

Intrapersonal Moderators of the Association between Relationship Satisfaction and Depressive
Symptoms: Findings from Emerging Adults

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Abstract

In a sample of 484 emerging adults in dating relationships, we tested whether four intrapersonal characteristics (masculinity, femininity, neuroticism, and co-rumination) moderated the association between relationship satisfaction and depressive symptoms. Femininity demonstrated a moderating effect for women only; relationship satisfaction and depressive symptoms were more strongly associated for women with higher, versus lower, femininity. Co-rumination had a moderating effect for both sexes; relationship satisfaction was more strongly associated with depressive symptoms for individuals with higher, versus lower, levels of co-rumination. No moderating effects were found for masculinity or neuroticism. Findings support clinical and feminist theories that high femininity may place women at risk for dysphoric reactions to relationship distress and suggest that co-rumination may represent a risk factor for depression.

Keywords: Relationship satisfaction, depressive symptoms, emerging adults, co-rumination, gender roles, neuroticism, dating relationships

Intrapersonal Moderators of the Association between Relationship Satisfaction and Depressive Symptoms: Findings from Emerging Adults

There is a well-established association between romantic relationship distress and depression (reviewed by Whisman & Kaiser, 2008). Compared to individuals who are more satisfied with their relationships, those who are less satisfied tend to have higher concurrent (Whisman, 2001) and future depressive symptom levels (e.g., Beach, Katz, Kim, & Brody, 2003; Whisman & Uebelacker, 2009). Although the vast majority of studies have focused on marriage, negative associations between relationship satisfaction and depressive symptoms are also present within other types of romantic unions, including nonmarital dating relationships (Remen & Chambless, 2001; Whitton & Kuryluk, 2012). However, not all individuals in dissatisfying romantic relationships are depressed, and not all people with heightened depressive symptoms experience relationship distress. This suggests that couple distress and depression may be more closely linked under certain conditions than others. Identification of those conditions, or risk factors, represents an important next step in furthering our understanding of the interplay between intimate partnerships and mental health (Whisman, 2001). That is, by identifying moderators of the association between relationship quality and depression, we have the potential to better understand which individuals are most likely to show depressive symptoms in the face of relationship distress and, conversely, are most likely to show couple distress when dysphoric.

Unfortunately, very little research has been conducted to identify moderators of the links between romantic relationship quality and depression. There is some evidence that *interpersonal* factors (i.e., characteristics of the relationship) may play a moderating role. Relationship satisfaction has been more strongly associated with depression in married than in cohabiting relationships (Uebelacker & Whisman, 2006), in dating relationships characterized by higher,

versus lower, commitment (Whitton & Kuryluk, 2012), in high versus low conflict marriages (Kouros, Papp, & Cummings, 2008), and, for men, in relationships of longer, versus shorter, duration (Kouros et al., 2008; Whitton & Kuryluk, 2012). In contrast, very few *intrapersonal* characteristics (i.e., personality traits or stable behavioral tendencies of individuals) have been evaluated as moderators, limiting our understanding of individual-level risk factors for comorbid depression and relationship distress. Building our knowledge of these intrapersonal risk factors has clear clinical relevance. In contrast to relationship characteristics, individual characteristics may be easier and less costly to assess and may be more amenable to change via intervention when a partner is not present (i.e., either within a preventive context while an individual is single or a treatment context when the partner does not choose to participate).

It may be particularly important to identify moderators of the association between relationship quality and depression among emerging adults. This age group (approximately 18-25 years old) shows elevated rates of depression (Kessler & Walters, 1998) and subclinical depressive symptoms (Sargent, Crocker, & Luhtanen, 2006). Recent evidence suggests that the depression, and mental health more broadly, of emerging adults may be influenced by their dating relationships (Davila, 2011). The development of romantic relationship competence represents a central developmental task of young adulthood (Erikson, 1950); it is during this life stage that individuals generally develop and establish patterns of relationship behaviors that will last into adulthood (Fincham & Cui, 2011). Therefore, understanding how relationship functioning and depressive symptoms interrelate during emerging adulthood may inform how the robust association between depression and marital functioning among adults develops. In particular, identifying the characteristics that may place some young adults at greater risk for

developing this link may inform targeted (i.e., secondary) intervention efforts to prevent romantic relationship dysfunction and the emotional problems associated with it.

Towards this aim, in the present study, we investigated the potential moderating effects of four theoretically important intrapersonal characteristics-- stereotypical gender roles (femininity and masculinity), neuroticism, and the tendency to co-ruminate-- on the association between relationship satisfaction and depressive symptoms in a large sample of college students in dating relationships. We also explored whether any potential moderating effects might differ by gender. In the following section, we review the theory and research suggesting that these personal characteristics may represent factors that influence the extent to which relationship quality and depression covary.

Potential Moderators of the Association between Relationship Satisfaction and Depressive Symptoms

Gender Roles: Femininity and Masculinity

Interpersonal relationships are theorized to be more important to women's than men's identities and self-concepts (e.g., Bilsker, Schiedel, & Marcia, 1988; Gilligan, 1982), which may leave women more vulnerable to depression in the face of relationship distress (e.g., Jack, 1991). In support of these theories, data suggests that women are more sensitive to depressogenic effects of general interpersonal difficulties than are men (Kendler, Thornton, & Prescott, 2001). Further, marital distress, specifically, has a stronger cross-sectional association with symptoms among women than men (Proulx, Helms, & Buehler, 2007; Whisman, 2001), although findings from longitudinal studies are more mixed (e.g., Davila, Karney, Hall, & Bradbury, 2003; Whisman & Uebelacker, 2009; Whitton, Olmos-Gallo, et al., 2007). Similarly, in previous analyses with the current data, we found that the association between emerging adults' satisfaction with their

dating relationships and depressive symptom levels was stronger for women than for men (Whitton & Kuryluk, 2012). There are, however, individual differences in the extent to which men and women base their self-worth and self-image on interpersonal relationships, which may be better captured by adherence to stereotypical female roles (i.e., level of psychological or stereotypical femininity) than by biological sex. Stereotypical femininity is considered a stable personality trait characterized by a communal orientation, including interpersonal warmth and concern with the maintenance of close relationships, and by emotional expressiveness (e.g., Bem, 1974; Spence, Helmreich, & Stapp, 1974). Higher levels of femininity are associated with the tendency to prioritize one's romantic relationship over personal goals for both men and women, whereas sex itself is not (Hammersla & Frease-McMahan, 1990). Therefore, stressful relationship events may be quite emotionally distressing to highly feminine men and women, heightening their risk for depression (Waelde, Silvern, & Hodges, 1994).

Supporting this line of reasoning, psychodynamic and cognitive theories of depression propose that individuals with a high need for interpersonal affiliation, social acceptance, and intimacy are at heightened risk for depression (Beck, Rush, Shaw, & Emery, 1979; Blatt, D'Affitti, & Quinlan, 1976). People who are needy for others' approval and who base their self-worth in terms of the quality of their relationships have demonstrated vulnerability to depression in the face of interpersonal loss, conflict, or rejection (e.g., Robins, Hayes, Block, Kramer, & Villena, 1995). Expecting this vulnerability to apply to interpersonal stressors experienced within romantic relationships, we hypothesized that psychological femininity would moderate the association between satisfaction and depressive symptoms, controlling for gender. Specifically, we expected men and women high in femininity to show stronger associations than those low in femininity. In the one study that has tested this hypothesis (Whitton, Stanley, Markman, &

Baucom, 2008), femininity did not moderate the within-person, longitudinal association between weekly ratings of relationship functioning and depressive symptoms among married and cohabiting women. That study, however, noted low internal consistency in the measure of femininity, which may have attenuated its associations with other variables, and did not include men in its sample. In the current study, we evaluated femininity as a moderator of the cross-sectional association between relationship satisfaction and depressive symptoms among both male and female emerging adults.

Stereotypical masculinity, which is an independent construct from femininity, may, in contrast, be a *protective* factor against depressive reactions to relationship distress. Masculinity is a cluster of personality traits characterized by high self-efficacy, instrumentality, assertiveness, and an orientation towards achievement of goals (e.g., Spence et al., 1974). High levels of masculinity have been associated with decreased risk for depression and dysphoria in response to global life stress (e.g., Brazelton, Greene, & Gynther, 1996). Perhaps this is because masculinity is associated with more effective problem-solving and more active, problem-focused (vs. emotional-focused and ruminative) coping strategies in response to stressful situations (e.g., Lengua & Stormshak, 2000). According to behavioral, cognitive, and gender-based theories of depression (e.g., Abramson, Seligman, & Teasdale, 1978; Beck et al., 1979; Nolen-Hoeksema, 1987), such problem-focused coping responses are protective against depressogenic effects of stress, particularly stressors that are controllable (Compas et al., 2001). Whitton and colleagues (2008) proposed that these protective effects of masculinity would apply to stress within romantic relationships as well. In support of this notion, they found that the within-person association between weekly relationship functioning and depressive symptoms was weaker for married and cohabiting women high in masculinity than for those low in masculinity. However,

this hypothesis has not been tested in any other samples. In the present study, we sought to replicate the moderating effect of masculinity in women and to extend the research to include men and younger individuals in less committed relationships. We hypothesized that higher masculinity would be associated with a weaker cross-sectional association between dating relationship satisfaction and depressive symptoms among emerging adults of both genders.

Finally, there is some evidence that individuals who are high in both masculinity and femininity may have particularly high quality couple relationships (e.g., Peterson, Baucom, Elliott, & Farr, 1989) and less depression (e.g., Flett, Krames, & Vredenburg, 2009). Therefore, we further evaluated each gender role's moderating effect on the association between relationship satisfaction and depressive symptoms when the other was controlled (i.e., does femininity moderate this association when masculinity is held constant?) and assessed whether femininity and masculinity moderate the association between relationship satisfaction and depressive symptoms differently at different levels of the other gender role (i.e., is there a three-way interaction between femininity, masculinity, and relationship satisfaction in the prediction of depressive symptoms?).

Neuroticism

The intrapersonal characteristic that has received the most attention as a moderator of the association between couple functioning and depressive symptoms is neuroticism. Neuroticism is considered a stable personality trait and describes a general tendency to experience negative affect (i.e., anxiety, anger, and depression) and to experience strong emotional reactions to negative or stressful events (Watson & Clark, 1984). Numerous studies have shown that high levels of neuroticism are associated with romantic relationship dissatisfaction (Heller, Watson & Iles, 2004; Renshaw, Blais, & Smith, 2010) and with elevated depressive symptoms (e.g., Davila

et al., 2003). Compared to those low in neuroticism, highly neurotic individuals are at greater overall risk for experiencing depression and are more susceptible to depression when faced with adversity (Kendler, Kuhn, & Prescott, 2004). It is plausible, then, that highly neurotic individuals may be particularly likely to have depressive reactions to relationship discord, which is generally aversive and stressful. Indeed, theory suggests that higher neuroticism is associated with a stronger association between relationship satisfaction and depressive symptoms (see Beach & Fincham, 1994).

Research findings to date on the moderating role of neuroticism are, however, complex and inconsistent. In a nationally representative survey, neuroticism was associated with a stronger concurrent link between relationship discord and diagnostic depression, but only among married and not cohabiting individuals (Uebelacker & Whisman, 2006). In three longitudinal studies of married couples using within-subject designs, higher neuroticism generally strengthened the effect of marital satisfaction on depressive symptoms (Atkins, Dimidjian, Bedics, & Christensen, 2009; Davila et al., 2003; Karney, 2001); however, it did so only among women in one sample (Karney, 2001), and only among those seeking marital therapy, not those seeking treatment for depression, in another sample (Atkins et al., 2009). Further, in all three studies, neuroticism did not moderate the effect of depressive symptoms on marital satisfaction for women and, counterintuitively, weakened that effect for men. The complexity of these previous findings, which suggest that the moderating effect of neuroticism may vary across gender and other factors, including marital status, highlights the need for further research. In the current study, we sought to further our understanding by exploring whether neuroticism moderates the association between relationship satisfaction and depressive symptoms in nonmarital dating relationships and, if so, whether its moderating effect differs by gender.

Co-rumination

Co-rumination is defined as excessively discussing problems with other people, with a focus on negative emotions (Rose, 2002). The tendency to co-ruminate appears to be a fairly stable individual characteristic; self-reported level of co-rumination is moderately stable over time (Rose, Carlson, & Waller, 2007) and across co-rumination partners (i.e., close friends, parents, and romantic partners; Calmes & Roberts, 2008). Although adolescents and emerging adults tend to feel positively about the people with whom they co-ruminate, research suggests that co-rumination may promote depressive symptoms, both concurrently (Calmes & Roberts, 2008; Rose, 2002) and prospectively (Hankin, Stone, & Wright, 2010; Rose et al., 2007). These associations are not surprising in light of the body of research suggesting that rumination, or repeatedly thinking about a problem or negative emotions, is a risk factor for the onset and persistence of depressive episodes (Nolen-Hoeksema, Wisco, & Lyubomirsky, 2008). In particular, a strong disposition to ruminate raises one's chances of experiencing depressive symptoms in response to life stressors (e.g., Nolen-Hoeksema, Parker, & Larson, 1994), including stressors within romantic relationships (e.g., relationship threats; Jostmann, Karremans, & Finkenauer, 2011). This association between rumination and depression is likely due to that rumination impairs affect regulation (Jostmann et al., 2011) and problem solving (Watkins & Baracaia, 2002).

Because co-rumination involves the same focus on negative emotion rather than affect regulation and problem solving, it is reasonable to expect that those who are more disposed to co-ruminate would also experience more depression in response to stressors, including stressors associated with romantic relationships. Previous research has, in fact, shown that co-rumination moderated the association between romantic involvement (i.e., level of engaging in romantic

activities) and depressive symptoms in early adolescent girls (Starr & Davila, 2009). That is, relationship involvement was associated with increased depressive symptoms for girls who had higher levels of co-rumination but not for girls with low levels of co-rumination. Building upon these findings, we hypothesized that co-rumination would also moderate the association between relationship dissatisfaction and depressive symptoms, such that it would be stronger for those with greater tendencies to co-ruminate. Based on evidence of gender differences in co-rumination with friends among teens and young adults (Calmes & Roberts, 2008; Rose, 2002), we also extended previous research by examining the potential moderating role of co-rumination in male as well as female emerging adults and testing whether any moderating effect of co-rumination might differ by gender.

Method

Participants and Procedure

Participants were 484 undergraduate students (126 men, 358 women) currently involved in a dating relationship, who volunteered to take part in a larger IRB approved study of dating activities and relationships to fulfill requirements for psychology courses at a large Midwestern university. The only inclusion criterion for the larger study was being within emerging adulthood (ages 18-25). Of the original 1,013 participants in the larger study, we selected the 518 (51%) who reported current involvement in a romantic relationship. There was no requirement regarding relationship length. Because of our explicit interest in emerging adult dating relationships, 34 married or engaged participants were excluded, yielding the final sample of 484. Participants completed a password-protected online survey that contained an informed consent document as well as self-report measures of a variety of personal and relationship characteristics. Only measures relevant to the present hypotheses are described in this paper.

In the present sample, participants were primarily White (86% White, 7.9% Black, 2.1% Asian, 2.7% multiracial, and 2.5% Hispanic) and an average of 19.13 years old ($SD = 1.47$). Most participants (79.5%) described their relationship with their romantic partner as an exclusive dating relationship; 8.7% were casually dating the partner, and 11.8% were regularly dating the partner. Mean relationship length was 17.86 months ($SD = 15.98$). Thirty-seven participants (7.6%) were cohabiting with their partners. Twelve participants (2.5%; 6 men and 6 women) were in same-sex relationships; 97.5% were dating a partner of the opposite sex.

Measures

Demographic and Relationship Information. On a personal information form, participants provided information on demographic variables (age, education, ethnicity), relationship length, and current relationship status (selecting between *dating casually*, *dating regularly*, *dating exclusively*, *engaged*, *married*, or *domestic partnership/civil union*). As noted above, those in engaged, married, or otherwise legally recognized unions were excluded from these analyses.

Depressive Symptomatology. Depressive symptoms were assessed using the Center for Epidemiological Studies-Depression Scale (CESD; Radloff, 1977), which sums participants' ratings of how often they experienced a variety of depressive symptoms during the past week (e.g., "I felt sad," "I felt bothered by things that don't usually bother me") on a 4 point scale (0 = *rarely or none of the time*; 3 = *most or all of the time*). The CESD has shown evidence of reliability and validity (e.g., Eaton & Kessler, 1981). In this sample, internal consistency was excellent ($\alpha = .90$) and scores were normally distributed. Using 16 as a cutoff score (e.g., Derogatis, Lynn, & Maruish, 1999), 188 participants (36.3%) reported clinically significant symptom levels.

Relationship Satisfaction. Using the 16-item Couples Satisfaction Index (CSI-16; Funk & Rogge, 2007), participants provided ten global evaluations of their romantic relationship on 6- and 7- point Likert-type scales, and described their relationship on a bipolar adjective scale for each of six characteristics (e.g., 0 = *Miserable*, 5 = *Enjoyable*). All ratings were then summed; higher scores indicate greater satisfaction. The CSI-16, which has demonstrated good reliability and validity with college age dating relationships, provides more precision and power than traditional measures of relationship satisfaction (Funk & Rogge, 2007). In this sample, internal consistency was excellent ($\alpha = .95$).

Femininity and Masculinity. Using the short form of the Personal Attributes Questionnaire (Spence, Helmreich, & Stapp, 1975), participants described themselves on a 5-point bipolar adjective scale for each of 24 characteristics (e.g., 0 = *Not at all competitive*, 4 = *Very competitive*). The Femininity scale contains eight characteristics women stereotypically possess to a greater degree than men (e.g., emotional expressiveness, relationship focus). The Masculinity scale contains eight characteristics that males stereotypically possess more than females (e.g., instrumentality, assertiveness). Scores for each scale represent sums of responses on eight items assessing the relevant characteristics. Both scales are fairly stable over time, and have demonstrated reliability and validity (Spence et al., 1975). In this sample, internal consistency was acceptable ($\alpha = .75$ and $\alpha = .74$ for men and women, respectively, for femininity; $\alpha = .73$ and $\alpha = .70$ for men and women, respectively, for masculinity).

Neuroticism. Neuroticism was assessed using the Emotional Stability vs. Neuroticism subscale of the Transparent Bipolar Inventory of Markers for the Big-Five Factors (Goldberg, 1992). Participants rated how they would describe themselves on 7 different personality attributes using a 9-point bipolar adjective scale (e.g., 1 = *Nervous*, 9 = *At Ease*; 1 = *Angry*, 9 =

Calm). Responses were reverse scored so that higher scores represent greater neuroticism. This subscale has demonstrated acceptable convergent and discriminant validity (Goldberg, 1992). In this sample, internal consistency was good ($\alpha = .79$ for men and $\alpha = .83$ for women).

Co-rumination. Participants rated the extent to which they typically co-ruminate with friends on the Co-Rumination Questionnaire (CRQ; Rose, 2002), a 27-item self-report inventory. The CRQ captures nine aspects of co-rumination (each assessed with three items): frequency of problem discussion, discussing problems instead of doing other activities, encouragement of friends to discuss their problems, encouragement from friends to discuss problems, repeated discussion of the same problem, speculation about the cause of problem, speculation about the consequences of problem, conjecture about confusing aspects of the problem, and focus on negative emotions. Each item was rated on a 5-point Likert-type scale (1 = *Not at all true*; 5 = *Really true*). CRQ scores represent the mean score of all 27 items and have shown evidence of internal consistency and construct validity (Rose, 2002). In this sample, internal consistency was excellent ($\alpha = .94$ for men and $\alpha = .96$ for women).

Analytic Plan

First, we conducted preliminary analyses assessing associations between demographic characteristics and the constructs of interest to evaluate whether any demographic variables should be included as controls in tests of hypotheses. We also calculated zero-order associations among all relationship variables as a validity check of measures and to determine whether examination of the moderators separately was appropriate. To test hypotheses that the four intrapersonal characteristics would moderate the negative association between relationship satisfaction and depressive symptoms, and to evaluate whether any moderating effects differed by gender, we used hierarchical multiple regression analyses. Following procedures outlined by

Aiken and West (1991), after centering each of the variables to avoid issues of multicollinearity, we computed multiplicative interaction terms between relationship satisfaction, gender, and each intrapersonal characteristic (femininity, masculinity, neuroticism, and co-rumination). In regression analyses predicting depressive symptoms, we entered relationship satisfaction, gender, and an intrapersonal characteristic at Step 1; the three two-way interactions (i.e., between gender and satisfaction, between gender and the personal characteristic, and between satisfaction and the personal characteristic) at Step 2; and the three-way interaction at Step 3. When significant interactions were found, simple slope tests were conducted to decompose the interaction (Aiken & West, 1991). In addition, when three-way interactions were found, indicating that the moderating effect of the intrapersonal characteristic differed by gender, we examined two-way interactions between relationship satisfaction and the intrapersonal characteristic separately for men and women. This strategy provides a statistical test of whether, within gender, the slopes differed at high versus low levels of the given moderator, and aids in interpretation. Finally, to assess whether masculinity and femininity may influence the moderating effects of the other, we conducted an additional regression model examining both gender roles simultaneously. In this model, we added a four-way interaction between gender, satisfaction, masculinity, and femininity, as well as all additional two- and three-way interactions necessary.

Results

Preliminary Analyses

Means, standard deviations, and zero-order correlations among all variables are presented separately by gender in Table 1. Preliminary analyses indicated some associations between demographic variables and the variables of interest. Unsurprisingly, women had higher levels of femininity than men, $t(477) = -4.95, p < .001$, and men had higher levels of masculinity than

women, $t(475) = 5.18, p < .001$. Consistent with prior research in married couples (McNulty, 2008), women's mean neuroticism score was higher than men's, $t(472) = -1.96, p = .05$. In contrast to previous research (Calmes & Roberts, 2008), gender differences were not found for co-rumination. White participants, compared to those of other races, reported more relationship satisfaction, $t(481) = 3.07, p < .01$, and less depression, $t(83.39) = -3.15, p < .01$. White participants also had higher femininity than those of other races, $t(79.34) = 2.41, p = .02$. Age was negatively associated with relationship satisfaction, $r = -.12, p = .01$, despite the restricted age range (18-25 years) of the sample. Relationship length was positively correlated with satisfaction ($r = .11, p = .04$). Based on these findings, all regression analyses were re-analyzed controlling for each demographic variable and relationship length. Because the inclusion of these control variables did not alter the results conceptually or statistically, for simplicity, we present results from analyses that do not include them.

Consistent with previous research, depressive symptoms were negatively associated with masculinity and positively associated with neuroticism and co-rumination for both sexes. Femininity showed a small negative association with depressive symptoms. For women only, relationship satisfaction showed positive associations with femininity and masculinity and a negative association with neuroticism. Interestingly, for men, relationship satisfaction did not show zero-order associations with any of the proposed intrapersonal moderators. Intercorrelations between the proposed moderators were small to moderate ($|r|s = .01-.38$), supporting the decision to examine them separately.

As previously reported (Whitton & Kuryluk, 2012), there was a negative correlation between relationship satisfaction and depressive symptoms for both men, $r = -.19, p < .05$ (small effect), and women, $r = -.38, p < .001$ (medium effect), in this sample. A Fisher r -to- z

transformation showed this correlation to be significantly stronger for women than for men ($z = 1.99, p < .05$).

Test of Hypotheses

Results of the regression analyses are summarized in Table 2. In the model assessing femininity as a moderator, there was a three-way interaction among femininity, relationship satisfaction, and gender, indicating that the moderating effect of femininity differed by gender. Femininity moderated the association between relationship satisfaction and depressive symptoms for women, $\beta = -.21, \Delta F(1, 350) = 18.04, p < .001$. As displayed in Figure 1, simple slopes analysis indicated that there was a negative association between relationship satisfaction and depressive symptoms for women regardless of level of femininity; however, the association was stronger for women with high femininity, $\beta = -.67, p < .001$, than for women with low femininity, $\beta = -.16, p = .05$. In contrast, femininity did not moderate the association between relationship satisfaction and depressive symptoms for men, $\beta = .08, \Delta F(1, 120) = .85, p = .36$. There was a negative association between relationship satisfaction and depressive symptoms for men regardless of level of femininity, $\beta = -.25, p < .01$ and $\beta = -.23, p < .01$ for high and low femininity, respectively.

In contrast, the interaction term between masculinity and relationship satisfaction was not significant, nor was the three-way interaction among masculinity, relationship satisfaction, and gender. These results indicate that masculinity did not moderate the association between relationship satisfaction and depressive symptoms for either gender. In the regression model (not shown) that included both femininity and masculinity, the four-way interaction between gender, satisfaction, masculinity, and femininity was not significant. Because tests of this four-way interaction may have been underpowered, we also ran separate regressions for men and women

examining the three-way interaction between satisfaction, masculinity, and femininity. The interaction term was not significant for either sex. In all models, the two-way interactions between each gender role and satisfaction were unchanged by inclusion of the other gender role in the model. This indicates that moderating effects (or lack thereof) of femininity and masculinity were not dependent on, nor accounted for, by levels of the other gender role.

Neuroticism was examined next. As indicated by the non-significant coefficients for the two-way interaction between neuroticism and satisfaction and for the three-way interaction among neuroticism, relationship satisfaction, and gender, neuroticism did not demonstrate a moderating effect for either men or women.

In analyses examining co-rumination, there was a two-way interaction between co-rumination and relationship satisfaction, $\beta = -.15, p < .01$. Simple slope analysis indicated that, although there was a negative association between relationship satisfaction and depressive symptoms at all levels of co-rumination, it was stronger for those high in co-rumination, $\beta = -.48, p < .001$, than for those low in co-rumination, $\beta = -.21, p < .001$ (see Figure 2). The three-way interaction among co-rumination, relationship satisfaction, and gender was not significant, indicating the moderating effect of co-rumination did not differ by gender.

Discussion

Over a decade ago, Whisman (2001) called for research aimed at identifying moderators of the association between relationship quality and depressive symptoms in order to improve our theoretical understanding of risk factors for couple dysfunction and depression, to guide assessment procedures for identifying individuals in need of services, and to identify risk factors that may be appropriate targets for intervention. Nevertheless, research in this area has remained fairly sparse. The present study represents one of the first to examine intrapersonal moderators of

the association between relationship satisfaction and depression other than neuroticism and gender. Further, this study had a unique focus on emerging adulthood, a life stage during which many individuals experience elevated depressive symptoms (e.g., Sargent et al., 2006) as well as develop lasting intimate relationship patterns (Arnett, 2000). It may be particularly important, therefore, to identify individual characteristics that may increase risk for negative relationship outcomes and depression among emerging adults. Overall, we found that stronger adherence to feminine gender roles (in women) and the tendency to co-ruminate (in both men and women) strengthened the negative cross-sectional association between romantic relationship quality and depressive symptoms in this sample of young adults.

For female participants only, femininity demonstrated the hypothesized moderating effect. Relationship satisfaction and depressive symptoms were negatively associated across levels of femininity among women; however, this association was in the large range ($\beta = -.67$) for women above average in femininity but in the small range ($\beta = -.16$) for those lower than average in femininity. The extent to which college women's relationship quality is linked with their emotional well-being, therefore, appears to be greater to the extent that they have more stereotypically feminine characteristics. These findings provide support for the hypothesis that, among women, psychological femininity may be associated with sensitivity to relationship stress. As such, the current results are consistent with clinical and feminist theories of depression that emphasize how individuals who base their self-worth on the quality of their intimate relationships to a greater extent are more vulnerable to depressive reactions when faced with interpersonal threats or loss (Beck et al., 1979; Blatt et al., 1976; Jack, 1991). However, because femininity captures not only relationship orientation but also emotionality and expressiveness, it is also possible that these traits drive the observed moderating effect of femininity, especially

given that emotion-focused responses to stress are linked with depression (e.g., Nolen-Hoeksema, 1987). Future research that explicitly assesses interpersonal sensitivity or sociotropy would shed light on the specific feminine characteristics that may amplify associations between relationship satisfaction and depressive symptoms.

Unexpectedly, femininity was not similarly associated with a stronger association between relationship satisfaction and depressive symptoms among the male participants. It is not clear why this was the case. Psychodynamic and cognitive theories of depression suggest that all individuals, not just women, who are more focused and dependent upon their relationships are more prone to depressive reactions to relationship dissatisfaction (Beck et al., 1979; Blatt et al., 1976). In addition, although the men, on average, were lower in femininity than were the women in this sample, there was no evidence of a floor effect or a restricted range in variability among men that might attenuate its associations with other constructs. It is possible that the lack of a moderating effect of femininity for these emerging adult men is related to the fairly small ($r = -.19, p < .05$) overall association between their dating relationship satisfaction and symptoms. Within the relatively uncommitted and unstable relationships of emerging adulthood, men's depressive symptoms do not appear to be as strongly linked to relationship quality as they are within marriage, where the association is generally moderate (Whisman, 2001). Indeed, theory and previous evidence suggest that men's behavior and emotions may not become linked to their romantic relationships until the long-term commitment to those relationships has been firmly established (Whitton, Stanley, & Markman, 2007; Whitton & Kuryluk, 2012). Perhaps it is only once men are involved in more long-term committed relationships, in which their depressive symptoms are more reliably associated with their relationship satisfaction, that high levels of

psychological femininity may strengthen the magnitude of that association. Future research is needed to explore this possibility.

In addition, the hypothesis that higher levels of stereotypically masculine characteristics would weaken the association between relationship satisfaction and depressive symptoms was not supported for either gender. It is striking that the pattern of findings regarding gender roles, particularly for women, were exactly the opposite of those found by Whitton and colleagues (2008) in a longitudinal study of cohabiting and married women. In that study, masculinity but not femininity moderated the within-person association in weekly reports of relationship satisfaction and depressive symptoms. The difference in findings may result from differences between the two samples. In contrast to the present sample of young adults in dating relationships, participants in the earlier study (Whitton et al., 2008) were generally in their thirties and either married or in highly committed cohabiting relationships. Perhaps masculinity, and the self-efficacy and active coping skills that it encapsulates, buffers adult women from dysphoric reactions to marital dissatisfaction but is less important for protecting emerging adults from dysphoric reactions to dissatisfaction with their dating partners. Young adult college students, who have far fewer barriers to ending their romantic partnerships and less long-term commitment than do married adults, may not need to draw on these active coping skills to deal with dissatisfaction; instead, they can fairly easily terminate the relationship. Alternately, it may simply be that the extent to which individuals are characterized by an orientation towards achievement (a central aspect of masculinity) is not relevant to how young adults react to relationship dissatisfaction.

Also unexpectedly, we did not find any evidence that neuroticism moderated the association between relationship satisfaction and depressive symptoms. This was surprising

given the substantial literature documenting neuroticism as a risk factor for depression in the face of life stress (e.g., Kendler et al., 2004) and the replicated finding that higher neuroticism generally strengthens the within-subject effect of marital satisfaction on depressive symptoms (Atkins et al., 2009; Davila et al., 2003; Karney, 2001). It is possible that the lack of a moderating effect of neuroticism in the current sample may reflect differences between our samples and those used in the longitudinal studies. In particular, our sample was comprised of young adults in non-marital dating relationships in contrast to newly married couples. It may be that highly neurotic individuals are at risk for depressive symptoms only within the more committed, long-term relationships of marriage and not within the more transient and less committed dating relationships that typify college. This interpretation would be consistent with Uebelacker and Whisman's (2006) finding that neuroticism moderated the cross-sectional association between relationship discord and diagnostic depression for married individuals but did not moderate this association for individuals in non-marital, cohabiting relationships. Further research is needed to explore the possibility that neuroticism may represent a risk factor for dysphoric reactions to relationship distress only in marriage - not other relationship forms - and to explore why this might be the case.

Alternately, the discrepancy between our findings regarding masculinity and neuroticism and the findings from longitudinal, within-person studies may have resulted from the different way in which we assessed the association between satisfaction and depression and its moderation. In the current study, we looked at whether between-person differences in the intrapersonal characteristics of masculinity and neuroticism predict differences in the *cross-sectional, between subjects associations* between satisfaction and symptoms. That is, we assessed whether these intrapersonal characteristics were associated with the extent to which individuals who report

lower (vs. higher) relationship satisfaction also tend to report higher (vs. lower) concurrent depressive symptoms. (We found that they did not.) In contrast, studies using within-persons designs assessed whether those individuals who are higher (vs. lower) in masculinity and neuroticism show a stronger link between their own levels of relationship satisfaction and symptoms across time. Although between-subjects associations often parallel within-subject associations, this is not always the case. It may be that highly neurotic individuals and individuals low in masculinity are more likely to show a stronger effect of changes in marital satisfaction on their trajectory of depression over time, but that, when comparing across individuals at a static time point, they do not show a stronger link between concurrently reported levels of relationship quality and depressive symptoms. For example, highly neurotic individuals, who are characterized largely by their emotional reactivity, may primarily show reactivity to increasing relationship dissatisfaction through changes in their own symptom levels. Overall, these findings add to a growing literature documenting a role of neuroticism that is quite complex. The extent to which it represents a risk factor for dysphoric reactions to relationship distress and for couple distress in response to depression appears to be highly contingent on other factors (relationship status, gender, reasons for seeking treatment, and between- versus within-subject nature of the associations). As such, the present results highlight the need for further research on how neuroticism may affect the interplay between relationships and depression.

The only intrapersonal characteristic that was found to moderate the association between relationship satisfaction and depressive symptoms across gender was co-rumination. Replicating previous findings (e.g., Rose, 2002), co-rumination was associated with higher depressive symptoms. Moreover, both men and women higher in co-rumination showed a stronger negative association between relationship satisfaction and depressive symptoms than did those with lower

self-reported co-rumination. This suggests that “venting” with friends, with a heavy focus on negative emotions rather than constructive problem solving, is not only associated with higher average levels of symptoms (as has been shown in previous research) but also increases the extent to which relationship dissatisfaction and emotional well-being are intertwined. Although these cross-sectional data cannot support conclusions regarding the direction of effects, they are supportive of the notion that co-rumination may place individuals at risk for dysphoric reactions to dissatisfaction in romantic relationships. In this way, the current findings add to a growing literature documenting the potential depressogenic consequences of co-rumination (Calmes & Roberts, 2008; Hankin et al., 2010; Rose, 2002; Rose et al., 2007), which mirror those of the more internal process of rumination (Nolen-Hoeksema et al., 2008). Our results extend previous findings by showing that not only is co-rumination associated with more depressive symptoms and the generation of more stress (Hankin et al., 2010), but it also may interact with stress to predict symptoms. That is, co-rumination may raise vulnerability to heightened depressive symptoms in the face of relationship stress. As such, these findings support continued research into how this construct, only recently defined, may be a meaningful risk factor for depression.

Several limitations of this study are worth noting. First, the sample was comprised entirely of university students, the majority of whom were White, which may limit generalizability of findings to non-college emerging adults and those of other racial and ethnic backgrounds. In addition, although a strength of our study is that it is the first to extend the examination of moderators of the association between relationship quality and depressive symptoms to emerging adults in non-marital dating relationships, the nature of our sample also necessitates that the findings can not be assumed to generalize to older, married adults. Second, we assessed depressive symptoms levels in a nonclinical sample; therefore, further study is

needed before drawing conclusions regarding major depression. However, over one-third of the sample reported clinically significant symptom levels. Further, subclinical depressive symptoms are associated with significant impairment (e.g., Lewinsohn, Solomon, Seeley, & Zeiss, 2000), suggesting the importance of identifying risk factors for elevated symptoms in response to relationship stress. Third, we measured overall neuroticism rather than its specific facets (anxiety, angry hostility, and depression), which have differing associations with relationship satisfaction (Renshaw et al., 2010) and therefore may play different moderating roles. Fourth, the data are cross-sectional and therefore can not speak to causation or the direction of effects. Based on this data, we can only conclude that those emerging adults who tend to co-ruminate more often, and those women who are higher in femininity, tend to show a stronger cross-sectional association between self-reported relationship satisfaction and depressive symptoms than do other emerging adults.

Nevertheless, the current results advance our understanding of the individual factors that may influence the association between relationship quality and depression, an important goal for the field (Whisman, 2001) that has received relatively little research attention. These data provide intriguing preliminary information to suggest that, at least among young adults in dating relationships, co-rumination and femininity represent intrapersonal risk factors for depressive reactions to relationship dissatisfaction and, conversely, for negative couple outcomes resulting from depressive symptoms among young adults. Clinically, this suggests the potential utility of assessing these characteristics to identify young adults most at risk for negative spirals of worsening relationship dissatisfaction and depressive symptoms. Among college students seeking treatment for emotional distress, those who co-ruminate frequently and those women who are high in femininity may be good candidates for relationship-based interventions. In

addition, the findings suggest that co-rumination may be an appropriate target for interventions, including preventive healthy relationship education programs and couple therapies.

Psychoeducation about the potentially harmful effects of venting about and emotionally processing interpersonal problems might reduce links between relationship stress and depressive symptoms. In conjunction with healthier strategies for coping (e.g., problem-solving), targeting co-rumination has the potential to help prevent or interrupt cycles of worsening couple distress and dysphoria. Similarly, the findings regarding femininity suggest that cognitive restructuring techniques (Beck et al., 1979) to address relationship-related dysfunctional beliefs (e.g., “having a romantic conflict means I am a bad person”) may help prevent young women high in femininity from having future dysphoric reactions to relationship stress.

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Table 1
Correlations, Means, and Standard Deviations Among Variables

	Men (<i>n</i> = 126)			Women (<i>n</i> = 358)			1	2	3	4	5	6	7	8
	<i>M</i>	<i>SD</i>	Range	<i>M</i>	<i>SD</i>	Range								
1. Age	19.27	1.42	18-25	19.08	1.48	18-25	--	.08	.10	-.15	-.02	.07	-.16	.06
2. Relationship Length (months)	19.26	17.07	1-78	17.37	15.58	0-98	.18**	--	.08	.04	-.02	-.01	-.02	.13
3. Depressive Symptoms	15.04	10.28	0-44	15.89	10.23	0-55	-.08	-.04	--	-.19*	-.20*	-.31**	.35**	.27**
4. Relationship Satisfaction	67.07	12.57	16-81	65.62	12.87	5-81	-.11*	-.06	-.38**	--	.03	.16	-.01	-.06
5. Femininity	22.78	4.04	12-31	24.88	4.08	8-32	.01	.11*	-.15**	.25**	--	.23*	-.15	.04
6. Masculinity	21.79	4.66	11-31	19.27	4.73	5-32	.05	.02	-.31**	.19**	.14**	--	-.21*	-.03
7. Neuroticism	4.10	1.16	1-7.29	4.35	1.27	1-8.86	-.01	.09	.50**	-.25**	-.17**	-.38**	--	.05
8. Co-rumination	2.84	.67	1-4.44	2.85	.84	1-5	-.06	-.05	.19**	.05	.14*	-.05	.15**	--

Note. Correlations for men are reported above the diagonal; women are below the diagonal.

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

Table 2

Results of Hierarchical Regression Analysis Predicting Depressive Symptoms

	Intrapersonal Characteristic Moderator							
	Femininity		Masculinity		Neuroticism		Corumination	
	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2
<i>Step 1</i>		.12***		.18***		.27***		.16***
Relationship Satisfaction	-.33***		-.30***		-.23***		-.35***	
Gender	.08		-.03		-.01		.03	
Intrapersonal Moderator	-.10*		-.27***		.41***		.22***	
<i>Step 2</i>		.03**		.01		.00		.04***
Satisfaction x Gender	-.09*		-.04		-.02		-.10*	
Gender x Moderator	.06		.03		.02		-.05	
Satisfaction x Moderator	-.13**		.08		-.03		-.15**	
<i>Step 3</i>		.02**		.00		.00		.00
Satisfaction x Gender x Moderator	-.13**		-.05		-.02		-.04	
<i>Total R²</i>		.16***		.19***		.27***		.20***

Note. B values presented for each predictor are from the final models. For step 3, $\Delta F(1, 470) = 8.91, p < .01$ for femininity; $\Delta F(1, 469) = 1.35, p = .25$ for masculinity; $\Delta F(1, 465) = .13, p = .72$ for neuroticism; and $\Delta F(1, 468) = .64, p = .43$ for corumination.

* $p < .05$, ** $p < .01$, *** $p < .001$.

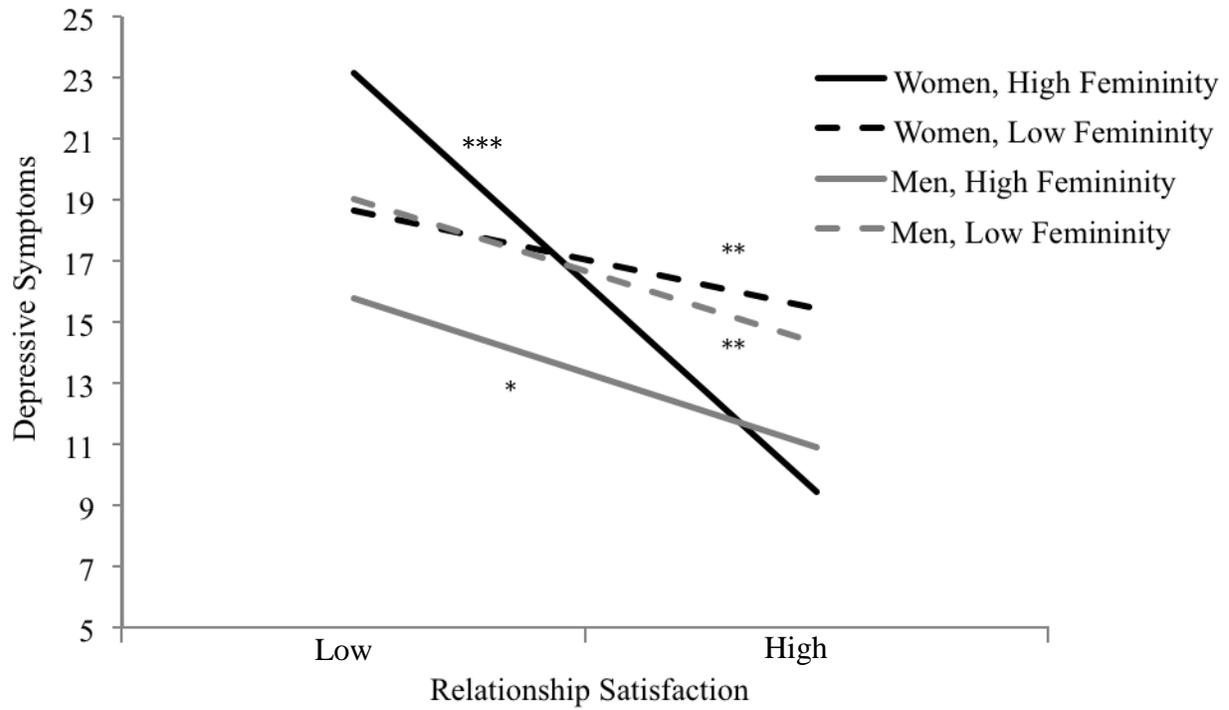


Figure 1. Interaction effects of relationship satisfaction, femininity, and gender on depressive symptoms.

* $p < .05$, ** $p < .01$, *** $p < .001$

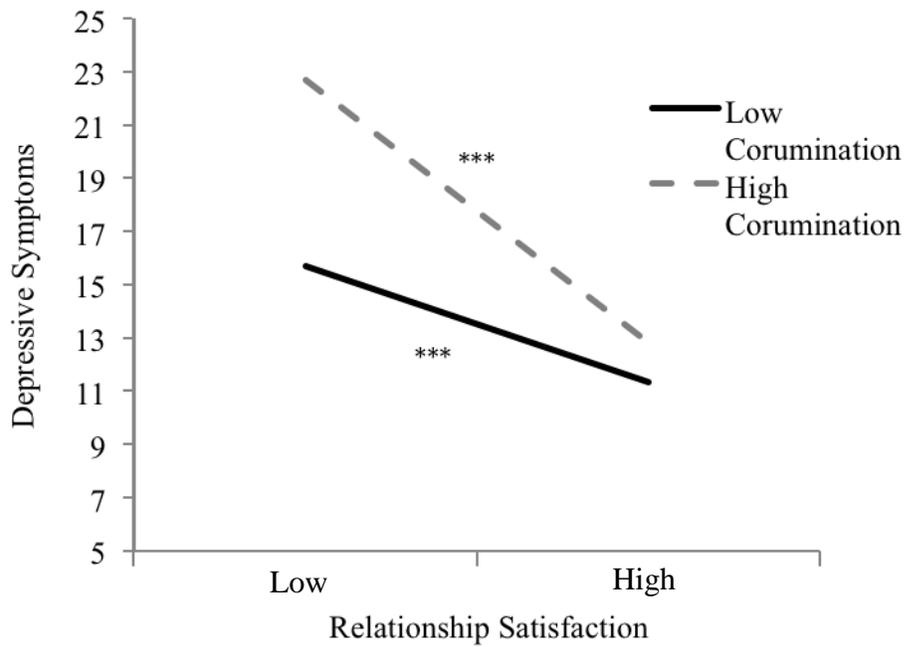


Figure 2. Interaction effects of relationship satisfaction and co-rumination on depressive symptoms.

* $p < .05$, ** $p < .01$, *** $p < .001$