


Romantic relationships and psychological distress among adolescents: Moderating role of friendship closeness

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Abstract

Background: The formation of romantic relationships and friendships in adolescence is a defining milestone in the progression toward social maturity. Thus, examining adolescents' friendship and romantic experiences serves a vital role in understanding their psychological adjustment.

Aims: The main purposes of the current study were to examine (a) whether romantic involvement, romantic security, and friendship closeness were independently predictive of late adolescents' depression and loneliness, and (b) whether friendship closeness would moderate the negative effects of adolescents' lower degrees of romantic involvement and romantic security on depression and loneliness.

Method: Data came from 12th grade adolescents ($N = 110$, 53 females) as well as their parents and a same-sex best friend. Adolescents reported on their romantic involvement, romantic security, and psychological distress. Parent reports of adolescents' depressive symptoms and friend reports of friendship closeness were also included.

Results: Higher degrees of romantic involvement and friendship closeness were related to lower degrees of loneliness. Higher degrees of romantic security were related to lower degrees of depression and loneliness. The effect of romantic involvement on depression and loneliness was moderated by friendship closeness. Also, the effect of romantic security on loneliness was moderated by friendship closeness.

Conclusion: Future research should focus on the interactive roles that friendships and romantic relationships play in the emergence of psychopathology during adolescence.

Keywords

Romantic involvement, attachment, friendship, adolescence, depression, loneliness

Adolescence is marked by an increased experience of psychological distress, including higher degrees of depression (Compass, Ey, & Grant, 1993) and loneliness (Heinrich & Gullone, 2006). Higher degrees of depression and loneliness during adolescence are associated with lower self-esteem, more externalizing behavior problems and even poor physical health (Fleming, Mason, Mazza, Abbott, & Catalano, 2008; Hawkey & Cacioppo, 2010; Kerr & Stattin, 2000). Thus, it is important to investigate the correlates of depression and loneliness, as a means of optimizing psychological and physical health during adolescence. The formation of romantic relationships in adolescence is a defining milestone in the progression toward social maturity (Smetana, Campione-Barr, & Metzger, 2006). Thus, examining adolescents' romantic experiences serves a vital role in understanding their psychological adjustment (Davila, Steinberg, Kachadourian, Cobb, & Fincham, 2004; La Greca & Harrison, 2005). Parallel to romantic relationships, close friendships also play a central role in adolescents' psychological development (Buhrmester & Furman,

1986; Sullivan, 1953). What happens in adolescents' friendships and romantic relationships may, therefore, have an effect on their experiences of psychological distress. Surprisingly, very little integrative work has examined how romantic and friendship experiences *jointly* predict adolescents' psychological adjustment. Thus, the main purposes of the current study were to examine (a) whether romantic involvement, romantic security and friendship closeness independently predict depression and loneliness, and (b) whether friendship closeness moderates the negative effects of lower degrees of romantic involvement and security on depression and loneliness in late adolescence.

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Romantic involvement and psychological distress

Studies have demonstrated that higher degrees of romantic involvement are associated with higher degrees of psychological distress during *early adolescence* (12–14 years), especially with regard to depression (Davila et al., 2004; Doyle, Brendgen, Markiewicz, & Kamkar, 2003; Steinberg & Davila, 2008). In contrast, theorists suggest that it is developmentally appropriate for *late adolescents* (17–19 years) to gradually increase their romantic involvement as their social competence and experience grow in parallel (Furman & Shaffer, 2003; Joyner & Udry, 2000). Thus, as romantic relationships become normative, they are no longer expected to exert adverse effects on adolescents' well-being (Carver, Joyner, & Udry, 2003; W. A. Collins, 2003). Supporting this idea, research suggests that romantic involvement is no longer associated with depression among late adolescents and young adults (Davila et al., 2004; La Greca & Harrison, 2005; Simon & Barrett, 2010; Umberson & Williams, 1999). Indeed, some studies on late adolescents suggest that higher degrees of romantic involvement are related to better overall psychological health, including lower degrees of loneliness (Woodhouse, Dykas, & Cassidy, 2012) and a higher sense of competence and self-esteem (Keefe & Berndt, 1996). Taken together, these studies indicate that romantic relationships during late adolescence should have positive developmental functions in reducing psychological problems such as depression and loneliness.

Romantic security and psychological distress

Attachment theory proposes that individuals develop mental representations of their attachment figures based on the quality of their caregiving relationships (Ainsworth, Blehar, Waters, & Wall, 1978; Bowlby, 1982). Attachment theory further argues that mental representations of attachment relationships lay an important foundation for the subsequent development of psychological functioning (Bowlby, 1982). Individuals preoccupied with insecure mental representations are likely to engage in maladaptive affect regulation strategies, thereby exhibiting more vulnerability to psychological problems (Cassidy, 1994). Supporting this idea, research on adolescents consistently finds that insecure attachment with parents is associated with poorer psychological adjustment (Armsden, McCauley, Greenberg, Burke, & Mitchell, 1990; Scott, Briskman, Woolgar, Humayun, & O'Connor, 2011; Torquati & Vazsonyi, 1999).

Consistent with research on parental attachment, studies find that adults with insecure attachment in romantic relationships experience higher degrees of psychological distress, including depression and loneliness (Carnelley,

Pietromonaco, & Jaffe, 1994; Marchand-Reilly, 2012; Shaver & Hazan, 1987; Sutin & Gillath, 2009). Whereas numerous studies have established the association between attachment and psychological health during adulthood, little research has investigated such links during adolescence. Because adolescents experience rapid growth in romantic relationships and dating experiences, there is a need for research that explicitly focuses on the association between adolescents' romantic attachment security and psychological adjustment. Based on previous studies on parent–child attachment (e.g. Armsden et al., 1990) and adult romantic attachment (e.g. Carnelley et al., 1994), it is reasonable to argue that adolescents who have higher degrees of security in their romantic relationships will experience lower degrees of depression and loneliness.

Friendship closeness as a moderator

Close friendships represent an important source of social support and companionship during adolescence (Buhrmester & Furman, 1986; Chow, Roelse, Buhrmester, & Underwood, 2011). Indeed, research suggests that close friendships remain the most important social ties until young adulthood, when marriages are formed (Carbery & Buhrmester, 1998). Close friendships offer a context in which adolescents may mutually disclose and share their personal concerns about romantic relationships (Chow et al., 2011). Validation and support received from close friends may shield adolescents from experiencing stress and, subsequently, psychological problems. Thus, it is not surprising that higher numbers of friends and positive friendship quality during adolescence are related to lower degrees of psychological distress, including depression and loneliness (e.g. Kingery, Erdley, & Marshall, 2011).

Due to the therapeutic role that close friendships play in adolescents' psychological adjustment (Buhrmester & Furman, 1986), it is likely that friendship closeness may also act as a moderator between romantic experiences and psychological adjustment. Supporting this idea, research has found that the degree of closeness in friendships moderates the relationship between interpersonal stressors and psychological adjustment. For instance, one study found that closer friendships buffered against the negative experiences of peer victimization and loneliness during adolescence (Woods, Done, & Kalsi, 2009). In addition, research indicates that higher degrees of friendship closeness serve as a protective factor in the association between negative parenting and adolescents' problem behaviors (Gaertner, Fite, & Colder, 2010; Lansford, Criss, Pettit, Dodge, & Bates, 2003). To our knowledge, however, little is known about the role of close friendships in moderating the association between romantic experiences (involvement and security) and psychological adjustment (depression and loneliness) during late adolescence. Although theory and research indicate that lower degrees of romantic

involvement and security are related to higher degrees of depression and loneliness during late adolescence, we hypothesized that such associations would be alleviated by having a higher degree of friendship closeness.

Whereas a high degree of friendship closeness may protect adolescents from interpersonal stress within a larger peer group or family environment (Gaertner et al., 2010; Woods et al., 2009), adolescents who have a lower degree of friendship closeness (e.g. less intimacy and support) may be at higher risk of psychological distress when faced with romantic stressors. Research on parenting indicates that adolescents are more likely to engage in problem behaviors when experiencing negative parenting in conjunction with friendships low in closeness (Lansford et al., 2003). However, little research has examined whether a low degree of friendship closeness is a risk factor for adolescents who also experience a low degree of romantic involvement and security. Previous research indicates that stressors from friendships and romantic relationships independently contribute to a higher degree of depression in late adolescence (Chow & Ruhl, 2014). Therefore, we hypothesized that adolescents who experience a lower degree of romantic involvement and security would exhibit higher degrees of depression and loneliness, and that these associations would be intensified by having a low degree of friendship closeness.

Method

Participants

Data for the current study came from a longitudinal study of adolescents in grades 6, 8, 10 and 12, as well as their families and best friends. Recruitment letters with return-mail postcards were sent to approximately 1,300 families of 6th grade adolescents from 10 public elementary schools in a suburb of North Texas. Students were eligible to participate if (a) they lived in a two-parent household, (b) the family had lived in the community for at least one year and (c) the family did not plan to move in the following two years. School district demographics suggested that approximately 50% of the 1,300 families met these criteria. For the first wave of the study, families of 115 boys and 108 girls participated. However, romantic involvement and security variables were measured only at the final wave in 12th grade; thus, only data from this wave were included in this study. The 12th grade sample consisted of 110 adolescents (53 females, 57 males; $M_{\text{age}} = 17.6$ years, $SD = .63$ years), their parents and a same-sex best friend. Most of the target adolescents were Caucasian (88.9%), with 3.9% African American, 2.6% Hispanic and 4.6% other. A majority of the participating families (62.1%) were upper middle-class households (annual income > US\$70,000).

Families that agreed to participate were visited in their homes by trained research assistants. Participating adolescents also recruited a same-sex best friend to participate. After the family provided informed consent, the target adolescent, two parents, and same-sex best friend were separated into private areas of the home to complete a questionnaire package. Participants then placed their questionnaires in a sealed envelope to guarantee that other participants could not see their responses. Families received US\$40 for participating in the study at each wave.

Measures

Romantic involvement. Adolescents' degrees of romantic involvement were assessed with a new measure that included a series of romantic activities (8 items; Buhrmester, 1992). This questionnaire was designed to specifically measure romantic activities that are common among adolescents. All items are presented in Appendix 1. Adolescents checked the relevant items (1 = *Yes*, 0 = *No*) that were descriptive of their romantic experiences. Items were then averaged to compute a romantic involvement composite, with higher scores reflecting greater romantic involvement ($\alpha = .74$).

Romantic security. Adolescents' degrees of attachment security in romantic relationships were assessed with the 15-item Adult Attachment Questionnaire (Collins & Read, 1990). This measure has three subscales capturing adolescents' closeness, dependence, and anxiety with romantic partners in general. One item for closeness is 'I find it relatively easy to get close to these people'. One item for dependence is 'I am comfortable depending on these people and having them depend on me'. One item for anxiety is 'I worry that these people do not really care for me'. Adolescents rated each item on a scale from 1 (*False*) to 5 (*Very True*).

The items were subjected to a principal component analysis (PCA) to explore their underlying structure. The scree plot revealed that a one-factor solution best fit the data. Examination of the factor loadings showed that items measuring dependence and closeness loaded positively on the factor, whereas items measuring anxiety loaded negatively on the factor. Based on the PCA, items were averaged to compute a romantic security composite, with higher scores reflecting a higher degree of secure romantic attachment ($\alpha = .86$). This unidimensional approach is consistent with previous research on adult attachment (Dinero, Conger, Shaver, Widaman, & Larsen-Rife, 2011; Elizur & Mintzer, 2003).

Friendship closeness. Adolescents and their best friend both reported on friendship closeness in the relationship with the Network of Relationships Inventory (NRI; Furman & Buhrmester, 1985). The current study utilized five

Table 1. Descriptive statistics and correlations among study variables.

	1	2	3	4	5	6
1. Romantic involvement	–					
2. Romantic security	.28**	–				
3. Friendship closeness	.05	–.02	–			
4. Depression (S)	–.13	–.31**	.08	–		
5. Depression (P)	–.13	–.38**	–.10	.42**	–	
6. Loneliness (S)	–.21*	–.54**	–.25**	.62**	.43**	–
Boys, <i>M</i> (<i>SD</i>)	2.15 (1.13)	4.30 (.52)	3.49 (.68)	1.28 (.22)	1.18 (.20)	1.59 (.41)
Girls, <i>M</i> (<i>SD</i>)	2.20 (1.02)	4.10 (.64)	4.07 (.60)	1.36 (.24)	1.18 (.23)	1.63 (.49)
<i>t</i> values	–.24	1.67	–4.72**	1.71	.30	–.53

(S): self-report; (P): parent-report; *SD*: standard deviation.

* $p < .05$; ** $p < .01$.

subscales (3 items per scale) from the original measure capturing features of friendship closeness including companionship, intimate disclosure, emotional support, approval, and satisfaction. For instance, one item from the satisfaction scale is ‘How happy are you with your relationship with your friend?’ Adolescents and their best friend rated how much/often each item occurred in their relationship on a scale from 1 (*Never or Hardly at All*) to 5 (*Always or Extremely Much*). Composite scores for friendship closeness were computed by averaging across the five subscales. For the current study, the internal consistency for adolescents’ and their friend’s composite scores were satisfactory, with Cronbach’s $\alpha = .84$ and $.85$, respectively. Because the target adolescents and their best friend both reported on the same relationship and both reports were significantly correlated ($r = .36$, $p < .001$), an overall friendship closeness variable was formed by averaging across the two reporters.

Depression. Adolescents’ degree of depression was measured with the 26-item Child Depression Inventory (CDI; Kovacs, 1985). Adolescents rated the items based on their experience of depressive symptoms in the past two weeks using a 3-point scale ranging from 0 to 2 (i.e., 0 = *I am sad once in a while*, 1 = *I am sad many times* and 2 = *I am sad all the time*). Items were then averaged to form a composite, with higher scores reflecting a higher degree of depression ($\alpha = .85$).

Adolescents’ degree of depression was also measured with both parents’ reports on the CDI. Again, items were averaged for each reporter. For the current study, Cronbach’s α for mother and father reports were $.86$ and $.90$, respectively. Mother and father reports were significantly correlated ($r = .48$, $p < .001$). Because of the high convergence, mother and father reports were averaged to form an overall parent composite score.

Loneliness. Adolescents’ subjective experiences of loneliness were measured with the 20-item Revised UCLA Loneliness Scale (Russell, Peplau, & Cutrona, 1980). One

example item is ‘I feel isolated from others’. Adolescents rated each item on a scale from 1 (*Never*) to 4 (*Often*). Previous research has demonstrated the validity of this measure in adolescent samples (e.g., Franzoi & Davis, 1985). Items were averaged to form a composite, with higher scores indicating a greater degree of loneliness ($\alpha = .89$).

Planned analyses

A series of exploratory analyses were first conducted to examine descriptive statistics, sex differences and correlations among the key study variables. To examine the primary hypotheses, multiple regression analyses were conducted to predict psychological distress variables (i.e., loneliness, depression) with romantic involvement and romantic security as predictors and friendship closeness as a moderator. The interaction term was formed by multiplying the romance variable in question by friendship closeness. To ease interpretation, all predictors were standardized before the interaction terms were formed. When a significant interaction effect was observed, simple slopes were displayed and tested with the procedures outlined by Aiken and West (1991). For each set of regressions, adolescent sex was entered as a control variable.

Results

Exploratory analyses

Means, *SD*s, and correlations among study variables are presented in Table 1. Independent-samples *t*-tests were also conducted to examine sex differences in the study variables. Only friendship closeness emerged as significantly different across boys and girls, with boys reporting a lower degree of friendship closeness than girls. Regarding correlations, a higher degree of romantic involvement was related to a lower degree of loneliness, but not depression, as reported by adolescents and their parents. Furthermore, a higher degree of romantic security was related to a lower

Table 2. Predicting depression and loneliness from friendship closeness and romantic involvement.

	Depression (S)		Depression (P)		Loneliness (S)	
	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>
Sex (1: M, 2: F)	.08	.05	.01	.04	.18*	.09
Friendship Closeness	.00	.02	-.02	.02	-.15**	.04
Romantic Involvement	-.03	.02	-.03	.02	-.09*	.04
Closeness × Involvement	.04*	.02	.05**	.02	.12**	.04

(S): self-report; (P): parent-report; SE: standard error; M: male; F: female.

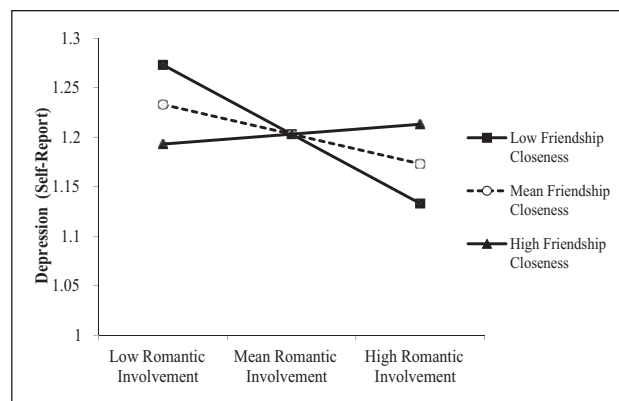
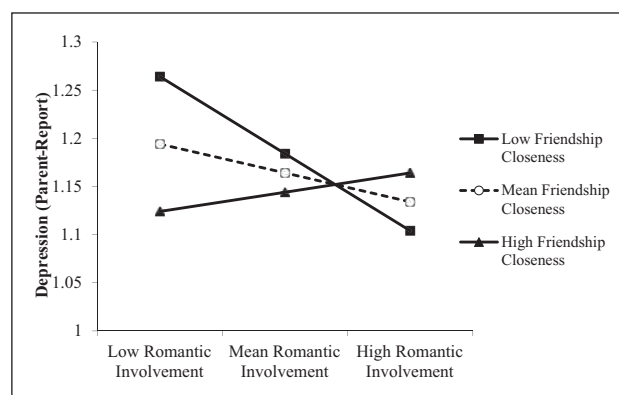
* $p < .05$; ** $p < .01$.

degree of loneliness and depression, as reported by adolescents and their parents. Although friendship closeness was not significantly related to adolescent- or parent-reports of depression, a higher degree of friendship closeness was related to a lower degree of loneliness.

Romantic involvement and psychological distress: friendship closeness as a moderator

Table 2 presents a series of multiple regressions predicting adolescents' depression (adolescent-report and parent-report) and loneliness from romantic involvement, friendship closeness, and the interaction effect. Adolescent sex was entered as a covariate. The first model predicted adolescent-reports of depression and the overall model was marginally significant, with $R^2 = .08$, $F(4, 105) = 2.29$, $p = .06$. Beta weights showed that controlling for sex, neither romantic involvement nor friendship closeness was related to depression. However, the interaction between romantic involvement and friendship closeness was significant. Simple slopes tests were conducted to determine the nature of the interaction (Aiken & West, 1991). For adolescents with a higher degree of friendship closeness (1 *SD* above the mean), romantic involvement was not significantly related to depression ($b = .01$, standard error (*SE*) = .03, $p = .65$). In contrast, for adolescents with a lower degree of friendship closeness (1 *SD* below the mean), a lower degree of romantic involvement was related to a higher degree of depression ($b = -.07$, $SE = .03$, $p = .02$). Figure 1 shows that adolescents with a lower degree of romantic involvement and lower degree of friendship closeness were more vulnerable to depression.

The second model predicted parent-reports of adolescent depression, and the overall model was significant, with $R^2 = .09$, $F(4, 102) = 2.52$, $p = .046$. Results showed that controlling for sex, neither romantic involvement nor friendship closeness was related to depression. However, the interaction between romantic involvement and

**Figure 1.** Interaction between romantic involvement and friendship closeness predicting self-report depression.**Figure 2.** Interaction between romantic involvement and friendship closeness predicting parent-report depression.

friendship closeness was significant. Simple slope tests showed that for adolescents with a higher degree of friendship closeness, romantic involvement was not significantly related to depression ($b = .03$, $SE = .03$, $p = .37$). In contrast, for adolescents with a lower degree of friendship closeness, a lower degree of romantic involvement was related to a higher degree of depression ($b = .08$, $SE = .03$, $p = .01$). Similar to adolescent-reports of depression, adolescents with a lower degree of romantic involvement and lower degree of friendship closeness were more vulnerable to depression, as reported by their parents (Figure 2).

The third model predicted adolescent-reports of loneliness and the overall model fit was significant, with $R^2 = .20$, $F(4, 105) = 6.73$, $p < .001$. Specifically, results showed that controlling for sex, higher degrees of romantic involvement and friendship closeness were both related to a lower degree of loneliness. The interaction between romantic involvement and friendship closeness was also significant. Simple slope tests revealed that for adolescents with a higher degree of friendship closeness, romantic involvement was not significantly related to loneliness ($b = .03$, $SE = .06$, $p = .62$).

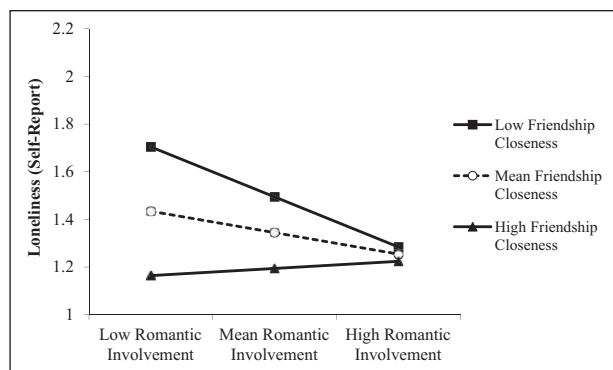


Figure 3. Interaction between romantic involvement and friendship closeness predicting self-report loneliness.

Table 3. Predicting depression and loneliness from friendship closeness and romantic security.

	Depression (S)		Depression (P)		Loneliness (S)	
	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>B</i>	<i>SE</i>
Sex (1: M, 2: F)	.05	.05	-.05	.04	.05	.08
Friendship Closeness	.01	.02	.00	.02	-.13**	.04
Romantic Security	-.06**	.02	-.07**	.02	-.24**	.04
Closeness × Security	-.01	.02	.02	.02	.09*	.04

(S): self-report; (P): parent-report; SE: standard error; M: male; F: female.

* $p < .05$; ** $p < .01$.

In contrast, for adolescents with a lower degree of friendship closeness, a lower degree of romantic involvement was related to a higher degree of loneliness ($b = -.21$, $SE = .06$, $p < .001$). Figure 3 shows that adolescents with lower degrees of romantic involvement *and* friendship closeness were more vulnerable to loneliness, but a higher degree of friendship closeness buffered against such negative impacts.

Romantic security and psychological distress: friendship closeness as a moderator

Table 3 presents a series of multiple regressions predicting adolescents' depression (adolescent-report and parent-report) and loneliness from romantic security, friendship closeness, and the interaction effect. Adolescent sex was entered as a covariate. The first model predicted adolescent-reports of depression and the overall model was significant, with $R^2 = .12$, $F(4, 93) = 3.12$, $p = .02$. Results showed that adolescents with a higher degree of romantic security reported a lower degree of depression. Friendship closeness, however, was not predictive of depression. The interaction effect

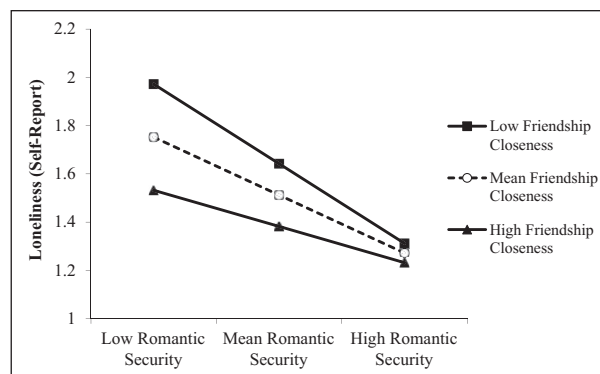


Figure 4. Interaction between romantic security and friendship closeness predicting self-report loneliness.

between romantic security and friendship closeness was not significant.

The second model predicted parent-reports of adolescent depression and the overall model was significant, with $R^2 = .16$, $F(4, 90) = 4.38$, $p < .001$. Results showed that adolescents with a higher degree of romantic security had a lower degree of depression, as reported by their parents. Friendship closeness and the interaction term were not significant predictors of parent-reported depression.

The third model predicted adolescent-reports of loneliness, and the overall model was significant, with $R^2 = .38$, $F(4, 93) = 14.02$, $p < .001$. Specifically, results showed that controlling for sex, higher degrees of romantic security and friendship closeness were significantly related to a lower degree of loneliness. The interaction between romantic security and friendship closeness was also significant. Simple slope tests revealed that for adolescents with a higher degree of friendship closeness, a higher degree of romantic security was significantly related to a lower degree of loneliness ($b = -.15$, $SE = .05$, $p < .001$). This association, however, was significantly stronger for adolescents with a lower degree of friendship closeness ($b = -.33$, $SE = .06$, $p < .001$). In other words, the impact of romantic security on loneliness was stronger for adolescents with a lower degree of friendship closeness (Figure 4).

Follow-up analyses

Supplemental analyses were performed to examine other possible interaction effects. First, a series of regression analyses were conducted to examine the two-way interaction between romantic involvement and romantic security on each psychological adjustment variable. Neither of the two-way interactions was significant. Second, a series of regression analyses were conducted to examine the three-way interaction between romantic involvement, romantic

security and friendship closeness on each psychological adjustment variable. Again, neither of the three-way interaction effects was significant.

Discussion

Romantic involvement and psychological distress

Although it was hypothesized that romantic involvement would be related to a lower degree of depression, correlational and regression analyses revealed that such a link was not significant for adolescent- or parent-reports of adolescent depression. The findings were inconsistent with previous studies on late adolescents and emerging adults, which found that romantic relationships were beneficial for adults' well-being (Umberson & Williams, 1999). These findings could be attributable to the fact that adolescents in the current study were in the transitional period toward emerging adulthood; therefore, it is possible that the effect of romantic involvement on depression might vary depending on other social and personal factors. Indeed, the current study took an integrative approach, arguing that friendship closeness could be an important moderator between romantic involvement and psychological well-being.

Results from adolescent- and parent-reports of depression showed that the interaction between romantic involvement and friendship closeness was significant. Specifically, for adolescents with a higher degree of friendship closeness, romantic involvement was not significantly related to depression. In contrast, for adolescents with a lower degree of friendship closeness, a lower degree of romantic involvement was related to a higher degree of depression. When viewing these interaction effects in conjunction with the non-significant association between romantic involvement and depression, the hypothesis that friendship closeness would have a 'buffering effect' on depression was not completely supported. Rather, it may be more accurate to state that adolescents with a lower degree of friendship closeness will be predisposed to depression if they also have a lower degree of romantic involvement. Interestingly, it also appears that the beneficial effect of a higher degree of romantic involvement against depression is especially pronounced among late adolescents with a lower degree of friendship closeness. In other words, romantic involvement is especially important for adolescents' psychological health when they experience a lower degree of friendship closeness.

Consistent with previous research (Woodhouse et al., 2012), the current study found that a higher degree of romantic involvement was associated with a lower degree of loneliness, controlling for friendship closeness. Interestingly, a higher degree of friendship closeness was also related to a lower degree of loneliness, controlling for

romantic involvement. These findings are consistent with Sullivan's (1953; Buhrmester & Furman, 1986) perspective that adolescents' subjective perceptions of loneliness depend on how integrated they are in peer relationships, especially close friendships and romantic relationships. Consistent with the previous analyses on depression, the interaction between romantic involvement and friendship closeness was significant. In this case, the buffering effect of friendship closeness was supported. Although a lower degree of romantic involvement was associated with a higher degree of loneliness, having a higher degree of friendship closeness helped to diminish this link. Specifically, the association between romantic involvement and loneliness was no longer significant when adolescents had a higher degree of friendship closeness. Regrettably, having a lower degree of friendship closeness intensified the association between a lower degree of romantic involvement and higher degree of loneliness.

Romantic security and psychological distress

Supporting the hypothesis, correlation and regression analyses based on adolescent- and parent-reports of depression found that a higher degree of romantic security was related to a lower degree of depression. These findings are some of the first to show a concurrent association between romantic attachment and depression during adolescence. Interestingly, for both adolescent- and parent-reports of depression, friendship closeness did not emerge as a significant predictor of depression when romantic security was taken into account.

The current study also found that a higher degree of romantic security was associated with a lower degree of loneliness, controlling for friendship closeness. These findings support the idea that attachment security lays an important foundation for multifaceted psychological adjustment (Bowlby, 1982). It is important to note that a higher degree of friendship closeness was also related to a lower degree of loneliness, controlling for romantic security. This finding suggests that although romantic security and friendship closeness both represent subjective perceptions of relationship functioning, they demonstrate independent effects when predicting loneliness.

Furthermore, a significant interaction effect revealed that for adolescents with a higher degree of friendship closeness, a higher degree of romantic security was related to a lower degree of loneliness. This association, however, was even stronger for adolescents with a lower degree of friendship closeness. It is important to note that although having a higher degree of friendship closeness helped to reduce the negative effect of a lower degree of romantic security on loneliness, the effect was not completely eliminated. On one hand, the hypothesis that friendship closeness would have a buffering effect against loneliness was supported in that having a higher degree of friendship

closeness reduced the link between a lower degree of romantic security and higher degree of loneliness. On the other hand, it is also accurate to claim that having a lower degree of friendship closeness predisposed adolescents to loneliness if they also showed a lower degree of romantic security.

Limitations

The current study had several limitations. First, although the study examined the directional influence of peer relationship experiences on psychological distress, the correlational nature of the study does not allow for causal inferences about the constructs. For instance, romantic involvement was thought to predict depression based on previous research; however, it is certainly possible that adolescents who suffer from higher depressive symptoms are less socially competent and, therefore, have a lower degree of romantic involvement. Second, all constructs in the study were based on self-report measures. An approach that integrates different types of measures (e.g., behavioral observations of friendship closeness) could be useful for obtaining more objective assessments of these constructs. Nevertheless, data from multiple informants in the current study showed that the observed results are not completely attributable to shared-method variance or personal biases. Third, this study utilized a self-selected sample of adolescents and families, many of whom were Caucasian and from upper middle-class families. Thus, the findings from this study may not generalize to adolescents from different ethnic, socioeconomic, and domestic backgrounds. Future research should investigate the associations between romantic adjustment, friendship closeness, and psychological well-being in a broader range of adolescents to determine the extent to which these results can be generalized to a more heterogeneous sample. Finally, the current study did not capture romantic involvement and security during early adolescence, which is necessary for examining the evolving effects of romantic relationships on psychological adjustment through early to late adolescence. Therefore, future research should consider a longitudinal approach to exploring the links between romantic adjustment and psychological well-being during the different stages of adolescence.

Conclusion

The current study provides important insights into the complex associations between romantic relationships, friendships, and psychological distress during adolescence and offers several significant clinical implications. Specifically, this study highlights the potential for positive romantic relationships and friendships to offer therapeutic benefits during late adolescence. Indeed, these results indicate that close and secure experiences with at least one friend or

romantic partner may ward off loneliness and depression – two increasingly prevalent and detrimental forms of psychological distress during the period of late adolescence. Thus, future interventions should focus on fostering strong peer relationships for adolescents suffering from depression or loneliness. One potential intervention design might be to develop adolescents' social competence through activities and interactions with an arranged peer group. These interactions would promote the development of new relationships within this group of peers and give adolescents the necessary social tools for developing new relationships in everyday life. Future interventions should also focus on utilizing adolescents' pre-existing peer relationships to fight against psychological distress. For instance, promoting intimate disclosure and emotional support between an adolescent and friend or romantic partner may provide a formidable source of therapeutic relief from feelings of depression and loneliness. It is hoped that this study will provide the groundwork necessary to improve adolescents' social and emotional well-being through the development of close and secure peer relationships.

Conflict of interest

The authors declare that there is no conflict of interest.

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Appendix I

1. Had 'group dates', where you would be with someone you like at a party, movie, skating and so on when friends are around.
2. Dated or went out with the same person at least once.
3. Dated or went out with the same person three or more times.
4. Dated or saw a few different people over the year.
5. Dated or went out with one person on a fairly regular basis for at least 2 months.
6. Told someone you loved him or her.
7. Had an exclusive relationship for at least 2 months; you only saw each other, but didn't necessarily plan to get engaged/married or live together.
8. Had a committed relationship in which you were planning about getting engaged, married or living together.