Examining defensive distancing behavior in close relationships:

The role of self-esteem and emotion regulation

Thesis

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Abstract

The risk regulation model proposes that people with low self-esteem (LSE), but not those with high self-esteem (HSE), react to potential threats to belonging by defensively distancing from their relationships. The present study hypothesized that self-focused rumination following threats to belonging, by forcing people with LSE to spend time considering their self-worth, would enhance this defensive distancing behavior. Participants were asked to recall self-relevant feedback they had received from someone they considered very close, and then completed a rumination or distraction task. Contrary to expectations, LSEs who were instructed to distract from threats to belonging reported more negative behavioral intentions towards their close other than those who were instructed to ruminate. However, in comparison to distraction, there was a trend for rumination to amplify LSEs’ negative affect following the recalled threats to belonging. Results are discussed in terms of their implications for risk regulation theory and for possible future directions.
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Chapter 1  
*Background & Significance*

**Introduction**

Individuals in romantic relationships are constantly balancing their desire for closeness against their need to protect themselves from rejection (Murray, Holmes, & Collins, 2006). When something negative happens in a relationship, such as a betrayal by one’s partner, people respond by seeking renewed intimacy or by withdrawing from their partner. According to risk regulation theory, people with low self-esteem have doubts about their self-worth which extends to doubts about their partner’s love and continued acceptance. As a result, low self-esteem individuals (LSEs) tend to prioritize self-protection goals at the expense of relationship promotion (Murray, et al., 2006).

Relative to high self-esteem individuals (HSEs), LSEs possessed an increased desire to be positively regarded by their partner, but more quickly perceived and generalized from signs of possible rejection (Murray, Rose, Bellavia, Holmes, & Kusche, 2002). When they felt insecure in their relationships, LSEs withdrew their dependence on that relationship by devaluing it and distancing themselves from their partner (Murray, Holmes, MacDonald, & Ellsworth, 1998; Murray, et al., 2002). This behavior is thought to help downplay the importance of the relationship should they be rejected (Murray, et al., 1998). In contrast, HSEs embellished their partners’ acceptance and drew closer to their partner (Murray, Bellavia, Rose, & Griffin, 2003; Murray, et al., 2002). Risk regulation theory argues that because LSEs are chronically concerned about whether they are liked, they are hypervigilant toward cues of possible rejection. This
constant concern over acceptance is what prompts LSE’s to engage in defensive distancing behavior.

The mechanisms underlying the relationship between low self-esteem and distancing are not well understood. One theoretically relevant mechanism is emotion regulation. The ability to self-regulate is necessary for effective emotional control. Perseverative cognition, such as worry and rumination, and poor self-regulation are both characterized by cognitive disinhibition and an increased attention to negative information (Thayer & Lane, 2009). In particular, rumination is associated with difficulties in disengaging from threatening material (Koster, De Lissnyder, Derakshan, & De Raedt, 2011), and impaired working memory and ability to problem solve (Joormann & Gotlib, 2010). A multidimensional construct, rumination is hypothesized to be maladaptive when the valence and content of ruminative thought are both negative and self-focused (E. R. Watkins, 2008). In addition, rumination reinforces negative thinking (Nolen-Hoeksema, Wisco, & Lyubomirsky, 2008). Furthermore, people who engage in rumination are more sensitive to rejection (Pearson, Watkins, Mullan, & Moberly, 2010).

People with low self-esteem have chronic negative self-views, but are highly concerned with others’ acceptance. Rumination often takes the form of negative thoughts about the self, or are thoughts surrounding perceived rejection. So, it follows that LSEs may ruminate more often in the face of relationship threat. For LSEs, this prolonged negative self-focus may lead to defensive distancing behavior. This study induced self-focused ruminative or distractive tasks following threats to belonging to examine how different emotion regulation strategies interacted with self-esteem to impact defensive distancing behavior in close relationships.
Defensive distancing is the result of low self-esteem

Compared to HSEs, LSEs automatically assume that others disapprove of their own self-perceived shortcomings (Leary & Baumeister, 2000). In dating relationships, LSEs over-interpreted their partner’s negative moods, seeing them as symptomatic of their partner’s ill feelings toward them (Bellavia & Murray, 2003). LSEs also questioned their own self-worth when told that their partner perceived important faults in them (Murray, et al., 2002). Importantly, LSE’s feelings of worthlessness are experienced as negative affect (e.g. sociometer, Leary and Baumeister 2000). Thus for LSEs, negative moods can result from their insecurities over gaining others’ acceptance.

When feeling rejected, LSEs respond by decreasing dependence on their romantic partners, and by devaluing and derogating them (Murray, et al., 2006). For example, LSEs responded to a rejection-based relationship threat by depending less on their partner as a source of self-esteem and comfort (Murray, et al., 1998). They also rated their partner’s qualities more negatively following the relationship threat (Murray, et al., 1998). LSEs even evaluated the letters in their partner’s name less favorably the more difficulties they perceived in their relationships (DeHart, Pelham, & Murray, 2004). In contrast, HSEs respond to perceived rejection with increased relationship dependence. In a study of dating partners, HSEs responded to experimentally-manipulated partner annoyance by reporting greater feelings of closeness to that same partner (Murray, et al., 2002).

Ultimately, defensive distancing stems from insecurities about the self and belonging, rather than other motivations underlying self-esteem. For example, a self-affirmation task decreased defensive distancing in response to relationship threat for LSEs, but not HSEs (Jaremka, Bunyan, Collins, & Sherman, 2011). Additionally, people responded to threats to
belonging by affirming their own social traits and values (Knowles, Lucas, Molden, Gardner, & Dean, 2010) and self-affirmation tasks elicited greater positive, other-directed emotion (Crocker, Niiya, & Mischkowski, 2008). Self-doubt heightens LSEs sensitivity to rejection. For example, LSEs perceived others as less accepting than did HSEs when they believed others’ behavior was directed at them. When they thought the same behavior was directed at someone else, however, LSEs saw as many acceptance cues as did the HSEs (Cameron, Gaetz, Balchen, & Stinson, 2010).

**Defensive distancing in response to positive partner feedback**

For LSEs, receiving positive feedback regarding their worth has no beneficial impact (Murray, Griffin, Rose, & Bellavia, 2003). Even worse, positive feedback may backfire by unexpectedly activating a series of relationship-damaging defensive behaviors. Compared to neutral or no feedback, LSEs felt more anxious about being accepted by their family, friends, and romantic partners after success on a bogus intelligence test (Marigold, Holmes, & Ross, 2007; Murray, Griffin, et al., 2003). Paradoxically, LSEs felt more insecure about their romantic relationship and evaluated it more negatively after being told that they scored highly on a measure of considerateness (Murray, et al., 1998). Compared with a no feedback condition, LSE participants viewed their relationships more pessimistically after being told that their partners viewed them as exceptionally warm, attractive, and intelligent (Marigold, et al., 2007). Theoretically, positive feedback may highlight LSEs self-discrepant standards and activate self-evaluation concerns (Wood, Heimpel, Newby-Clark, & Ross, 2005). Since LSEs doubt their possession of positive attributes, they have difficulty believing that others see such positive attributes in them (Wood, et al., 2005). Furthermore, focusing on positive qualities reminds LSEs of their faults, including how these faults may jeopardize their partner’s continued
acceptance (Baldwin & Sinclair, 1996). According to self-verification theory, individuals with negative self-views expect to disappoint those who overestimate their strengths and minimize their limitations (Swann, 2003), which can result in behaviors such as excessive reassurance-seeking and the solicitation of negative feedback (Joiner, 2000).

LSEs automatically interpret positive partner feedback in a negative way unless instructed to positively reframe that feedback. Across three experiments, participants first recalled a compliment from their romantic partner. Experimenters then manipulated the way that participants were asked to describe the compliment. Some participants were asked: to explain the compliment’s abstract meaning and its significance for their relationship, others to only describe concrete details, and a third group was given no instructions. In the concrete and no instruction conditions, LSEs evaluated the compliments less positively than did HSEs, although objective coders rated the compliments as equally positive. LSEs also reported lower state self-esteem and more relationship devaluation than did HSEs in the control conditions (Marigold, et al., 2007).

However, the abstract reframing manipulation consistently boosted LSEs perceptions of their partners’ compliments, improved state self-esteem and increased feelings of happiness in comparison to the control conditions. Moreover, when surveyed about their relationship two or more weeks later, LSEs who had received the abstract manipulation still felt more secure and viewed their relationship more favorably than did LSEs in the control conditions (Marigold, et al., 2007).

Accordingly, it seems that LSEs automatically appraise positive partner feedback in a negative way and that a reframing intervention can prevent this from happening. Researchers addressed this hypothesis in a follow-up study in which participants were assigned to three
Participants encountered a relationship-based threat either before or after abstractly reframing a compliment from their partner. If first primed to reframe a compliment, LSEs state self-esteem increased and partner devaluation decreased in the face of a relationship threat. Furthermore, during a two week follow-up period, LSE participants who had been in the compliment reframing condition behaved less negatively towards their partners following the intervention (Marigold, Holmes, & Ross, 2010). Abstractly reframing positive partner feedback is theorized to circumvent negative self-evaluative processes in LSEs. Taken together, this research suggests that if LSEs are able to disengage attention from relationship-threatening cues, LSE’s feelings of belonging and self-worth are boosted and defensive distancing behavior is reduced.

**Perseverative cognition reflects poor emotional regulation**

Emotional regulation reflects one’s continual adjustment to constantly changing environmental demands. Under conditions of uncertainty and threat, critical areas of the prefrontal cortex become hypoactive. This hypoactive state allows the body to physiologically prepare for action (fight or flight response) (Thayer & Lane, 2009). However, when prolonged, this disinhibition can become pathological and has been associated with anxiety, depression, post-traumatic stress disorder, and schizophrenia (Thayer & Lane, 2009). Disinhibited prefrontal function thus underlies poor self-regulation and poor emotional control. Perseverative cognition reflects poor emotional regulation (Thayer & Brosschot, 2005). Perseverative cognition, and rumination in particular, is a particularly debilitating emotion regulation strategy within the context of psychopathology (Aldao, Nolen-Hoeksema, & Schweizer, 2010).

Importantly, lack of cognitive inhibitory control is reflected in psychopathology as a failure to recognize safety signals, an attentional bias for threatening and negative information,
and other deficits in executive functioning (Shook, Fazio, & Vasey, 2007; Thayer & Lane, 2009). Deficits in cognitive control result in prolonged processing of negative, goal-irrelevant aspects of information (Joormann & Gotlib, 2010). These deficits affect people’s ability to regulate negative affect by setting the stage for ruminative responses, and by interfering with the use of reappraisal after the onset of an emotional response (Joormann & Gotlib, 2010). For example, an inability to inhibit the processing of negative material was related to increased rumination and decreased use of reappraisal in both healthy and depressed individuals (Joormann & Gotlib, 2010).

Specifically, biases in attention, interpretation, and memory for the selection of negative material result in difficulties disengaging from that negative material, thereby amplifying negative affect. For example, engaging in rumination resulted in slower recall of positive memories for depressed individuals compared to controls (Joormann & Siemer, 2004). Furthermore, depressed people were unable to use positive autobiographical memories to regulate induced negative mood states, although a distraction task alleviated their negative mood (Joormann & Siemer, 2004; Joormann, Siemer, & Gotlib, 2007).

Rumination that is focused on negative self-aspects results in increased negative mood, while focusing on positive self-aspects results in decreased negative mood (Mor & Winquist, 2002). Both the valence and the purpose of thoughts are important in determining consequences of repetitive cognition (Segerstrom, Stanton, Alden, & Shortridge, 2003). For example, the induction of self-focused rumination intensified dysphoric mood, increased negative thinking, and impaired problem solving in dysphoric participants but not in nondysphoric participants. The contrasting task, called distraction, decreased dysphoric mood in dysphoric participants, but had no effect on mood in nondysphoric participants (Lyubomirsky, Caldwell, & Nolen-
Hoeksema, 1998; Lyubomirsky & Nolen-Hoeksema, 1995; Nolen-Hoeksema, Morrow, & Fredrickson, 1993). In particular, if prompted to use self-focused rumination, previously-depressed people were as poor at social problem solving as currently-depressed patients, despite solving problems as well as the never-depressed group if not ruminating (E. Watkins & Baracaia, 2002). In addition, following the recall of an anger-provoking event, rumination led to greater anger experience and even more cognitive perseveration of the event (Ray, Wilhelm, & Gross, 2008). Thus engaging in self-focused rumination interferes with generating more constructive emotional and behavioral responses.

**Low self-esteem, interpersonal behavior, and rumination**

LSEs ruminate more than HSEs when discrepancies exist between desired and actual goal states. For example, after receiving experimentally-manipulated failure feedback, LSE participants engaged in more rumination than HSE participants. Although LSE participants were not specifically prompted to focus on their feelings in this study, they still reported more thoughts concerning negative self-evaluation and feelings of general distress than those of HSEs (Di Paula & Campbell, 2002). Additionally, LSEs ruminated more about 10 personally-set goals across an academic year (Di Paula & Campbell, 2002). However, rumination was reduced when people were allowed to self-affirm either before or after failure feedback (Koole, Smeets, van Knippenberg, & Dijksterhuis, 1999).

Rumination was significantly positively correlated with a spectrum of interpersonal difficulties related to control, assertiveness, submission, intimacy, and impaired social functioning in a sample of depressed adults (Lam, Schuck, Smith, Farmer, & Checkley, 2003). Rumination was also associated with reduced relationship satisfaction in previously depressed individuals (Kuehner & Buerger, 2005) and fully mediated the association between current levels
of depression and excessive reassurance-seeking (Weinstock & Whisman, 2007). Self-focused rumination interacted with negative interpersonal events to predict increases in state negative affect, whereas self-reflection was not associated with negative affect (Takano, Sakamoto, & Tanno, 2011). Other studies indicate that the relationship between rumination and interpersonal difficulties is not solely due to shared associations with depression. Individuals who are preoccupied with maintaining close relationships are likely to engage in rumination as a form of hypervigilance to emotional states in self and others (Nolen-Hoeksema & Jackson, 2001). Although women are more likely than men to ruminate about negative events, particularly negative interpersonal events (Mezulis, 2002), rumination was positively correlated with sociotropy in a student sample that included both men and women (Gorski & Young, 2002).

Rumination maintains awareness of vulnerability to abandonment, and individuals who are overly concerned with acceptance from others are likely to ruminate in response to interpersonal loss. For example, rumination mediated the effect of attachment anxiety on how individuals responded to a relationship break-up. Rumination also predicted increased adjustment difficulties in anxiously attached individuals (Saffrey & Ehrenberg, 2007). Separately, in a study that measured a wide range of different maladaptive interpersonal behaviors, brooding rumination was most strongly associated with increased rejection sensitivity (Pearson, et al., 2010). This suggests that interpersonal rejection often triggers and maintains rumination.

Current Study

Rumination is a maladaptive emotion regulation strategy reflecting deficits in cognitive control, and may serve as an additional mechanism through which LSEs poorly evaluate and regulate dependence on close others. In addition, low self-esteem in the context of interpersonal
difficulties was prospectively related to emotional distress (Katz, Beach, & Joiner, 1998), which further suggests that emotional regulation is important to consider within the risk regulation framework. Furthermore, LSEs ruminated more than HSEs surrounding goal pursuit (Di Paula & Campbell, 2002), and chronic ruminators harbored more negative feelings towards their relationship partners under conditions of relationship threat than non-ruminators (Jostmann, Karremans, & Finkenauer, 2011).

Ultimately, it appears that engaging in rumination may drive LSEs to distance themselves from their relationship partners when feeling rejected. However, current conceptions of risk regulation have not specifically addressed the role of emotion regulation processes in the relationship troubles of LSEs. The current study investigated whether rumination is indeed a mechanism that contributes to defensive distancing in LSEs. Specifically, the study addressed the impact of engaging in rumination on defensive distancing behavior for individuals low and high in self-esteem. Participants were instructed to engage in either a period of directed rumination or distraction following threats to belonging. The interest was in whether prolonged processing of perceived rejection, or distraction from it, would affect defensive distancing behavior for both LSEs and HSEs. Furthermore, rumination that is negatively self-focused amplifies negative mood, increases negative thinking, and interferes with problem solving. Accordingly the current study induced self-focused rumination.

Risk regulation theory argues that LSE’s defensive distancing behaviors are caused by their feelings of inferiority. Self-doubt leads LSEs to over-interpret others’ behaviors as signs of rejection. Thus, in this study, threats to belonging in the form of others’ ambiguous behavior preceded each induction period in order to test downstream effects of different emotion regulation strategies on relationship distancing. Participants were first asked to evaluate the
possible implications of others’ feedback in terms of intended acceptance or rejection (Marigold, et al., 2007).

Reframing a partner’s compliment to better illustrate *assumed* partner satisfaction increased LSEs feelings of acceptance and self-esteem, but asking them to only *consider* partner satisfaction did not impact LSE’s self-doubts (Marigold, et al., 2007). For LSEs in this condition, instructions to only consider the implications of positive partner feedback still threatened their sense of belonging and self-worth. Thus this second recall manipulation was used, but here framed to also consider a possible instance of rejection. Recalling feedback that implied either acceptance or rejection was thought to better encompass the ambiguity evident in others’ feedback. Furthermore, previous studies have only examined risk regulation processes in romantic relationships. This study expanded current conceptions of dependence regulation by including an examination of other close relationships in addition to dating or married couples.

**Hypotheses**

The specific hypotheses were: (1a) Self-focused rumination would lead to increased defensive distancing behavior among LSEs, but not HSEs. Previous research suggests that HSEs do not engage in defensive distancing when faced with threats to belonging, therefore the response manipulation tasks would have no further effect on HSEs; (1b) In situations where acceptance from others is unclear, LSEs quickly begin to self-doubt and as a result experience negative affect. Compared to distraction, self-focused rumination would further amplify the negative affect that LSEs were expected to report when faced with threats to belonging.
Chapter 2

Methods

Participants and procedures

The original sample was composed of 202 undergraduate students taking an introductory psychology course at The Ohio State University during the 2011-2012 academic school year. Participants were recruited from the OSU Psychology Department Research Experience Program that awards course credit for participation in research experiments. In addition to open enrollment, a prescreening process was used to recruit individuals with extreme scores on the global self-esteem measure. Specifically, 17 individuals who scored in the highest and lowest tertiles of the Rosenberg Self-Esteem Scale (Rosenberg, 1969) during the prescreening phase were invited to participate in the study.

Upon arrival, groups of up to 4 students sat at an assigned seat behind a cardboard divider that was in place to ensure privacy. In order to reduce possible demand effects, the study was introduced as an “investigation of individual differences in imagination and memory, and their associations with relationships” during the consent process.

Participants first identified who was the most important source of social and emotion support in their lives, and then provided a baseline rating of closeness to that person. Next, after completing questionnaires assessing state affect, self-esteem, relationship quality, and demographic information, participants were randomly assigned to complete either (1) an acceptance or rejection feedback recall and (2) rumination or distraction. In between these tasks, participants completed a second state affect rating. Finally, participants completed a packet of
self-report measures containing a third state affect rating, and other relevant questions regarding
defensive distancing behavior, worry, depression, social anxiety and trait rumination. Following
the session, participants were given course credit for completing the experiment.

**Self report measures**

**Demographic information.** Participants were asked to provide the following
demographic information: age, sex, ethnicity, academic year, and relationship status, and living
arrangement.

**Identification of a close other.** Participants were asked to list names of the most
important sources of support in their lives. From this list, participants rank ordered each person
in terms of felt closeness and then chose the one person they feel closest to. Once that person
was identified, the following was completed with the close other in mind:

*Inclusion of other in self.* This 1-item scale (Aron, Aron, Tudor, & Nelson, 1991) asked
participants to select which of a series of seven pairs of progressively overlapping circles best
represented how close or connected they felt to their chosen close other.

*Closeness.* (Murray, et al., 2002) This 5-item scale also tapped expressions of closeness
or connection to a close other (e.g., “I feel closer to this person than to anyone else in my life”; “I
get along with this person better than anyone else I know”). Participants responded to these items
on 7-point scales (0 = *not at all true*, 6 = *completely true*).

**Relationship quality.** Participants were instructed to consider “how you feel about your
relationship right now.” They responded to 18 statements on a scale of 0 (*not at all true*) to 6
(*completely true*) (Murray, Holmes, & Griffin, 2000; Murray, et al., 2002). Responses to 10
statements were averaged to create a measure of felt security (e.g., “I am confident that closest
person will always want to look beyond my faults and see the best in me,” “I am confident that

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closest person will always be ready and willing to offer me strength and support”). Responses to 5 statements were averaged to create a measure of participants’ satisfaction with the relationship (e.g., “Our relationship makes me happy”). Responses to 3 statements tapping commitment to the relationship were also averaged (e.g., “I am deeply committed to maintaining our relationship”).

**Defensive distancing behavior.** *Communal divestment.* Participants responded to 5 items measuring how unwilling they were to invest in their close other's well-being (Jaremka, et al., 2011) (α = .85). Participants responded on a scale from 0 (do not agree at all) to 6 (agree completely). Sample items included “I sometimes resent having to do things for my partner,” and “I do not like being responsible for helping my partner.”

**Derogation of close other.** Participants rated their close other on a series of 29 interpersonally oriented virtues and faults, with 10 items using an intended recipient as context for that person’s behavior (e.g., negative: lazy, demanding, critical; and positive: intelligent, warm, responsive) (Murray, Holmes, & Griffin, 1996). Participants responded on a scale from 0 (not at all characteristic) to 8 (completely characteristic). Negative traits were reversed scored and higher numbers reflected more positive ratings (α = .84).

**Destructive behavioral intentions.** Participants rated how often they planned to engage in 6 relationship destructive behaviors over the next six months (Murray, et al., 1998) (α = .77). Participants responded on a scale from 1 (rarely, if ever) to 7 (frequently). Sample items included “I will act selfishly and ignore my partner's feelings,” and “I will do something that causes an argument.”

**State positive and negative affect.** Trait positive (PA) and negative affect (NA) were assessed using the *Positive and Negative Affect Schedule* (PANAS) (Watson, Clark, & Tellegen,
1988), which is composed of 20 mood adjectives ($\alpha = .79$). Participants were given instructions to rate the adjectives based on how much they felt each adjective described them “right now” on a scale of 1 (very little) to 5 (extremely). Positive affect was assessed by ratings of adjectives like “excited” and “alert,” while negative affect was assessed by ratings of adjectives including “distressed” and “afraid.”

**Trait self-esteem.** *Rosenberg Self-Esteem Scale* (RSE) (Rosenberg, 1969). The RSE is a widely used 10-item scale that measures participants’ global self-worth. Participants rated their agreement with 10 statements about their general self-concept (e.g., “On the whole, I am satisfied with myself” and “At times, I think I am no good at all”) ($\alpha = .91$).

**Trait rumination.** *Response Style Questionnaire* (RSQ) The RSQ is a measure of the degree to which people report that they distract themselves from depressed feelings or ruminate about those feelings (Nolen-Hoeksema, 1991). The 22 depressive rumination items (e.g., “[I] think about how alone I feel”) were administered. It includes a rumination ($\alpha = .77$), reflection ($\alpha = .75$), and distraction scale ($\alpha = .73$).

**Rumination/Reflection Questionnaire* (RRQ) The RRQ (Trapnell & Campbell, 1999) was developed to discriminate between neurotic and intellective forms of private self-consciousness. The 12-item Rumination subscale ($\alpha = .79$) assessed repetitive thought about threats to the self (e.g., “I tend to ‘ruminate’ or dwell over things that happen to me for a really long time afterward”), whereas the 12-item Reflection subscale ($\alpha = .70$) assessed reflections on the self, motivated by intellectual curiosity (e.g., “I love exploring my ‘inner’ self”).

**Trait worry.** *Penn State Worry Questionnaire (PSWQ)*-Short Form. The PSWQ-Short Form (Meyer, Miller, Metzger, & Borkovec, 1990) is an 8-item measure of uncontrollable,
pervasive worry (e.g., “Once I start worrying, I can’t stop”), in which items are endorsed on a scale from 1 (not at all) to 5 (very) (α = .91).

**Social anxiety.** Social anxiety was assessed using the *Brief Fear of Negative Evaluation Scale* (Leary, 1983) (α = .88). Participants rated the extent to which statements are characteristic of them on a scale of 1 (not at all characteristic of me) to 5 (extremely characteristic of me). The scale includes items such as “I am frequently afraid of other people noticing my shortcomings” or “I often worry that I will say or do the wrong things.”

**Depression.** The *Center for Epidemiologic Studies Depression Scale* (CES-D scale) was used to measure depressive symptoms (Radloff, 1977) (α = .89). Participants were asked to rate how often they had been bothered by a list of 20 depressive symptoms in the last week. For example, items included “I felt that everything I did was an effort” and “I felt depressed;” and the rating scale ranges from 0 (less than 1 day) to 3 (5-7 days). Total scores range from 0 to 60, with higher scores indicating more depressive symptoms. The CES-D is appropriate for use in college-age samples (Shean & Baldwin, 2008).

**Study tasks**

**Acceptance and rejection stimuli.** Following the identification of participants’ most important close other, each group was randomly assigned to either of the following conditions:

*Acceptance feedback recall.* As in Marigold et al. (2007), participants were asked to: “Think of a time when (closest person) told you how much he/she liked something about you. For example, a personal quality or ability you have that he/she thinks very highly of, or something you did that really impressed him/her.” They first noted how long ago this event occurred, and then were asked to: “Explain whether you think what (closest person) said indicated that he/she admired you. Consider whether it was meaningful to you and significant for
your relationship. Try to relive the experience. Explain what happened and how it made you feel in the moment.”

Rejection feedback recall. Participants were asked to: “Think of a time when (closest person) told you how much he/she disliked something about you. For example, a personal quality or ability you have that he/she dislikes, or something you did that made him/her unhappy.” They first noted how long ago this event occurred, and then were asked to: “Explain whether you think what (closest person) said indicated that he/she disapproved of you. Consider whether it was meaningful to you and significant for your relationship. Try to relive the experience. Explain what happened and how it made you feel in the moment.”

Narrative questions. Participants were asked how happy they felt when recalling the narrative, how far away the narrative felt, how significant it seemed now, and how much they attributed the incident to something about their partner, or to the situation, all on 7-point scales.

Emotion regulation inductions. These tasks were developed by Morrow and Nolen-Hoeksema (1990) and have been used repeatedly in prior experimental studies of rumination (Ciesla & Roberts, 2007; Lyubomirsky, et al., 1998; Lyubomirsky & Nolen-Hoeksema, 1995). In these tasks, participants were provided with sheets of paper with sentences printed on them. They were instructed to “read each item slowly and quietly to yourself. As you read the items, use your imagination and concentration to focus your mind on each of these things. Spend a few moments visualizing and concentrating on each item.” Furthermore, individuals were instructed that should they complete all of the sentences, they should start over again with the first and continue until the experimenter asks them to stop (total of 8 minutes). The rumination and distraction tasks differ only in the content of the sentences. The rumination task required participants to focus on thoughts that are emotion-focused, somatic-focused, and self-focused,
although they are not told specifically to think about negative emotions or negative personal attributes. For example, they were asked to think about “the level of motivation you feel right now”, “why you react the way you do”, “what your feelings mean”, “what kind of person you are”, and “the physical sensations in your body.” In contrast, the distraction task focused attention on thoughts that are focused externally and not related to symptoms, emotions, or the self. For example, statements directed the participant to think about “the shadow of a stop sign” and “the expression on the face of the Mona Lisa”, or “to imagine a ship slowly crossing the Atlantic.”

**Data management**

Non-native English speakers were asked to indicate their fluency in English by recording the number of years they had been speaking English. Additionally, four objective check questions (e.g. “Write in the number five”) were embedded within separate questionnaires to assess valid item responding. In total, 30 participants were dropped from analyses: 16 had spoken English for less than 5 years, 9 responded to the check questions incorrectly, and 5 had at least 25% missing data. Data for the feedback recall narratives were categorized on the degree to which participants were on task and providing information as instructed. Each narrative was assigned a 0 (did not follow prompt) or 1 (followed prompt) by two independent raters. No feedback recall narratives received an assignment of 0. Final analyses included feedback recall narrative and questionnaire data from 172 individuals. The Linguistic Inquiry and Word Count (LIWC) program (Pennebaker, Francis, & Booth, 2001) was used to assess the extent to which participants’ recall narratives included positive or negative words, as well as self and belonging words. The LIWC is a computerized text analysis programs that yields percentages of total words falling under a particular category. All analyses were completed using SPSS Statistics 19
All self-report measures were mean-centered in order to accurately interpret interactions that used these continuous variables (Aiken & West, 1991). The relationship quality score was calculated as a sum of all total scores on the relationship closeness, felt security, satisfaction and commitment scales ($\alpha = .77$).

**Statistical analyses**

As there was no hypothesized main effect or interaction regarding feedback type, this factor was not specified in analyses testing the primary study aims. Bivariate correlations were conducted in order to examine relationships between self-esteem, self-report measures, and demographic characteristics. These tests revealed significant associations between the defensive distancing measures and gender, depression, and relationship quality. Thus, gender, depression, and relationship quality were included in all analyses predicting defensive distancing. To test the primary hypotheses, hierarchical multiple regression analyses were used to address the interaction of self-esteem (continuous) x emotion regulation (rumination vs. distraction) in predicting defensive distancing behavior. Main effects of self-esteem and emotion regulation were entered at Step 1, the two-way interaction was entered at Step 2; each of the three defensive distancing measures were analyzed in separate models. Following published recommendations (Jaremka et al, 2011), significant two-way interaction terms were decomposed at conditional values of self-esteem, computed at ± 1 SD from the mean.

Hierarchical multiple regression analyses were used to address the interaction of self-esteem (continuous) x emotion regulation (rumination vs. distraction) in predicting state affect following the emotion regulation induction (PANAS time 3). Main effects of self-esteem and emotion regulation were entered at Step 1, and the two-way interaction was entered at Step 2. Difference scores comparing state affect before and after the emotion regulation induction
(PANAS time 2 - PANAS time 3) were calculated to assess the magnitude of the resulting change in mood. Hierarchical multiple regression analyses were used to address the interaction of self-esteem (continuous) x emotion regulation (rumination vs. distraction) in predicting the state affect change score. Main effects of self-esteem and emotion regulation were entered at Step 1, and the two-way interaction was entered at Step 2. Bivariate correlations revealed no significant associations between PANAS scores and theoretically relevant constructs, and thus the analyses remained unadjusted for possible covariates. Significant interactions were then explored at conditional values of self-esteem at ± 1 SD from the mean.

As an exploratory analysis, hierarchical multiple regression was used to address the interaction of self-esteem (continuous) and state negative affect following the emotion regulation induction (PANAS time 3, continuous) in predicting relationship distancing. Main effects of self-esteem and state negative affect were entered at Step 1, and the two-way interaction was entered at Step 2; each of the three defensive distancing measures were analyzed in separate models. Additionally, hierarchical multiple regression was used to address the interaction of self-esteem (continuous) and change in state negative affect following the induction (continuous) in predicting relationship distancing. The state affect change score (PANAS time 2 - PANAS time 3) was substituted for the PANAS time 3 values used in the previous hierarchical multiple regression models predicting relationship distancing. For these analyses, gender and relationship quality were again entered as covariates, but depression was excluded from these analyses because of theoretical overlap with state negative affect. All significant interactions were probed at conditional values of self-esteem, computed at ± 1 SD from the mean.

Although not part of the primary hypotheses, risk regulation theory suggests that individuals with LSE may interpret positive feedback in a negative way because of deeply
ingrained feelings of inferiority. When their feelings of inferiority are triggered, LSEs experience negative affect; and as risk regulation theory contends, is ultimately what may lead to defensive distancing behavior. However, studies by Marigold et al. (2007) only asked participants to consider others’ positive feedback, and the authors did not assess state affect either before or after the participants recalled the compliments. It is plausible that negative feedback communicates rejection with more certainty and would elicit greater changes in negative affect than would positive feedback, regardless of levels of self-esteem.

Furthermore, research in this area is done mostly in samples of married and dating couples. Although this study asked participants to consider any close relationship, the effects of self-esteem and emotion regulation on defensive distancing could be conditional on the type of relationship under consideration. In particular, threats to belonging may produce more negative affect if coming from an individual outside one’s family. Thus, to test these aspects of the risk regulation model, further exploratory analyses predicted negative affect from type of feedback recalled and relationship to the identified close other.

Relationship type was dichotomized into “non-family member” (0) and “family member” (1) using the following criteria: non-family member included romantic partners and friends; family member included parents, siblings, and related others (cousins, aunts, uncles, and godparents). Next, hierarchical multiple regression was used to address the effects of feedback type and relationship type on negative mood after the induction, and change in negative mood from before to after the induction. Main effects of feedback type and relationship type were entered at Step 1, and the two-way interaction was entered at Step 2. Dependent variables included state negative affect following the emotion regulation induction (PANAS time 3), and the negative affect change score (PANAS time 2- PANAS time 3). Results revealed a
significant main effect of feedback type and a marginally significant effect of relationship type, but no significant interaction (reported in Chapter 3). This suggested that the effects of each factor on mood were not dependent on the levels of the other.

Consequently, further analyses tested the primary hypotheses using only a subset of individuals; those participants in the conditions that were most strongly associated with change in negative mood. As before, hierarchical multiple regression was used. Main effects of self-esteem and emotion regulation were entered at Step 1, the two-way interaction was entered at Step 2; each of the three defensive distancing measures were analyzed in separate models. Gender, depression, and relationship quality were included as covariates only for the relationship distancing analyses. All significant interactions were probed at conditional values of self-esteem, computed at ± 1 SD from the mean.

For all analyses, residuals were examined to confirm that they were normally distributed.
Chapter 3

Results

Demographic and descriptive statistics

Participants were predominantly white (77%), female (62%), undergraduate students in their first academic year (78%) at The Ohio State University. Approximately 40% of the sample was in a romantic relationship and the average duration of these relationships was 5.45 months. Additional demographic information is listed in Table 1.

Mean scores for the self-report measures indicated that participants had few depressive symptoms, were highly socially anxious, and felt very close, secure, satisfied, and committed in their most important relationships. Descriptive statistics for the sample are listed in Table 2.

Bivariate correlations between self-esteem and self-report measures

Psychiatric variables. Self-esteem was negatively associated with worry ($r = -0.59, p < .001$), social anxiety ($r = -0.51, p < .001$), and depression ($r = -0.48, p < .001$). Lower self-esteem was related to a greater tendency to ruminate ($r = -0.49, p < .001$), and to engage in ruminative brooding when sad ($r = -0.53, p < .001$). In contrast, higher self-esteem was correlated with greater use of distraction when feeling down ($r = 0.26, p < .001$). Finally, lower self-esteem was associated with more negative moods ($r’s = -0.36 - 0.46, p < .001$) and less positive moods ($r’s = 0.31 - 0.34, p < .001$) throughout the study.

Relationship quality. Self-esteem was positively associated with felt security ($r = 0.31, p < .001$), satisfaction ($r = 0.29, p < 0.001$), commitment ($r = 0.16, p < 0.04$), and closeness ($r = 0.22, p < .001$) in participants’ most important relationships.
**Defensive distancing measures.** Lower self-esteem was related to less willingness to invest in the wellbeing of the chosen close other (r = -0.18, p < 0.05) and was related to more negative behavioral intentions (r = -0.21, p < 0.05) towards that person.

**Effects of self-esteem and emotion regulation on relationship distancing**

The primary hypothesis was that rumination would lead to increased defensive distancing behavior among LSEs, but not HSEs. Defensive distancing measures included communal divestment, derogation, and destructive behavioral intentions towards the chosen close other. There were no statistically significant main effects or interactions in the analysis of communal divestment or derogation behavior. However, there was a significant self-esteem x emotion regulation interaction predicting destructive behavioral intentions (β = 0.233, t(171) = 2.500, p < 0.05). Contrary to the proposed hypothesis, people with LSE intended to behave more destructively in the distraction condition compared to the rumination condition (β = -.218, t(171) = -2.145, p < 0.05). HSEs intended destructive behavior was the same in the rumination and distraction conditions (β = 0.144, t(171) = 1.433, p = 0.15). Figure 1 summarizes the self-esteem x emotion regulation comparisons for destructive behavioral intentions.

**Effects of self-esteem and emotion regulation on state affect**

It was hypothesized that rumination would elevate LSEs’ state negative affect when recalling self-relevant feedback from an important close other. Thus, analyses predicting state affect following the emotion regulation induction were conducted using self-esteem and condition (rumination vs. distraction) as the primary independent variables. Outcome measures included positive and negative affect PANAS scores after the emotion regulation induction (PANAS time 3 scores), and positive and negative affect PANAS change scores from before to after the emotion regulation induction (PANAS time 2 – PANAS time 3). There were no
statistically significant interactions in the analyses of positive and negative affect after the
emotion regulation induction (PANAS time 3 scores). However, there was a significant main
effect of self-esteem predicting positive affect ($\beta = 0.197, t(171) = 2.707, p < 0.01$), and negative
affect ($\beta = -0.167, t(171) = -3.859, p < 0.01$) following the induction. People with LSE
experienced less positive affect after the emotion regulation induction compared to HSEs.
Conversely, people with LSE experienced more negative affect after the emotion regulation
induction compared to HSEs. There was also a marginally significant main effect of emotion
regulation predicting positive affect after the induction ($\beta = 0.238, t(171) = 1.936, p = 0.06$). In
particular, there was a trend for people in the rumination condition to experience more positive
moods after the induction compared to those in the distraction condition.

Next, analyses predicting change in state affect were conducted using self-esteem and
condition (rumination vs. distraction) as the primary independent variables. There were no
statistically significant main effects or interactions in the analysis of positive affect change
scores from before to after the emotion regulation induction (PANAS time 2 – PANAS time 3).
However, there was a marginally significant self-esteem x emotion regulation interaction
predicting change in negative affect ($\beta = 0.096, t(171) = 1.794, p = 0.07$). People with LSE
experienced heightened negative moods in the rumination condition compared to the distraction
condition ($\beta = -0.217, t(171) = -2.592, p < 0.05$). HSEs negative moods remained unchanged by
the rumination and distraction tasks ($\beta = -0.004, t(171) = -0.053, p = 0.958$).

**Effects of self-esteem and negative affect on relationship distancing**

Risk regulation theory suggests that LSEs’ defensive distancing behavior occurs in part
because LSEs experience increased negative affect when faced with threats to belonging.
Therefore, exploratory analyses were performed to assess the effect that mood following the
emotion regulation tasks had on relationship distancing behavior. Relationship distancing was predicted from self-esteem and negative affect following the emotion regulation induction (PANAS time 3); and separately from negative affect change scores (PANAS time 2 – PANAS time 3). These analyses tested how well the induction tasks regulated subjects’ emotional reactions to threats to belonging as a function of self-esteem; and if there were any corresponding effects on relationship distancing.

There were no significant main effects or interactions in the analyses of communal divestment or negative behavioral intentions that used self-esteem and negative affect after the induction (PANAS time 3) as predictors. There was a marginally significant two-way self-esteem x state negative affect interaction predicting derogation behavior ($\beta = -0.170, t(171) = -2.268, p < 0.05$). HSEs experiencing more negative mood after the emotion regulation induction derogated their important close other more than HSEs who experienced less negative mood ($\beta = -0.14, t(171) = -1.642, p = .10$). LSEs derogation behavior was unaffected by their amount of negative affect following the emotion regulation tasks ($\beta = 0.025, t(171) = 0.303, p = 0.763$).

In analyses that used negative affect change scores (PANAS time 2 – PANAS time 3), there were no significant main effects or interactions predicting communal divestment or derogation behavior. However, there was a significant two-way self-esteem x mood change interaction for destructive behavioral intentions ($\beta = 0.169, t(171) = 2.338, p < 0.05$). HSEs whose negative mood improved after the emotion regulation induction intended to behave more destructively than HSEs whose negative mood intensified ($\beta = 0.257, t(171) = 2.412, p < 0.05$). LSEs distancing behavior was unaffected by changes in negative mood from before to after the emotion regulation inductions ($\beta = -0.074, t(165) = -0.780, p = 0.437$).
**Effects of feedback type and relationship type**

LSEs may interpret positive feedback in a negative way because of deeply ingrained feelings of inferiority. This study hypothesized that rumination would contribute to LSEs continued negative bias when faced with threats to belonging. Given that the proposed effects of rumination are contingent on LSEs negative bias for rejection; exploratory analyses were conducted to assess the impact of feedback type (positive vs. negative) on participants’ levels of negative affect. These analyses also tested the effects of relationship type. The interaction between feedback type and relationship type was used to test whether these factors jointly affected levels of negative affect.

There were no statistically significant main effects or interactions in the analyses of state negative affect after the emotion regulation induction (PANAS time 3 scores). However, there was a significant main effect of feedback type predicting negative mood change ($\beta = -.202$, $t(171) = -2.173$, $p < 0.05$), and the main effect of relationship type predicting negative mood change approached statistical significance ($\beta = -.167$, $t(171) = -1.573$, $p = .11$). Those who were asked to recall negative feedback reported more heightened negative mood compared to those who were asked to recall positive feedback. Additionally, individuals who rated a non-family member as their closest other tended to report more heightened negative mood compared to those who chose a family member. There was no significant interaction effect. Considering the relevance of these two variables, analyses testing the primary hypotheses were computed using only those in the negative feedback condition, and separately using only those who indicated their close other was a non-family member.

There were no significant main effects or interactions when testing the primary hypotheses using only individuals who indicated their close other was a non-family member.
When limiting the sample to individuals in the negative feedback condition, there emerged a marginally significant main effect of self-esteem in predicting positive mood ($\beta = .249$, $t(86) = 1.886$, $p = 0.06$), and a significant main effect of self-esteem in predicting negative mood ($\beta = -.366$, $t(86) = -2.858$, $p < 0.01$) after the induction. Self-esteem was positively associated with positive mood, and negatively associated with negative mood. There were no significant main effects or interactions in predicting defensive distancing behavior when using only individuals in the negative feedback condition.
Risk regulation theory asserts that people with LSE react to threats to belonging by defensively distancing from their relationships (Murray, et al., 2006). The current study investigated whether self-focused rumination contributed to relationship distancing among LSEs. Contrary to expectations, LSEs who were instructed to distract from threats to belonging reported more negative behavioral intentions than those who were instructed to ruminate. However, in comparison to distraction, there was a trend for rumination to amplify LSEs’ negative affect following the threats to belonging.

Risk regulation theory also suggests that LSEs’ defensive distancing behavior occurs in part because LSEs experience increased negative affect when faced with threats to belonging. In this study, levels of negative affect were related to relationship distancing for HSEs, and not LSEs. Results for HSEs were conflicting. HSEs’ distancing behavior both increased and decreased with more negative mood.

**Self-esteem, emotion regulation, and relationship distancing**

Unexpectedly, when compared to distraction, rumination did not affect relationship distancing among individuals with either LSE or HSE. A number of possible factors may explain this result. The most forthright explanation is that rumination is not related to defensive distancing behavior. While studies indicate that rejection triggers rumination (Pearson, et al., 2010), there is less evidence to suggest that rumination necessarily prompts negative interpersonal behavior in nonclinical samples. However, risk regulation theory argues that dependence on others is gauged by three separate systems (Murray, et al., 2006). The signaling
and affective rule system responds to threats to belonging with gratified or hurt feelings and coincident gains and losses in self-esteem. Diminished self-esteem then encourages relationship distancing. Results from this study suggest that drops in LSEs’ self-evaluations after threats to belonging may be more strongly influenced by distraction. However, while it appeared that distraction increased LSEs’ distancing, it is equally possible that rumination may have simply decreased LSEs’ distancing. Without a completely neutral control group, it is impossible to tell which condition was driving the effects, and thus the impact of rumination within the context of risk regulation requires further evaluation.

However, LSEs reported increased routine use of rumination and exhibited increased defensive distancing when compared to HSEs, suggesting that these processes indeed relate to self-esteem. With this in mind, an alternate explanation is that perhaps the manipulation was an inadequate tool for testing the effect of rumination on defensive distancing in LSEs. The chosen response manipulation induction has demonstrated robust and reliable effects on mood in clinically depressed and dysphoric people, but has no effect in nondysphoric individuals. Furthermore, the effects of this paradigm are contingent on high levels of negative mood that are induced immediately prior to the rumination manipulation (Nolen-Hoeksema, et al., 2008). The prompts that were used to elicit threats to belonging did not produce large increases in negative mood as compared to baseline (analyses listed in Appendix A). As such, the induction tasks could not regulate what did not need regulating.

Contrary to expectations, distraction appeared to increase relationship distancing in comparison to rumination. This finding is particularly surprising for two reasons. First, studies using the response manipulation induction consistently report improved outcomes with distraction (Nolen-Hoeksema, et al., 2008). Second, recent research indicates that analyzing
negative experiences from a self-distanced perspective enables effective self-regulation (Kross & Ayduk, 2011). Perhaps the distraction instructions were too dull and not sufficiently engaging for this sample. As a result, LSEs appeared to be just as likely to defensively distance in this condition as they naturally would. Passive instructions to distract, like those used in this study, are less effective than directions to actively think about something unrelated to one’s current emotions. Active distraction may be more effective than passive distraction because it may be easier to apply self-regulatory effort when provided a specific goal (Webb, Miles, & Sheeran, 2012). Interestingly, distraction led to increased relationship distancing only for the destructive behavioral intentions measure. Studies in this area find increased distancing among LSEs across multiple indices that are often measured simultaneously (Jaremka, et al., 2011). Because distraction only increased one of this study’s three distancing measures, the result may be a spurious finding.

**Self-esteem, emotion regulation, and state affect**

LSEs tended to report more negative affect after ruminating about threats to belonging. It appears that prolonged self-focused rumination may lead LSEs to start doubting others’ acceptance, and to then experience more negative affect. Other research suggests that focusing on feelings tied to an experience, as occurs with rumination, activates concrete representations of those emotions that are likely to then re-immerse an individual in the recalled experience (Kross, Ayduk, & Mischel, 2005). For LSEs, concentrating on the self, and on the causes and implications of their feelings may produce more negative affect after recalling others’ self-relevant feedback, compared to when instructed to distract from it.

LSEs are less motivated than HSEs to improve sad moods (Heimpel, Wood, Marshall, & Brown, 2002), and LSEs are more likely than HSEs to dampen their feelings when they feel
good (Wood, Heimpel, & Michela, 2003). Furthermore, LSEs believe themselves less able to regulate their negative moods than HSEs (S. M. Smith & Petty, 1995). These studies point to self-esteem as an important determinant of affect regulation. In a separate study, LSEs did not attempt to improve their negative moods following a rejection recall task because they felt less deserving of self-enhancement in the face of others’ disapproval (Wood, Heimpel, Manwell, & Whittington, 2009). Thus self-esteem differences in affect regulation may in turn serve to maintain self-esteem. Perhaps the instructions to ruminate on self-relevant information used in this study amplified LSEs tendency to feel less deserving of good feelings, and the result was increased negative affect even after recalling positive feedback.

Rumination did not appear to maintain HSEs negative affect after the recall task. The trend towards lower state negative affect scores across conditions, suggests that HSEs were better able to access positive emotions when simply thinking about those close to them. In this way, rumination could have driven HSEs to savor positive emotions. Indeed, acute social exclusion leads to increases in nonconscious positive emotion among people with HSE (DeWall, et al., 2011). Additionally, HSEs report that they savor their good moods (Wood, et al., 2003). In comparison, LSEs show decreases in attunement to positive emotion when primed with rejection (DeWall, et al., 2011).

**Self-esteem, negative affect, and relationship distancing**

When HSEs reported more negative affect, they showed increased derogation of their close other. However, HSEs whose negative mood intensified after the response manipulation reported less negative behavioral intentions. The observation that HSEs draw closer to others in the face of threats to belonging is consistent with other findings in risk regulation research. HSEs report greater feelings of closeness and dependence on relationship partners after a variety
of experimentally-induced relationship threats (Murray, et al., 2006). With respect to negative behavioral intentions, HSEs’ increased negative mood could have served as a warning sign; signaling them to begin behaving in ways that would lower their risk of rejection. However, when considering HSEs’ derogation behavior, it appears HSEs are more comfortable judging their close other’s strengths and weaknesses from afar than they are behaving negatively towards them.

LSEs’ distancing behavior was unrelated to fluctuations in negative mood. The *behavioral response system* in risk regulation theory is triggered by coincident fluctuations in self-esteem and hurt feelings (Murray, et al., 2006). This system is responsible for enacting relationship distancing. Data from this study suggest that for LSEs, changes in negative affect are not related to relationship distancing. However, successive measures of state self-esteem were not included in this paradigm, and thus fluctuations in self-esteem could not be adequately tested in this study.

**Inclusion of feedback type and relationship type**

According to risk regulation theory, an *appraisal rule system* constantly monitors how other people regard the self. Furthermore, rejection from others should be anticipated if they perceive one’s shortcomings. LSEs’ insecurities make them more sensitive to signs of rejection (Murray, et al., 2006). This attentional bias to rejection typically causes LSEs to appraise even positive feedback from others as threatening. Although studies show that LSEs report less happiness when recalling compliments compared to HSEs (Marigold, et al., 2007), this effect was not replicated in this study. Previous research indicates that LSEs reactivity to rejection may depend on levels of attentional control (Gyurak & Ayduk, 2007). Perhaps a measure of attentional control would have been helpful in explaining these results. It also appears that type
of close relationship, if outside one’s family, does not influence associations between self-esteem, emotion regulation processes, and defensive distancing behavior.

Limitations

Apart from those already mentioned, additional limitations were also present in the current study. For example, the study sample was unique. Researchers in risk regulation often confine their samples to married and dating couples. This study included different types of relationships to test the theory’s generalizability. However, the broad range in relationships could have limited the ability to detect effects. Furthermore, as the majority of this sample were undergraduate freshman, a large proportion indicated that their closest other was a parent. Parental figures take a prominent role in the lives of adolescents, especially during periods of the high school-college transition. Adolescents who leave home to attend college report increased perceived security to parents, but decreased perceptions of emotional adjustment and social support from non-relatives (Larose & Boivin, 1998). Asking participants to consider instances of implied acceptance or rejection from a parent may not represent the same threat as one coming from romantic partners or individuals outside one’s family. This is well represented in the following excerpt:

Yes, I believed that what he said indicated that he admired me. I had accomplished something that he had really wanted me to accomplish. It was something he had accomplished at the same time in his life so it was definitely significant in our relationship. He had always looked forward to the day where he could congratulate me and share the experience with me, so it was a big deal when it happened. The congratulatory words he expressed were sincere, and it was clear they were associated with his positive emotion. They were meaningful to me because it exemplified the pride I had from accomplishing a task that he’d already done.

University students’ social ties are likely to differ from those of the general population. Accordingly, the use of this student sample may account for the lack of significant findings.
This investigation could have been influenced by response biases and social desirability, since many of the study’s measures were based on self-report. Attempts to minimize these effects included assignment of a nameless identifier to item responses and also reminding participants of their anonymity. Despite these efforts, biased responses may still have influenced the results. In addition, the absence of a manipulation check means there was no assurance that participants truly followed the rumination or distraction prompts.

Although prescreening was used to ensure a large range of self-esteem scores, only a limited range of self-esteem scores were obtained from students who chose this option. Thus, while a power analysis indicated the sample was adequately sized, the study may have been underpowered to detect interactions with self-esteem, because self-esteem had a relatively restricted range. With regards to study design, inclusion of both a neutral feedback condition and a no-instructions condition within the emotional regulation manipulation might have served as more effective control conditions.

**Implications and future directions**

Researchers have speculated that LSE and depression may in fact represent the same underlying construct (Watson, Suls, & Haig, 2002). In this study, the percentage of shared variance between these two measures was 23%. While this overlap suggests a clear association between LSE and depression, the association’s moderate size suggests that they are separable constructs. Although individuals with LSE reported to frequently engage in rumination, LSEs did not report more concurrent depression. The response styles theory of depression argues that ruminating on the causes, consequences, and meanings of one’s negative mood both sustains and amplifies negative emotional states (Nolen-Hoeksema, et al., 2008). Importantly, while it
appeared that rumination may have enhanced negative affect among LSEs, it ultimately did not contribute to their relationship distancing.

Still, risk regulation proposes that an affective signaling system mediates relationship distancing among LSEs. Other maladaptive emotional regulation strategies can be considered for future investigation. For example, promoting cognitive change through reappraisal and perspective-taking may decrease LSEs’ feelings of inferiority when comparisons are made to significant others. Enhancing the quality of LSE’s relationships may be challenging, but efforts to improve their relationship functioning are warranted. Poor relationship functioning is related to decreased health and reduced psychological well-being for both members of the dyad (Kiecolt-Glaser, et al., 2005). Improving LSE’s social skills, by targeting other possible mediating mechanisms of emotion regulation, ultimately may enhance relationship and health outcomes for LSEs and those closest to them.

Self-esteem provides a buffer against threat responding; higher levels of self-esteem are associated with increased felt security and decreased autonomic arousal in stressful situations (Martens et al., 2010). However, the relationship between self-esteem and its physiological correlates is not well understood. Self-esteem is inversely related to anxiety, depression, and hostility (Leary, Terdal, Tambor, & Downs, 1995), and higher resting heart rate variability (HRV) is related to a greater capacity for effective emotional regulation (Geisler & Kubiak, 2009; Geisler, Vennewald, Kubiak, & Weber, 2010). Thus, it may be that the association between self-esteem and autonomic control is mediated by processes of emotional regulation.

Additionally, the capacity for self-regulation as indexed by resting levels of respiratory sinus arrhythmia (HF-HRV), is related to overall adaptive functioning in close relationships (T. W. Smith, et al., 2011). Perhaps it is not LSE’s emotion regulation strategies that are
problematic, but their capacity for self-regulation when faced with threats to belonging. In other research, when looking at scenes of social rejection, LSEs who were also high on attentional control showed greater activation of the rostral anterior cingulate cortex (rACC), a brain region associated with emotional control, than LSEs with low attentional control. LSE-high attentional control individuals also evaluated the scenes as less arousing and less rejecting than those with LSE-low attentional control (Gyurak, et al., 2012). Accordingly, physiological measures of self-regulatory capacity, such as autonomic reactivity, could be included in future research of self-esteem and relationship distancing. These studies could focus on both resting and active states as additional indices of emotional and self-regulatory control among LSEs within the context of close relationships.

Conclusions

People with low self-esteem show heightened sensitivity in detecting rejection and disapproval in close relationships (Murray, 2006). LSEs’ resulting defenses lead to reductions in satisfaction and overall functioning of their relationships over time (Murray, 2006). Using the risk regulation framework, this study investigated whether self-focused rumination influenced LSEs relationship distancing behavior. In particular, rumination was hypothesized to amplify LSEs negative affect when faced with threats to belonging, thereby leading to more distancing behavior. However, self-focused rumination did not increase relationship distancing. Nevertheless, results indicated that rumination in LSEs is maladaptive for overall emotional regulation. In comparison, distraction improved LSEs’ mood. Moreover, LSEs reported increased routine use of rumination in their daily lives. This suggests LSEs possess deficits in emotional and self-regulatory control. Accordingly, future investigations should continue to
target emotion regulation when testing the processes of relationship dependence among LSE individuals.
References


Table 1: Demographic information for total sample (n=172).

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<td>Sophomore</td>
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<td>Upperclassman</td>
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<tr>
<td><strong>Relationship Type</strong></td>
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<tr>
<td>Other family member</td>
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<td>Other non-family member</td>
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<td>Relationship Status (Partnered)</td>
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<td>Relationship Length (Mean Months)</td>
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<td>1.11 (SD)</td>
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Table 2: Sample Descriptive Statistics

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<td>5.45</td>
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<td>5.06</td>
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<td>RRQ-Rumination</td>
<td>0-6</td>
<td>3.90</td>
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<td>RRQ-Reflection</td>
<td>0-6</td>
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<td>3.01</td>
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<td>RSQ-Distraction</td>
<td>17-44</td>
<td>30.59</td>
<td>6.01</td>
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<td>PSWQ</td>
<td>8-40</td>
<td>23.94</td>
<td>9.14</td>
</tr>
<tr>
<td>BFNE</td>
<td>12-48</td>
<td>31.60</td>
<td>8.97</td>
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<td>CES-D</td>
<td>0-54</td>
<td>16.36</td>
<td>11.90</td>
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<td>PANAS 1-Positive Affect</td>
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</tr>
<tr>
<td>PANAS 2-Positive Affect</td>
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<td>0.50</td>
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</tr>
<tr>
<td>PANAS 3-Negative Affect</td>
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<td>1.32</td>
<td>0.53</td>
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<td>Communal divestment</td>
<td>0-6</td>
<td>0.80</td>
<td>1.02</td>
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<tr>
<td>Derogation of other</td>
<td>2-6</td>
<td>4.26</td>
<td>0.55</td>
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<tr>
<td>Destructive behavioral intentions</td>
<td>1-7</td>
<td>2.21</td>
<td>1.03</td>
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<tr>
<td>% Positive emotion words</td>
<td>0-14</td>
<td>5.12</td>
<td>2.71</td>
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<tr>
<td>% Negative emotion words</td>
<td>0-8</td>
<td>1.83</td>
<td>1.74</td>
</tr>
<tr>
<td>% Self (“I”) words</td>
<td>1-14</td>
<td>7.44</td>
<td>2.72</td>
</tr>
<tr>
<td>% Belonging (“We”) words</td>
<td>0-6</td>
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Table 3: Hierarchical Regression Analysis Predicting Negative Behavioral Intentions from Self-Esteem & Emotion Regulation

<table>
<thead>
<tr>
<th>Step and variables</th>
<th>ΔR²</th>
<th>B</th>
<th>SE B</th>
<th>β</th>
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<tr>
<td><strong>Step 1</strong></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Self-Esteem</td>
<td>0.16**</td>
<td>-.03</td>
<td>.08</td>
<td>-.03</td>
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<tr>
<td>Emotion Regulation</td>
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<td>-.07</td>
<td>.15</td>
<td>-.04</td>
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<tr>
<td>Sex</td>
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<td>.04</td>
<td>.16</td>
<td>-.02</td>
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<tr>
<td>Depression</td>
<td></td>
<td>.02</td>
<td>.01</td>
<td>.18*</td>
</tr>
<tr>
<td>Relationship Quality</td>
<td></td>
<td>-.43</td>
<td>.11</td>
<td>-.31***</td>
</tr>
</tbody>
</table>

| **Step 2**         | 0.03* | -.16 | .10  | -.17* |
| Self-Esteem        |     | -.08 | .15  | -.04 |
| Emotion Regulation |     | .10  | .16  | .05  |
| Sex                |     | .02  | .01  | .18** |
| Depression         |     | -.43 | .11  | -.32*** |
| Relationship Quality |   | .34  | .13  | .23*** |
| Self-Esteem X      |     | .34  | .13  | .23*** |

| $R^2$ |       | .43** |
| $F(6, 171)$ | 6.28** |

*p < .10; ** p < .05; ***p < .01
Table 4: Hierarchical Regression Analysis Predicting Positive Affect after Induction from Self-Esteem & Emotion Regulation

<table>
<thead>
<tr>
<th>Step and variables</th>
<th>$\Delta R^2$</th>
<th>$B$</th>
<th>$SE B$</th>
<th>$\beta$</th>
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<td></td>
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<tr>
<td>Self-Esteem</td>
<td>.12***</td>
<td>.24</td>
<td>.06</td>
<td>.30***</td>
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<tr>
<td>Emotion Regulation</td>
<td></td>
<td>.24</td>
<td>.12</td>
<td>.14*</td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
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<td></td>
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<tr>
<td>Self-Esteem</td>
<td>.00</td>
<td>.20</td>
<td>.07</td>
<td>.26***</td>
</tr>
<tr>
<td>Emotion Regulation</td>
<td></td>
<td>.24</td>
<td>.12</td>
<td>.14*</td>
</tr>
<tr>
<td>Self-Esteem X</td>
<td></td>
<td>.10</td>
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<td>.08</td>
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<tr>
<td>Emotion Regulation</td>
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<tr>
<td>$R^2$</td>
<td></td>
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<td>.11***</td>
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<td>$F(3, 171)$</td>
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*p < .10; ** p < .05; ***p < .01
Table 5: Hierarchical Regression Analysis Predicting Negative Mood Change from Self-Esteem & Emotion Regulation

<table>
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<th>SE B</th>
<th>$\beta$</th>
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<td>.06</td>
<td>-.14*</td>
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<td>Self-Esteem X Emotion Regulation</td>
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<td>.05</td>
<td>.18*</td>
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$R^2$ .03*  
$F(3, 171)$ 2.54*  

*p < .10; ** p < .05; ***p < .01
Table 6: Hierarchical Regression Analysis Predicting Derogation Behavior from Self-Esteem & State Negative Affect (PANAS time 3)

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<th>SE B</th>
<th>β</th>
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<td>.09</td>
<td>.04</td>
<td>.13*</td>
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<td>-.09</td>
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<tr>
<td>Sex</td>
<td></td>
<td>.29</td>
<td>.09</td>
<td>.18***</td>
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<td>Relationship Quality</td>
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<td>.41</td>
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<td>.39***</td>
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<td></td>
</tr>
<tr>
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<td>-.12</td>
<td>.04</td>
<td>.18**</td>
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<td>T3 Negative Mood</td>
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<td>.09</td>
<td>-.15**</td>
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<tr>
<td>Sex</td>
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<td>.31</td>
<td>.09</td>
<td>.20***</td>
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<td>.38***</td>
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<tr>
<td>R²</td>
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*p < .10; ** p < .05; ***p < .01
Table 7: Hierarchical Regression Analysis Predicting Destructive Behavioral Intentions from Self-Esteem & Negative Mood Change

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<th>$\beta$</th>
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<td>.07</td>
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<td>.07</td>
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<td>Sex</td>
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<td>.02</td>
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<td>.11</td>
<td>-.31***</td>
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</tr>
<tr>
<td><strong>Step 2</strong></td>
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<td>Sex</td>
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$R^2 = .14***$

$F(5, 171) = 6.47***$

*p < .10; ** p < .05; ***p < .01
Table 8: Hierarchical Regression Analysis Predicting Negative Mood Change from Feedback Type & Relationship Type

<table>
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<th>SE B</th>
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<td>.14</td>
<td>.06</td>
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<td>-.11</td>
<td>-.13 *</td>
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<td>Feedback Type</td>
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<td>.07</td>
<td>-.20**</td>
</tr>
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<td>Relationship Type</td>
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<td>-.13</td>
<td>.09</td>
<td>-.17</td>
</tr>
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<td>Feedback Type X</td>
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<td>.05</td>
<td>.12</td>
<td>.05</td>
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<td>Relationship Type</td>
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R² = .03**

F(3, 171) = 3.04**

*p < .10; ** p < .05; ***p < .01
Table 9: Paired Samples T-Test Comparing Mean Baseline and Post-Recall Negative Mood

<table>
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<tr>
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<th>Post-Recall Negative Mood</th>
<th>t</th>
<th>df</th>
<th>p</th>
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</thead>
<tbody>
<tr>
<td>1.43 (0.50)</td>
<td>1.42 (0.53)</td>
<td>.19</td>
<td>171</td>
<td>.85</td>
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</tbody>
</table>

*p < .10; ** p < .05; ***p < .01; Standard deviations appear in parentheses below means.
Figure 1: Destructive behavioral intentions as a function of self-esteem and emotion regulation
Figure 2: Positive mood (PANAS time 3) as a function of self-esteem and emotion regulation
Figure 3: Negative mood (PANAS time 3) as a function of self-esteem and emotion regulation
Figure 4: Change in negative mood as a function of self-esteem and emotion regulation
Figure 5: Derogation behavior as a function of self-esteem and negative mood (PANAS time 3) after the induction
Figure 6: Destructive behavioral intentions as a function of self-esteem and negative mood change from before to after the emotion regulation induction
APPENDIX: C
Self-Report Measures

Please write in initials of “1” in the following underlined spaces:

Think of a time when __________ told you how much he/she liked something about you. For example, a personal quality or ability you have that he/she thinks very highly of, or something you did that really impressed him/her.

How long ago did this happen? ________________________________

In the space below, explain whether you think what __________ said indicated that he/she admired you. Also, consider whether it was meaningful to you and significant for your relationship. Try to relive the experience. Explain what happened and how it made you feel in the moment.

Please write for 8 full minutes (the experimenter will signal to stop).

Please write in initials of “1” in the following underlined spaces:

Think of a time when __________ told you how much he/she disliked something about you. For example, a personal quality or ability you have that he/she dislikes, or something you did that made him/her unhappy.

How long ago did this happen? ________________________________

In the space below, explain whether you think what __________ said indicated that he/she disapproved of you. Also, consider whether it was meaningful to you and significant for your relationship. Try to relive the experience. Explain what happened and how it made you feel in the moment.

Please write for 8 full minutes (the experimenter will signal to stop).
Instructions: Please answer the following questions about yourself.

1.) What is your sex?  □ Male  □ Female

2.) What is your age? ______

3.) Which one of the following groups do you think best represents your race?
   □ White
   □ Black or African American
   □ Asian
   □ Hispanic or Latino
   □ Native American
   □ Other: ________________________

4.) How long have you been at OSU?
   □ First Year
   □ Second year
   □ Third year or more
   □ International student

5.) Are you a native English speaker?  □ Yes  □ No  If no, how long speaking? ______ (in months)

6.) What is your current living arrangement?
   □ On campus  □ Off campus (but not at home)  □ Living at home

7.) Are you currently in a romantic relationship?  □ Yes  □ No  If yes, for how long (in months)?: ______

8.) How many close relatives do you have (those that you feel at ease with, can talk to about private matters, and can call on for help)?
   □None  □1  □2  □3  □4  □5  □6  □7 or more

9.) How many of your relatives live nearby enough for you to have easy access to?
   □None  □1  □2  □3  □4  □5  □6  □7 or more

10.) How many close friends do you have (people that you feel at ease with, can talk to about private matters, and can call on for help)?
    □None  □1  □2  □3  □4  □5  □6  □7 or more

11.) How many of these friends do you see or talk to at least once every two weeks?
    □None  □1  □2  □3  □4  □5  □6  □7 or more
Directions: This scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you feel each word **RIGHT NOW**. Use the provided scale to record your answers.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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<tr>
<td></td>
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<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Very slightly or not at all</td>
<td>A little</td>
<td>Moderately</td>
<td>Quite a bit</td>
<td>Extremely</td>
</tr>
</tbody>
</table>

_____ 1. Interested
_____ 2. Distressed
_____ 3. Excited
_____ 4. Upset
_____ 5. Strong
_____ 6. Guilty
_____ 7. Scared
_____ 8. Hostile
_____ 9. Enthusiastic
_____ 10. Proud
_____ 11. Irritable
_____ 12. Alert
_____ 13. Ashamed
_____ 14. Inspired
_____ 15. Nervous
_____ 16. Determined
_____ 17. Attentive
_____ 18. Jittery
_____ 19. Active
_____ 20. Afraid
Think about each statement that follows and rate the degree to which you agree or disagree with it on the following scale.

<p>| | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
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<th></th>
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<td>7</td>
</tr>
</tbody>
</table>

1. Strongly disagree
2. Strongly agree

1. I feel that I am a person of worth, at least on an equal basis with others.
2. I feel that I have a number of good qualities.
3. All in all I am inclined to feel that I am a failure.
4. I am able to do things as well as most other people.
5. I feel I do not have much to be proud of.
6. I take a positive attitude toward myself.
7. On the whole I am satisfied with myself.
8. I wish I could have more respect for myself.
9. I certainly feel useless at times.
10. At times, I think I am no good at all.
I. Using the spaces below, please list only the initials of 5 people that you consider to be important sources of social & emotional support in your life right now; include only those who you feel closest to:
   a. ___________
   b. ___________
   c. ___________
   d. ___________
   e. ___________

II. Using a ranking scale of “1” (most important) to “5” (least important), please go through and rank order the people on your list in terms of their importance to you: Every initial should have a ranking.
   a. ___________
   b. ___________
   c. ___________
   d. ___________
   e. ___________

III. Once you have identified who is your most important source of support (with a ranking of “1”), please also indicate his/her relationship to you, i.e. romantic partner, best friend, parent, roommate, mentor, co-worker, etc. in the space below.
    _______________
Please circle the picture which best describes your relationship with __________ (write in initials of “1”).

Figure 1. The Inclusion of Other in the Self (IOS) Scale.
Using the accompanying scale, please rate the extent to which each of the following statements characterizes the way you feel about your relationship with __________ (write in initials of “1”) right now.

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all true</td>
<td>Moderately true</td>
<td>Completely true</td>
<td></td>
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</tbody>
</table>

_______1. I feel very close to them.
_______2. I can confide in them about almost anything.
_______3. I am emotionally open and honest with them.
_______4. I can talk to them about our deepest and most private feelings.
_______5. I feel closer to them than to anyone else in my life.
Using the accompanying scale, please rate the extent to which each of the following statements characterizes the way you feel about your relationship with __________ (write in initials of “1”) right now.

0 1 2 3 4 5 6
Not at all true Completely true  

_____1. I am confident that he/she cares about me.  
_____2. I am confident that he/she will always look past my faults and see the best in me.  
_____3. I sometimes worry that he/she does not accept me.  
_____4. I sometimes worry that he/she does not feel very close to me.  
_____5. I am confident that he/she will always be ready and willing to offer me strength and support.  
_____6. He/she is deeply committed to maintaining our relationship.  
_____7. I am confident that he/she feels very close to me.  
_____8. I sometimes worry whether he/she is emotionally open and honest with me.  
_____9. I am certain that he/she feels like they can confide in me about almost anything.  
_____10. I sometimes worry that he/she is not committed to making our relationship work.  
_____11. I feel satisfied with our relationship.  
_____12. Our relationship is much better than others’ relationships.  
_____13. Our relationship is close to ideal.  
_____14. Our relationship makes me very happy.  
_____15. Our relationship does a good job of fulfilling my needs for companionship, intimacy, etc.  
_____16. Write in the number five.  
_____17. I want our relationship to last for a very long time.  
_____18. I am deeply committed to maintaining our relationship.  
_____19. I would not feel very upset if our relationship were to end in the near future.
Think about each statement that follows and rate the degree to which you endorse it on the following scales.

**How happy were you recalling this feedback:**

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</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Not at all happy</td>
<td>Moderately happy</td>
<td>Extremely happy</td>
<td></td>
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</tbody>
</table>

**How far away does it feel:**

<p>| | | | | | | |</p>
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</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Not at all far</td>
<td>Moderately far</td>
<td>Extremely far</td>
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</table>

**How significant does it seem now:**

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</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Not at all significant</td>
<td>Moderately significant</td>
<td>Extremely significant</td>
<td></td>
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</table>

**How much do you feel the feedback reflects something about them:**

<p>| | | | | | | |</p>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Not at all reflective</td>
<td>Moderately reflective</td>
<td>Extremely reflective</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
Using the accompanying scale, please rate the extent to which each of the following statements characterizes the way you feel about your relationship with ________ (write in initials of “1”) right now.

0 1 2 3 4 5 6

Not at all true Moderately true Completely true

______1. I sometimes wish that they were a little more independent and self-sufficient.

______2. I sometimes feel that caring for them is a burden.

______3. I sometimes feel that they rely on me too much.

______4. I sometimes resent having to do things for them.

______5. I do not like being responsible for helping them.
Please indicate how characteristic each trait or attribute listed below is of ________ (write in initials of “1”). Respond according to the following scale:

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>not at all characteristic</td>
<td>somewhat characteristic</td>
<td>moderately characteristic</td>
<td>very characteristic</td>
<td>completely characteristic</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Enter your response in the blank to the left of each trait or attribute listed.

_______ (write in initials of “1”) is...

<table>
<thead>
<tr>
<th>witty and humorous</th>
<th>loving towards me</th>
</tr>
</thead>
<tbody>
<tr>
<td>kind and affectionate towards other people</td>
<td>intelligent</td>
</tr>
<tr>
<td>kind and affectionate towards me</td>
<td>warm</td>
</tr>
<tr>
<td>critical and judgmental towards other people</td>
<td>thoughtless</td>
</tr>
<tr>
<td>critical and judgmental towards me</td>
<td>understanding</td>
</tr>
<tr>
<td>open and disclosing</td>
<td>complaining</td>
</tr>
<tr>
<td>controlling and dominant</td>
<td>sociable; extroverted</td>
</tr>
<tr>
<td>self-assured</td>
<td>irrational</td>
</tr>
<tr>
<td>patient</td>
<td>tolerant and accepting</td>
</tr>
<tr>
<td>lazy</td>
<td>responsive to other people</td>
</tr>
<tr>
<td>distant</td>
<td>responsive to me</td>
</tr>
<tr>
<td>emotional or moody</td>
<td>immature</td>
</tr>
<tr>
<td>considerate towards other people</td>
<td>forgiving</td>
</tr>
<tr>
<td>considerate towards me</td>
<td>demanding</td>
</tr>
<tr>
<td>loving towards other people</td>
<td>write in number three</td>
</tr>
</tbody>
</table>
Please rate how frequently you think the following events will occur in your relationship with __________ (write in initials of “1”) over the next 6 months or so. Use the following scale:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>rarely, if ever</td>
<td>occasionally</td>
<td>frequently</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

_____1. I will do something that causes an argument.
_____2. I will do something that upsets and angers them.
_____3. I will want more independence and pull away from them.
_____4. I will act too needy and annoy them.
_____5. I will act selfishly and ignore their feelings.
_____6. I will consider ending my relationship with them.
Think about each statement that follows and rate the degree to which you agree or disagree with it on the following scale.

0  1  2  3  4  5  6
Not at all true         Completely true

______ 1. My attention is often focused on aspects of myself I wish I'd stop thinking about.
______ 2. I always seem to be rehashing in my mind recent things I've said or done.
______ 3. Sometimes it is hard for me to shut off thoughts about myself.
______ 4. Long after an argument or disagreement is over with, my thoughts keep going back to what happened.
______ 5. I tend to "ruminate" or dwell over things that happen to me for a really long time afterward.
______ 6. I don't waste time rethinking things that are over and done with.
______ 7. Often I'm playing back over in my mind how I acted in a past situation.
______ 8. I often find myself reevaluating something I've done.
______ 9. I never ruminate or dwell on myself for very long.
______10. It is easy for me to put unwanted thoughts out of my mind.
______11. I often reflect on episodes in my life that I should no longer concern myself with.
______12. I spend a great deal of time thinking back over my embarrassing or disappointing moments.
______13. Philosophical or abstract thinking doesn't appeal to me that much.
______14. I'm not really a meditative type of person.
______15. I love exploring my "inner" self.
______16. My attitudes and feelings about things fascinate me.
______17. I don't really care for introspective or self-reflective thinking.
______18. I love analyzing why I do things.
______19. People often say I'm a "deep," introspective type of person.
______20. I don't care much for self-analysis.
______21. I'm very self-inquisitive by nature.
______22. I love to meditate on the nature and meaning of things.
______23. I often love to look at my life in philosophical ways.
______24. Contemplating myself isn't my idea of fun.

RRQ
Please indicate the appropriate number corresponding to the one phrase that best represents the extent to which you feel each item is typical of you.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not at all</td>
<td>Slightly</td>
<td>Somewhat</td>
<td>Moderately</td>
<td>Very</td>
</tr>
</tbody>
</table>

1. My worries overwhelm me.
2. Many situations make me worry.
3. I know I should not worry about things, but I just cannot help it.
4. When I am under pressure I worry a lot.
5. I am always worrying about something.
6. As soon as I finish one task, I start to worry about everything else I must do.
7. I have been a worrier all my life.
8. I notice that I have been worrying about things.

PSWQ
People think and do many different things when they feel sad, blue, or depressed. Please indicate whether you never, sometimes, often, or always think or do the items listed below when you feel down, sad or depressed. Please report what you generally do, not what you think you should do.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Never</td>
<td>Sometimes</td>
<td>Often</td>
<td>Always</td>
</tr>
</tbody>
</table>

1. Think, "What am I doing to deserve this?"
2. Analyze recent events to try to understand why you are depressed.
3. Think, "Why do I always react this way?"
4. Go away by yourself and think about why you feel this way.
5. Write down what you are thinking and analyze it.
6. Think about a recent situation, wishing it had gone better.
7. Think, "Why do I have problems other people don't have?"
8. Think, "Why can't I handle things better?"
9. Analyze your personality to try to understand why you are depressed.
10. Go someplace alone to think about your feelings.
11. Try to find something positive in the situation or something you learned.
12. Think, "I'm going to do something to make myself feel better."
13. Help someone else with something in order to distract yourself.
14. Remind yourself that these feelings won't last.
15. Go to a favorite place to get your mind off your feelings.
16. Think, "I'll concentrate on something other than how I feel."
17. Do something that has made you feel better in the past.
18. Write in the number corresponding to always.
19. Think, "I'm going to go out and have some fun."
20. Concentrate on your work.
21. Do something you enjoy.
22. Do something fun with a friend.
**Directions:** Read each of the following statements carefully, and indicate how characteristic it is of you according to the following scale:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not at all characteristic of me</td>
<td>Slightly characteristic of me</td>
<td>Moderately characteristic of me</td>
<td>Very characteristic of me</td>
</tr>
</tbody>
</table>

1. I worry about what other people will think of me even when I know it doesn’t make any difference.
2. I am unconcerned even if I know people are forming an unfavorable impression of me.
3. I am frequently afraid of other people noticing my shortcomings.
4. I rarely worry about what kind of impression I am making on someone.
5. I am afraid that others will not approve of me.
6. I am afraid that people will find fault with me.
7. Other people’s opinions of me do not bother me.
8. When I am talking to someone, I worry about what they may be thinking about me.
9. I am usually worried about what kind of impression I make.
10. If I know someone is judging me, it has little effect on me.
11. Sometimes I think I am too concerned with what other people think of me.
12. I often worry that I will say or do the wrong things.
13. Write in what month it is.
Please read each statement and then indicate how many days you felt or behaved this way in the past week by filling in the corresponding number:

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Less than 1 day</td>
<td>1-2 days</td>
<td>3-4 days</td>
<td>5-7 days</td>
</tr>
</tbody>
</table>

______1. I was bothered by things that usually don’t bother me.
______2. I did not feel like eating; my appetite was poor.
______3. I felt that I could not shake off the blues even with help from my family or friends.
______4. I felt that I was just as good as other people.
______5. I had trouble keeping my mind on what I was doing.
______6. I felt depressed.
______7. I felt that everything I did was an effort.
______8. I felt hopeful about the future.
______9. I thought my life had been a failure.
______10. I felt fearful.
______11. My sleep was restless.
______12. I was happy.
______13. I talked less than usual.
______15. People were unfriendly.
______16. I enjoyed life.
______17. I had crying spells.
______18. I felt sad.
______19. I felt that other people dislike me.
______20. I could not “get going.”

CES-D