



# Long-Term Risks and Possible Benefits Associated with Late Adolescent Romantic Relationship Quality

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Received: 12 May 2017 / Accepted: 10 January 2018 / Published online: 5 February 2018  
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## Abstract

Adolescent romantic relationships have the potential to affect psychological functioning well into adulthood. This study assessed adolescent romantic relationship qualities as long-term predictors of psychological functioning utilizing a longitudinal multi-method, multi-informant study of 80 participants (59% female; 54% Caucasian, 35% African American, 11% mixed or other race) assessed at age 17 along with their romantic partners and at ages 25–27. Controlling for gender, family income, and baseline mental health, partner-reported hostile conflict at age 17 predicted relative increases in internalizing behaviors from age 17 to 27. In contrast, observed teen support with their partner during a help-seeking task at age 17 predicted relative decreases in externalizing behaviors over time. The results are interpreted as suggesting qualities that may help determine whether adolescent romances have positive vs. negative long-term psychological health implications.

**Keywords** Romantic relationships · Dating · Adolescence · Mental health · Conflict · Support

## Introduction

Late adolescent romantic relationships have potentially long-lasting implications both for future romantic relationships and well-being. Teen dating has been linked to both beneficial outcomes and problematic correlates. Developmentally, young adults who report a history of dating experience beginning in adolescence report better adjustment and mental health in young adulthood (Collibee and Furman 2015; Raley et al. 2007; Seiffge-Krenke 2003). Alternatively, those teens who abstain from dating into young adulthood tend to report lower self-worth and greater mental distress (Lehnart et al. 2010; Rauer et al. 2013). Conversely, dating in adolescence has been linked to the onset of depression and anxiety (Joyner and Udry 2000; Zimmer-Gembeck et al. 2001), increased substance use (Davies and Windle 2000; Thomas and Hsiu 1993), and poor academic performance (Zimmer-Gembeck et al. 2001). Yet, little is known about the *qualities* of early relationships

that lead to greater well-being, as opposed to poorer adjustment, during the transition to adulthood. This paper examines the hypothesis that it is not the *presence* of romantic relationships in adolescence that explains future positive or negative outcomes so much as it is the *quality* of those relationships.

The growing salience of intimate relationships during the transition to adulthood highlights the need to address markers of earlier healthy romantic relationships in adolescence that may contribute to future well-being (Connolly et al. 2014; Roisman et al. 2004). Adolescents may benefit from high quality romantic relationships because these provide a sense of identity and autonomy to the developing teen. Alternatively, adolescents in unhealthy, conflict-ridden relationships may develop problematic relationship schema or engage in unhealthy romantic patterns that worsen psychosocial functioning over time (Connolly and Konarski 1994). Although romantic experiences first come online earlier in adolescence, it is by late adolescence, when these experiences have gained significant intensity and duration, that teens may be most susceptible to their effects (Connolly et al. 2014; Montgomery 2005; Seiffge-Krenke 2003). Teens' expectations of relationships are becoming established during this period, and negative experiences at this stage appear likely to carry forward into future relationships and contribute to worsening psychological

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functioning over time. However, without the skills, strategies, or points of comparison useful in managing romantic experiences, teens may suffer increased mental distress due to these deficits when faced with challenging dating situations. The consequences of this lack of romantic knowledge or these negative experiences may be especially compounded by the increased impact of romantic relationships on well-being throughout late adolescence and early adulthood.

### Developmental Theory of Romantic Relationships

Initiating and maintaining romantic relationships emerge as prime developmental tasks during late adolescence, but the roots of these experiences begin even earlier. Romantic involvement increases throughout adolescence with 36% of 13-year olds and 70% of 18-year olds reporting a romantic relationship within the past 18 months (Carver et al. 2003; Smetana et al. 2006). Across adolescence, romantic relationships evolve from engaging in mixed-gender peer groups to group dates in early adolescence (age 12–14) and from casual dating to an exclusive, steady involvement with one partner during mid (age 15–16) to late (age 17–19) adolescence (Connolly and Goldberg 1999; Feiring 1999). The importance teens place on their romantic lives increases throughout adolescence as romantic relationships become more intimate and salient to self-esteem and identity (Buhrmester 1996; Furman and Wehner 1994; Montgomery 2005). Late adolescence in particular is a period of intense romantic involvement with the potential to impact mental health trajectories as these relationships take on increasing relevance to identity and well-being.

Although romantic experiences in *early* adolescence are more strongly linked to problematic psychosocial functioning and to risky behaviors such as increased delinquency, alcohol use, and sexual activity, these links decrease in magnitude for romantic experiences that occur in late adolescence (Davies and Windle 2000; Neemann et al. 1995). Indeed, those who date early and have multiple partners have poorer relationship quality over time (Collins 2003). This suggests that perhaps by late adolescence, teens have developed better coping and social skills useful in successfully navigating intimate relationships that early adolescents lack. Adolescents who date regularly during mid and late adolescence have a stronger self-image compared to those who abstain from dating or cut back on dating (Connolly and Johnson 1993; Seiffge-Krenke 2003). Delayed transition to dating in early adulthood has also been linked to problematic outcomes such as low self-esteem, poor mental health, and lower romantic competence (Lehnart et al. 2010; Rauer et al. 2013). Thus, romantic exploration is often considered an emerging developmental task in late adolescence and early adulthood that becomes

increasingly tied to well-being, reflecting this critical window of romantic involvement (Roisman et al. 2004; Schulenberg et al. 2004). A developmental approach towards understanding romantic relationships (Collins 2003) suggests a closer examination of the impact of engaging in romantic relationships during late adolescence on the development of mental health functioning.

### Romantic Relationships and Mental Health

Teen dating has been linked to a range of negative outcomes, from discrete problems (e.g., pregnancy, sexual and physical abuse) (Zimmer-Gembeck et al. 2004) to broader developmental concerns (e.g., poor emotional health, poor academic performance, and substance use) (Davies and Windle 2000; Furman and Collins 2008; Thomas and Hsiu 1993). Dating especially in early adolescence is also associated with depressive, anxiety, and eating disorder symptoms (Joyner and Udry 2000; La Greca et al. 2008; Starr et al. 2012), and externalizing behaviors (Zimmer-Gembeck et al. 2001). Others have pointed to first dissolution rather than first relationship involvement as accounting for increased depression for dating teens (Davila et al. 2004; Monroe et al. 1999). Yet, many of these negative outcomes are assessed concurrently and simply compare those in a relationship to those who are not.

Given the theoretical argument that initiating and maintaining romantic relationships during late adolescence is healthy, more recent research has found benefits of engaging in this normative developmental task in late adolescence. High quality adolescent romantic relationships have been linked to a range of psychosocial benefits including general competence, self-worth, self-esteem, and social support (Masten et al. 1995), positive commitment in early adult relationships and higher quality early adult relationships (Raley et al. 2007; Seiffge-Krenke 2003), and fewer internalizing and externalizing behaviors (Collibee and Furman 2015; Van Dulmen et al. 2008). Relationship qualities such as emotional security, companionship, conflict, and overall satisfaction emerge as predictors of well-being and happiness in adult romantic relationships (Demir 2008, 2010; House et al. 1988). However, whether the same positive qualities within adult romantic relationships are similarly predictive of mental health if experienced in *adolescent* romantic relationships has not been directly assessed.

The findings of negative correlates of teen dating, in the midst of contradictory evidence that engaging in dating during late adolescence is healthy, suggest a need for closer inspection of what occurs *within* dating relationships that might account for positive vs. problematic outcomes. From a developmental perspective, it may be that positive experiences in romantic relationships (i.e., high support,

healthy communication and conflict management, and intimacy) when relationships are just beginning to come online benefit individuals by offering healthy working models of intimate relationships useful as intimacy becomes a salient developmental task during the transition to adulthood. Indeed, adolescents' relationship experience (both presence *and* quality) contributes to their romantic self-concept (Connolly and Konarski 1994; Harter 1999), which becomes a significant component of general competence by late adolescence (Masten et al. 1995). Thus, high quality romantic relationships during adolescence may act counter to the pattern of negative outcomes associated with teen dating. However, there is little empirical evidence available to assess long-term outcomes for teen relationships that are of high quality and little attention towards defining high quality romantic relationships during adolescence. Without such research, teens and their parents may be left with an erroneous impression that all teen dating relationships are problematic.

### **Romantic Relationship Quality: Conflict, Communication, and Support**

Beyond romantic initiation age, research has begun considering specific relationship qualities of teen couples that are linked to future psychosocial functioning. The most common characteristic studied within teen dating is conflict. Adolescents report more conflict with their romantic partners than with their friends or parents (Furman and Shomaker 2008) and up to one-half of adolescents report psychological aggression in romantic relationships (Halpern et al. 2004; Jouriles et al. 2005). Dating aggression is linked in turn to adolescent distress (Jouriles et al. 2009). La Greca and Harrison (2005) found that negatively charged romantic interactions, not simply the presence of a romantic relationship, predict depression for adolescents. This suggests that perhaps it is not involvement in romantic relationships in adolescence that is linked to problematic outcomes, but rather specific negative relationship qualities. Further, these results imply that hostile conflict might predict long-term, not just short-term, negative outcomes for adolescents, but this idea has not yet been directly tested.

Problematic conflict management appears to be one such quality with potential to explain the effects of romantic relationship involvement. Yet, it may not be just hostile or conflictual styles that are important. Adolescents who concede more to their partner during a conflict appear more likely to have poorer communication in relationships and higher levels of depression (Harper and Welsh 2007). Self-silencing behavior in romantic conflicts (i.e., concealing anger or feelings from a partner during conflict to avoid more conflict) also appears among rejection-sensitive adolescents who in turn report greater depression (Harper et al.

2006). These findings suggest that adolescents who are unable to communicate effectively and efficiently with their partner during a disagreement are more likely to experience negative consequences associated with conflict, but this has yet to be empirically-assessed.

Romantic partner support may be especially influential on the development of mental health symptoms, as adolescents are increasingly turning to romantic partners, instead of parents or friends, for support (Furman and Shomaker 2008). Peer and parental support has been strongly tied to mental health and well-being during adolescence (Helsen et al. 2000; Steinberg 2001; Young et al. 2005). Yet, whether support from a romantic partner during adolescence carries similar psychological benefits has been vastly understudied. One possible exception is a recent study that links receiving support from a romantic partner to increased relationship quality (Poulsen 2016). As romantic partners gain in importance to teens' sense of identity throughout adolescence and into adulthood, whether receiving high quality support from a partner in these early relationships impacts mental health symptoms warrants closer inspection. Overall, there is little evidence evaluating whether conflict-ridden relationships, conflict management techniques, and support within adolescent romantic relationships have long-lasting links to mental health, even though these qualities are likely to contribute to teens' working models of intimate relationships.

### **Gender and Romantic Relationships**

The effects of relationship qualities may well also differ for male vs. female adolescents. Females tend to experience stronger benefits from close relationships as compared to males (Cross and Madson 1997; Saphire-Bernstein and Taylor 2013). Yet, males experience greater distress following stressful events within romantic relationships (i.e., divorce) as compared to females (Colburn et al. 1992; Kitson 1992). Adolescent boys also tend to view their romantic relationships as less intimate compared to girls, which is consistent with findings of females' greater awareness, importance, and value of close relationships (Connolly and Johnson 1996; Haugen et al. 2008). In addition, adolescent females appear influenced by their partners to engage in deviant behavior more so than teen males, providing further evidence of an attunement difference across genders (Haynie et al. 2005). Because gender differences may exist in the experience of romantic relationships and subsequent psychosocial functioning, attention to gender in exploring the role of early romantic experiences as a catalyst for change in mental health is warranted. Thus, whether and to what extent males and females may experience dating differently is important to assess in romantic relationship analyses.

## Current Study

This study utilized longitudinal, observational, multi-reporter data within a diverse community sample of male and female adolescents to explore the overarching hypothesis that it is the quality, not presence, of romantic relationships in adolescence that accounts for the development of mental distress over time. Prior developmental theories and findings indicate that adolescent romantic relationships are central to psychosocial development, yet the qualities within these relationships that are key markers of whether romantic experiences have positive or negative implications for mental health is vastly understudied.

Specifically, we hypothesize that the escalation of psychological symptoms for dating teens may be linked primarily to the hostile conflict within relationships rather than simply to the presence of a romantic relationship (Hypothesis 1). High conflict teen relationships may predict the development of unhealthy coping skills and relationship schemas, which are detrimental to mental health over time. We also hypothesize that in contrast, the presence of highly supportive romantic relationships in adolescence will predict relative decreases in problematic behaviors and potentially buffer against the escalation of depressive and anxious symptoms through the transition to adulthood (Hypothesis 2). Given evidence that highly supportive close relationships with others can lead to improved mental health and of the increasing support adolescents seek from their romantic partners, we believe that early supportive romantic experiences can benefit mental health over time. Teens with highly supportive partners may learn positive communication and coping strategies, develop healthy relationship schemas, and engage in adaptive conflict management styles that decrease mental distress.

## Method

### Participants

Data were drawn from a larger longitudinal study of adolescent social development. For the purposes of this analysis, we chose to focus on two time points of data collection: Time 1 is age 17 which is the earliest wave of data collection for romantic relationship assessments. Time 2 we define as the aggregate of ages 25, 26, and 27 which are the latest three waves of data collection. The final sample of 80 participants (33 males and 47 females) was drawn from an initial sample of 184 individuals. This subset of 80 participants only includes those participants who had a romantic partner who also participated in the study at age 17. The target participant sample of 80 participants was diverse in terms of race, ethnicity, and socioeconomic

status: 54% identified as Caucasian, 35% as African American, 8% as mixed race/ethnicity and 3% as other. Adolescents' parents reported a median family income around \$50,000. In addition, 58% of the teens' mothers were married, 14% single, 11% divorced, and 17% reported other (separated, widowed, or living with partner). The subset of 80 participants who endorsed being in a romantic relationship and had a partner willing to participate were similar demographically to the sample at large (all 184 participants). The full sample's demographics are as follows: 58% identified as Caucasian, 29% as African American, 8% as mixed race/ethnicity and 5% as other. Adolescents' parents reported a similar median family income around \$50,000. In addition, 63% of the teens' mothers were married, 14.4% divorced, 9.8% single, and 13.2% reported other (separated, widowed, or living with partner). In adulthood at age 25, about 50% of the participants obtained a high school diploma or less: 6% had some high school education, 12% obtained a GED, and 31% received a high school diploma with no significant differences between those in a relationship at age 17 compared to the overall sample.

At age 17 (Age:  $M = 17.29$ ;  $SD = .93$ ), participants completed questionnaires assessing relationships and mental health. If adolescents were in a romantic relationship lasting two months or longer at any point during ages 17–19, they were asked to provide contact information for their partner. Participants with a romantic partner who also participated during this data collection period were on average age 17 (Age:  $M = 17.38$ ). A total of 80 participants endorsed being in a romantic relationship (all heterosexual) of at least two months and provided contact information for their partner who agreed to participate in the questionnaire-based part of the study. Informed assent for the adolescents along with informed consent from the parents were obtained before each interview session until age 18 at which point participants provided informed consent. Informed assent and consent for the romantic partners were obtained as age appropriate as well.

Participants and romantic partners were mailed packets of questionnaires with return envelopes so they could complete the measures on their own time and then return them to the lab. In addition, a subset of 61 adolescents along with their romantic partners participated in a 6-minute video-recorded supportive behavior task in which they asked their partner for help with a "problem they were having that they could use some support or advice about." Romantic partners were slightly older than the target participants on average (Age:  $M = 18.55$ ,  $SD = 2.68$ ) and relationships were approximately 15 months in duration ( $M = 15.17$ ,  $SD = 14.02$ ). Follow-up data were obtained for 76 of the initial 80 participants at age 25 (Age:  $M = 25.35$ ,  $SD = 0.91$ ), 26 (Age:  $M = 26.64$ ,  $SD = 1.01$ ), and 27 (Age:  $M = 27.51$ ,  $SD = 0.94$ ).

## Attrition Analyses

Attrition analyses indicated that those participants who did not complete all assessments across time points (i.e., ages 17 and 25–27) were more likely to be male ( $p < 0.01$ ). No other differences in our variables of interest were found. We also completed attrition analyses for participants who participated in the observational task with a romantic partner and those who completed surveys only and did not participate in the task. There were no significant differences in measures of interest. Analyses comparing participants who had a romantic partner at age 17 (the subset of 80 participants used in the following analyses) compared to those who were single or had a partner who did not participate revealed no significant differences in measures of interest or demographics.

Of the 80 individuals who participated at age 17 with a romantic partner, 61 individuals had a partner who participated in the observed supportive behavior task. Data were available at ages 25–27 for 76 participants for self-reported psychological health outcomes. In order to best address any potential biases due to missing data within waves or attrition in longitudinal analyses, Full Information Maximum Likelihood (FIML) methods were utilized for all analyses, including all variables that were linked to future missing data (i.e., where data were not missing completely at random). These procedures have been found to provide the least biased estimates when all available data are used for longitudinal analyses (Arbuckle 1996). Thus, all analyses reflect the entire sample available; specifically, this means the full sample of 80 adolescents was used for all analyses. Using the full sample provides the best possible estimates of variances and covariances in measures of interest, while also reducing the likelihood of bias due to missing data. No data are estimated or imputed in this approach. Alternative longitudinal analyses using only those adolescents without missing data yielded results that were substantially identical to those reported below.

## Procedure

At age 17, participants completed questionnaires to assess their individual health and well-being including measures for both internalizing and externalizing symptoms. These measures are included as covariates in all analyses. If participants endorsed a romantic relationship of two months or longer and their partner agreed to participate, both completed questionnaires at one time point between the ages of 17 and 19. The data collected from romantic partners' questionnaires at ages 17–19 serve as the baseline assessment for relationship qualities. In addition, couples were invited to complete an in-person laboratory visit at one

point between ages 17 and 19. All interviews took place in private offices in a university academic building.

At ages 25 to 27, participants completed questionnaires annually to assess their individual mental health. In order to capture overall adult mental health, we averaged scores across these three possible waves of data collection to create an overall adulthood measure for internalizing and externalizing symptoms.

## Measures

### Dependent variables

**Internalizing symptoms (ages 25–27):** Adults at ages 25, 26, and 27 completed the Adult Self Report (Achenbach and Rescorla 2003), which is a 126-item measure with internalizing, externalizing, substance use, attention problems, and thought problems subscales. Items were scored on a three-point Likert scale where 0 = not true, 1 = somewhat or sometimes true, and 2 = very true or often true. The internalizing subscale score on the Adult Self Report is composed of 32 items assessing anxiety, depression, withdrawal, and somatic complaints. Higher scores indicate greater internalizing symptoms. The development of the Adult Self Report items are validated with mental health professional raters using DSM-oriented criteria (Achenbach et al. 2003a). The internalizing subscale is composed of items that thus assess depressive, anxiety, and somatic problems. The average internalizing subscale score across ages 25–27 provides an aggregate measure of internalizing behaviors in adulthood. The internal consistency for this aggregated internalizing symptoms measure is considered good (Cronbach's  $\alpha = .91$ ).

**Externalizing symptoms (ages 25–27):** The externalizing subscale score of the Adult Self Report is composed of 35 items assessing aggressive, rule-breaking, and intrusive behaviors. The externalizing subscale items have also been validated with mental health professional raters using DSM-oriented criteria (Achenbach et al. 2003a). For the purposes of our study, we calculated the mean externalizing score across ages 25–27 to represent externalizing behaviors in adulthood, which provided good internal consistency (Cronbach's  $\alpha = 0.87$ ).

### Independent variables

**Partner-reported hostile conflict (age 17):** Hostile conflict within romantic relationships was assessed via romantic partner report using an adapted version of the Conflict in Relationships scale at age 17 (Wolfe et al. 1994). The Conflict in Relationships scale is a well-validated 80-item measure created to identify emotionally, physically, and sexually abusive behaviors of both the respondent and the

respondent's partner. All items are rated on a scale where 1 = never, 2 = rarely, 3 = sometimes, and 4 = often, such that higher scores indicate more conflict. Romantic partners completed an adapted 70-item version (i.e., excluding items about children as this was not applicable to our sample) about their current romantic relationship when the participants were age 17. Respondents report on their own behaviors towards their partner and their partner's behaviors towards them. There is a total overall negativity subscale and positivity subscale on the Conflict in Relationships scale. For the purposes of this study, the total negativity subscale is used to assess hostile conflict in the current romantic relationship. The negativity subscale is composed of the average of the partner's reports of their own and their partner's abusive and harmful behaviors (54 items total). Behaviors assessed include blame, coercion, and physical and sexual abuse. The Conflict in Relationships scale has been cross-validated across high school grades and gender (Wolfe et al. 2001). The items of the negativity subscale in particular have shown acceptable partner agreement, test-retest reliability, and correlation between observer ratings and measure scores (Wolfe et al. 1994; Wolfe et al. 2001). Internal consistency of the total negativity subscale is considered very good (Cronbach's  $\alpha = .94$ ).

Observed support (age 17): Adolescents and their romantic partners participated in a supportive behavior task in which they were asked to discuss a problem they were having and wanted advice about. The task was videotaped and lasted 6 minutes total. The videotapes were then coded using the Supportive Behavior Coding System (Allen et al. 2001) based on several other similar systems (Crowell et al. 1998; Haynes and Fainsilber Katz 1998; Julien et al. 1997). Observed support was reliably coded as the extent to which the adolescents appeared to be connected and engaged with their romantic partner during the interaction based on both quantity and quality of signs of connection. Low levels of support are indicated by little eye contact, turning away from the partner, ignoring or not responding to the partner, looking bored, or interrupting the partner. High levels of support include a sincere effort to connect with the partner, finishing sentences, evidence of understanding the partner's statements, responding with genuine interest and enthusiasm, asking open-ended questions to draw the support seeker out, following up on what the partner says, and using non-verbal cues to indicate understanding such as nodding, facing each other, and eye contact. An average of the scores provided by two trained raters blind to the rest of the data in the study comprised the supportive score for each interaction. Supportive behavior was coded reliably across raters with an intraclass correlation coefficient (ICC) value of .66 which is considered good (Cicchetti and Sparrow 1981).

Internalizing symptoms (age 17): Adolescents at age 17 completed the Child Depression Inventory (Kovacs and

Beck 1977) which is a 27-item questionnaire used to assess depression severity. All items are rated on a 4-point scale ranging from 0–3 with higher scores indicating greater depression severity. The Child Depression Inventory has acceptable item-total score product-moment correlations, internal-reliability (split-half reliabilities, Pearson correlations of each item to the total score), test-retest reliability, and discriminant validity (Helsel and Matson 1984; Kovacs and Beck 1977; Smucker et al. 1986)

Adolescents also completed the Beck Anxiety Inventory at age 17 (Beck et al. 1988), which is a 21-item self-report questionnaire of anxiety symptoms and is summed to provide a total anxiety score. The Beck Anxiety Inventory has shown high internal consistency, convergent and discriminant validity, and test-retest reliability and has strong support for use in an adolescent outpatient sample (Beck et al. 1988; Fydrich et al. 1992; Steer et al. 1995).

A standardized average of the Child Depression Inventory and the Beck Anxiety Inventory serves as the initial baseline internalizing symptoms score for adolescents at age 17. Internal consistency for the adolescent internalizing aggregate score is considered good (Cronbach's  $\alpha = .68$ ).

Externalizing symptoms (age 17): Adolescents at age 17 completed the Youth Self Report (Achenbach and Edelbrock 1987), which includes 9 subscales with 112 total items. Items were scored on a three-point Likert scale where 0 = not true, 1 = somewhat or sometimes true, and 2 = very true or often true such that higher scores indicate more externalizing behaviors. Items from the aggression (12 items) and delinquency (6 items) scales were totaled to form an externalizing sum score. This self-reported externalizing sum score serves as the initial baseline for externalizing symptoms at age 17. Internal consistency for this adolescent externalizing measure is considered good (Cronbach's  $\alpha = .79$ ). Items on the Youth Self Report have been cross-validated with DSM-criteria and show moderate reliabilities across cultures and ages (Achenbach et al. 2008; Achenbach et al. 2003b; Achenbach and Edelbrock, 1987).

Relationship duration (age 17): Adolescents at age 17 reported the duration of their current romantic relationship. Relationships were approximately 15 months in duration ( $M = 15.17$ ,  $SD = 14.02$ ).

## Results

### Preliminary Analyses

#### Univariate statistics

Means and standard deviations for all variables examined in the study are presented in Table 1. T-tests were conducted to examine potential gender differences in all key variables

**Table 1** Univariate statistics and intercorrelations among all variables

	N	Mean	SD	Conflict (Age 17)	Internalizing (Age 17)	Externalizing (Age 17)	Internalizing (Age 17)	Internalizing (Age 26)	Externalizing (Age 26)	Duration (Age 17)
Support (Age 17)	61	2.81	0.66	-0.10	0.06	0.20	0.03	0.03	-0.19	.01
Conflict (Age 17)	80	40.09	10.69	-	0.14	0.07	0.30**	0.20	0.20	.04
Internalizing (Age 17)	80	-0.10	0.71	-	-	0.46***	0.48***	0.35***	0.35***	-.14
Externalizing (Age 17)	75	4.98	4.33	-	-	-	0.31**	0.47***	0.47***	.03
Internalizing (Age 26)	76	9.95	8.71	-	-	-	-	0.73***	0.73***	-.04
Externalizing (Age 26)	76	8.47	6.74	-	-	-	-	-	-	.10
Relationship Duration (Age 17)	66	15.17	14.02	-	-	-	-	-	-	-

Note: \*\* $p \leq .01$ ; \*\*\* $p \leq .001$

of interest. Results indicate no gender differences in any variables of interest. Adolescent gender was included as a covariate, along with family income, in all analyses below. Outliers were identified as values greater than 3.5 standard deviations away from the mean for all dependent variables. Where found, the values were trimmed using multivariate analysis (Tabachnick and Fidell 2001) and analyses were re-ran. All analyses using trimmed outliers obtained substantially similar results.

**Correlational analyses**

For descriptive purposes, Table 1 also presents the simple correlations among all variables of interest in the study.

**Moderating effects**

Moderation by adolescent gender and family income were assessed for all analyses by creating interaction terms based on the product of the centered main-effect variables. None of the interaction terms were significantly related to direct predictions or predictions of outcomes after accounting for baseline levels of internalizing (gender by support direct:  $\beta = -0.08, p = .91$  and covarying baseline:  $\beta = -0.41, p = .51$ ; and gender by conflict direct:  $\beta = -0.70, p = .32$  and covarying baseline:  $\beta = -0.70, p = .27$ ) or externalizing behaviors (gender by support direct:  $\beta = -0.09, p = .90$  and covarying baseline:  $\beta = 0.28, p = .65$ ; and gender by conflict direct:  $\beta = -0.76, p = .30$  and covarying baseline:  $\beta = -0.42, p = .51$ ).

**Primary Analyses**

**Hypothesis 1**

Hostile conflict within adolescent romantic relationships will predict relative increases in internalizing and externalizing symptoms from adolescence into adulthood. A series of simple linear regressions with variables entered hierarchically (i.e., variables entered in steps) was performed to examine whether negative and abusive conflict in adolescent romantic relationships as reported by the teen’s partner predicted relative increases in internalizing and externalizing symptoms from adolescence into adulthood after accounting for gender, family income, and the initial level of mental health symptoms in adolescence. Gender and income were entered together first in all models. Second, internalizing or externalizing symptoms were entered. Third, hostile conflict and observed support (Hypothesis 1 and 2 correspondingly) were entered simultaneously. The analytic approach of predicting the future level of a variable, such as internalizing and externalizing behaviors, while accounting for predictions from initial levels of those

**Table 2** Adolescent romantic relationship hostile conflict and support as predictors of residualized change in internalizing symptoms

Outcome	Internalizing symptoms (Age 25–27) Model 1			Internalizing symptoms (Age 25–27) Model 2			Internalizing symptoms (Age 25–27) Model 3		
	$\beta$	$\Delta R^2$	Total $R^2$	$\beta$	$\Delta R^2$	Total $R^2$	$\beta$	$\Delta R^2$	Total $R^2$
<i>Step 1</i>									
Gender	0.20**			0.14			0.02		
Income	.007			0.05			0.14		
Statistics for Step 1			0.04						
<i>Step 2</i>									
Internalizing symptoms (Age 17)				0.36***			0.42***		
Statistics for Step 2					0.12	0.16			
<i>Step 3</i>									
Support (Age 17)							–0.01		
Conflict (Age 17)							0.27***		
Statistics for Step 3								0.15	0.31

Note: All  $\beta$ 's reported are the final  $\beta$ 's for the analysis

\*\* $p \leq .01$ ; \*\*\* $p \leq .001$

variables, yields one marker of residualized change in that variable by allowing assessment of predictors of future symptoms while accounting for initial levels (Cohen and Cohen 1983). Further, considering baseline levels of future behavior as a covariate eliminates the spurious effect whereby observed predictions are simply a result of cross-sectional associations among variables that are stable over time.

Regression results as shown in Table 2, reveal that greater levels of romantic partner-reported dyadic hostile conflict at age 17 predicted relative increases in target participant internalizing symptoms by age 26. Hostile conflict did not significantly predict relative increases in externalizing symptoms (Table 3). This suggests that teens who were in high-conflict romantic relationships in adolescence experienced relative increases in internalizing symptoms such as depression and anxiety from adolescence into adulthood.

## Hypothesis 2

Observed support within adolescent romantic relationships will predict relative decreases in internalizing and externalizing symptoms from adolescence into adulthood. We next examined whether observed supportive dyadic behaviors predicted relative change in internalizing and externalizing symptoms over time from adolescence into adulthood after accounting for gender, family income, and the initial level of internalizing and externalizing behaviors in adolescence. The results of linear regression analyses are reported in Table 2 for internalizing symptoms and Table 3 for externalizing symptoms. Observed support within the romantic

dyad did not significantly predict relative changes in internalizing symptoms (Table 2). In contrast, higher levels of observed support within the romantic dyad predicted decreases in externalizing behaviors by age 26 (Table 3). The findings may suggest that teens who displayed greater signs of support and engagement with their romantic partner during help-seeking discussions reported fewer externalizing problematic behaviors over time, but did not predict relative changes in internalizing behaviors.

## Post-hoc Analyses

Links between adolescent romantic relationship qualities and adult mental health will be moderated by relationship duration. Because relationship duration has been a significant relationship characteristic for both relationship functioning (Gaertner and Foshee 1999; Giordano et al. 2010) and mental health including both internalizing (Joiner and Udry 2000; Madsen and Collins 2005) and externalizing problems (Zimmer-Gembeck et al. 2001), we assessed whether relationship duration moderates the link between relationship quality (conflict and support) and mental health in adulthood. We added relationship duration as a covariate in our regression analyses for internalizing and externalizing symptoms. We found that after accounting for baseline levels of externalizing symptoms, relationship duration, gender, and family income, support continued to predict relative decreases in externalizing symptoms ( $\beta = -0.28, p = .009$ ). We also found that dyadic conflict continued to predict relative increases in internalizing symptoms by age 26 ( $\beta = 0.27, p = .007$ ). Relationship duration was not significantly related to either

**Table 3** Adolescent romantic relationship hostile conflict and support as predictors of residualized change in externalizing symptoms

Outcome	Externalizing symptoms (Age 25–27) Model 1			Externalizing symptoms (Age 25–27) Model 2			Externalizing symptoms (Age 25–27) Model 3		
	$\beta$	$\Delta R^2$	Total $R^2$	$\beta$	$\Delta R^2$	Total $R^2$	$\beta$	$\Delta R^2$	Total $R^2$
<i>Step 1</i>									
Gender	–0.09			–0.05			0.04		
Income	–0.01			–0.00			0.12		
Statistics for Step 1			0.01						
<i>Step 2</i>									
Externalizing symptoms (Age 17)	–			0.36***			0.55***		
Statistics for Step 2					0.15	0.14			
<i>Step 3</i>									
Support (Age 17)	–	–	–	–			–0.28**		
Conflict (Age 17)	–			–	–	–	0.15		
Statistics for Step 3								0.22	0.36

Note: All  $\beta$ 's reported are the final  $\beta$ 's for the analysis

\*\* $p \leq .01$ ; \*\*\* $p \leq .001$

externalizing ( $\beta = 0.10$ ,  $p = .33$ ) or internalizing ( $\beta = 0.02$ ,  $p = .85$ ) symptoms in adulthood.

Moderation by relationship duration was assessed for all analyses by creating interaction terms based on the product of the centered main-effect variables. None of the interaction terms were significantly related to direct predictions or predictions of outcomes after accounting for initial mental health functioning. For internalizing behaviors, duration by support direct:  $\beta = -0.01$ ,  $p = .97$  and covarying baseline:  $\beta = 0.06$ ,  $p = .66$ ; duration by conflict direct:  $\beta = 0.19$ ,  $p = .19$  and covarying baseline:  $\beta = 0.11$ ,  $p = .43$ . For externalizing behaviors, duration by support direct:  $\beta = -0.01$ ,  $p = .94$  and covarying baseline:  $\beta = -0.06$ ,  $p = .69$ ; duration by conflict direct:  $\beta = 0.20$ ,  $p = .20$  and covarying baseline:  $\beta = 0.12$ ,  $p = .36$ ). This suggests that our results remained significant in predicting change in the development of mental health problems during the transition to adulthood.

### Sensitivity Analyses

All analyses were conducted using the Full Information Maximum Likelihood (FIML) method. Alternative longitudinal analyses using linear regression were substantially identical to those results reported above.

### Discussion

Adolescent romantic relationships have been linked to both positive and negative outcomes, yet the specific qualities of such relationships as drivers of the direction of outcomes

have been vastly understudied. By late adolescence, teens are engaging in romantic relationships similar to those experienced in adulthood. However, teens lack the relationship experience, coping skills, and communication strategies that might be helpful in navigating these newly intense intimate relationships. Given the growing salience and importance of romantic relationships to late adolescent and young adult well-being, more closely assessing the specific qualities of partnerships that may lead to better or worse mental health over time addresses a gap in our understanding of romantic and individual development.

This study found that specific qualities of adolescent romantic relationships predicted relative changes in mental health indices in the transition from adolescence to adulthood. Partner-reported hostile conflict within adolescent romantic relationships predicted relative increases in internalizing problems from adolescence into adulthood, whereas observed supportive behavior in a help-seeking task with a romantic partner predicted relative decreases in externalizing behaviors. These findings remained after accounting for relationship duration, family income, and gender.

Heightened conflict in adolescent romantic relationships predicted relative increases in patterns of internalizing behaviors such as anxiety, sadness, guilt, and worry. Although there is less research on the long-term effects of conflict within adolescent romantic relationships, prior findings consistently point to the link between marital hostile conflict and increasing symptoms of poor psychological health, such as depression and anxiety (Beach et al. 2003; Overbeek et al. 2006). Similarly, our results indicate problematic behaviors are associated with high levels of hostile conflict in relationships, not just with romantic

involvement in adolescence. Perhaps adolescents in conflict-ridden relationships internalize a problematic relationship view or engage in unhealthy romantic patterns that exacerbate mental health difficulties over time. Exposure to early romantic conflict may set the stage for future relationship dysfunction, which in turn is linked to increased mental distress. Adolescents may be particularly affected by romantic conflict because they are new to navigating these types of relationships and may not have developed healthy coping strategies yet (La Greca et al. 2008). Subsequently, they may experience worsening of psychological health due to the centrality of relationships during this developmental period. Future research should investigate the long-term link between *adolescent* romantic conflict and mental health to better understand the relationship processes that may contribute to psychological distress.

In contrast to conflict findings, this study also identified conditions under which adolescent romantic relationships were linked to *positive* long-term outcomes. Adolescents who were highly engaged with and supportive of their romantic partner during a help-seeking task experienced relative reductions in externalizing behaviors across the transition into adulthood. This mirrors findings of the link between a supportive partner and increased desistance over time in adult marriages (Laub and Sampson 1993, 2001). Perhaps connecting with a partner in a time of need, being receptive to their care, and generally expressing oneself in a healthy, positive manner as captured by our observational task all represent coping skills useful in talking through problems. These skills may decrease the likelihood of subsequently acting out in aggressive ways when confronted with relationship challenges. Support and self-disclosure have been previously identified as essential predictors of successful adolescent relationships (Hansen et al. 1992). Openness and engagement may scaffold more intimate and positive communicative relationships for adolescents. In turn, these successful, high-quality relationships may contribute to altering the pattern of developing externalizing problems over time by providing healthier communication strategies and coping mechanisms to manage conflict or disagreements with partners when they arise (Davies and Windle 2000; Linder and Collins 2005).

Adolescents experience more frequent and intense mood swings compared to adults (Larson et al. 1980). Many of these intense emotions are related to romantic experiences (Larson et al. 1999). Perhaps due to the variability and intensity in mood attributed to romantic relationships during adolescence, teens can particularly benefit from learning coping strategies and communication skills helpful in managing such mood swings. Those who have a supportive partner or less hostile romantic conflict may experience fewer or less intense emotional fluctuations, as the qualities of support and conflict are central to developing healthy

conflict resolution skills. The ability to manage conflict with a romantic partner may lessen the impact of mood swings on mental health, leading to psychological improvements over time. Further, learning healthy communication and conflict management skills earlier with romantic partners during adolescence may be particularly beneficial for developing healthy relationship schemas when maintaining healthy intimate relationships becomes a primary developmental task in the transition to adulthood. Successfully meeting this developmental goal in adulthood is linked to better mental health overall, partially accounting for the positive influence of early supportive relationships on later psychological health.

Prior research indicated that females and males may view romantic relationships differently and thus experience different outcomes due to problems or strengths in their partnerships. However, this study did not find any significant differences across gender in the nature of links between relationship qualities and future mental health outcomes. In addition, we found no evidence that relationship duration alone accounted for these changes in mental health—conflict continued predicting relative increases in internalizing symptoms while support predicted relative decreases in the development of externalizing symptoms. Further, relationship duration did not moderate any of our findings linking teen romantic quality and adult mental health.

Overall, our findings add to the growing literature of romantic relationships in adolescence. Prior research has often failed to consider more specific aspects of teen dating and how these behaviors and interactions may potentially impact teens' mental health during the transition to adulthood. Borrowing from the qualities of teen romantic relationships (i.e., conflict and communication styles) that are linked to concurrent mental health (Harper and Welsh 2007; Jouriles et al. 2009; La Greca and Harrison 2005) and from the adult literature citing support as beneficial for long-term mental health (Laub and Sampson 1993, 2001) and conflict as detrimental for psychological well-being (Beach et al. 2003; Overbeek et al. 2006), we similarly found evidence for these qualities in earlier relationship experiences to impact long-term psychological health.

Although our findings indicate the potential for specific relationship qualities (i.e., conflict and support) to alter trajectories of mental health problems during the transition to adulthood, there are several limits to consider as well. First, this longitudinal study assessed the predictors of relative changes in mental health outcomes over the transition to adulthood. However, the study was not experimental; they can only disconfirm but cannot directly confirm the existence of any causal processes. It is plausible, for example, that some other variable (e.g., peer support and relationship quality, familial influences, or attachment styles) mediates the relationship between

conflict and support in adolescent relationships and adult psychological functioning. Although this study helps identify those qualities that are more likely to play a significant role in the development of mental health difficulties, it cannot directly evaluate causal hypotheses.

Prior research on qualities of dating adolescents has been based on small sample sizes, and this study is limited in this manner as well. Because our analyses capitalized on observational data, we could only assess adolescents who were in a relationship at the time of assessment and who had partners who were willing to participate. 80 participants out of our full sample of 184 individuals qualified for this particular study based on these criteria. Interestingly, we found no differences in adult mental health outcomes based on relationship status at age 17 (i.e., whether they were single or in a relationship), pointing to the impact of relationship quality, not simply involvement, on well-being. In addition, we cannot generalize our findings to clinical samples and our mental health outcomes were not necessarily at clinical levels of elevations. Further, we did not assess mental health of the romantic partners and this may be an important mechanism of relationship quality and future mental health functioning as well. Finally, the romantic partners of target participants were on average slightly older for both males and females, which is not typical of this age and poses as a potential limitation as well. Including partner characteristics as potential moderators of findings would be an important step in similar studies.

Romantic relationship experiences prior to age 17 were not assessed, nor were relationships that lasted less than 2 months. However, many early romantic relationships are more short-term and begin before the age of 17 (Carver et al. 2003), and these warrant consideration in future research. The quickly changing nature and definitions of dating is another limitation of relationship research in general as relationship types seem to proliferate over time. Adolescents and young adults are increasingly engaging in relationships of varying duration and commitment levels ranging from hooking up to open relationships to exclusive committed relationships, which complicates the developmental account of romantic relationships (Manning et al. 2014; Shulman and Connolly 2013). Additionally, measures of similar constructs often varied across different points in development, which makes comparisons across age somewhat more tenuous.

The present findings suggest that adolescent romantic relationships potentially influence trajectories of both unhealthy and healthy psychological functioning nearly a decade later. Romantic partner-reported dyadic hostile conflict in late adolescent relationships displayed long-term links to depression and anxiety well into adulthood, above and beyond the influence of gender and relationship length. Our results indicate that teens in supportive relationships may reap

benefits in terms of declining externalizing behaviors over time, regardless of relationship length. Overall, our results utilizing an intensive longitudinal sample uniquely add to the growing body of literature assessing long-term risks and benefits linked to adolescent romantic experiences.

More research identifying specific qualities of adolescent romantic relationships that predict better or worse psychological health and relationship functioning over time is needed. The scope of this study was to examine qualities within teen dating relationships that impact mental health trajectories, but future research should also consider the impact on later relationship qualities as well given the strong link between well-being and close relationships into adulthood. The adult research indicates the potential for long-lasting changes in mental health, while adolescent romantic literature is often focused on short-term correlates. Highlighting relationship qualities that alter the development of mental distress at a time when many psychological problems begin to appear will set the stage for addressing the potential benefits of the normative experience of teen dating. Romantic relationships gain in importance during adolescence and the transition to adulthood, highlighting the need to assess how early experiences impact individual and interpersonal development (see Collins 2003 for a review). Robust comprehension of the unique function of romantic relationships in adolescence on long-term adjustment may allow parents and clinicians to help adolescents incorporate developmentally-healthy behaviors into their own relationships to reap the greatest benefits. At a time when romantic relationships are beginning to take root, understanding the qualities that determine whether they will have positive or negative implications for longer-term development will be key to informing efforts to enhance the quality of such relationships.

## Conclusion

Adolescent dating is a critical psychosocial task with potential long-lasting positive and negative effects on adjustment and mental health. Previously, the specific relationship qualities in adolescent romantic relationships that are associated with long-term changes in mental health have been understudied. Rather, assessing whether one does or does not have relationship experience has been used as a dichotomous predictor of functioning (Connolly and Johnson 1993; Raley et al. 2007; Rauer et al. 2013). However, closer examination of the *qualities within* early romantic relationships provides clarity on what occurs in these relationships that potentially impacts long-term mental health. We found evidence suggesting that relationship qualities that are related to concurrent mental health have the potential to predict long-term development of mental health

problems as well. Specifically, supportive late adolescent romantic relationships are linked to fewer externalizing problems while hostile conflict is associated with increasing internalizing symptoms over time into young adulthood. Thus, it is the specific interactions and qualities of adolescent romantic relationships that may set the stage of healthy psychological functioning across time or may create dysfunctional relationship schemas that negatively impact mental health. Teens may be especially susceptible to early relationship experiences' impact on long-term psychological health as they lack the skills and knowledge of healthy intimacy, yet are readily engaging in romantic relationships (Carver et al. 2003; Seiffge-Krenke 2003). At a time when romantic experiences become increasingly salient to one's identity in late adolescence and young adulthood (Buhrmester 1996; Collins 2003; Furman and Wehner 1994; Montgomery 2005), it is critical to examine the impact of early romantic relationship qualities for long-term psychosocial health to better understand the role of adolescent dating in mental health development.

**Authors' Contributions** We would like to describe each author's contributions to the submitted manuscript, "Long-Term Risks and Possible Benefits Associated with Adolescent Romantic Relationships," co-authored with J.P.A. He conceived the overall study and participated in its design and coordination. J.P.A. also participated in the interpretation of the data and helped to draft the manuscript. J.K. conceived of the analyses for the study and assisted with its design, performed the statistical analyses, participated in the interpretation of the data, and drafted the manuscript. All authors read and approved the final manuscript.

**Funding** This study was funded by the National Institute of Child Health and Human Development (grant numbers R01-HD058305 and R01-MH58066).

**Data Sharing Declaration** The datasets generated and/or analyzed during the current study are not publicly available but are available from the corresponding author on reasonable request

## Compliance with Ethical Standards

**Conflict of Interest** The authors declare that they have no conflict of interest.

**Ethical Approval** All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

**Informed Consent** Informed consent was obtained from all individual participants included in the study.

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