)	.00	(.01)	.00	(.01)
Mother's education level[c]								
Less than high school	.18	(.11)	.19	(.11)	.19	(.11)	.18	(.11)
High school	.10	(.09)	.10	(.09)	.11	(.09)	.11	(.09)
Some college	.11	(.09)	.12	(.09)	.12	(.09)	.12	(.09)
Family of origin's structure[d]								
Stepfamily	.19*	(.09)	.20*	(.09)	.20*	(.09)	.19*	(.09)
Single parent	−.01	(.08)	.01	(.08)	.01	(.08)	.01	(.08)
Other structure	−.04	(.19)	−.03	(.19)	−.02	(.19)	−.02	(.19)
Parental closeness	−.11*	(.05)	−.14**	(.05)	−.15**	(.05)	−.13**	(.05)
Respondent experienced early sex	.56***	(.09)	.61***	(.09)	.61***	(.09)	.60***	(.09)
Respondent was a teen parent	−.16	(.10)	−.12	(.10)	−.12	(.10)	−.13	(.10)
Constant	2.17***	(.68)	2.92***	(.66)	2.82***	(.67)	2.92***	(.65)
F	6.89***		6.03***		6.17***		6.18***	
R-square	.095		.086		.086		.086	

[a]Cohort 2000 is reference group.
[b]White is reference group.
[c]Bachelor's or more is reference group.
[d]Two, biological married parents is reference group.
*p < .05. **p < .01. ***p < .001 (for a two-tailed test).

Table 4. Adolescent Mental Health and Number of Dating Partners in Young Adulthood (ages 20-24)—Weighted, Ordinary Least Squares Regression Coefficients (Standard Errors in Parentheses,) n = 2,173.

	Model 1		Model 2		Model 3		Model 4	
Mental health variables								
Impulsivity	.45***	(.11)						
Female × impulsivity	−.41**	(.14)						
Mastery			.20**	(.07)				
Self-esteem					.27***	(.08)		
Depression							−.00	(.05)
Controls								
Female	.70	(.37)	−.38***	(.06)	−.37***	(.06)	−.38***	(.06)
Age at Time 1	−.01	(.04)	−.02	(.04)	−.02	(.04)	−.01	(.04)
Cohort 2002[a]	.06	(.07)	.06	(.07)	.06	(.07)	.06	(.07)
Cohort 2004[a]	.12	(.07)	.11	(.07)	.12	(.07)	.11	(.07)
Race[b]								
Black	.12	(.07)	.07	(.07)	.05	(.08)	.08	(.07)
Hispanic	−.04	(.07)	−.04	(.07)	−.05	(.07)	−.05	(.07)
Other	−.00	(.20)	.03	(.20)	.02	(.20)	.01	(.20)
Family of origin's income	.00	(.01)	.00	(.01)	.00	(.01)	.00	(.01)
Mother's education level[c]								
Less than high school	−.09	(.11)	−.09	(.11)	−.11	(.11)	−.11	(.11)
High school	−.08	(.09)	−.09	(.09)	−.10	(.09)	−.09	(.09)
Some college	−.10	(.10)	−.10	(.10)	−.12	(.10)	−.11	(.10)
Family of origin's structure[d]								
Stepfamily	.23*	(.09)	.24**	(.09)	.23**	(.08)	.24**	(.09)
Single parent	.06	(.07)	.07	(.07)	.06	(.07)	.07	(.07)
Other structure	.15	(.16)	.19	(.16)	.18	(.16)	.19	(.16)
Parental closeness	−.04	(.04)	−.07	(.04)	−.07	(.04)	−.05	(.04)
Respondent experienced early sex	.33***	(.09)	.36***	(.09)	.36***	(.09)	.37***	(.09)
Respondent's parental status[e]								
Teen parent	−.18*	(.08)	−.18*	(.07)	−.17*	(.07)	−.19*	(.07)
Young adult (20s) parent	−.19**	(.07)	−.18*	(.07)	−.18*	(.07)	−.19**	(.07)
Respondent's education level[f]								
Less than high school	−.33**	(.11)	−.24*	(.11)	−.22	(.11)	−.28*	(.11)
High school	−.20*	(.10)	−.14	(.10)	−.11	(.10)	−.17	(.10)
Some college	−.13	(.09)	−.10	(.09)	−.08	(.09)	−.11	(.09)
Constant	.89	(.70)	1.60*	(.67)	1.32*	(.66)	2.08**	(.64)
F	4.59***		4.47***		4.70***		4.28***	
R-square	.078		.073		.076		.068	

[a]Cohort 2000 is reference group.
[b]White is reference group.
[c]Bachelor's or more is reference group.
[d]Two, biological married parents is reference group.
[e]Not a parent is reference group.
[f]Bachelor's or more is reference group.
*p < .05. **p < .01. ***p < .001 (for a two-tailed test).

adolescent mental health were more strongly linked with the approaches youth took in dating relationships in young adulthood, such that having a higher sense of mastery and self-esteem as well as more impulsivity was associated with having significantly more dating partners, while only impulsivity was significantly associated with number of dating partners in late adolescence.

Additional analyses were also conducted to estimate the associations between adolescent
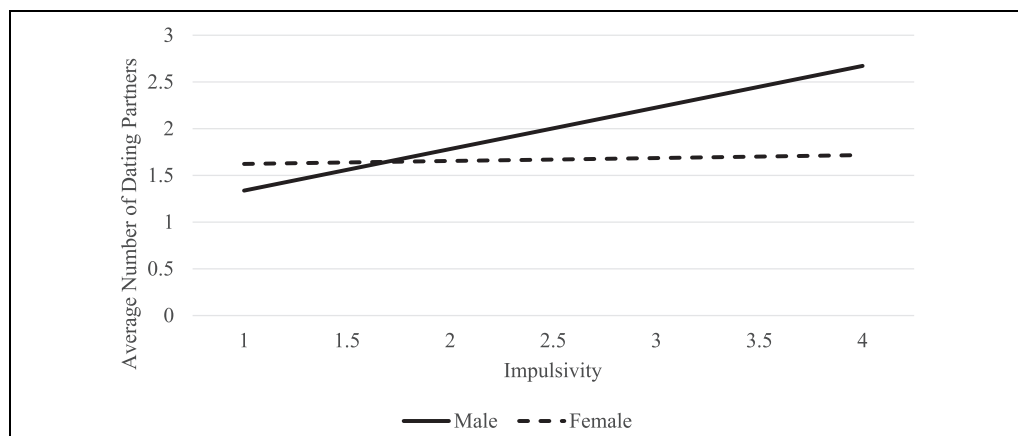
Figure 1. Gender differences in the association between impulsivity and average number of dating partners in young adulthood.

Table 5. Adolescent Mental Health and Dating Involvement in Late Adolescence and Young Adulthood—Weighted, Multinomial Logistic Regression Coefficients (Standard Errors in Parentheses,) n = 2,173.

	Late Adolescence (16-20)			Young Adulthood (20-24)		
	No Dating	Some Dating Partners	No Dating	No Dating	Some Dating Partners	No Dating
	(vs. 5+ Partners)		(vs. Some Dating Partners)	(vs. 5+ Partners)		(vs. Some Dating Partners)
Impulsivity	−1.575***	−.520	−1.055***	−1.958***	−.794*	−1.164***
	(.38)	(.28)	(.26)	(.44)	(.32)	(.32)
Mastery	−.648	−.291	−.357	−1.390**	−.443	−.947**
	(.41)	(.30)	(.30)	(.43)	(.30)	(.33)
Self-esteem	−.718	−.544	−.175	−2.163***	−1.106***	−1.057**
	(.39)	(.31)	(.25)	(.48)	(.32)	(.37)
Depression	−.572	−.118	−.454*	.065	−.093	.157
	(.31)	(.22)	(.23)	(.36)	(.25)	(.26)

Note. Models are weighted and based on multiply imputed data; coefficients for each mental health indicator represent a separate multinomial logistic regression model (e.g., each mental health indicator had its own set of models); standard errors are in parentheses; models include all controls (e.g., age, gender); the "some dating partners" category refers to dating more than 0 people but less than 5 people per year.
*$p < .05$. **$p < .01$. ***$p < .001$ (for a two-tailed test).

mental health and categorical dating involvement in late adolescence and young adulthood (Table 5; full models available from the authors on request). Results indicated that higher levels of impulsivity were associated with significantly lower log-odds of abstaining from dating during late adolescence, compared to being involved in some dating ($b = -1.055$) or dating five or more

partners per year on average ($b = -1.575$). In young adulthood, higher levels of adolescent impulsivity were associated with a significantly lower log-odds of either abstaining from dating ($b = -1.958$) or being involved in some dating ($b = -.794$), compared to being involved in a lot of dating relationships (having more than five partners per year on average), and a lower

likelihood of abstaining from dating versus being involved in some dating in young adulthood ($b = -1.164$). Higher levels of depressive symptomology were associated with a reduced log-odds of abstaining from dating in late adolescence versus experiencing some dating involvement on average ($b = -.454$). By young adulthood, this association between depression and involvement in dating relationships was no longer significant. Higher levels of mastery during mid-adolescence were also associated with a reduced log-odds of abstaining from dating involvement during young adulthood compared to having some ($b = -.947$) or high levels of dating involvement ($b = -1.390$). Higher levels of self-esteem during mid-adolescence were associated with significantly lower log-odds of either abstaining from dating ($b = -2.163$) or being involved in some dating ($b = -1.106$), compared to being more highly involved in dating during young adulthood (e.g., five or more partners per year). Furthermore, higher levels of adolescent self-esteem were associated with a significantly lower log-odds of abstaining from dating versus being involved in at least some dating during young adulthood ($b = -1.057$).

These results suggest that earlier dimensions of mental health are associated not only with the degree of later dating involvement in terms of number of partners but also with the likelihood that individuals enter into dating relationships at all during these periods. Higher degrees of adolescent impulsivity were associated with an increased likelihood of having at least some dating involvement during late adolescence while by young adulthood, higher levels of adolescent impulsivity become more strongly linked with high dating involvement (e.g., five or more partners per year). Higher levels of mastery during mid-adolescence were linked with a higher likelihood of having at least some dating involvement during young adulthood while higher levels of self-esteem during that period were associated with high dating involvement in young adulthood.

Adolescent mental health was also linked with the degree of happiness and conflict youth experienced within dating relationships in young adulthood (Tables 6 and 7). Individuals who were more impulsive during adolescence were significantly more likely to see higher levels of happiness in their young adult dating relationship ($b = .61$, Table 6, Model 1). This finding might reflect the extraverted and sociable nature of impulsive individuals, an idea we return to in the discussion. Looking at Table 7, results indicate that the higher degree of mastery an individual reported having during adolescence, the lower the level of conflict they experienced in their dating relationship in young adulthood ($b = -.19$, Model 2). Results from the model for depressive symptomology indicate that the relationship between adolescent depression and relationship conflict in young adulthood is nonlinear, as evidenced by the significant b-coefficient for depression squared at the $p < .05$ level ($b = .14$, Table 7, Model 4). Figure 2 depicts this nonlinear association, showing predicted relationship conflict scores at various adolescent depression levels. Only at higher levels of depressive symptomology did increases in such symptoms contribute to a greater degree of conflict within dating relationships.

In addition to examining the associations between components of adolescent mental health and dating behavior in young adulthood, several controls were included in multivariate models. A number of individual- and family-level characteristics were associated with the average number of dating partners in late adolescence and young adulthood (Tables 3 and 4). Generally, women reported having fewer dating partners at both time points than men. Compared to their non-Hispanic white counterparts, non-Hispanic black youth had significantly more dating partners in late adolescence but not in young adulthood. Youth from stepfamilies also had significantly more dating partners in late adolescence and young adulthood than those who grew up in two-biological parent married families. The closer youth reported being to their parents during mid-adolescence, the fewer dating partners they reported later in adolescence. Youth who reported an early sexual initiation (before age 15) had significantly more dating partners in late adolescence and young adulthood than those individuals who were older at their first sex. Having children either as a teen or as a young adult was associated with significantly fewer dating partners in young adulthood. Finally, youth with less than a high school education had significantly fewer dating partners in young adulthood than those with a college education. Apart from some minor racial differences, there was limited evidence of statistically significant associations between control variables and happiness or conflict in dating relationships in multivariate models (Tables 6 and 7).

Table 6. Adolescent Mental Health and Relationship Happiness in Young Adulthood—Weighted, Ordinal Logistic Regression Coefficients (Standard Errors in Parentheses), n = 847.

	Model 1		Model 2		Model 3		Model 4	
Mental health variables								
Impulsivity	.61*	(.28)						
Mastery			.41	(.26)				
Self-esteem					.37	(.27)		
Depression							−.05	(.21)
Controls								
Female	.08	(.21)	−.01	(.21)	.00	(.21)	.00	(.21)
Age at Time 1	.02	(.15)	−.01	(.15)	.00	(.15)	.01	(.15)
Cohort 2002[a]	.06	(.24)	.05	(.23)	.07	(.23)	.05	(.23)
Cohort 2004[a]	−.07	(.24)	−.07	(.23)	−.04	(.23)	−.07	(.23)
Race[b]								
Black	−.30	(.21)	−.42*	(.21)	−.45*	(.21)	−.39	(.21)
Hispanic	.18	(.28)	.17	(.27)	.16	(.27)	.16	(.27)
Other	.70	(.99)	.84	(1.05)	.81	(.98)	.75	(1.00)
Family of origin's income	.00	(.04)	.01	(.04)	.00	(.04)	.01	(.04)
Mother's education level[c]								
Less than high school	.32	(.38)	.27	(.38)	.22	(.38)	.21	(.38)
High school	.57	(.32)	.54	(.32)	.50	(.32)	.50	(.32)
Some college	.12	(.34)	.12	(.34)	.08	(.35)	.07	(.34)
Family of origin's structure[d]								
Stepfamily	.04	(.31)	.05	(.31)	.03	(.31)	.04	(.31)
Single parent	−.17	(.25)	−.16	(.25)	−.13	(.25)	−.14	(.25)
Other structure	−.02	(.60)	.01	(.58)	.02	(.59)	−.00	(.60)
Parental closeness	.30	(.16)	.23	(.16)	.25	(.16)	.26	(.16)
Respondent experienced early sex	−.58*	(.28)	−.48	(.27)	−.48	(.27)	−.47	(.27)
Respondent's parental status[e]								
Teen parent	−.53	(.33)	−.43	(.32)	−.42	(.32)	−.45	(.32)
Young adult (20s) parent	−.51	(.31)	−.50	(.31)	−.49	(.30)	−.51	(.30)
Respondent's education level[f]								
Less than high school	.26	(.44)	.42	(.46)	.40	(.44)	.34	(.44)
High school	−.24	(.33)	−.09	(.34)	−.09	(.34)	−.12	(.33)
Some college	−.14	(.29)	−.06	(.30)	−.05	(.30)	−.06	(.29)
Cut 1	−1.95	(2.69)	−2.70	(2.51)	−2.66	(2.52)	−3.80	(2.53)
Cut 2	−.96	(2.63)	−1.71	(2.47)	−1.68	(2.49)	−2.82	(2.47)
Cut 3	1.55	(2.61)	.80	(2.45)	.83	(2.47)	−.31	(2.45)
F	1.90**		1.54*		1.55*		1.53	

[a]Cohort 2000 is reference group.
[b]White is reference group.
[c]Bachelor's or more is reference group.
[d]Two, biological married parents is reference group.
[e]Not a parent is reference group.
[f]Bachelor's or more is reference group.
*$p < .05$. **$p < .01$. ***$p < .001$ (for a two-tailed test).

Supplementary Analyses

Several supplementary analyses were conducted to explore the conceptual strength of results. For example, we examined the association between mental health in adolescence and each indicator of relationship conflict. As described in the method section, the conflict scale's alpha was low, although item-test and item-rest correlations indicated that the reliability level of this scale is

Table 7. Adolescent Mental Health and Relationship Conflict in Young Adulthood—Weighted, Ordinary Least Squares Regression Coefficients (Standard Errors in Parentheses,) n = 847.

	Model 1		Model 2		Model 3		Model 4	
Mental health variables								
Impulsivity	−.04	(.06)						
Mastery			−.19**	(.06)				
Self-esteem					−.07	(.07)		
Depression							−.04	(.06)
Depression squared							.14*	(.07)
Controls								
Female	−.03	(.05)	−.02	(.05)	−.03	(.05)	−.04	(.05)
Age at Time 1	−.02	(.03)	−.01	(.03)	−.02	(.03)	−.01	(.03)
Cohort 2002[a]	−.07	(.06)	−.07	(.06)	−.07	(.06)	−.07	(.06)
Cohort 2004[a]	−.07	(.06)	−.06	(.06)	−.07	(.06)	−.07	(.06)
Race[b]								
Black	.21***	(.06)	.22***	(.05)	.23***	(.06)	.23***	(.05)
Hispanic	.04	(.06)	.03	(.05)	.04	(.05)	.04	(.05)
Other	−.11	(.22)	−.15	(.21)	−.12	(.22)	−.16	(.17)
Family of origin's income	.01	(.01)	.01	(.01)	.01	(.01)	.01	(.01)
Mother's education level[c]								
Less than high school	.02	(.09)	−.01	(.09)	.02	(.09)	.02	(.09)
High school	−.07	(.07)	−.09	(.07)	−.07	(.07)	−.07	(.07)
Some college	−.04	(.08)	−.05	(.08)	−.04	(.08)	−.03	(.08)
Family of origin's structure[d]								
Stepfamily	−.07	(.08)	−.07	(.08)	−.07	(.08)	−.09	(.08)
Single parent	−.03	(.06)	−.02	(.06)	−.04	(.06)	−.04	(.06)
Other structure	.19	(.15)	.17	(.14)	.18	(.15)	.13	(.15)
Parental closeness	−.04	(.04)	−.02	(.04)	−.03	(.04)	−.04	(.04)
Respondent experienced early sex	.15	(.08)	.15	(.08)	.15	(.08)	.15	(.08)
Respondent's parental status[e]								
Teen parent	.02	(.10)	.00	(.10)	.01	(.10)	.01	(.11)
Young adult (20s) parent	.08	(.09)	.08	(.09)	.08	(.09)	.08	(.09)
Respondent's education level [f]								
Less than high school	.03	(.10)	−.01	(.11)	.01	(.11)	−.00	(.10)
High school	.03	(.07)	.01	(.07)	.02	(.07)	.01	(.07)
Some college	.01	(.07)	.01	(.07)	.01	(.07)	.00	(.06)
Constant	2.03***	(.60)	2.38***	(.54)	2.14***	(.55)	1.89***	(.54)
F	2.08**		2.58***		2.02**		2.40***	
R square	.064		.080		.065		.074	

[a]Cohort 2000 is reference group.
[b]White is reference group.
[c]Bachelor's or more is reference group.
[d]Two, biological married parents is reference group.
[e]Not a parent is reference group.
[f]Bachelor's or more is reference group.
*$p < .05$. **$p < .01$. ***$p < .001$ (for a two-tailed test).

highest with inclusion of all four indicators. Here, we treated each indicator as the sole dependent variable to examine whether a specific indicator was driving the results. Results indicated that the associations between mastery and relationship conflict and depression squared and relationship conflict were stronger for items that reflected conflict about the relationship (e.g., arguing about affection and time spent together) compared to items reflecting conflict about individuals external
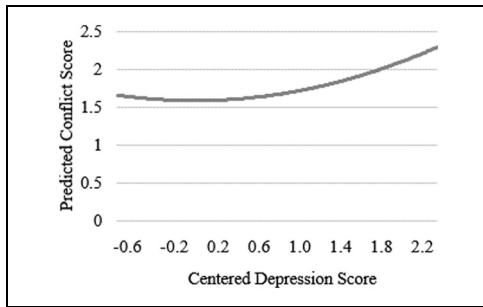
Figure 2. Curvilinear effect of (centered) depression level during adolescence on relationship conflict during young adulthood.

to the relationship (e.g., arguing about dating other people and about friends). Overall, results suggest that mastery and depression are associated with romantic relationship conflict and in particular, relationship-specific areas of conflict.

Supplementary analyses were also conducted in which we controlled for mental health during young adulthood in 2008. These analyses offer further examination of the extent to which adolescent mental health maintains a long-term, developmental impact on later relationship outcomes net of current mental health. Due to skip patterns at later survey years that contributed to high missingness on the mental health variables at later years, these items were only available for the full sample in 2008 when respondents ranged in age from 18 to 24. Given the variation in the timing of when later mental health could be measured, we do not control for mental health in young adulthood in the final analyses. Results were largely similar when controlling for mental health in 2008 in main models, offering additional support for the longitudinal impact of adolescent mental health. For example, when controlling for later mental health, mastery and quadratic depression during mid-adolescence remain significantly associated with conflict in dating relationships during young adulthood. When looking at the average number of dating partners between ages 20 to 24, mastery and self-esteem during mid-adolescence were significant positive predictors of number of dating partners during this period, controlling for later mental health. Impulsivity during mid-adolescence, however, was no longer a statistically significant predictor of the number of dating partners between ages 20 to 24 when controlling for impulsivity in 2008, which itself is a positive predictor.

Despite the contribution of these supplementary analyses to the study's developmental argument, we suggest these supplementary results be interpreted with caution given the limitation in when later mental health could be measured.

Finally, supplementary analyses were conducted on all analytic models while controlling for the initial selection of individuals into dating relationships at Time 2, using both Heckman selection models as well as the Dubin-McFadden selection procedure (Dubin and McFadden 1984; Heckman 1979). Questions about relationship happiness and conflict at Time 2 were only asked of respondents currently in a romantic relationship. If certain levels of mental health were associated with greater likelihood of being in a relationship to begin with (e.g., higher mastery), then the subset of respondents asked about relationship quality were more likely to be those who already had certain levels of mental health. Thus, results from the current study may not be capturing the true extent of the influence of mental health on relationship quality. The Heckman and Dubin-McFadden selection models were two statistical techniques that allowed us to account for the initial selection of individuals into dating relationships.[2] Results were substantively the same across models with and without controlling for selection, suggesting that the link between adolescent mental health and happiness and conflict in young adult dating relationships is robust to issues of selection.

DISCUSSION

The current study highlights the life course linkages between mental health and romantic relationship functioning by utilizing a longitudinal design to examine the association between multiple dimensions of adolescent mental health and later behavior in romantic relationships in young adulthood. The current study extends prior research that has tended to focus only on a single facet of mental health, with limited research on the impact of either mastery or impulsivity for interpersonal relations. Results suggest that both adolescent mastery and impulsivity are highly predictive of later romantic relationship behavior, highlighting the need for additional research on these understudied dimensions of mental health. Furthermore, results suggest that mental health functioning during adolescence can have a long-term impact on the interpersonal relations of youth. Results of

supplementary analyses controlling for mental health at one point in young adulthood (2008) provide further evidence of the long-term impact of adolescent mental health for dating outcomes across the transition to adulthood net of concurrent mental health. Different aspects of mental health may act as strengths or deficits in the development of romantic relationship skills during adolescence in ways that impact the approaches youth take in their dating relationships in young adulthood.

Results indicate that levels of depressive symptomology, self-esteem, impulsivity, and mastery during adolescence are all associated with relationship behavior during young adulthood in different ways. Both adolescent mental health functioning that might be considered "positive" (higher self-esteem and higher mastery) and "negative" (higher impulsivity) were found to be linked with more dating partners in young adulthood. Perhaps individuals who have a higher self-esteem and a greater sense of mastery during adolescence cultivate more interpersonal relationship skills that make them more attractive to potential partners and/or more disposed to seek out new relationships. High levels of impulsivity and self-esteem during mid-adolescence in particular were associated with a higher likelihood of dating several people per year (five or more) during young adulthood, while higher levels of mastery were more strongly linked with any dating involvement during this period. Results also indicate that individuals who had greater mastery during adolescence had less conflict in their dating relationships during young adulthood. Mastery during adolescence may contribute to the development of better conflict negotiation and relationship skills that youth draw on in their future dating relationships, thereby reducing the amount of relationship conflict with partners in young adulthood. There has been limited attention in the literature to the role of mastery for interpersonal relations, and the results of this study highlight that it may be an important resource youth draw on when entering romantic relationships and negotiating conflict within dating partnerships during young adulthood. Future research should continue to explore the mechanisms through which mastery shapes relationship skill development.

While results suggest that higher self-esteem and mastery act as resources for youth within dating relationships, poorer mental health (higher depressive symptomology and greater impulsivity) were also linked with relationship outcomes in young adulthood. The current study finds no evidence that those who are more depressed are less happy in their relationships but finds that those with the highest level of depressive symptoms during adolescence experience significantly more conflict with their dating partners in young adulthood. While results suggest that individuals with more depressive symptoms during mid-adolescence may be more likely to experience some involvement in dating by late adolescence, by young adulthood, these symptoms are no longer associated with dating involvement, and results suggest that for those with particularly high levels of depressive symptoms, their relationships in young adulthood are more conflictual. In general, these findings support prior research that suggests that depressive symptomology may complicate relationship progression (Sandberg-Thoma and Kamp Dush 2014) and contributes to more negative relationship quality (Whisman et al. 2014). Future research should consider the relationship dynamics of individuals with clinical levels of depression as these results suggest that it is individuals with the highest levels of depressive symptomology that experience the most conflict.

Results suggested that in addition to having more dating partners both in late adolescence and young adulthood, individuals with greater impulsivity were also significantly more likely to report higher levels of relationship happiness. While this finding goes against our initial hypotheses, perhaps what we are capturing with our measure of impulsivity is extraversion, which would be expected to be positively associated with more positive evaluations of romantic relationships. Aspects of impulsivity, such as risk-taking, non-planning, and liveliness, are more strongly correlated with extraversion than narrow impulsivity that corresponds more closely with neuroticism and psychoticism (Whiteside and Lynam 2001). Research finds that extraversion has a positive impact on romantic relationships, with extraverted individuals experiencing more fulfilling social interactions and greater levels of happiness (Steel, Schmidt, and Shultz 2008). Therefore, our measurement of impulsivity might be capturing the extroverted and sociable nature of these respondents, which would be associated with greater happiness in their romantic relationships as well as more dating partners.

Finally, results indicated that youth who reported being more impulsive during adolescence were found to have more dating partners across the

transition to adulthood. Impulsivity during mid-adolescence appears to be associated with a higher likelihood of being involved in any dating in late adolescence versus abstention, but by young adulthood, higher rates of adolescent impulsivity is linked with involvement with a high number of dating partners. The desire for excitement and newness among more impulsive individuals might influence them to seek out new partners more frequently, thereby increasing the number of dating partners they have during this period. Furthermore, impulsivity may be an attractive quality in a new partner as impulsive individuals are perceived as more spontaneous, exciting, and open to taking risks. Results suggest that this is especially the case among men as higher impulsivity is associated with significantly more dating partners during young adulthood for men compared to women. The cultural imagery of the risky, spontaneous, "bad boy" as an attractive quality for young men (Bogaert and Fisher 1995; Jensen-Cambell, Graziano, and West 1995) might help to explain this finding that more impulsive men have a greater number of dating partners during this period compared to their less impulsive counterparts and compared to similarly impulsive women.

While the current study provides insight into the longitudinal linkages between adolescent mental health and dating relationships in young adulthood, it is not without limitations. First, the single-item measurement of relationship happiness is a fairly broad measure of relationship quality and does not capture the positive dimensions of relationship interactions. Future research should distinguish between relationship evaluations and relationship processes to examine how mental health impacts positive dimensions of relationship interactions. Second, while our measure of impulsivity is operationalized with items that are often found in previously validated scales, the current study would be improved by using a more standardized measure of impulsivity. Given the dearth of research on impulsivity and relationship outcomes, future research should continue to explore this association using previously validated instruments. Third, while this study does indicate that there are associations between earlier mental health and dating behavior, the R-square statistics indicate our models only help to explain a relatively small proportion of the variation in dating outcomes. Therefore, although mental health appears to be a factor influencing dating behavior,

there may be additional factors that help to explain different relationship outcomes. Fourth, the intensity or stability of the relationships that individuals are reporting about for the number of dating partners they have had was not known. Therefore, while this measure helps to capture the history of individuals' relationship involvement, there is no information on the length or seriousness of these relationships, which limits what inferences can be made about what this measure means in terms of relationship stability. Fifth, our measures of mental health and relationship quality rely on self-report, and therefore there is no information on the partner's view of the relationship. Given that there is evidence that the mental health of one partner impacts the interactions the other partner has within the relationship (MacGregor et al. 2013), future research designs should incorporate information from both partners when looking at how mental health impacts relationship outcomes. Finally, as this study focuses on the impact of adolescent mental health on later relationship behavior, mental health was measured only at the first time point, at ages 14 to 16, and later mental health in young adulthood is not included as a control. Due to skip patterns at later survey years that contributed to high missingness on the mental health variables at later years, these items were only available for the full sample in 2008 when respondents ranged in age from 18 to 24. Given the variation in the timing of when later mental health could be measured, mental health in young adulthood is not controlled for in the current analyses. Supplementary analyses were conducted controlling for mental health in 2008, and results were largely similar. Future research should examine how mental health functioning at different stages in the life course independently contribute to romantic relationship functioning in adulthood.

The results of the current study suggest that mental health functioning during adolescence may be developmentally significant for the progression and accumulation of relationship skills that facilitate the development of healthy romantic relationships during young adulthood. While the current study cannot fully observe the mediating developmental processes that underlie these associations between mental health and dating behavior, results from this study highlight an important area of future research to consider the developmental linkages between prior mental health and later functioning and experiences in romantic relationships. Given the impact that earlier mental

health can have on later romantic relations, practitioners who work with young adults and couples who are unhappy with their romantic relationship situations should consider the multidimensional roots of these problems and incorporate a more holistic approach to treating both individual mental health and interpersonal problems simultaneously. Furthermore, given the long-term consequences that mental health functioning can have for relationship dynamics and experiences, screening and intervention for young people's mental health problems should start early in life and consider the impact of mental health for relationship skill development.

NOTES

1. We conducted a factor analysis for all scales, including relationship happiness, relationship conflict, depression, self-esteem, mastery, and impulsivity. Eigenvalues for each scale suggested that each group of items loaded into one scale to capture the underlying construct.

2. The Heckman selection approach accounts for the fact that the values of the dependent variable are only observed for a subset of the sample and adjusts for any sample selection bias (Heckman, 1979). This two-stage method controls for the initial selection of individuals into a dating relationship at Time 2. In the first stage, a model is estimated predicting the likelihood of being in a relationship, with two selection criteria included in the model in addition to all other predictors: the average number of dating partners experienced over the transition to adulthood (from Time 1 to Time 2) and a categorical variable representing the age when an individual first began dating (1 = 10 years old and younger, 2 = 11-13 years old, 3 = 14-15 years old, 4 = 16-18 years old, 5 = 18 and older [including those who reported never having dated by Time 2]). In the second stage, this predicted probability of being in a dating relationship was included in the models predicting relationship happiness and relationship conflict. The Dubin-McFadden approach accounts for selection processes that occur over multiple alternatives (Bourguignon, Fournier, and Gurgand 2007). At the second wave, individuals in this sample could be in one of three distinct relationship groups: no partner/single (n = 712), dating partner (n = 847), or coresidential marital/cohabitation partner (n = 614). Therefore, the selection process of being in a dating relationship is over multiple alternatives (e.g., single or in a coresidential relationship vs. in a dating relationship). Individuals who were in a coresidential relationship were not asked the same questions about relationship happiness or relationship conflict, and given that these types of

relationships are fundamentally different from dating relationships, they were not included in our sample of individuals in dating relationships. The Dubin-McFadden selection correction essentially uses two inverse Mills ratios, one for the initial probability of being in a dating relationship versus a coresidential relationship and one for the initial probability of being in a dating relationship versus being single. These corrections were calculated in a two-step process by first estimating the predicted probabilities of alternative relationship statuses (e.g., single or coresidential relationship) using the selection criteria mentioned previously as well as all predictors of relationship outcomes, and then these predicted probabilities were used to calculate the inverse Mills ratios (Bourguignon et al. 2007; Dubin and McFadden 1984). These inverse Mills ratios are then included in the models predicting relationship conflict and relationship happiness. In models using multiply imputed data, these inverse Mills ratios were calculated post-imputation.

REFERENCES

Avison, William R., Jennifer Ali, and David Walters. 2007. "Family Structure, Stress, & Psychological Distress: A Demonstration of the Impact of Differential Exposure." *Journal of Health and Social Behavior* 48(3):301-17.

Baker, Levi R., and James K. McNulty. 2013. "When Low Self-esteem Encourages Behaviors That Risk Rejection to Increase Interdependence: The Role of Relational Self-control." *Journal of Personality and Social Psychology* 104(6):995-1018.

Bogaert, Anthony F., and William A. Fisher. 1995. "Predictors of University Men's Number of Sexual Partners." *The Journal of Sex Research* 32(2):119-30.

Bourguignon, Francois, Martin Fournier, and Marc Gurgand. 2007. "Selection Bias Corrections Based on the Multinomial Logit Model: Monte Carlo Comparisons." *Journal of Economic Surveys* 21(1):174-205.

Cheadle, Jacob E., and Bridget J. Goosby. 2012. "The Small-school Friendship Dynamics of Adolescent Depressive Symptoms." *Society and Mental Health* 2(2):99-119.

Cheng, Helen, and Adrian Furnham. 2003. "Personality, Self-esteem, and Demographic Predictions of Happiness and Depression." *Personality and Individual Differences* 34(6):921-42.

Cicchetti, Dante, and Fred A. Rogosch. 2002. "A Developmental Psychopathology Perspective on Adolescence." *Journal of Consulting and Clinical Psychology* 70(1):6-20.

Cicchetti, Dante, Fred A. Rogosch, and Sheree L. Toth. 1994. "A   Developmental   Psychopathology

Perspective on Depression in Children and Adolescents." Pp. 123-41 in *Handbook of Depression in Children and Adolescents*, edited by W. M. Reynolds and H. E. Johnston. New York: Plenum Press.

Cohen, Jacob, Patricia Cohen, Stephen G. West, and Leona S. Aiken. 2003. *Applied Multiple Regression/Correlation Analysis for the Behavioral Sciences*. 3rd ed. Mahwah, NJ: Erlbaum.

Collins, W. Andrews, and L. Alan Sroufe. 1999. "Capacity for Intimate Relationships: A Developmental Perspective." Pp. 125-47 in *The Development of Romantic Relationships in Adolescence*, edited by W. Furman, B. B. Brown, and C. Feiring. Cambridge: Cambridge University Press.

Collins, W. Andrew, and Manfred van Dulmen. 2006. "The Course of True Love(s) . . . ' Origins and Pathways in the Development of Romantic Relationships." Pp. 63-86 in *Romance and Sex in Adolescence and Emerging Adulthood: Risks and Opportunities*, edited by A. C. Crouter and A. Booth. Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.

Collins, W. Andrew, Deborah P. Welsh, and Wyndol Furman. 2009. "Adolescent Romantic Relationships." *Annual Review of Psychology* 60:631-52.

Coyne, James C. 1976. "Toward an Interactional Description of Depression." *Psychiatry* 39(1):28-40.

Crosnoe, Robert, and Monica Kirkpatrick Johnson. 2011. "Research on Adolescence in the Twenty-first Century." *Annual Review of Sociology* 37:439-60.

Crosnoe, Robert, Chandra Muller, and Kenneth Frank. 2004. "Peer Context and Consequences of Adolescent Drinking." *Social Problems* 51(2):288-304.

Davies, Patric T., and Michael Windle. 2000. "Middle Adolescents' Dating Pathways and Psychosocial Adjustment." *Merrill-Palmer Quarterly* 46(1):90-118.

Davila, Joanne. 2001. "Paths to Unhappiness: The Overlapping Courses of Depression and Romantic Dysfunction." Pp. 71-87 in *Marital and Family Processes in Depression*, edited by S. R. H. Beach. Washington, DC: American Psychological Association.

Davila, Joanne, Catherine B. Stroud, Lisa R. Starr, Melissa Ramsay Miller, Athena Yoneda, and Rachel Hershenberg. 2009. "Romantic and Sexual Activities, Parent-adolescent Stress, And Depressive Symptoms among Early Adolescent Girls." *Journal of Adolescence* 32:909-24.

de Ridder, Denise T. D., Gerty Lensvelt-Mulders, Catrin Finkenauer, F. Marijn Stok, and Roy F. Baumeister. 2012. "Taking Stock of Self-control: A Meta-analysis of How Trait Self-control Relates to a Wide Range of Behaviors." *Personality and Social Psychology Review* 16(1):76-99.

Dubin, Jeffery A., and Daniel L. McFadden. 1984. "An Econometric Analysis of Residential Electric Appliance Holdings and Consumption." *Econometrica* 52(2):345-62.

Elliott, Marta. 2013. "Gender Differences in the Determinants of Distress, Alcohol Misuse, and Related Psychiatric Disorders." *Society and Mental Health* 3(2):96-113.

Fincham, Frank D., and Ron Rogge. 2010. "Understanding Relationship Quality: Theoretical Challenges and New Tools for Assessment." *Journal of Family Theory & Review* 2:227-42.

Giordano, Peggy C., Wendy D. Manning, and Monica A. Longmore. 2006. "Adolescent Romantic Relationships: An Emerging Portrait of Their Nature and Developmental Significance." Pp. 127-50 in *Romance and Sex in Adolescence and Emerging Adulthood*, edited by A. C. Crouter and A. Booth. Mahwah, NJ: Lawrence Erlbaum Associates.

Grasmick, Harold G., Charles R. Tittle, Robert J. Bursik, Jr., and Bruce J. Arneklev. 1993. "Testing the Core Empirical Implications of Gottfredson and Hirschi's General Theory of Crime." *Journal of Research on Crime and Delinquency* 30(1):5-29.

Hames, Jennifer L., Christopher R. Hagan, and Thomas E. Joiner. 2013. "Interpersonal Processes in Depression." *Annual Review of Clinical Psychology* 9:355-77.

Hammen, Constance. 1991. "Generation of Stress in the Course of Unipolar Depression." *Journal of Abnormal Psychology* 100(4):555-61.

Heckman, James. 1979. "Sample Selection Bias as a Specification Error." *Econometrica: Journal of the Econometric Society* 47:153-161.

Hitlin, Steven, Lance D. Erickson, and J. Scott Brown. 2015. "Agency and Mental Health: A Transition to Adulthood Paradox." *Society and Mental Health* 5:163-81.

Jensen-Campbell, Lauri A., William G. Graziano, and Stephen G. West. 1995. "Dominance, Prosocial Orientation, and Female Preferences: Do Nice Guys Really Finish Last?" *Journal of Personality and Social Psychology* 68(3):427-40.

Johnson, Matthew D., and Nancy L. Galambos. 2014. "Paths to Intimate Relationship Quality from Parent-adolescent Relations and Mental Health." *Journal of Marriage and Family* 76:145-60.

Kimmel, Daniel M. 2014. "Effects of Adolescent Violent Victimization on Adult Depression: Testing Heterogeneity for Men and Women." *Society and Mental Health* 4(3):179-96.

Kling, Kristen, Janet Shibley Hyde, Carolin J. Showers, and Brenda N. Buswell. 1999. "Gender Differences in Self-esteem: A Meta-analysis." *Psychological Bulletin* 125(4):470-500.

Kreager, Derek A., and Jeremy Staff. 2009. "The Sexual Double Standard and Adolescent Peer Acceptance." *Social Psychology Quarterly* 72(2):143-64.

MacGregor, Jennifer C. D., Grainne M. Fitzsimons, and John G. Holmes. 2013. "Perceiving Low Self-esteem in Close Others Impedes Capitalization and

Undermines the Relationship." *Personal Relationships* 20:690-705.

Madsen, Stephanie D., and W. Andrew Collins. 2011. "The Salience of Adolescent Romantic Experiences for Romantic Relationship Qualities in Young Adulthood." *Journal of Research on Adolescence* 21(4): 789-801.

Manning, Wendy D., Peggy C. Giordano, and Monica A. Longmore. 2008. "Adolescent Dating Relationships: Implications for Understanding Adult Intimate Unions." Bowling Green State University: The Center for Family and Demographic Research. Working Paper Series 2008-08.

Masarik, April S., Rand D. Conger, Monica J. Martin, M. Brent Donnellan, Katherine E. Masyn, and Frederick O. Lorenz. 2013. "Romantic Relationships in Early Adulthood: Influences of Family, Personality, and Relationship Cognitions." *Personal Relationships* 20:356-73.

Meier, Ann M. 2007. "Adolescent First Sex and Subsequent Mental Health." *American Journal of Sociology* 112(6):1811-47.

Meier, Ann, and Gina Allen. 2009. "Romantic Relationships from Adolescence to Young Adulthood: Evidence from the National Longitudinal Study of Adolescent Health." *The Sociological Quarterly* 50(2): 308-35.

Murray, Sandra L., Gina M. Bellavia, Paul Rose, and Dale Wesley Griffin. 2003. "Once Hurt, Twice Hurtful: How Perceived Regard Regulates Daily Marital Interactions." *Journal of Personality and Social Psychology* 84(1):126-47.

Murray, Sandra L., Jaye L. Derrick, Sadie Leder, and John G. Holmes. 2008. "Balancing Connectedness and Self-protection Goals in Close Relationships: A Levels-of-processing Perspective on Risk Regulation." *Journal of Personality and Social Psychology* 94:429-59.

Nolen-Hoeksema, Susan, and Joan S. Girgus. 1994. "The Emergence of Gender Differences in Depression during Adolescence." *Psychological Bulletin* 115(3): 424-43.

Pearlin, Leonard I., Morton A. Lieberman, Elizabeth G. Menaghan, and Joseph T. Mullan. 1981. "The Stress Process." *Journal of Health and Social Behavior* 22(4):337-56.

Radloff, Lenore S. 1977. "The CES-D Scale: A Self-report Depression Scale for Research in the General Population." *Applied Psychological Measurement* 1(3):385-401.

Robins, Richard W., Avshalom Caspi, and Terrie E. Moffitt. 2002. "It's Not Just Who You're with, It's Who You Are: Personality and Relationship Experiences across Multiple Relationships." *Journal of Personality* 70(6):925-64.

Robinson, Kelley J., and Jessica J. Cameron. 2012. "Self-esteem Is a Shared Relationship Resource: Additive Effects of Dating Partners' Self-esteem

Levels Predict Relationship Quality." *Journal of Research in Personality* 46(2):227-30.

Rosenberg, Morris. 1965. *Society and the Adolescent Self-image*. Princeton: Princeton University Press.

Royston, Patrick. 2009. ''Multiple Imputation of Missing Values: Further Update of ICE, with an Emphasis on Categorical Variables.'' *Stata Journal* 9:466-77.

Sakalli-Ugurlu, Nuray. 2003. "How Do Romantic Relationship Satisfaction, Gender Stereotypes, and Gender Relate to Future Time Orientation in Romantic Relationships?" *The Journal of Psychology: Interdisciplinary and Applied* 137(3):294-303.

Sandberg-Thoma, Sara E., and Claire M. Kamp Dush. 2014. "Indicators of Adolescent Depression and Relationship Progression in Emerging Adulthood." *Journal of Marriage and Family* 76(1):191-206.

Schaffhuser, Kathrin, Mathias Allemand, and Mike Martin. 2014. "Personality Traits and Relationship Satisfaction in Intimate Couples: Three Perspectives on Personality." *European Journal of Personality* 28:120-33.

Sciangula, Antonella, and Marian M. Morry. 2009. "Self-esteem and Perceived Regard: How I See Myself Affects My Relationship Satisfaction." *The Journal of Social Psychology* 149(2):143-58.

Stackert, Richelle A., and Krisanne Bursik. 2003. "Why Am I Unsatisfied? Adult Attachment Style, Gendered Irrational Relationship Beliefs, and Young Adult Romantic Relationship Satisfaction." *Personality and Individual Differences* 34(8):1419-29.

Stanford, Matthew S., Charles W. Mathias, Donald M. Dougherty, Sarah L. Lake, Nathaniel E. Anderson, and Jim H. Patton. 2009. "Fifty Years of the Barratt Impulsiveness Scale: An Update and Review." *Personality and Individual Differences* 47(5):385-95.

Steel, Piers, Joseph Schmidt, and Jonas Shultz. 2008. "Refining the Relationship between Personality and Subjective Well-being." *Psychological Bulletin* 134(1):138-61.

Steinberg, Laurence. 2014. *Adolescence*. 10th ed. New York, NY: McGraw-Hill.

Surjadi, Florensia F., Frederick O. Lorenz, K. A. S. Wickrama, and Rand D. Conger. 2011. "Parental Support, Partner Support, and the Trajectories of Mastery from Adolescence to Early Adulthood." *Journal of Adolescence* 34(4):619-28.

Tangney, June P., Roy F. Baumeister, and Angie Luzio Boone. 2004. "High Self-control Predicts Good Adjustment, Less Pathology, Better Grades, and Interpersonal Success." *Journal of Personality* 72(2):271-322.

Tashiro, Ty, and Patricia Frazier. 2003. "'I'll Never Be in a Relationship Like That Again': Personal Growth Following Romantic Relationship Breakups." *Personal Relationships* 10:113-28.

Taylor, Shelley E., and Annette L. Stanton. 2007. "Coping Resources, Coping Processes, and Mental Health." *Annual Review of Clinical Psychology* 3: 377-401.

Vujeva, Hana M., and Wyndol Furman. 2011. "Depressive Symptoms and Romantic Relationship Qualities from Adolescence through Emerging Adulthood: A Longitudinal Examination of Influences." *Journal of Clinical Child & Adolescent Psychology* 40(1):123-35.

Whisman, Mark A., Daniel P. Johnson, Angela Li, and Briana L. Robustelli. 2014. "Intimate Relationship Involvement, Intimate Relationship Quality, and Psychiatric Disorders in Adolescents." *Journal of Family Psychology* 28(6):908-14.

Whiteside, Stephen P., and Donald R. Lynam. 2001. "The Five Factor Model and Impulsivity: Using a Structural Model of Personality to Understand Impulsivity." *Personality and Individual Differences* 30:669-689.

Wickrama, K. A. S., Thulitha Wickrama, and Ryan Lott. 2009. "Heterogeneity in Youth Depressive Symptom Trajectories: Social Stratification and Implications for Young Adult Physical Health." *Journal of Adolescent Health* 45:335-43.