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*Co-Rumination and Depression in College Students*

*By*

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*Honors Thesis*

*In*

*Department of Psychology  
University of Richmond  
Richmond, VA*

*May 5, 2006*

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Running head: CO-RUMINATION AND DEPRESSION IN COLLEGE STUDENTS

Co-Rumination and Depression in College Students

Maurita Burns

University of Richmond

## Abstract

Studies concerning depression consistently reveal higher levels in women than men. One explanation for this is that women and men cope with depressive emotions differently. While women tend to focus on their negative emotions and the causes and consequences of these feelings, men are more likely to engage in distracting, active behavior. The persistent self focus on negative emotions, rumination, has been found to prolong and exacerbate feelings of depression (Nolen-Hoeksema, 1991). At the same time, women tend to have more intimate and close friendships characterized by self-disclosure than men. While such intimate relationships theoretically provide social support that can alleviate the severity and shorten the length of depression, this buffering effect apparently does not lessen the prevalence of depression in women. One explanation for this lack of significant effective mediation is that women may engage in more co-rumination, or the excessive and repetitive discussion of one's problems, focusing on the causes, effects, and negative emotions associated with them (Rose, 2002). Co-rumination may prolong feelings of depression. The current study attempted to examine the correlation between co-rumination and depression by examining college students and their coping styles within their close same-sex friendships. Results indicate that women tend to co-ruminate more than men, and that their friendships have more positive friendship features. Men report more hostility and their friendships have more negative friendship qualities. Furthermore, for all participants, co-rumination correlated significantly with depression and positive friendship qualities.

### Co-Rumination and Depression in College Students

One of the most consistent findings in the study of depression is that adult women are about twice as likely to be depressed as adult men (Nolen-Hoeksema & Girgus, 1994). This gender difference does not appear until mid adolescence, between the ages of eleven and fifteen, and has disparate explanations. One dominant account for the different levels of depression in men and women is that men and women respond to depressive symptoms differently. In other words, the dissimilar coping styles of men and women cause them to experience variant levels of depression.

Examining the coping responses of men and women, Billings and Moos (1984) found that responses that focused on problem solving and affect regulation were associated with less severe dysfunction (i.e. fewer depressive symptoms and more self-confidence). Problem solving coping responses were those that attempted to eliminate the source of stress through addressing the reality of the situation. Emotional discharge responses, defined as verbal or behavioral expressions of unpleasant emotions and indirect efforts to reduce tension, were linked to greater depression, and were utilized to a greater extent by women (1984). Similarly, Aldwin and Revenson (1987) concluded that a significant difference between depressed and non-depressed individuals was that the former used emotion-focused instead of problem-focused coping models. Emotion-focused coping concentrates on the problem while taking no proactive steps to ameliorate the situation and may reflect an inability to disengage, or an inability to put something behind oneself and move on. For example, Carver and Scheier (1990) found a correlation between depression and perseverating mentally on failure.

Thus Nolen-Hoeksema (1991) proposed that women are more likely to experience depressive symptoms because they tend to ruminate more than men. Rumination involves

focusing on the symptoms, causes, implications and effects of one's depression. It is self and emotion focused. This coping method may interfere with problem solving by making negative cognitions more accessible and interfering with participation in positive, proactive behavior. Furthermore, an inability to solve the problem associated with the negative mood maintains that mood and may even exacerbate or prolong it (Nolen-Hoeksema & Morrow, 1993).

In a study in which women reported extreme depression on more days than men and more depressed episodes than men, they were also more likely to exhibit a ruminative response style (Nolen-Hoeksema, Morrow, & Frederickson, 1993). Dysphoric students who were induced to ruminate were more likely to perceive their problems as uncontrollable and showed poorer problem solving skills than dysphoric students who took part in distracting activities (Lyubomirsky & Nolen-Hoeksema, 1995). Hypothetically, a lessened ability to adequately solve interpersonal problems may instigate a perpetuating cycle where ineffectual problem solving causes more stress and negative life events, which then lead to even more interpersonal difficulties.

While ruminative coping styles may explain the perpetuation of a depressed mood, social support has been found to moderate the relationship between stress and depression (Cohen, Sherrod, & Clark, 1986; Pengilly & Dowd, 2000). Furthermore, dyadic relationships, a typical characteristic of female peer friendships, decrease occurrences of loneliness and depression (Sharabany, Gershoni, & Hofman, 1981; Nangle et al., 2003). Intimate friendships have positive consequences by providing reliable social support, and their absence can have negative effects (Wheeler, Reis, & Nezlek, 1983).

One would suspect that women's friendships would have a more prominent buffering effect on emotional difficulties; previous research has shown intimacy and related support

dimensions to be strongly positively correlated with measures of psychological well-being (Reis, 1989 in Reis, 1990). It is pertinent to examine the character of female same-sex friendships compared to those of males in order to ascertain why they do not operate as more successful barriers to depression.

Women's friendships are often focused on talking about relationship issues, feelings and emotions, and other personal matters, while men's friendships are more likely to be based in shared activities (Caldwell & Peplau, 1982; Fehr, 2004). Furthermore, evidence concerning friendship quality reveals that men's friendships are less intimate, close, and supportive than women's friendships (Bank & Hansford, 2000). This intimacy may be one result of greater self-disclosure in female same-sex friendships (Cozby, 1973). When a sample of undergraduate students were asked what made their friendships close, self-disclosure, support, and shared interests were the three most common answers (Parks & Floyd, 1996). Reis, Senchak, and Solomon (1985) concluded that while men are just as capable as females at interacting intimately when the situation required it, females reported more regular meaningful and intimate interactions with their best friends than men. Thus lack of self-disclosure may be a result of deliberate avoidance by men; when asked what they preferred to talk about with their same-sex best friend, women listed personal topics (i.e. feelings and problems) twice as often as men (Caldwell & Peplau, 1982).

Empirical studies provide conclusive evidence for both the greater levels of intimacy as a result of self-disclosure in female friendships, and the social support that is created by such intimate relationships. The question thus arises as to why this social support does not ameliorate the negative effects of women's tendency to ruminate, a coping process that is positively correlated with prolonging the symptoms of depression and a decreased ability to solve

Interpersonal problems. Coyne (1976) suggested that a confidante's response acts as a mediator between social support and the recovery from depression; recovery can be assisted by social support only to the extent that the confidante helps the discloser to stop ruminating and engage in distracting responses or problem solving.

Rose (2002) proposed a new construct, co-rumination, to explain these conflicting patterns; co-rumination, as the name suggests, is a social form of ruminative behavior. Co-rumination is defined as the excessive discussion problems or stressors within a dyadic relationship; the problems are talked about repeatedly and excessively with a focus on the negative emotions that are the result of these problems. Furthermore, girls co-ruminate more than boys (2002).

Co-rumination represents an overlap between self-disclosure and rumination. Both can foster the development of intimate relationships (Rose, 2002). However, because of its repetitiveness and focus on negative emotions, co-rumination is more extreme and maladaptive than self-disclosure. While co-rumination and self-disclosure were both positively correlated with internalizing symptoms, only co-rumination was significant when they were simultaneously predictive (2002). Co-rumination also possesses some of the traits of rumination, albeit with a social character. While intense affective conversations can foster closeness, co-rumination's negative focus and interference with proactive problem solving and distracting activities may lead to prolonged depressive symptoms and anxiety (2002).

There is abundant research that explains the different rates of depression in men and women by attributing it to differing coping responses, and further research elucidating the differences in the revelatory nature of male and female same-sex friendships. The proposed study attempted to investigate a possible connection between these areas, represented by the construct



of co-rumination. It was thought that women, who generally have closer dyadic friendships than men, would tend to co-ruminate more than men in same-sex relationships. This coping response of co-rumination would inhibit women's engagement in more positive responses such as participating in distracting behavior or actively attempting to solve the problem causing the depressive mood. The study attempted to test the following hypotheses: women would report higher levels of depression, rumination, and co-rumination than men; co-rumination would correlate with positive measures of friendship quality and higher levels of depression; and in a laboratory setting, same-sex female friends would exhibit more co-ruminative conversational patterns than same-sex male friends.

## Method

### *Participants*

Participants were 20 men and their same-sex best friends and 21 women and their same-sex best friends ( $N = 82$ ) who attended the University of Richmond. Each pair of friends had known each other for at least four months. There were freshman, sophomores, juniors, and seniors who participated in the study (mean age = 19.37 years).

### *Measures*

*Friendship Quality.* The Network of Relationships Inventory (NRI) (Furman & Buhrmester, 1985), adjusted for college students, evaluated 10 relationship qualities. The NRI indicated both positive and negative features of a friendship. Participants were asked to respond to the inventory concerning their friendship with the close same-sex friend who was also a participant in the study. Participants respond to items on the NRI using a 5-point Likert scale. For the current study, a negative friendship qualities scale was computed as the average of the participant's response to items loading on the conflict and antagonism scales. The positive

friendship qualities score was the average of the participant's response to items loading on the companionship, instrumental aid, intimacy, nurturance, affection, admiration, and reliable alliance scales.

*Co-rumination.* Rose's (2002) 27-item co-rumination questionnaire measured more extreme aspects of self-disclosure and assessed content areas on a Likert scale. Participants were asked to rate how much the statement described them, ranging from "Not at all true" (1) to "Really true" (5). Content areas were: (1) frequency of discussing problems, (2) talking about problems instead of taking part in other activities, (3) encouragement by the focal participant of the friend's talking about problems, (4) encouragement by the friend of the focal participant's talking about problems, (5) repeated deliberation about the problem, (6) conjecturing about the causes of problems, (7) conjecturing about the consequences of problems, (8) conjecture about aspects of the problem not adequately comprehended, (9) focusing on negative emotions. The questionnaire was adjusted to reflect the actions of college students.

*Psychological Distress.* The 53 item Brief Symptom Inventory (Derogatis, 1993) was used as a comprehensive measure of various psychological symptoms of distress. In the current study, the subscales of interpersonal sensitivity, anxiety, hostility, and overall distress (global symptom inventory) were used.

*Depression.* The 21-item Beck Depression Inventory-II was used to assess the intensity of depression in participants. For each item, participants indicate which of three statements best describes their depression symptoms. The total score is a sum of responses to all items (range = 0 to 42).

*Rumination.* Rumination was measured using Nolen-Hoeksema and Morrow's (1991) Response Styles Questionnaire (RSQ). The questionnaire, asking the participant to indicate what

they generally do when they feel depressed or sad, consisted of 35 items measuring ruminative responses and distracting responses. Those that measured ruminative responses described coping responses that focused on emotions, the self, or causes and consequences of the mood. Those items measuring distracting responses described proactive, distracting responses to depression.

Participant scores for each of the aforementioned measurements was assessed and analyzed for 40 male and 42 female participants. An ANOVA was performed to examine the main effect of on the various measures of psychosocial adjustment. Multiple regression analyses were used to examine associations among co-rumination, friendship quality, and psychosocial adjustment.

*Observational assessment.* A primary purpose of the study was to develop an observational assessment of co-rumination. Specifically, after completing the previously described measures, pairs of friends were asked to have two short (5 minutes each) conversations that were videotaped. Each friend was given written instructions that indicated they would be asked to discuss with their friend something that was causing them stress. A list of possible topics was provided:

- girlfriend or boyfriend
- roommate or apartment-mate
- parents or family
- other friends
- academics
- summer or post-graduation plans
- money or income
- classes
- health issues (e.g. sleep, diet, exercise, and illness)
- anything else that is causing you stress or bothering you

One friend was randomly selected to go first, and the pair was asked to talk about that friend's topic. After five minutes, the experimenter returned and asked the friends to talk about the second friend's topic for five minutes.

Coding schemes were developed to analyze these videotaped discussions. Participants were evaluated separately for when they were the focal participant and when they were the support participant; the frequency with which participants displayed specific behaviors was recorded. Interrater reliability was assessed by having a second trained coder code 20% of the videotapes. Codes for the dyad included emotional avoidance and any indication that the friends had discussed the problem before or would discuss it in the future. Emotional avoidance occurred when one participant expressed that something or someone was causing them to be upset, worried, or stressed and the other participant did not acknowledge or address this emotional self-disclosure. Dyads were given either a zero or one for repetition and emotional avoidance, indicating that it either did or did not occur. Finally, dyads were given scores for the perceived closeness of the friendship, zero being not close and two being very close.

Focal and support participants were given a score from zero to two indicating whether they displayed the following behaviors not at all, a little, or a lot. Focal participants were scored according to the following coding scheme:

*Self-Disclosure* was characterized by revealing or discussing emotions related to a problem. This could be overt (e.g. "I am really upset that I wasn't chosen to be captain") or covert (e.g. "I really wanted to be captain and wasn't chosen"). A score of two indicated that an expression of a range of emotions beyond stress or feelings about the topic that were deeper, more negative, or more severe than simple worry or disconcertment.

*Details Focused* conversing occurred when the focal participant negatively focused on details or minor aspects of the problem that were out of his or her control. This could be differentiated from more positive problem focused discussion by the excessive concentration on the various trivial aspects of the problem that were not fundamental to it or necessary to explain the problem

to the friend. This discussion is maladaptive and does not facilitate forming a solution to the problem.

*Escalation/Snowball* occurred when the focal participant's discussion of the chosen topic involved an escalation from that problem to other related problems, talk of how the current problem might affect other parts of his or her life, and/or speaking about how the current problem might worsen. It also included discussing how the current issue would cause future problems, or overstating a manageable problem. For example, escalation might involve the participant talking about currently not having much money and then progressing the discussion to how this is going to affect future plans, such as studying abroad.

Support participants were scored according to the following coding scheme:

*Problem-focused support* was characterized as providing the focal friend with possible solutions to the problem being discussed. It also included encouraging the focal participant to reevaluate or weigh the facts of the problem in order to solve it, and asking questions that might lead to a solution to the problem. Examples of problem-focused support include encouraging the friend to weigh the pros and cons of a decision, offering solutions, and recommending possible proactive actions.

*Positive emotion-focused support* occurred when the support friend focused on the positive emotions related to the problem. This included encouraging the focal participant to self-disclose his or her positive feelings related to the problem and encouraging the focal participant to focus on the positive aspects of the problem (in other words, to look on the bright side).

*Negative emotion-focused support* was characterized by the non-focal friend focusing on or emphasizing the negative feelings and emotions related to the topic that was bothering the focal participant.

*Same-boat support* occurred when the support participant indicated that they previously or currently had a similar problem. It included offering an opinion about what the support participant would do if he were experiencing the same problem, agreement that if he had the same problem he would feel similarly, giving his own version of the same problem, or indicating that he was experiencing the exact same problem. Some statements that indicated same-boat support included “I would be too”, “I am too”, or “I was too”.

At the conclusion of the ten minutes of conversation, the experimenter returned debriefed the friends about the purpose of the study. All participants were reminded to contact Counseling and Psychological Services in case any part of their participation stirred up emotions or issues they would like to pursue further with a professional. Participants enrolled in the Introduction to Psychology course were given course credit and those not in the class were paid \$7.50 for their time.

## Results

An ANOVA was run to examine the main effect of gender on the various measures of psychosocial adjustment. Gender had a significant effect on positive and negative friendship qualities and hostility. Women ( $M = 3.48, SD = .61$ ) reported more positive friendship qualities than men ( $M = 3.19, SD = .57$ ),  $F(1,80) = 5.07, p < .05$ . Men ( $M = 1.47, SD = .60$ ) reported more negative friendship qualities than women ( $M = 1.23, SD = .35$ ),  $F(1,80) = 4.94, p < .05$ . Men ( $M = 1.64, SD = .73$ ) also reported more hostile thoughts, feelings, and behaviors than women ( $M = 1.38, SD = .37$ ),  $F(1,80) = 4.15, p < .05$ . The difference in co-rumination between men and women was marginally significant. Women ( $M = 1.83, SD = .75$ ) reported more co-rumination than men ( $M = 1.55, SD = .55$ ),  $F(1,80) = 3.74, p = .057$ . Contrary to predictions, there was no significant difference between men and women in reported depression,  $F(1,79) = .45, p = .51$ . or

rumination,  $F(1,80) = .61, p = .43$ . There was also no significant difference between men and women in general distress,  $F(1,80) = .15, p = .70$ .

A second ANOVA was performed to determine the main effect of gender on the various content areas that formed the construct of co-rumination. There were three significant differences between men and women. Women ( $M = 1.86, SD = .84$ ) discussed their problems with their friends more frequently than men ( $M = 1.42, SD = .58$ ),  $F(1,80) = 7.62, p < .01$ . Female participants ( $M = 2.18, SD = .94$ ) discussed their problems with their friends instead of engaging in other activities more often than male participants ( $M = 1.58, SD = .73$ ),  $F(1,80) = 10.35, p < .01$ . Finally, female participants ( $M = 1.76, SD = 1.01$ ) reported that with their friends they focused on the negative feelings related to a problem more than male participants ( $M = 1.22, SD = .75$ ),  $F(1,79) = 7.66, p < .01$ .

Correlations between co-rumination and measures of adjustment were calculated. For all participants, co-rumination correlated significantly with rumination,  $r = .51, p < .01$ . It was also significantly related to depression,  $r = .24, p < .05$ . Correlations were significant between co-rumination and anxiety,  $r = .31, p < .01$ , interpersonal sensitivity,  $r = .29, p < .01$ , and general distress,  $r = .31, p < .01$ . Finally, co-rumination and positive friendship qualities were significantly related,  $r = .29, p < .01$ .

Correlations computed separately by gender revealed that co-rumination was significantly related to rumination for both women,  $r = .60, p < .01$ , and men,  $r = .34, p < .05$ . Co-rumination was significantly related to negative friendship features for women,  $r = .37, p < .05$  but not for men,  $r = .03, p > .05$ . It was also significantly related to positive friendship features for women,  $r = .46, p < .01$  but not for men,  $r = -.06, p > .05$ . Co-rumination

significantly correlated with global distress for women,  $r = .45, p < .05$ , but not for men,  $r = .19, p > .05$ , and with depression for women,  $r = .35, p < .05$ , but not for men,  $r = .15, p > .05$ .

Rumination correlated significantly with depression and general distress for both men and women. Depression was significantly related to rumination for women,  $r = .54, p < .001$ , and men,  $r = .34, p < .05$ . Finally, general distress was related to rumination for women,  $r = .67, p < .001$ , and men,  $r = .67, p < .001$ .

Five regression analyses were performed for the constructs of psychosocial adjustment indices of depression, general distress, anxiety, interpersonal sensitivity, and hostility. Together, rumination, co-rumination, and positive and negative friendship quality significantly predicted depression,  $F(4,76) = 10.71, p < .001 (R^2 = .36)$ , and general distress  $F(4,77) = 15.17, p < .001 (R^2 = .44)$ . When all four predicted depression, only rumination significantly predicted depression ( $\beta = .63, p < .001$ ) and distress, ( $\beta = .68, p < .001$ ). In the third regression analysis, the same four constructs significantly predicted anxiety,  $F(4,77) = 11.35, p < .001 (R^2 = .37)$ . Again, only rumination was an individual predictor of anxiety, ( $\beta = .61, p < .001$ ). Rumination, co-rumination, and positive and negative friendship quality significantly predicted interpersonal sensitivity,  $F(4,77) = 10.27, p < .001 (R^2 = .35)$ , with only rumination being a significant predictor, ( $\beta = .58, p < .001$ ). Finally, in the fifth regression analysis, those four constructs significantly predicted hostility,  $F(4,77) = 6.87, p < .001 (R^2 = .26)$ . Rumination was a significant individual predictor, ( $\beta = .26, p < .05$ ), as was negative friendship qualities, ( $\beta = .40, p < .001$ ).

An ANOVA was performed to examine the main effect of gender on observational measures of co-rumination. Within their ten minute conversations, women ( $M = .83, SD = .71$ ) provided more positive emotional support to their friends than men ( $M = .47, SD = .62$ ),  $F(1,71)$



= 4.98,  $p < .05$ . Male participants ( $M = 1.03$ ,  $SD = .65$ ) provided more same-boat support than female participants ( $M = .65$ ,  $SD = .74$ ),  $F(1,71) = 5.31$ ,  $p < .05$ . Finally, female friendships ( $M = 1.90$ ,  $SD = .30$ ) were perceived as closer than male friendships ( $M = 1.31$ ,  $SD = .59$ ),  $F(1,70) = 29.67$ ,  $p < .001$ .

Correlations were computed to ascertain the relationship between observations and self-report measures. Same-boat support was significantly related to depression,  $r = .32$ ,  $p < .01$ , and general distress,  $r = .26$ ,  $p < .05$ . The perceived closeness of the dyad and the self-reported positive friendship qualities were significantly related,  $r = .29$ ,  $p < .05$ . Self-disclosure by the focal participant and perceived closeness of the dyad were also significantly related,  $r = .24$ ,  $p < .05$ . No observed behaviors correlated significantly with self-reported co-rumination.

### Discussion

The hypothesis that women would report greater levels of rumination and depression than men was not supported, though they did report marginally higher levels of co-rumination. The hypothesis that co-rumination would correlate with positive measures of friendship quality and higher levels of depression was partially supported; co-rumination was significantly related to positive and negative friendship features and depression for female participants but not for male participants. Finally, analyses do not suggest that observed co-ruminative behaviors correlate with self-reported co-rumination, nor did women exhibit more co-rumination than men in an observed conversation. The results of the current study indicate that co-rumination is a particularly complex construct for women because it is associated both with positive, close friendships and greater dysphoria. On the other hand, men seem to evaluate their friendships that do not involve co-rumination more positively. Finally, while the closeness of a friendship can be

accurately observed in a laboratory setting, it is especially problematic to observe co-ruminative conversational patterns between friends.

Contrary to the hypothesis that women would report greater levels of depression than men, there was no significant difference in either depression or general distress between the men and women in the current sample. However, previous research has found that while women do indeed report significantly higher levels of depression than men beginning in adolescence, this gender disparity often does not appear in college samples. Grant, et al. (2002) measured depressed mood in undergraduates and found no significant difference between men and women. In fact, they found that men were more likely than women to meet the criteria for depressive disorder (2002). The authors theorized that college attendance may lead to more rumination in males as a result of a collegiate environment that may hypothetically promote introspection and reflection, and where gender stereotyped behavior is discouraged (2002). In the current study, men and women did not differ significantly in levels of rumination, but it is unclear whether this finding is due to higher levels of reported rumination among the males in this sample as compared to a non-college population.

Whereas Grant, et al. (2002) propose that the lack of a significant gender difference in depression is a result of an increase in male rumination, Gladstone and Koenig (1994) explained that the smaller disparity between depression in men and women is a result of changes in the female population during college. Examining men and women over time, they found that there were no differences in males from high school to college, but that women in college reported less depression than the women in high school. Interestingly, the two to one trend remains in the 18-24 year old population as a whole, so it is possible that there is something unique about the collegiate environment that is beneficial for women (1994). Perhaps females experience less

depression in college due to certain environmental features, such as more equal sex roles or equal access to situations or activities that promote self-expression and pleasure (1994). The authors also proposed that the collegiate environment protects females because it enables them to build strong social support networks; college females have smaller and more supportive groups of friends than high school females, who typically socialize in large groups or cliques (1994).

While the current study was unable to compare the nature of women's friendships in college and high school, female participants did report more positive friendship qualities than male participants. Positive friendship qualities describe friendships that provide a person with companionship, help or guidance, and enrichment of self-worth; these friendships are typically more intimate, reliable, affectionate, and are relatively important to the friends (Furman & Buhrmester, 1985). If the female dyads in the current study were characterized by these positive features, then this positive social support might have mediated the effects of depression to the extent that the gender disparity in dysphoric feelings was non-existent. Furthermore, men reported more negative friendship qualities than women. This is possibly associated with the higher rates of hostile thoughts and behaviors in men than women. Their greater level of hostility likely exacerbates conflict and antagonism in men's friendships. Furthermore, if men's friendships in college provide less reliable social support than women's friendships, then this too may account for the more equitable rates of depression in college students.

The hypothesis that women would report greater levels of co-rumination than men was only marginally supported. As with depression, there may be something unique about the college environment that reduces gender disparities in the communication styles of men and women's friendships. However, women did report significantly higher levels of specific aspects of co-rumination, including the amount of time they spent with their friends talking about problems,

how often the discussion of problems prevented them from engaging in other activities, and how often the discussion of problems with their friends focused on the negative feelings and emotions related to those problems. These findings suggest that women may engage in certain behaviors with their friends that are detrimental in two ways. First, by consistently making problems and negative feelings the topic of conversation with their friends, women are simply giving voice to their ruminative thoughts. The revelation of one's feelings about various problems may create intimate female friendships; however, conversations that are characterized by such topics may have effects similar to rumination. In other words, while talking to a friend about difficult issues or emotions may make friends closer, like rumination it may also prolong or exacerbate a dysphoric mood (Nolen-Hoeksema & Morrow, 1993). The second way in which these behaviors may be negative for women is that they prevent them from engaging in more positive coping responses or activities with their friends. Certainly an important aspect of friendships is self-disclosure. However, excessively emotion focused coping responses are less effective than problem solving responses, and are associated with greater levels of depression (Billings & Moos, 1984).

A main purpose of the study was to investigate how co-rumination may be related to friendship quality and psychological well being. For women, co-rumination correlated significantly with all four psychosocial adjustment indices, including general distress, depression, and positive and negative friendship qualities. These findings suggest that co-rumination may be a particularly complex construct in women's friendships. Self-disclosure fosters intimacy, and this aspect of co-rumination likely accounts for its relationship with positive friendship quality. On the other hand, if too much time is spent discussing problems and negative feelings instead of engaging in other activities, then this social rumination may explain

why co-rumination correlates with negative friendship quality for women. Though co-rumination is in some ways adaptive, it can also be maladaptive. The disadvantages of co-rumination are further demonstrated by its positive correlation with both depression and general distress for female participants. Again, insofar as co-rumination can be described as ruminating with a friend, it is unsurprising that co-rumination and depression and general distress would be related.

For male participants, co-rumination had no significant relationship with depression, distress, or friendship quality. Interestingly, the negative correlation between co-rumination and positive friendship quality suggests that men have more positive perceptions of friendships in which there is low co-rumination, possibly reflecting a male aversion to self-disclosure. This idea is supported by previous findings that while men are as capable as women of having friendships in which self-disclosure and intimacy exist, women tend to prefer such interactions more than men (Reis, Senchak, & Solomon 1985). Thus men may deliberately avoid self-disclosure or very intimate friendships. An alternative explanation may be that men simply prefer to engage in proactive or distracting activities with their friends instead of discussing negative emotions or problems. Some studies have found that men tend to have friendships that are based in shared activities while women's friendships are more likely to revolve around interpersonal interactions (Caldwell & Peplau, 1982; Fehr, 2004). However, characterizing college men's friendships as less intimate or supportive than college women's friendships seems incompatible with the theory that the lack of gender disparities in rumination and depression in college students is due to an environment that fosters egalitarian gender roles and promotes self-reflection and introspection. It seems unlikely that such an environment would cause men in college to ruminate more than men in the general population but would have no effect on the character of men's friendships.

Results showed that rumination, co-rumination, positive friendship quality, and negative friendship quality significantly predicted anxiety, interpersonal sensitivity, hostility, depression, and overall psychological distress. When all four constructs were predictors, only rumination was a significant predictor of anxiety, interpersonal sensitivity, depression, and global distress. This is consistent with previous research findings that rumination makes negative thoughts more accessible and can interfere with positive thoughts and behaviors (Nolen-Hoeksema, 1991). Furthermore, the tendency to ruminate seems to be the best predictor of a person's psychosocial adjustment. Thus, while co-rumination and depression are related, it seems likely that the specific attributes of co-rumination that may be linked to depression and general distress are those that reflect a tendency to ruminate in general. Additionally, the high positive correlation between co-rumination and rumination suggests that people who obsess about their problems and their negative affect while alone are likely to do so in their friendships as well. This combination of ruminating by oneself and with one's friends may potentially be more detrimental than either one on its own since it indicates that all of one's time, either alone or with others, is spent focusing on one's problems and negative emotions.

Both rumination and negative friendship quality were significant predictors of hostility, suggesting that focusing on negative emotions and problems while also having poor friendships may lead to negative externalizing behavior. As mentioned above, men were just as likely as women to ruminate, and were more likely than women to have friendships characterized by antagonism and conflict. The combination of these two factors may explain why men were also more likely to have more hostile thoughts, feelings, and behaviors. Furthermore, male participants' greater hostility may be a reflection of their rate of dysphoric feelings. While women's depression is often characterized by internal or ruminating behaviors, late adolescent

men who are depressed exhibit aggressive or antagonistic externalizing behaviors (Gjerde, Block, & Block, 1988) and have increased interpersonal conflict (Cochran & Rabinowitz, 2003).

There were a few differences between men and women observed in the ten-minute conversations between the friends. While women tended to give each other more positive emotional support than men did, encouraging the focal friend to focus on the positive emotions related to the problem, men gave greater same-boat support. Furthermore, female dyads were perceived as closer than male dyads. This perceptual difference in closeness may be related to the other perceived differences. Friends that gave each other more positive emotional support were likely seen as closer than friends who responded to the focal friends' problem by relating the problem to their own lives or giving their own version of the same problem. If the coding scheme for same-boat support described behavior that was perceived by the coders as being selfish responses to a friend's self-disclosure, then these dyads may have been coded as less intimate or close.

The correlational analyses did not indicate any significant relationship between the observed co-ruminating behaviors within the friends' conversations and the self-reported co-rumination. However, those that gave more same-boat support also reported higher levels of depression and distress. This relationship might be explained by the possibility that dysphoric participants' preoccupation with their own feelings of sadness cause them to respond to their friends' problems by talking about their own problems and negative emotions. The perceived closeness of the dyads correlated with the self-reported positive qualities of the friendship. This suggests that while co-ruminative conversational patterns may be difficult to induce in a laboratory setting, the actual positive closeness of participants' friendships was apparent to objective observers.

The current study had some limitations, specifically ones involving the sample and those concerning the observational aspect of the study. First, it is possible that there was a self-selection bias, especially concerning male participants. The study was advertised to the undergraduate population as a study about friendships in college students. Male students who would be willing to participate in a psychological study about relationships could potentially be characterized by a greater willingness to report behaviors and feelings such as rumination and depression.

Another weakness in the current study is that previous research and the findings of the current study indicate that male and female college students differ from the general population in their psychosocial adjustment. Specifically, while research has suggested that women ruminate more than men and report greater levels of depression (Nolen-Hoeksema, 1991) this disparity is either reduced or nonexistent in college samples (Gladstone & Koenig, 1994; Grant, et al., 2002). As discussed above, this may be due to the unique social environment of a college campus, including a diminution of separate gender roles for males and females and greater intimate social support for females. However, the similar levels of dysphoric feelings in the current sample make it difficult to ascertain whether co-rumination explains the fact that women have more intimate friendships and greater levels of depression than men.

A major limitation in the current study was the difficulty in observing conversations between close friends in a laboratory setting as they would be occur in the real world. This could have been exacerbated by participants' reluctance to discuss more personal or intimate problems with their friends while being videotaped. Theoretically, co-rumination involves the excessive and repetitive discussion of one's problems, characterized by a focus on the emotions relating to the problem and the possible causes and consequences of the problem. While participants were



given the option of discussing significant problems such as conflicts with family, friends, and romantic partners, health concerns, and anxiety about future plans, many participants instead chose to discuss relatively minor subjects, such as an upcoming exam. While it is probable that even somewhat lesser issues such as grades may be the topic of real co-rumination, it is more likely that co-rumination involves more serious or pervasive problems. Furthermore, the code for self-disclosure was developed so that a higher score indicated that the focal participant was revealing a wide range of emotions related to the problem, or emotions that were more severe than mild stress. Many of the topics that students chose to discuss with their friends limited the amount of self-disclosure that could actually occur. Likewise, less self-disclosure on the part of the focal participant most likely decreased the necessity for the support participant to provide positive or negative emotional support.

Another substantial problem with attempting to observe co-rumination in the current study evolves from the construct of co-rumination itself. While self-disclosure is realistically observable, it is much more difficult to observe the repetitive and excessive aspects of co-rumination. Participants were limited to two five minute conversations, and therefore the observation of repetitiveness had to be narrowed to the mere mention of having talked about the problem in the past or plans to talk about it in the future. While this code was limited by time restraints, it is questionable whether this is a sufficient measure of the constant discussion of one's problems that characterizes co-rumination.

Despite these limitations, the study's findings indicate that co-rumination is a construct that should continue to be studied as a possible explanation for the diminished buffering effect of women's friendships on their rates of depression. In as much as co-rumination is the process of discussing one's ruminative thoughts with another person, the relationship between co-

rumination and depression is unsurprising. However, it seems that women may have a heightened disadvantage if they ruminate alone and their friendships are characterized by the excessive discussion of their negative affect. In order for women's intimate dyadic friendships to operate as a reliable source of social support, friends should instead help each other solve problems and encourage each other to avoid or disengage from the negative cycle of rumination.

As discussed above, college seems to create a unique environment in which the gender disparities concerning rumination and depression are negligible, and future research would benefit from examining a sample in which women report significantly greater levels of rumination and depression than men. Further studies about co-rumination could also investigate the possible relationship between co-rumination and friendship preferences. In other words, people who have higher levels of depression and who tend to co-ruminate may select friends who have similar characteristics. Thus the types of friendships one has might be both the effect and the cause of poor psychosocial adjustment.

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