

Trait Self-Esteem Moderates the Effect of Initiator Status on Emotional and Cognitive
Responses to Romantic Relationship Dissolution

by

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Abstract

Romantic relationship dissolution has been implicated in the onset of mood disorders (Monroe et al., 1999; Overbeek et al., 2003). It is therefore imperative that researchers and mental health professionals have an understanding of the factors that contribute to dysfunctional responses so as to assist vulnerable individuals with developing healthy strategies for coping with relationship dissolution. Prior research on the relationship between initiator status (i.e., who ended the relationship) and subsequent emotional distress has been mixed, with multiple researchers finding that a person's level of distress was unrelated to whether he or she ended the relationship. I hypothesized that the effect of initiator status on post-break-up distress would vary as a function of trait self-esteem such that individuals with low self-esteem would experience more distress after being rejected by their partners, whereas individuals with high self-esteem would be no more distressed after a rejection than after acting as the rejecter.

I tested this hypothesis using two designs. First, I used a prospective, naturalistic design in which university students were assessed for emotional responses following the dissolution of their romantic relationships. Those who had self-reported lower trait self-esteem at the outset of the study experienced higher levels of break-up-specific distress. On the other hand, those who had reported higher trait self-esteem did not exhibit differing distress levels as a function of who ended the relationship. This pattern was replicated in a laboratory design in which university students imagined breaking up with their partners. Participants with low trait self-esteem experienced more negative mood, reported lower state self-esteem, and evaluated themselves more negatively after a scenario in which they were rejected as compared to a scenario in which they rejected

their partners. Participants with high self-esteem did not differ on any of these variables as a function of rejection condition. Results are discussed in terms of the theoretical implications for understanding self-esteem processes and the effects of romantic rejection. Implications for interventions for individuals with low self-esteem who are coping with romantic rejection are also explored.

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Chapter 1: Introduction and Literature Review

Imagine two university students who are roommates, Anne and Diana, both involved in romantic relationships. Around the same time, both Anne and Diana's partners decide to break off their relationships. While both girls are initially upset, their reactions to the rejection vary widely. Anne continues to attend her classes and her usual social events, and starts to feel like her old self after a week has passed. Diana, on the other hand, feels completely devastated, withdraws from her usual activities, and is still experiencing depressive symptoms months later. Why do Anne and Diana have such different reactions to relatively similar stressors?

Overview

In the current research, I will be investigating the effect of two factors on distress reactions to a romantic break-up: initiator status (i.e., whose decision it was to end the relationship) and trait self-esteem. These two factors have been examined individually with regard to their association with post break-up distress, but their interactive effect has not been assessed. I will begin my literature review by describing the varied reactions to the dissolution of a romantic relationship that have been documented. Factors that have been shown to predict level of distress after a break-up are then reviewed, with a comprehensive focus on initiator status. An explanation for a relationship between initiator status and distress is proposed, drawing from experimental research on interpersonal rejection and ostracism and from sociometer theory (Leary, Tambor, Turdall, & Downs, 1995). Next, I will review the research that has examined the link between trait self-esteem and distress following romantic relationship dissolution, followed by the experimental findings on the interactive effect of trait self-esteem and

rejection on distress. I will conclude the literature review with a consideration of diverse theoretical perspectives on the mechanism underlying the apparent vulnerability of people with low self-esteem to rejection-related distress.

Reactions to the Dissolution of a Romantic Relationship

Although perceptions and behaviour in romantic relationships is one of the most widely researched areas in social psychology (see Brehm, 2002), comparatively little research has investigated the effect of the end of romantic relationships on the well-being of the members of the couple. Researchers have shown that people have a strong motivation to figure out what why the relationship ended (Fletcher, 1983; Weiss, 1976) and that they tend to experience intense emotional distress, often including anger, depression, sadness, loneliness, yearning, regret, guilt, bitterness, post traumatic stress symptoms, loss of self-confidence, and loss of self-esteem (Berscheid, 1983; Cain, 1988; Chung et al., 2003; Hope, Rodgers, & Power, 1999; Sbarra & Emery, 2005; Spanier & Castro, 1979; Weiss, 1979). In addition, it is known that divorce and marital separation are associated with an increased prevalence of psychiatric illness (especially major depression), automobile accidents, alcohol abuse, homicide, and suicide, as compared to married and unmarried controls (Aseltine & Kessler, 1993; Bloom, Asher, & White, 1978; Kitson & Morgan, 1990; Menaghan & Lieberman, 1986; Stack, 1989).

The data on the relationship between divorce/separation and negative outcomes are non-experimental, raising the possibility that the negative outcomes observed in divorced individuals are not caused by, but rather co-occur with, the dissolution of the marital relationship. For example, it is possible that underlying psychological problems among married people contribute to both marital dissolution *and* an increased incidence

of psychiatric illness. However, more recent investigations of adolescents and young adults showed that romantic break-ups indeed predicted the onset of first major depressive disorder (Monroe, Rohde, Seeley, & Lewinsohn, 1999) and major depressive episodes (Overbeek, Vollerbergh, Engels, & Meeus, 2003), suggesting that romantic break-ups can contribute to the development of psychiatric illness, at least for young people. In any case, the severity of the varied negative outcomes of break-ups and divorce, paired with the possibility that relationship dissolution plays a causal role, makes research into factors that contribute to post-break-up distress and maladjustment an important endeavor.

Given what is known about human nature, it is not surprising that the loss of a romantic relationship would lead to severe distress. Close relationships are an important source of happiness and satisfaction for the majority of people (Berscheid & Reis, 1998). Thus, when a relationship ends, an individual can be expected to experience a deficit in his or her happiness and satisfaction, at least until another source from which they can be derived is found. Furthermore, for many people, romantic relationships are thought to fulfill a more fundamental human need: the need to belong. In their evaluation of the literature on interpersonal relationships, Baumeister and Leary (1995) concluded that human beings have a strong drive to form at least a minimal number of relationships that are stable, enduring, involve exchanges of pleasant affect, and include a concern for each other's welfare. This drive is thought to be innate and pervasive, motivating much of human behaviour. The authors argue that the need to belong may have evolved because of its adaptive purpose; in the ancestral environment, people who were successful at establishing cooperative, mutually beneficial relationships would have experienced

reproductive and survival benefits (e.g., assistance caring for offspring, group hunting of large animals). Individuals who were oriented toward interpersonal relations, felt positive affect in response to social contact, and experienced distress when deprived of this contact would have been more likely to survive and pass their genes along to the next generation. This conceptualization would suggest that a romantic break-up – a disruption of arguably the most important source of satisfaction of the universal need to belong for most people – should almost invariably cause some degree of emotional distress.

Factors That Predict Level of Distress after Dissolution of a Romantic Relationship

While the empirical literature does support the notion that the dissolution of a romantic relationship almost always involves some degree of distress, the magnitude and nature of the distress does vary (Spanier & Castro, 1979). Not everyone is affected by romantic loss in the same way, or to the same degree. Indeed, a handful of investigations have shown that the end of a romantic relationship can sometimes lead to perceptions of personal growth and positive life change, even when the break-up has occurred quite recently (Buehler, 1987; Helgeson, 1994; Tashiro & Frazier, 2003). Clearly, the characteristics of the relationship, the break-up, and/or the individual must have an effect on the emotional consequences of the termination of a romantic relationship.

With regard to the relationship itself, research suggests that emotional distress tends to be more marked among people who report having had greater relationship satisfaction (Frazier & Cook, 1993) and greater closeness to the partner before the break-up (Frazier & Cook, 1993; Simpson, 1987). The length of the relationship has also emerged as a predictor of distress, with longer relationships being related to higher levels of distress (Simpson, 1987) and poorer emotional adjustment (Frazier & Cook, 1993).

Feelings and thoughts that occur after the break-up also tend to predict the severity of distress. Feelings of guilt (Walters-Chapman, Price, & Serovich, 1995) and continued attachment to the former partner (Berman, 1988; Kitson, 1982) are both related to greater distress. The type of attributions made regarding the end of the relationship also seem to play an important role. There is some evidence that individuals who make person-centered attributions for the end of the relationship blaming the self and/or the ex-partner, rather than external or interactive attributions, tend to have poorer adjustment (Newman & Langer, 1981; Stephen, 1987).

Behavioural and environmental influences are also related to post-break-up distress. For instance, lack of involvement in social activities has been linked to greater distress (Berman & Turk, 1981). Low social support does not seem to be related to initial distress, but does predict poor longer-term adjustment (Frazier & Cook, 1993). In general, however, distress tends to decrease with the amount of time elapsed since the end of the relationship (Melichar & Chiriboga, 1988).

Individual differences that might predict adjustment to the dissolution of romantic relationships have received little attention in the empirical literature. Gender is the most frequently investigated individual difference. Both men and women are subject to significant post break-up distress (Jacobson, 1983) and, on the balance, significant gender differences in distress do not emerge (Chung et al., 2003; Simpson, 1987; Sprecher, 1994; Tashiro & Frazier, 2003), although there is limited indication that men may be more prone to distress after a break-up than are women (Helgeson, 1994; Hill, Rubin, & Peplau, 1976). The role of personality variables has also received some attention in the break-up context. Neuroticism is related to greater distress at the end of a romantic

relationship (Tashiro & Frazier, 2003; Watson & Hubbard, 1996). Higher scores on agreeableness have been associated with greater perceptions of personal growth in the aftermath of a break-up (Tedeschi & Calhoun, 1996; Tashiro & Frazier, 2003). Finally, attachment anxiety has occasionally, but not always, emerged as a positive predictor of emotional distress after the termination of a romantic relationship. Low attachment avoidance has also inconsistently been related to greater emotional distress and a decrease in happiness following a break-up (Davis, Shaver, & Vernon, 2003; Rodden & Aron, 2007; Simpson, 1990).

The Role of Initiator Status in Distress Following the Dissolution of a Romantic Relationship

Another factor that has received some attention in the research literature into the termination of romantic relationships is initiator status, or whose decision it was to end the relationship. Findings related to the effect of initiator status on distress and adjustment have been mixed and difficult to interpret. One reason for this confusion is probably the ambiguity in the literature in terms of defining the construct. It is important to distinguish between initiator status per se (who made the *decision* to end the relationship) and perception of responsibility for or control over the break-up. While the initiator of the relationship might often be expected to feel more in control of the break-up, it is certainly possible that a person might choose to initiate the end of the relationship because of seemingly uncontrollable actions or characteristics of the partner. For example, a person might choose to end the relationship because his or her partner refuses to end an extra-marital affair and subsequently feel that he or she had little control over the break-up.

Studies that have investigated the relationship between perception of control over, or responsibility for, a break-up have typically found that lack of perceived control is predictive of greater distress or poorer adjustment. Gray and Cohen Silver (1990) interviewed the members of 45 former couples who had divorced an average of seven years earlier. Participants were asked to rate how responsible they felt personally for the break-up. Results indicated lower levels of adjustment for individuals who attributed greater responsibility for the break-up to the ex-spouse. Similarly, Peterson, Rosenbaum, and Conn (1985) showed that, among university students whose romantic relationships had ended, individuals who perceived the break-up as less controllable reported more symptoms of depression than did those who saw the break-up as more controllable. Finally, Frazier and Cook (1993) found that lower perceived control over the occurrence of a break-up was related to poorer long-term acceptance and adjustment among undergraduates whose romantic relationships had ended in the past 6 months, although it was not related to retrospective reports of distress immediately following the break-up. Thus, the preponderance of evidence suggests that having a sense of control over (or responsibility for) the end of the relationship is a protective factor that attenuates the distress and maladjustment experienced in the aftermath of a break-up.

The story, however, is not as clear for initiator status, which has been investigated repeatedly in both divorced/separated and undergraduate samples. Each of these investigations measured initiator status by having participants either indicate categorically who had made the decision to end the relationship ("me", "partner", or "mutual") or rate on a continuous scale to what extent they (versus their partner) had been responsible for the decision to end the relationship.

The first study of divorced individuals was conducted by Goode (1956), who showed that women (men were not included in the sample) reported more traumatic symptoms if they had not been responsible for the decision to divorce than if the decision had been mutual or initiated by them. Similarly, in a second retrospective investigation of men and women who had divorced (on average) eight weeks prior to the study, female non-initiators reported more distress than did female initiators, whereas there was no difference for men (Pettit & Bloom, 1984). After an eighteen-month follow-up, however, no differences existed for either men or women.

Other research using a divorced population has yielded no differences in distress among initiators and non-initiators. Newman and Langer (1981) showed that women who had divorced in the past one to three years showed no difference in current adjustment in terms of emotional coping and self-esteem based on who asked for the divorce. Similarly, no differences in depressive symptoms emerged between initiators and non-initiators among married men and women who had separated in the past year (Kincaid and Caldwell, 1991). In contrast, a third investigation showed that, among men and women who had divorced in the past six to twelve months, *initiators* actually fared worse in terms of emotional distress than did non-initiators Buehler (1987). However, when the measures were re-administered one year later, initiators reported lower levels of distress than did non-initiators. Thus, investigations into the relationship between initiator status and coping among divorced or separated individuals yield mixed results, suggesting no clear pattern.

Investigations using undergraduate populations are similarly inconsistent. In two separate undergraduate samples, both men and women reported more distress when they

did not make the decision to end their relationship than when they did (Sprecher, 1994; Sprecher et al, 1998). Given that the first study measured distress among students whose relationships had ended over the course of several years, while the second study's participants had broken up an average of five months prior to completing the distress measures, these two studies suggest collectively that time elapsed since break-up did not have a large effect on the relationship between initiator status and distress. Similarly, Davis et al. (2003) conducted a large retrospective internet survey of male and female adults ranging in age from fifteen to fifty (the vast majority of the sample, however, consisted of adolescents and young adults). Participants were asked to recall their last break-up and report on various emotional, physical, and behavioural symptoms. Results suggested that non-initiators had experienced more emotional and physical distress than did initiators overall, although initiators indicated that they had felt more guilt and self-blame.

In contrast, Tashiro and Frazier (2003) found that there were no differences in distress or perceptions of growth as a function of initiator status for undergraduate men and women whose relationships had ended an average of three months previously. In another investigation of undergraduate men and women whose relationships had ended in the past six months, who initiated the break-up did not predict retrospective reports of intensity or duration of emotional distress (Simpson, 1990). Furthermore, among undergraduates whose relationships had ended within the past two weeks and who subsequently completed mood and distress questionnaires on a daily basis for a one-month period, participants who initiated the break-up did not differ from those whose partner initiated the decision to break-up in terms of anger or sadness onset or recovery

(Sbarra, 2006). Finally, a fourth investigation found that there was no relationship between initiator status and adjustment for undergraduate women whose relationships had ended in the past three months, but that non-initiating undergraduate men had poorer emotional adjustment than did initiating men (Helgeson, 1994). Thus, the results of previous studies on the relationship between initiator status and distress among undergraduates are no more consistent than those among divorcees.

In sum, some studies have shown that non-initiators, who might be expected to feel less control over the break-up, fare worse than initiators in terms of emotional adjustment. On the other hand, a number of investigations have yielded no differences between initiators and non-initiators with regard to emotional distress. These mixed findings are perplexing, especially given that the two groups of studies do not differ systematically in terms of the types of dependent measures used, the amount of time elapsed since the break-up, the gender of the participants, or whether the participants came from a divorced/separated population or from an undergraduate population (see Table 1 for a summary of findings on initiator status).

In addition, the finding that initiator status does not always predict intensity of emotional distress after a break-up is somewhat counterintuitive. A large body of research indicates that interpersonal rejection, romantic or otherwise, is a distressing experience, resulting in a wide variety of negative emotional responses, including sadness, hurt feelings, guilt, shame, embarrassment loneliness, and jealousy (see Leary, Koch, & Hechenbleikner, 2001, for a review). Baumeister, Wotman, and Stillwell (1993) showed that being rejected by the object of one's affection in situations of unrequited love

*Table 1**Summary of Investigations into the Relationship between Initiator Status and Distress*

Citation	Sample	Findings
Buehler (1987)	Divorced men and women	Initiators more distressed short-term, non-initiators more distressed long-term
Davis et al. (2003)	Mixed (men and women aged 15 to 50)	Non initiators more distressed
Goode (1956)	Divorced women	Non-initiators more traumatized
Helgeson (1994)	Undergraduate men and women	No differences for women; male non-initiators more distressed than initiators
Kincaid & Caldwell (1991)	Separated men and women	No differences in depressive symptoms
Newman & Langer (1981)	Divorced women	No differences in emotional coping or self-esteem
Pettit & Bloom (1984)	Divorced men and women	Non-initiators more distressed than initiators in short term (women only), no long-term differences
Sbarra (2006)	Undergraduate men and Women	No differences in anger or sadness
Simpson (1990)	Undergraduate men and women	No differences in intensity or duration of emotional distress
Sprecher (1994)	Undergraduate men and women	Non-initiators more distressed
Sprecher et al., (1998)	Undergraduate men and women	Non-initiators more distressed
Tashio & Frazier (2003)	Undergraduate men and women	No differences in distress or perceptions of growth

results in intense distress and a loss of self-esteem. Furthermore, in laboratory settings, people often seem to be quite sensitive even to mild interpersonal rejection manipulations (e.g., imagining rejection, being rejected by a stranger), responding with sadness, hurt feelings, anxiety, anger, loneliness, shame, and decreased state self-esteem (e.g., Bourgeois & Leary, 2001; Buckley, Winkel, & Leary, 2004; Craighead, Kimball & Rehak, 1979; Leary, Cottrell, & Phillips, 2001; Leary, Haupt, Strausser, & Chokel, 1998), although other studies have found that rejection does not consistently have an effect on overall mood (Baumeister, DeWall, Ciarocco, Twenge, 2005; Twenge, Baumeister, Tice, & Stucke, 2001; Twenge, Catanese, & Baumeister, 2002; Twenge, Catanese, & Baumeister, 2003).

The literature on ostracism, a more indirect form of rejection, also lends support to the notion that even relatively innocuous forms of social exclusion are distressing to people. For example, undergraduates who were asked to list thoughts and feelings experienced during real-life occurrences where they had been "given the silent treatment" described threats to self-esteem, feelings of belongingness, perception of control, and sense of having a meaningful existence (Williams, Shore, & Grahe, 1998). A recent laboratory investigation showed that ostracism over the computer during a virtual ball toss game led to losses of well-being in these same four areas, even when participants aware that they were interacting with a computer program rather than another participant (Zadro, Williams, & Richardson, 2004).

That people are exquisitely sensitive to social exclusion makes sense when considered in the context of sociometer theory (Leary et al., 1995). This influential theory posits that interpersonal relationships are an especially important source of how one feels

about oneself. People tend to keep track of the opinions that they perceive others to hold of them, maintaining a sort of running tally of their degree of social acceptance or rejection. When an individual is rejected or socially excluded, he or she should experience a corresponding dip in state self-esteem, accompanied by aversive feelings. These feelings may serve the adaptive function of teaching the individual which behaviours tend to elicit social acceptance and which behaviours elicit rejection. In addition to providing an adaptive advantage, however, this type of system may also have potential costs. Specifically, the distress arising from a particularly meaningful rejection, such as having a romantic partner end a relationship, might sometimes prove to be overwhelming to an individual's emotional system, resulting in the negative consequences that have been documented in people who have divorced or broken up, such as psychiatric illness, suicide, and substance abuse.

On the other hand, rejecting another person is not without its emotional consequences, resulting in feelings of guilt and a need to justify the morality of one's behaviour in dealing with the rejected party (Baumeister et al., 1993). It is possible that the preoccupations and emotions associated with rejecting another individual can sometimes be as distressing as the concerns and feelings of those who are rejected, which could explain why initiator status has not succeeded in consistently predicting the severity of distress reactions to relationship dissolution.

An additional possibility is that individual differences, such as personality traits, play a role in determining the impact that initiator status has on post-break-up distress. For example, there might be some types of people who find being rejected especially troubling, whereas other characteristics might be associated with marked distress related

to rejecting another person. These characteristics might interact with initiator status to predict distress. By ignoring these potential sources of variance in distress after a break-up, prior research designs may have washed out the impact of initiator status on adjustment to the dissolution of a romantic relationship.

Trait Self-Esteem and Romantic Relationship Dissolution

An intuitive candidate for a personality variable that might be expected to interact with initiator status to predict distress after a romantic break-up is trait self-esteem, which refers to the degree to which an individual chronically evaluates him or herself positively (Rosenberg, 1965). Self-esteem has been a popular topic of study in psychological research, largely because it is a major predictor of various emotional and behavioural dysfunctions, such as mood disorders, anxiety disorders, personality disorders, substance abuse, delinquency, and suicide (see Leary & MacDonald, 2003, for a review). In the realm of romantic relationships, people who have low self-esteem are less satisfied in romantic relationships (Hendrick, Hendrick, & Adler, 1988), are more distressed by the perception that they are under-benefiting in a relationship (Longmore & Demaris, 1997), have difficulty integrating positive and negative information about their partners (Graham & Clark, 2006), and are more likely to respond to relationship conflict with passive neglect (Rusbult, Morrow, & Johnson, 1987), hostility (Schutz, 1998), and partner derogation (Murray et al., 2002) than are people who have high self-esteem. However, self-esteem may have its most pronounced effect on behaviour and emotions during and after the break-up of a relationship. Given that romantic rejection is an experience that results in loss of self-esteem (Baumeister et al., 1993), it seems likely that individuals

who are low in self-esteem to begin with would be particularly ill-equipped to cope with having a romantic partner end a relationship.

This contention is partially supported by the limited research that has investigated the relationship between self-esteem and romantic break-ups. To date, three studies have found an association between trait self-esteem and distress reactions at the end of a romantic relationship. Barron (1987) collected data from a group of women who had either divorced or who were in the process of divorcing their spouses. She found that women who scored lower on trait self-esteem were experiencing more emotional distress than were women who were high in self-esteem. Frazier and Cook's (1993) investigation of male and female undergraduate students whose relationships had ended in the past six months showed that those who were lower in self-esteem reported higher general distress and poorer current adjustment than did those who were high in self-esteem. Finally, Chung et al. (2002) found that, among undergraduate men and women whose romantic relationship had ended an average of eight months ago, low self-esteem was related to traumatic distress.

These studies are consistent with the notion that people with low self-esteem might find it especially distressing to be rejected by a romantic partner. However, the possibility of an interaction between self-esteem and initiator status was not assessed, leaving it unclear whether the association between self-esteem and distress was moderated by who ended the relationship. Furthermore, these studies were not prospective; self-esteem level was assessed *after* the break-up and at the same time as the distress measures, leaving room for the possibility that participants who were simply more distressed reported lower trait self-esteem.

Trait Self-Esteem and Reactions to Rejection

More direct evidence for the causal effect of low trait self-esteem on distress following rejection comes from the experimental literature. Nezlek, Kowalski, Leary, Blevins, and Holgate (1997) showed that undergraduate women who were low in self-esteem responded to exclusion from a group performing a task in the laboratory with negative self-evaluation, whereas those who were high in self-esteem were not affected by the manipulation. A second experiment obtained a similar pattern when rejection was implicitly primed. Sommer and Baumeister (2002) found that, after undergraduate men and women with low self-esteem were primed with words related to rejection, they evaluated themselves more negatively than they did after being primed with words related to acceptance or other aversive events. Those who were high in self-esteem actually showed the opposite pattern; after being primed with rejection, they evaluated themselves *more* positively than after they were primed with acceptance or other aversive events.

However, other investigations have not obtained the expected interaction between trait self-esteem and rejection with regard to self-evaluation. In a series of experiments, Leary et al. (1998) had undergraduate men and women imagine receiving either positive or negative reactions from a friend or from an attractive member of the opposite sex. Trait self-esteem was measured at the outset of the experiments. Although low self-esteem participants reported lower state self-esteem overall than did high self-esteem participants, there was no interaction between self-esteem and the valence of the feedback in determining state self-esteem. In another experiment, Baldwin, Granzberg, Pippus, and Pritchard (2003) conditioned male and female undergraduates to associate

computer-generated tones with images of social acceptance (a smiling face) and social rejection/disapproval (a frowning face). They then primed participants with either the acceptance-conditioned tones or the rejection-conditioned tones while they filled out questionnaires about self-evaluation, mood, and state self-esteem. Surprisingly, no main or interactive effects were obtained for self-esteem with respect to any of the dependent measures. However, the sample of fifty-nine was relatively small, which might have prevented the authors from detecting any real effects of self-esteem. In addition, it is possible that the manipulations used in this experiment and by Leary et al. (1998) were not strong enough to distinguish the reactions of high from low self-esteem individuals.

In sum, the experimental literature provides some evidence that interpersonal rejection is damaging to the self-evaluation of individuals with low self-esteem, but that it does not affect those who are high in self-esteem. A major limitation to these experiments, however, was the selection of control conditions that were either positively valenced (i.e., acceptance scenarios) or non-interpersonal in nature. As a result, it is unclear whether people with low self-esteem respond negatively to rejection per se, as opposed to reacting to aversive interpersonal situations more generally. Nonetheless, these findings suggest two clear predictions regarding the relationship between self-esteem and initiator status in the wake of a romantic break-up. People with low self-esteem should find having a partner end their romantic relationship to be especially demoralizing. In fact, the experimental results suggest that initiator status should have an effect on distress *only* for individuals who are low in self-esteem. What is less clear is the mechanism underlying the interaction between trait self-esteem and rejection.

Why Should Trait Self-Esteem Predict Responses to Rejection?

The self-esteem literature is rife with differing theoretical perspectives on the phenomenology and consequences of low self-esteem. One of the most influential theories in the field's attempts to understand why an individual would have low trait self-esteem is sociometer theory (Leary et al., 1995). As noted in an earlier section, sociometer theory posits that an individual's self-esteem, or attitude toward him or herself, is a reflection of the degree to which he or she perceives him/herself to be socially accepted. Leary and MacDonald (2003) argue that this perception is based on (1) the degree to which the individual feels socially valued in the current situation and (2) the degree to which the individual feels socially valued across time and situations. The latter concept corresponds to an individual's level of trait self-esteem. Thus, people with low trait self-esteem would be expected to have had a history of experiences in which they were rejected repeatedly or otherwise socially devalued. In support of this notion, it has been well-established that childhood neglect, abuse, and peer rejection are all strong predictors of low trait self-esteem (see Harter, 2003, for a review).

As a consequence of these negative experiences, people with low trait self-esteem might be expected to react more strongly to interpersonal rejection than would people high trait self-esteem. If low trait self-esteem is a reflection of an individual's approximate relational value (as determined by the sum of his or her interpersonal experiences), the sociometer of an individual with low self-esteem would have a lower resting point than would the sociometer of a person with high self-esteem. Thus, for people with low self-esteem, a drop in current relational value might lead to a dip in the sociometer below some critical point, signaling alarmingly low relational value and

triggering a strong, aversive emotional response. In contrast, for people with high self-esteem, a dip in the sociometer associated with an interpersonal rejection might not provoke as strong of a response because the individual maintains a relatively high level of perceived relational value. As a result, having a partner end a romantic relationship would be expected to be highly aversive to individuals with low self-esteem, but perhaps not especially aversive for those with high self-esteem.

Furthermore, Leary and MacDonald (2003) argue that, similar to situational dips and peaks in state self-esteem, fluctuations in trait self-esteem may serve an adaptive function. The argument states that it is beneficial for a person to have an understanding of his or her general relational value so that he or she can predict future relationship prospects with reasonable accuracy. This information can also be used to guide behaviour when current information about relational value is ambiguous or unavailable. Ultimately, this perspective implies that low trait self-esteem should be viewed as the outcome of an *adaptive* interpersonal process, as opposed to an inherently maladaptive characteristic. Leary and MacDonald argue that the low relational value itself is the problem; low self-esteem simply acts as a signal to the person that his or her social standing is lagging.

However, it is difficult to reconcile this notion with research showing that low self-esteem is strongly predictive of various psychiatric problems, "acting out" behaviours, and suicide. These findings suggest that people with low self-esteem may respond to their low relational value, or perception thereof, in counter-productive ways, ultimately hurting themselves rather than working toward increasing their relational value. Furthermore, other research suggests individuals with low self-esteem may have a tendency to process information about social rejection and acceptance in a biased

manner, giving more weight to potentially rejecting information. For example, Dandeneau and Baldwin (2004) demonstrated that people with low self-esteem experienced more interference on a Stroop task when the words were related to rejection than when they were related to acceptance, whereas people with high self-esteem showed equal interference in both conditions. This finding suggests that people with low self-esteem are preferentially attentive to information about rejection as opposed to information about acceptance. If these individuals were in fact processing information about their relational value in an accurate (i.e., functional) way, they would be expected to attend to information about acceptance (which conveys an equivalent amount of information about relational value) just as much as information about rejection.

Similarly, in the context of romantic relationships, Murray, Rose, Bellavia, Holmes, and Garrett Kusche (2002) have shown that, despite the fact that their partners report loving them as much as the partners of high self-esteem people, individuals with low self-esteem tend to devalue their partners when they feel insecure in the relationship. They also have a tendency to respond to problems in their relationships with doubt about their partner's affection and commitment (Murray, Holmes, Griffin, Bellavia, & Rose, 2001). Partners, in response, are likely to withdraw from the relationship. These findings suggest not only that people with low self-esteem are preferentially attentive to information about rejection, but that they tend to respond to implied rejection in ways that are actually likely to *decrease* their relational value rather than increase it.

An alternative explanation for why interpersonal rejection might be especially distressing for individuals with low self-esteem is that they have a tendency to view

interpersonal rejection as an instance of personal failure, whereas people with high self-esteem do not interpret rejection as a personal failure. Indirect support for this notion comes from Baldwin and Sinclair's (1996) work on contingencies of interpersonal acceptance. They proposed that, during childhood, people with low self-esteem may have had important relationships in which interpersonal acceptance was contingent on success in non-interpersonal achievement domains (e.g., academics, athletic performance). As a result, they suggest, these individuals have learned that success results in acceptance by significant others and that failure results in rejection. Thus, people with low self-esteem would have formed automatic associations between the concepts of failure and rejection, and between success and acceptance. In contrast, Baldwin and Sinclair propose that people with high self-esteem have not had these kinds of contingent experiences, and thus would not associate failure with rejection. Results from a lexical-decision task supported Baldwin and Sinclair's basic propositions, showing that low self-esteem individuals responded especially quickly to words related to interpersonal rejection after being primed with failure words. People with high self-esteem did not show this enhanced response effect. A follow-up investigation showed that this contingency pattern occurred at a spontaneous, non-deliberate level (Baldwin, Baccus, & Fitzsimmons, 2004). These results suggest that people with low self-esteem hold a strong, automatic association between the concepts of rejection and failure in their cognitive networks, whereas people with high self-esteem do not.

Because cognitive networks are thought to be organized such that the activation of one concept leads to the activation of all associated concepts, one would expect that, if failure primes feelings of rejection in people with low self-esteem, rejection might

similarly prime cognitions and emotional states related to failure. Moreover, it is possible that, contrary to Baldwin and Sinclair's notion that failure is aversive because it has triggered rejection in the past, the reason why rejection is so damaging to the self-evaluations of people with low self-esteem is that these individuals perceive themselves to have failed in an important domain, and that it is this sense of failure, not the rejection per se, that causes them to feel badly about themselves. Indeed, failure in any important domain has traditionally been conceptualized as a universally demoralizing experience, and a number of researchers have demonstrated that non-interpersonal failures, such as problem-solving using word puzzles, lead to emotional distress and a decrease in feelings of self-worth and self-efficacy for both low and high self-esteem individuals (e.g., Baumeister & Tice, 1985; Brown & Dutton, 1995; Dutton & Brown, 1997; Kernis, Brockner, & Frankel, 1989; Moreland & Sweeney, 1984; Swann, Griffin, Predmore, & Gaines, 1987), although the effect is often more pronounced for people with low self-esteem. The interpersonal domain is but one area in which an individual must achieve competence for the purposes of survival and reproduction. Thus, people with low self-esteem may be adversely affected by romantic rejection because they have learned to associate it with a broader sense of failure or incompetence, whereas people with high self-esteem have not learned this association.

Why would people with low self-esteem, but not those with high self-esteem, have learned to associate instances of interpersonal rejection with a broader sense of personal failure? One possibility is that people with low self-esteem have less clear self-concepts than do people with high self-esteem and that, as a result, they have difficulty interpreting information about specific instances of failure (including interpersonal

failures) in a way that takes into account their overall level of competence. Indeed, there is substantial evidence that people with low self-esteem have murkier self-concepts than do those with high self-esteem (see Campbell & Lavalley, 1993, for a review).

Individuals with low-self-esteem show evidence of greater uncertainty about their self-descriptions than do individuals with high self-esteem, describing themselves in less extreme terms, expressing lower confidence in their self-descriptions, and taking longer to describe themselves (Campbell, 1990). People with low self-esteem also show lower temporal stability and internal consistency in their self-descriptions than do people with high self-esteem (Campbell, 1990).

Furthermore, it is a well-established finding that the self-concepts and affective reactions of people with low self-esteem are more influenced by external cues, such as self-relevant feedback, than are the self-concepts and affective reactions of people with high self-esteem (see Blaine & Crocker, 1993, for a review). Of particular relevance to the current investigation, people with low self-esteem tend to make internal, global attributions for failure; that is, they tend to blame themselves for specific instances of failure and to view failure in a particular domain as evidence of overall incompetence (e.g., Brown & Smart, 1991; Epstein, 1992; Fitch, 1970; Kernis et al., 1989; Tennen & Herzberger, 1987). In contrast, people with high self-esteem tend to make external attributions for failure (e.g, blaming situational factors) and to disbelieve negative self-relevant information (e.g, Baumeister, Tice, and Hutton, 1989; Cohen, van den Bout, van Vliet, & Kramer, 1989; Kuipner, 1978; Zautra, Guenther, & Chartier, 1985). Thus, people with low self-esteem might be especially demoralized by romantic rejection because, having unclear self-concepts, they have difficulty considering their full range of

abilities, strengths, and past successes when interpreting the self-relevant implications of the rejection. As a result, they would be likely to interpret romantic rejection as an indication of overall failure or incompetence. On the other hand, people with high self-esteem, having clearer concepts, would be able to draw upon knowledge about their abilities, strengths, and past successes, and could use this information to attenuate the self-relevant negative implications of a romantic rejection. Indeed, research suggests that people with high, but not low, self-esteem often respond to threats to their self-concepts with self-affirmation, which refers to the act of drawing on positive information regarding one's abilities or competencies in other domains (Dodgson & Wood, 1998; Nail, Misak, & Davis, 2003; Steele, Spencer, & Lynch, 1993). Presumably, people who are high in self-esteem are more likely than are people who are low in self-esteem to engage in self-affirmation because they are more easily able to access favourable self-relevant information.

In sum, various theoretical perspectives offer potential insight into why being rejected by a romantic partner might be especially distressing for people with low self-esteem. Sociometer theory argues that people with low, but now high, self-esteem possess low relational value and that a rejection of any kind would thus automatically trigger a distress response. This distress response is hypothesized to serve the adaptive purpose of notifying the person that his or her relational value has decreased and of motivating the person to alter his or her behaviour to restore the loss. However, research suggests that people with low self-esteem process information about their relational value in a biased manner, preferentially attending to rejection cues, and that they often respond to signs of rejection with behaviours that serve to decrease their relational value. Thus,

the way in which individuals with low self-esteem respond to interpersonal rejection is probably best understood as irrational and maladaptive. An alternative viable explanation for the negative effect of rejection on the emotional well-being of individuals with low self-esteem is that people with low self-esteem, having unclear self-concepts, tend to view specific instances of interpersonal rejection as evidence of themselves as failures in a global sense. People with high self-esteem, on the other hand, are readily able to access their self-concepts, allowing them to evaluate the meaning of a particular failure against a rich backdrop of information that includes their strengths. They can then use these strengths to self-affirm and protect their self-esteem.

Present Investigation

The goal of the current investigation was threefold. First, I used a longitudinal design to assess whether people who are low in trait self-esteem indeed have more difficulty coping with a romantic break-up than do people with high self-esteem. To date, three investigations have shown that low self-esteem is related to increased distress and poorer adjustment (Barron, 1987; Chung et al., 2002; Frazier & Cook, 1993). However, these studies assessed both self-esteem and distress *after* the break-up, raising the possibility that the reported self-esteem scores were influenced by level of distress. As a result, the relationship between self-esteem and distress that was demonstrated in these investigations could be an artifact created by especially distressed participants reporting lower self-esteem. A longitudinal design wherein I measured trait self-esteem *before* the occurrence of a break-up allowed me to rule out this alternative explanation

Second, I wanted to assess whether trait self-esteem would interact with initiator status to predict distress reactions to the dissolution of a romantic relationship. As

reviewed earlier, investigations into the effect of initiator status on adjustment to romantic break-ups have produced highly inconsistent findings, with some showing no effect and others showing that non-initiators fare worse. The inconsistency of these findings suggests that a more fruitful approach to studying initiator status might be to identify the conditions under which this variable has an effect on coping and the conditions under which it does not. I reasoned that an individual's chronic level of self-esteem might be one factor that determines whether initiator status has an effect on the amount of distress that he or she experiences after a break-up.

Finally, I aimed to replicate the interaction between trait self-esteem and rejection that has been obtained in some experimental manipulations (Nezlek et al., 1997; Sommer & Baumeister, 2002) in an unexplored and naturalistic context: the dissolution of a real-life romantic relationship. This step is important for two reasons. First, the relationship between self-esteem and rejection has only been established to date in laboratory settings which, although useful for establishing directionality, produce results that are questionable in terms of their applicability to real-life occurrences. Second, unlike all prior research on this topic, which compared a rejection condition with a neutral or acceptance condition (Baldwin et al., 2003; Leary et al., 1998; Nezlek et al., 1997) or a non-interpersonal condition (Sommer & Baumeister, 2002), the current design compared individuals' responses to two distressing interpersonal situations - having one's partner end the relationship versus breaking up with one's partner. Thus, the current research design allowed me to establish whether the interaction between self-esteem and rejection that has been obtained experimentally reflects the effect of rejection *per se*, as opposed to

a non-specific distressing interpersonal event. More specifically, this research takes an important step forward in unconfounding relationship loss and romantic rejection.

Chapter 2: Study 1

Overview and Hypotheses

University students who were in committed romantic relationships were recruited for a prospective study during which they were tracked by e-mail throughout the school year. Those whose relationships ended during that time formed the participant group for a study that assessed trait self-esteem, initiator status, distress responses, and mood in individuals whose romantic relationships ended over the course of the school year.

Hypothesis 1: Initiator status (responsibility for the decision to end the relationship) will be negatively related to distress and mood.

Because a greater number of undergraduate investigations have found a negative association between initiator status and post-break-up distress (Davis et al., 2003; Helgeson, 1994; Sprecher, 1994; Sprecher et al., 1998) than have found no association between initiator status and distress (Sbarra, 2006; Simpson, 1990; Tashio & Frazier, 2003), I predicted that responsibility for the decision to end the relationship would be negatively related to distress and positively related to mood following the end of a romantic relationship.

Hypothesis 2: Self-esteem will be negatively related to distress and mood.

Based on previous retrospective findings showing that individuals with low self-esteem have more difficulty coping with break-ups than do individuals with high self-esteem (Barron, 1987; Chung et al., 2002; Frazier & Cook, 1993), I predicted that trait self-esteem would be negatively related to break-up specific distress and positively related to mood following the end of a romantic relationship.

Hypothesis 3: Self-esteem and initiator status will interact to predict distress and mood.

Based on experimental demonstrations that people with low self-esteem have difficulty coping effectively with rejection (Nezlek et al., 1997; Sommer & Baumeister, 2002), I predicted an interaction between self-esteem and initiator status such that individuals who were low in self-esteem would report greater break-up specific distress and more negative mood when they did not initiate the break-up than when they were responsible for the decision to end the relationship. Conversely, individuals with high self-esteem, who tend to not be negatively affected by rejection in the laboratory, were not expected to differ in break-up specific distress or mood as a function of initiator status. Because individuals who are low in self-esteem have less clear self-concepts (Campbell & Lavalley, 1993) and, by definition, less favourable views of themselves than do individuals with high self-esteem, they are less likely to be able to respond to romantic rejection by attributing it to an external cause or by self-affirming. Consequently, they are more likely than are high self-esteem individuals to engage in negative self-evaluation, leading to greater break-up specific distress and lower mood.

Method

Participants

Two-hundred and sixty-six introductory psychology students (mean age = 18.78 years, $SD = 1.17$) participated over the course of two school years (149 in Year 1 and 117 in Year 2). They completed a demographic and relationship status questionnaire in a pre-screening session administered at the beginning of the fall term (Appendix A). Students who reported that they were in a romantic relationship of a duration of at least one month and between the ages of 18 and 22 were contacted over the telephone and asked if they

would like to participate in the study. This preliminary sample consisted of 42 men and 224 women. Participants were compensated with half of a psychology course credit and \$20. Of the 266 participants who completed the first phase of the study over two years, 23 subsequently dropped out before the end of the school year (i.e., stopped responding to the weekly e-mails but did not report a break-up). Seventy-four participants (mean age = 18.61, $SD = .89$; 13 men and 61 women) reported a break-up sometime over the course of the study and completed the criterion measures used to assess their reactions to the termination of their relationship.

Procedure

The Rosenberg Self-Esteem Scale (Rosenberg, 1965; Appendix B) was used to assess participants' global level of self-esteem at the outset of the study. This self-report scale is the most widely-used instrument for measuring trait self-esteem (Blascovich & Tomaka, 1991), and it has demonstrated construct validity (Rosenberg, 1965) and good test-retest reliability (McCarthy & Hoge; Silbert & Tippet, 1985). It contains 10 items, such as "I feel that I have a number of good qualities" and "I feel that I do not have much to be proud of". Each item is rated on a scale from 1 to 9, with 1 meaning *very strongly disagree* and 9 meaning *very strongly agree*.¹ Five items are reverse-coded before calculating the mean response, which yields a total self-esteem score. The scale demonstrated high inter-item reliability (Cronbach's $\alpha = .89$).

Phase 1. The first data collection session took place in the laboratory, lasting approximately half an hour. Participants were assessed in groups of five to eight. The

¹ Year 1 participants completed the Rosenberg Self-Esteem scale using a scale of 1 to 7 rather than 1 to 9. Thus, self-esteem scores were converted to a scaled score ranging from 0 to 1 prior to combining both sets of data for analyses. I chose to use scaled scores in the analyses instead of standardized scores in order to retain the variance in participants' original responses.

study was introduced as an investigation of personality and behaviour in romantic relationships. Information sheets (Appendix C) were given to the participants, after which they signed a consent form (Appendix D). Participants were informed that the study would last from October to March, that they might be asked to come back to the laboratory for another session at some time during the school year, and that they would receive \$20 and course credit for completing the study. Next, participants completed the Rosenberg Self-Esteem scale among a series of personality questionnaires in random counter-balanced order. The other questionnaires consisted of the Big Five Personality Inventory (John, Donahue, & Kentle, 1991), the 40-item Dysfunctional Attitudes Scale (Weissman, 1980), the Desirability of Control Scale (Burger & Cooper, 1979), a modified version of the Responsibility Appraisal Questionnaire (Rachman, Thoradarson, Shafran, & Woody, 1995), the Personal Fear of Invalidity Scale (Thompson, Naccarato, & Parker, 1989), a measure of attachment style dimensions (Brennan, Clark, & Shaver, 1998), and a measure of guilt- and shame-proneness (Tangney, Dearing, Wagner, & Gramzow, 2000). These questionnaires were used for analyses unrelated to the current line of investigation and will be discussed only briefly in this document.

Phase 2. The second phase of the study consisted of weekly e-mails designed to assess relationship status. From mid-October to mid-April during the 2002-2003 and 2003-2004 school years, participants were sent a relationship assessment questionnaire each week and were asked to fill it out and return it as soon as possible. In this questionnaire, participants were first asked to respond to the following questions if their relationship was still intact: "How satisfied are you with your current romantic relationship?", "How serious are you about your current partner/romantic relationship?"

and, "How in love are you with your romantic partner?" They responded to these three questions by selecting a number from 1 to 10, with 1 meaning *low* and 10 meaning *high*. Prior research indicates that these three items can be combined into a single index of relationship quality that has good inter-item reliability (Cronbach's $\alpha = .79$; MacDonald & Ross, 1999).

Second, participants were asked whether they were still in the romantic relationship in which they had been at the beginning of the study and, if not, when the relationship had ended. Participants who continued to indicate that they were together with their partners up until the end of the school year did not proceed to the third phase. They were thanked for their participation and sent their payment and a debriefing sheet (Appendix E) by mail or e-mail. See Appendix F for a comparison of personality traits and relationship quality for the participants who broke up versus those who did not.

Phase 3. Participants who indicated in a weekly e-mail response that their romantic relationship had been terminated were asked to complete another set of measures. The mean time elapsed between break-up and completion of these measures was 11.5 days ($SD = 4.4$). The measures consisted of a general mood assessment questionnaire (Appendix G), a break-up-specific distress questionnaire (Appendix H), and an initiator status report (Appendix I). The mood assessment questionnaire consisted of 12 items to be rated on a 10-point scale, with each end of the scale representing one of a pair of opposite mood/feeling descriptors (e.g., *proud-embarrassed*, *sad-happy*, *satisfied-unsatisfied*). Five of the items were reverse-coded such that a low score reflected a negative mood and a high score reflected a positive mood. These twelve items were

highly correlated (Cronbach's $\alpha = .91$) and were combined into one mood score by calculating the mean item response. See Table 2 for the mean mood score of the sample.

The break-up distress questionnaire was derived from a questionnaire created by Thompson and Spanier (1983) for their investigation into the acceptance of marital termination. Nine items were taken from this questionnaire and 18 new items were created. Participants rated each statement on a scale from 1 to 7, with 1 meaning *strongly disagree* and 7 meaning *strongly agree*. My aim was to create a questionnaire assessing a wide range of potential distress reactions following the termination of a romantic relationship: behavioural symptoms (4 items), general emotional symptoms (3 items), rumination about the break-up/relationship (2 items), decreased self-worth (3 items), guilt (3 items), shame (3 items), regret (3 items), pessimism about the future (3 items), and acceptance of the break-up (3 items). Eight items were reverse-coded such that a high score indicated greater distress. The overall scale had high inter-item reliability (Cronbach's $\alpha = .87$). No distinct distress factors emerged from confirmatory or exploratory factor analyses. Thus, the mean of all 27 items of the scale was used in my analyses as a measure of general distress. The distress scale was moderately correlated with the mood measure ($r(74) = -.52$). See Table 2 for the mean break-up distress score of the sample.

The initiator status report assessed the extent to which participants perceived themselves, relative to their partners, as having been responsible for the decision to end the relationship. They were asked to estimate their responsibility and their partner's responsibility as a percentage of total responsibility for the decision (to add up to 100%). Participants' percent estimate of their own responsibility was used to measure the degree

to which they were responsible for ending the relationship. For participants whose partners also completed the post break-up measures ($N = 18$), there was reasonable agreement in reports of the degree to which the original participant (versus the partner) was responsible for deciding to end the relationship ($r(16) = .84$). Initiator status was not significantly related to trait self-esteem ($r(72) = .04, p = .75$). See Table 2 for the mean initiator status estimate of the sample.

In Year 1, participants completed these measures in a half-hour session in the laboratory that was set up as soon as possible after the break-up. In Year 2, to decrease the amount of time separating the break-up and completion of the criterion measures, participants whose relationships had ended were sent the mood assessment questionnaire, the distress questionnaire, and the initiator status report over e-mail and were asked to return their responses electronically. Debriefing and payment were done in the laboratory for the Phase 3 participants in both Years 1 and 2.

Results

The relationship among self-esteem, initiator status and distress following a break-up was analyzed using a simultaneous multiple regression with self-esteem and initiator status (i.e., percent responsibility for the decision) entered as predictor variables and distress entered as the criterion variable.² Self-esteem and initiator status were centered prior to the regression analyses, as recommended by Aiken and West (1991). The cross-product of self-esteem and initiator status (both centered) was entered as an interaction term. To assess the relationship among self-esteem, initiator status, and mood

² Eight of the 74 participants who completed post-break-up measures did so more than 25 days after the end of their relationships. Because this time lapse was greater than one standard deviation above the mean time lapse for the sample, and because I was concerned that these participants would have difficulty remembering (and thus accurately reporting) their emotions and behaviours following the break-up, they were excluded from analyses.

post-break-up, this analysis was then repeated with mood acting as the criterion variable. See Table 2 for the mean scores of the predictor and criterion variables. Because my final sample consisted of only 13 men, I was unable to assess the effect of gender on the criterion variables.

Table 2

Descriptive Statistics for Self-Esteem, Mood, Break-Up Distress, and Initiator Status

<u>Variable</u>	<u>Mean</u>	<u>Standard Deviation</u>
Self-Esteem (Scaled Score)	0.75	0.17
Mood	5.80	1.54
Break-Up Distress	3.26	0.95
Initiator Status	59.53	31.15

Break-Up Distress

The overall regression model was statistically significant ($R(62) = 0.58$; $F(3,62) = 10.49$, $p < .001$). As predicted, there was a negative relationship between initiator status and distress ($B = -0.01$; $t(63) = 3.12$, $p = .003$). Participants who reported less responsibility for ending the relationship experienced greater distress than did those who reported greater responsibility. Additionally, there was a negative relationship between self-esteem and distress ($B = -2.08$; $t(63) = 4.11$, $p < .001$). Participants who were lower in self-esteem reported greater distress following a break-up than did those with higher self-esteem. Finally, there was an interaction between self-esteem and initiator status ($B = 0.036$; $t(63) = 2.25$, $p = .028$).

The meaning of this interaction was assessed further by regressing initiator status on distress at medium (mean self-esteem score of the sample), low (mean self-esteem

minus one standard deviation), and high (mean self-esteem plus one standard deviation) levels of self-esteem. Percent responsibility was negatively related to level of distress for people who were low ($B = -.02$; $t(62) = 3.98$, $p < .001$) or moderate ($B = -.01$; $t(62) = 3.51$, $p < .001$) in self-esteem. The relationship between initiator status and distress was not significant for those who were high in self-esteem ($B = -.004$; $t(62) = 1.05$, $p = .30$). This interaction suggests that perceiving that one had less responsibility for ending a romantic relationship is related to greater distress for people who are low to moderate in self-esteem. On the other hand, initiator status does not seem to contribute to post-break-up distress for people who are high in self-esteem. See Figure 1 for a graphical representation of distress as a function of self-esteem level and initiator status.

Mood

The overall regression model was statistically significant ($R(62) = 0.54$; $F(3,62) = 8.72$, $p < .001$). As predicted, percent responsibility for ending the relationship was positively related to mood ($B = 0.02$; $t(63) = 3.51$, $p < .005$). Additionally, self-esteem was positively related to mood ($B = 3.28$; $t(63) = 3.67$, $p < .001$). However, there was no interaction between self-esteem and initiator status for mood ($B = 0.001$; $t(63) = 0.20$, $p = .84$). Thus, people who had recently ended their relationship were in a better mood than were those whose partners had recently ended their relationship. Additionally, people who were high in self-esteem tended to be in a better mood than did those who were low in self-esteem. This pattern did not vary, however, as a function of initiator status.³

³ It is noteworthy that the interaction between self-esteem and initiator status was marginally significant for mood when the covariate of social responsibility was entered into the regression model (see Table 3 for B-weights and Appendix J for a more detailed description of this result).

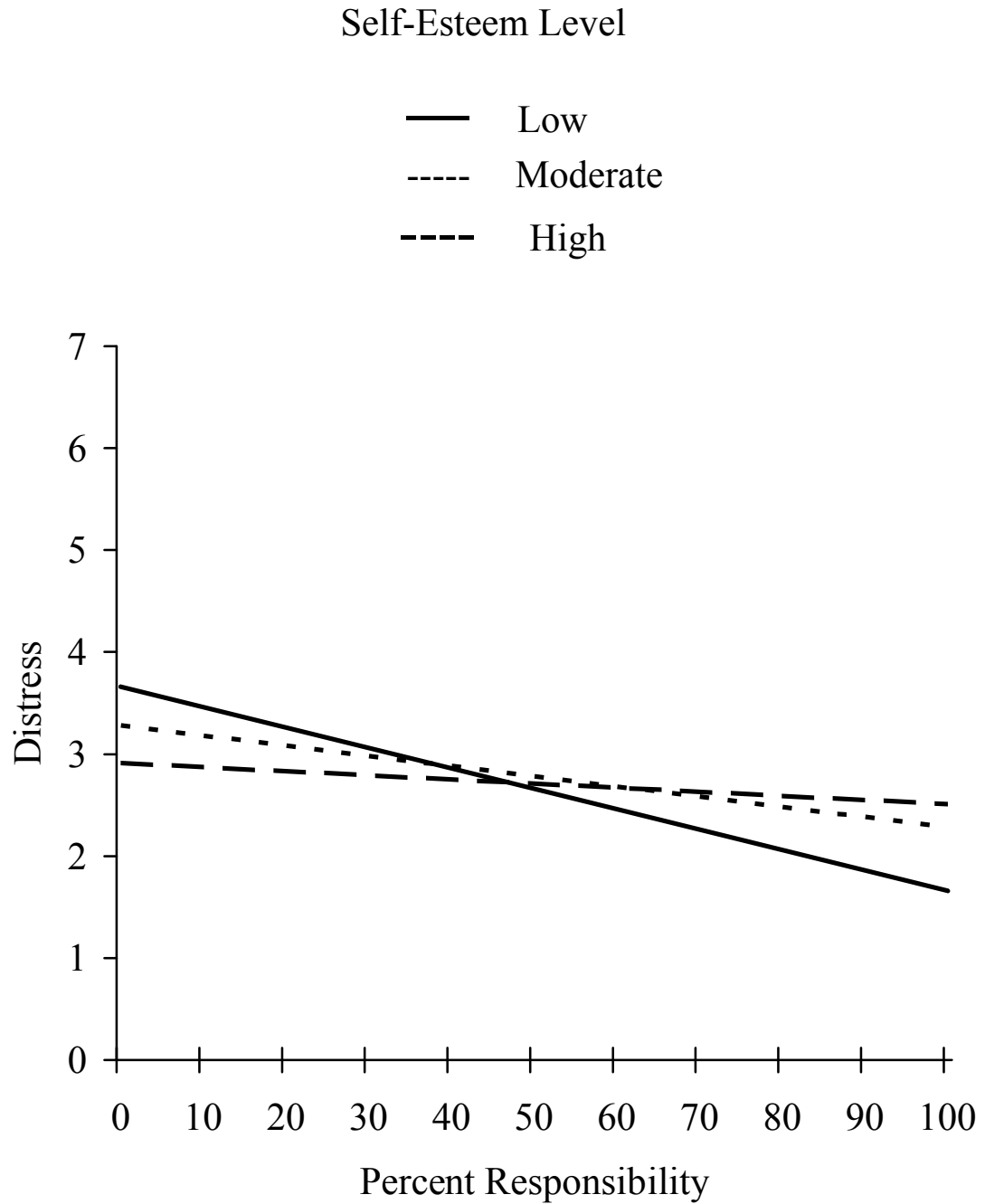


Figure 1. Study 1: Relationship between break-up distress and responsibility for decision to break up as a function of self-esteem level.

Covariates

As described earlier, participants completed a number of personality questionnaires in addition to the Rosenberg Self-Esteem Scale for exploratory purposes during Phase 1 of this study. To determine whether self-esteem was the indeed the best predictor of break-up distress and mood following relationship termination, I ran a series of simultaneous multiple regression analyses that included trait self-esteem (centered), the competing personality trait (centered), initiator status (centered), and the cross-products of these variables as predictors. The analyses were run with break-up distress and mood acting as the criterion variable in turn.

Tables 3 and 4 show the *B*-weights for the effects of self-esteem, the covariate, the interaction between self-esteem and initiator status, and the interaction between the covariate and initiator status on break-up distress and mood, respectively. In each analysis where break-up distress acted as the criterion variable, the interaction between self-esteem and initiator status either remained statistically significant or was closer to statistical significance than was the interaction between the covariate and initiator status. Given these results, trait self-esteem can be considered the best personality predictor of post break-up distress among a multitude of competing variables.

Table 3

B-Weights for the Effects of Self-Esteem (SE) and Covariates (C) on Break-Up Distress

Covariate	SE	SE x Initiator Status	C	C x Initiator Status
Agreeableness	-2.13**	0.03*	0.06	0.007
Attachment Anxiety	-0.67	0.03	0.16	0.002
Attachment Avoidance	-1.89**	0.03	-0.06	-0.004
Conscientiousness	-2.44**	0.04*	0.25	-0.002
Desirability of Control	-2.43**	0.06**	0.29*	-0.009 ⁺
Extraversion	-1.99**	0.04 ⁺	0.19	0.006
Guilt Proneness	-2.15**	0.03 ⁺	-0.25	0.006
Need for Approval (DAS)	-1.32 ⁺	0.03	0.11	-0.004
Neuroticism	-1.77*	0.04 ⁺	0.08	-0.002
Openness	-2.20**	0.04*	0.23	-0.0007
Perfectionism (DAS)	-1.28 ⁺	0.03	0.18	-0.004
Personal Fear of Invalidity	-1.80*	0.03	0.21	-0.001
Responsibility (Harm)	-2.10**	0.04*	-0.004	0.0009
Responsibility (Relationships)	-1.83**	0.04*	-0.13	0.002
Responsibility (Social)	-1.94**	0.04*	-0.12	-0.003
Thought Action Fusion	-2.34 ⁺	0.03	0.11	-0.003
Shame Proneness	-1.56*	0.04*	-0.22	0.001

** p < .01

* p < .05

+ p < .10

Table 4

B-Weights for the Effects of Self-Esteem (SE) and Covariates (C) on Mood

Covariate	SE	SE x Initiator Status	C	C x Initiator Status
Agreeableness	3.34**	-0.03	-0.04	-0.007
Attachment Anxiety	3.42*	0.06	-0.13	0.005
Attachment Avoidance	3.06*	0.04	-0.23	0.003
Conscientiousness	4.30**	-0.04	-0.07	0.02*
Desirability of Control	3.00**	-0.05	0.39	0.02 ⁺
Extraversion	3.56*	-0.01	0.26	-0.008
Guilt Proneness	4.02**	-0.05	0.16	0.02
Need for Approval (DAS)	2.25*	-0.06	-0.33	-0.01
Neuroticism	3.21*	-0.03	-0.34	-0.005
Openness	3.13**	-0.03	-0.16	0.002
Perfectionism (DAS)	2.55*	-0.02	-0.34	-0.003
Personal Fear of Invalidity	1.93 ⁺	-0.02	-0.74**	-0.002
Responsibility (Harm)	3.70**	-0.05	0.005	0.006
Responsibility (Relationships)	4.33**	-0.04	0.04	-0.02
Responsibility (Social)	2.63**	-0.05 ⁺	0.08	-0.02
Thought Action Fusion	4.36*	-0.05	0.10	-0.01
Shame Proneness	3.77**	-0.03	-0.003	-0.003

** p < .01

* p < .05

+ p < .10

Discussion

Results generally support the hypotheses made at the outset of the study. As predicted, initiator status was negatively related to the amount of distress experienced after a romantic break-up, and positively related to participants' mood state upon completion of the post break-up measures. These findings are consistent with numerous prior investigations using undergraduate or young samples that found higher distress in non-initiators than in initiators (Davis et al., 2003; Helgeson, 1994; Sprecher, 1994; Sprecher et al., 1998). They are also consistent with two of the prior investigations using divorced/separated samples, which found greater distress and trauma ratings among non-initiators than among initiators, at least in the short term (Goode, 1956; Pettit & Bloom, 1984). That the partner who was rejected experienced greater distress after the termination of a romantic relationship makes sense on an intuitive level, and is consistent with literature showing that interpersonal rejection of any nature tends to be highly distressing, resulting in a wide array of painful emotions including hurt feelings and shame (Baumeister et al., 1993; Bourgeois & Leary, 2001; Buckley et al., 2004; Craighead et al., 1979; Leary et al., 2001; Leary et al., 1998; Leary et al., 2000; Williams et al., 1998; Zadro et al., 2004). Additionally, in contrast with previous studies that did not consistently find an effect of rejection on mood (Baumeister et al., 2005; Twenge et al., 2001, 2002, 2003), initiator status was positively associated with mood state, which suggests that, at least in the context of naturalistic romantic rejection, rejection might indeed affect mood.

It is possible that, as suggested by sociometer theory (Leary et al, 1995), the aversive feelings elicited by the experience of interpersonal rejection serve the functional

purpose of notifying a person that his or her relational value has decreased, thus providing him or her with the opportunity to take action to restore the devaluation.

Within the context of romantic relationships, relational devaluation would be of particular consequence, leading to the loss of, in most cases, a person's primary social support and sexual partner. As a result, the emotional response could be expected to be especially painful. However, the negative association between responsibility for the decision to the end the relationship and both break-up specific distress and general mood is inconsistent with two studies finding no relationship between initiator status and emotional distress among undergraduates (Sbarra, 2006; Simpson, 1990; Tashiro & Frazier, 1993).

Contradictory results can also be found among separated/divorced populations, where initiator status is sometimes unrelated to distress (Kincaid & Caldwell, 1991; Newman & Langer, 1981) and, in one case, positively related such that initiators were actually more distressed than were non-initiators in the short-term (Buehler, 1987). These studies suggest that ending a romantic relationship can often be as distressing as being romantically rejected, perhaps due to the intense guilt that has been documented among those who leave their romantic partners (Baumeister et al., 2003). Given the mixed findings, it seems likely that the relative sting of being rejected versus rejecting another varies according to the disposition of the individual, and that the inconsistency in results might stem from the failure to control for influential personality traits or other individual difference variables.

My results also provide evidence for a relationship between the personality trait of self-esteem and post-break-up distress. As predicted, trait self-esteem was negatively related to the amount of distress experienced after a romantic break-up, as well as to

general mood. This finding is consistent with prior retrospective research showing that low self-esteem was related to greater distress and poorer adjustment after the termination of a romantic relationship (Barron 1987; Chung et al., 2002; Frazier & Cook, 1993). The prospective nature of the current research allows for the conclusion that the relationship between self-esteem and distress after a romantic break-up observed in this study is not simply the result of an association between distress level and a tendency to report lower self-esteem. It appears that individuals with low trait self-esteem are genuinely more distressed after a break-up than are individuals with high trait-self-esteem.

Regardless, it remains difficult to draw firm conclusions about the implications of this finding. Given that trait self-esteem is strongly and negatively correlated with neuroticism (Judge, Erez, & Bono, 1998), which reflects individual differences in distress-proneness, it is possible that individuals who are low in self-esteem are simply more prone to distress and negative mood than are individuals with high self-esteem, even in the absence of stressful life events such as the termination of a romantic relationship. However, the break-up specific nature of the items on the distress scale used in our study (e.g., *I have been crying a lot since the break-up*) suggests that individuals with low self-esteem genuinely experienced more distress related specifically to the break-up than did individuals with high self-esteem. One intuitive explanation for this finding is that people with low self-esteem have poorer coping abilities in a general sense than do people with high self-esteem. Prior research has suggested that individuals with low self-esteem are prone to emotion-focused coping (McCall & Struthers, 1994; Mullis & Chapman, 2000), which includes strategies such as avoidance and ventilation of feelings, and that they are less likely than are individuals with high self-esteem to engage

in problem-solving strategies (Mullis & Chapman, 2000). However, results of investigations into the relationship between trait self-esteem and coping style are mixed, with other investigators failing to find an association between low self-esteem and avoidance-based coping or between high self-esteem and a problem solving style (Chung et al., 2002; Yelsma, Brown, & Elison, 2002). Thus, it is unclear from the coping style literature whether people with low self-esteem have an ineffective coping style in a general sense as compared to people with high self-esteem.

It seems more likely that people with low self-esteem are particularly reactive to certain types of events, such as being rejected by a romantic partner, as suggested by the interaction between initiator status and self-esteem. As I predicted, results showed that perception of less responsibility for the decision to end the relationship was related to greater break-up specific distress for people with low self-esteem. As level of self-esteem increased, however, the relationship between initiator status and distress disappeared. For participants with high self-esteem, the distress of being romantically rejected did not exceed that of being the rejecter. These findings are consistent with literature showing that interpersonal rejection is especially troubling to people with low self-esteem and that people with high self-esteem appear to be relatively immune to the negative emotional consequences of rejection (Nezlek et al., 1997; Sommer & Baumeister, 2002). It seems likely that the two investigations that did not find an interaction between trait self-esteem and rejection (Baldwin et al., 2003; Leary et al., 1998) used rejection manipulations that were not as personally consequential as a romantic rejection and, as a result, were unable to detect the differential impact of meaningful rejection on people with high and low self-esteem.

The finding that people with low to moderate self-esteem experienced greater distress after their partner terminated their relationship than after they ended their relationship, whereas initiator status was not related to distress for those with high self-esteem, makes sense in the context of the self-esteem literature. From the perspective of sociometer theory (Leary et al., 1995), a rejection should produce a stronger response in people with lower self-esteem than in those with higher self-esteem because individuals with low self-esteem have a history of repeated relational devaluation. As a result, the resting point of their sociometers will be lower than that of individuals with high self-esteem, and a dip associated with romantic rejection is more likely to push the sociometer below a minimally acceptable level.

Moreover, the cognitive processes by which individuals with low versus high self-esteem register and respond to a romantic rejection may be distinguished by their differential propensity to evaluate the rejection as evidence of a personal failure. It is possible that people with low self-esteem conceptualize a romantic rejection, a specific instance of failure, as evidence that they themselves are failures in a broader sense, while people with high self-esteem do not make this association. This explanation is consistent with Baldwin and Sinclair's (1996) finding that rejection and failure concepts are closely related in the semantic networks of individuals with low self-esteem but not those of individuals with high self-esteem. Thus, people with low self-esteem may simply be more likely than those with high self-esteem to generalize the implications of a romantic rejection to their overall sense of competence and worth.

That people with low self-esteem would be likely to interpret their romantic rejection as evidence of their general failing is very consistent with what is known about

their cognitive style. People with low self-esteem tend to hold a somewhat murky self-concept, showing less confidence, less cohesiveness, and more fluctuations in their self-descriptions than do people with high self-esteem (Campbell, 1990; Campbell & Lavelee, 1993). As a result, it is possible that they have a difficult time integrating the knowledge that they have just been rejected by their partners with pre-existing positive self-relevant information, such as positive feedback they have had from others in the past or achievement in other domains, leading the rejection to colour their entire sense of self. In tandem with, and perhaps because of, this lack of clarity in self-concept, people with low self-esteem tend to respond to negative self-relevant information by making global, internal attributions for the cause of the event (e.g., Brown & Smart, 1991). In the case of romantic rejection, it is likely that individuals with low self-esteem conclude that they were left because they were ultimately failed to measure up as a romantic partner, triggering a distress response above and beyond the pain associated with the loss of the relationship alone.

The attributional process of a person with high self-esteem would be expected to be quite different. Having a clearer sense of their self-concepts, people with high self-esteem would be able to evaluate the implications of a romantic rejection against a store of positive self-relevant information, which might lead them to conclude that the break-up must not have been caused by their personal failing, but by some external factor (e.g., "we were just at different points in our lives"), as people with high self-esteem are likely to do (e.g., Cohen et al., 1989). Another, possibly simultaneous, strategy that people with high self-esteem are likely to use to cope with a romantic rejection is self-affirmation (Steele, Spencer, & Lynch, 1993). For example, an individual with high self-esteem

might direct his or her attention toward other virtues and achievements, such as his or her belief in making the world a better place or his or her academic achievements, to offset the potential distress associated with being rejected. Using this strategy, he or she can confirm his or her competency and value as a person, thus decreasing the personal implications of the rejection.

Unexpectedly, the interaction between trait self-esteem and initiator status did not clearly emerge for general mood. This result suggests that, to a certain extent, both high and low self-esteem individuals experienced a greater decrease in mood when they were rejected by their partner than when they ended the relationship themselves. It is possible that, although initiator status was not associated with the array of specific emotional and behavioural symptoms captured by the distress measure for individuals with high self-esteem, being rejected resulted in a more general decrease in mood nonetheless. It is interesting, however, that the expected interaction pattern did emerge with marginal statistical significance when the covariate of social responsibility was entered into the regression model. This observation suggests that the relationship between initiator status and mood might in fact vary as a function of trait self-esteem, but that the mood measure was not sufficiently powerful to detect the interaction. Given that participants completed the mood measure an average of eleven days after the break-up, at which point the effect of the break-up on mood might have dissipated somewhat, this possibility seems likely. In contrast, the break-up distress questionnaire asked participants to report on their experiences since the end of the relationship and, as such, would have captured their reactions in the immediate aftermath.

In any case, this study makes several novel contributions to the literature on the emotional aftermath of the termination of romantic relationships in particular, and of rejection in general. This investigation is the first to show that people with low self-esteem are indeed more distressed after romantic break-ups than are people with high self-esteem. The prospective design rules out the possibility that people who are highly distressed after a break-up simply report lower self-esteem on trait measures as a result of this distress. Furthermore, I have demonstrated that the individual difference of trait self-esteem does account for differences in the emotional impact of being rejected romantically. This finding suggests that future investigations into romantic break-ups that include the variable of initiator status would do well to include trait self-esteem as a moderator, rather than proceed with analyses under the assumption that initiator status should have a uniform impact on emotional recovery.

Furthermore, I was successful in replicating the interaction between trait self-esteem and rejection that has been demonstrated under somewhat artificial circumstances in the laboratory (Nezlek et al., 1997; Sommer & Baumeister, 2002) using a real-life situation and a rejection of marked interpersonal significance, the loss of a romantic partner. As in the laboratory, people with low self-esteem seem to have difficulty responding to rejections effectively in the real world. Although this particular finding is not surprising, it *is* striking that people with high self-esteem are able to invoke some kind of coping strategy, perhaps adopting an external attribution style or self-affirming, that is strong enough to protect them from the potential distress related to experiencing rejection by a real-life romantic partner. Finally, in contrast with prior studies that compared the effects of rejection with acceptance or a with a non-interpersonal control

condition (Baldwin et al., 2003; Leary et al., 1998; Nezlek et al., 1997; Sommer & Baumeister, 2002), I was successful in demonstrating that interpersonal rejection is a distressing experience for people with low self-esteem above and beyond the effect of the actual loss of a romantic relationship. This observation lends credence to the notion that there is something uniquely distressing about being rejected that transcends the distress associated with other aversive interpersonal events.

The results of this study have another interesting theoretical implication. Trait self-esteem emerged from among numerous personality variables as the best predictor of distress after a break up, including when considering the interactive effects of initiator status. This finding is striking because at least one of these other personality traits, attachment anxiety, might theoretically be expected to do a better job of predicting post break-up distress than would self-esteem. Attachment anxiety is a continuous dimension that specifically captures the extent to which an individual is preoccupied with being accepted or rejected by relationship partners (Brennan et al., 1998). It is associated with hypervigilance to separation from romantic relationship partners and increased accessibility of schemas related to relationships and relationship partners (Hazan & Shaver, 1987; Mikulincer, Birnbaum, Woddis, & Nachmias, 2000). Of particular relevance to the current investigation, individuals with high attachment anxiety are less able than are individuals with low attachment anxiety to inhibit attention to rejection cues, as shown on a lexical decision task (Baldwin & Kay, 2003). As a result, one would expect individuals with high attachment anxiety to be particularly sensitive to both relationship loss and, especially, rejection by a partner. However, evidence for this assertion is mixed. Davis et al. (2003) investigated attachment style in their study of

undergraduate students whose romantic relationships had ended, and found that higher attachment anxiety was indeed positively associated with level of emotional distress. They did not, however, report results for the interaction between attachment anxiety and initiator status. In contrast, anxious attachment style was not significantly associated with level or duration of emotional distress in an earlier undergraduate investigation (Simpson, 1990). That trait self-esteem emerged in the current investigation as a more important predictor of post break-up distress than did attachment anxiety suggests that future research on relationship processes might do well to consider self-esteem as a potentially important individual difference in addition to attachment style.

In addition to theoretical contributions, my findings have important practical implications. Most notably, because individuals with low self-esteem are especially vulnerable to a variety of emotional and behavioural distress symptoms after a romantic break-up, particularly if they are rejected, the development of protective and interventive measures for these individuals may be indicated. In the context of psychotherapy, where low self-esteem frequently accompanies some of the most common complaints of help-seekers, such as depression and anxiety (Beck, Brown, Steer, Kuyken, & Grisham, 2001), therapists may wish to remain vigilant for the possibility of intense distress reactions in clients with low self-esteem who experience a romantic rejection. Furthermore, clinical researchers could pursue investigations into therapeutic strategies for helping people with low self-esteem cope with romantic rejection, which might be applicable to interpersonal rejection in general. With regard to preventative measures, an obvious approach would be to develop therapeutic programs aimed at increasing self-esteem. Indeed, there are currently several popular self-help/therapist manuals on the market that aim to increase

self-esteem (e.g. Burns, 1998; Chiraldi, 2001). However, many of these programs have received no empirical attention, which calls their effectiveness into question.

Furthermore, trait self-esteem should, by definition, be quite resistant to attempts at changing its baseline level (Rosenberg, 1986). A more realistic approach would be to design and empirically test therapeutic programs for training people with low self-esteem to begin making use of the techniques that are used by people with high self-esteem to prevent extreme distress reactions to rejection (e.g., attribution style, self-affirmation).

Although my results are interesting and informative from theoretical and practical perspectives, there are a few limitations that warrant discussion. First, initiator status may be a difficult variable to assess accurately because partners may disagree over who ended the relationship. This disagreement could make the measure unreliable and, as a result, lead to an underestimate of initiator status effects. In this study, however, a main effect and an interactive effect were obtained for initiator status, which suggests that the measure was sufficiently reliable to capture variance associated with participants' estimates of how responsible they were for ending the relationship. Furthermore, although I only obtained both partners' estimates for eighteen couples, the initiator status measure demonstrated reasonable agreement within this sample. This finding is consistent with other studies that found moderate to good agreement between partners who were asked to identify who had left the relationship, despite evidence of a slight tendency toward exaggerating one's own responsibility (Hill et al., 1976; Sprecher, 1994). In addition, any margin of unreliability in the initiator status measure would only have decreased the chances of finding statistically significant results, and both the main and

interactive effects of initiator status were statistically significant for break-up distress. Thus, the initiator status results can be interpreted with reasonable confidence.

A more significant limitation of this study is that there were not enough men involved in Phase 3 to assess possible gender differences. Although the vast majority of the studies on the effect of initiator status on emotional reactions to romantic break-ups do not find gender differences, two investigations did report evidence of an interaction between initiator status and gender (Helgeson, 1994; Pettit & Bloom, 1984), albeit with contradictory findings. Within the experimental literature on the effects of rejection, only one study reported analyses on gender differences. In Baldwin et al.'s (2003) investigation into the effect of conditioned rejection cues on participants' self-evaluation, only women consistently responded to rejection cues with more negative self evaluation. In contrast, on some measures, men appeared to respond to rejection by becoming *less* critical of themselves. Thus, it is possible that the men in this study would have shown a different pattern of responses to romantic rejection had there been a sufficient number of them to assess gender differences. I will aim to address this limitation in Study 2 by including more men.

Perhaps the most notable limitation of this study is a lack of experimental control. Although the naturalistic, prospective design that was used confers some important benefits (as discussed earlier), it also precludes me from making causal claims about initiator status. Because participants could not be randomly assigned to reject their partners or to be rejected, results could be explained by any number of uncontrolled variables that are associated with initiator status and that also predict coping responses to romantic break-ups and rejection. For example, it is possible that a third variable, such as

attractive alternative partners, is associated with initiator status, and that it is this third variable that actually determines the distress response. Furthermore, there may be differences between people with low and high self-esteem with respect to relationship-specific variables, such as the level of acrimony associated with the break-up, that *interact* with initiator status to predict distress following the termination of a romantic relationship. In Study 2, I will address this limitation by replicating Study 1 using an experimental design.

The results of Study 1 lead to some intriguing follow-up questions regarding the process underlying the effects of romantic rejection on people with low versus high self-esteem. How do individuals with low self-esteem respond cognitively to a romantic rejection? What do individuals with high self-esteem do in response to rejection that seems to protect them from distress and self-denigration? Can people with low self-esteem tap into these benefits if they are explicitly coached through the performance of these protective responses? I will attempt to address these questions in Study 2.

Chapter 3: Study 2

Literature Review

In Study 1, I found that trait self-esteem and initiator status interacted to predict distress after the break-up of a romantic relationship such that people with low self-esteem were more distressed when they perceived themselves as less responsible for the decision to break up, whereas initiator status did not predict distress in people with high self-esteem. As discussed earlier, it is possible that this difference can be explained by a tendency for individuals with low self-esteem to interpret specific instances of failure, such as being romantically rejected, as evidence that they are incompetent in a global sense. This attribution style may result from an unclear self-concept (Campbell & Lavalee, 1993) and/or a tendency to make global, internal attributions for specific instances of failure (e.g., Brown & Smart, 1991; Epstein, 1992; Fitch, 1970; Kernis et al., 1989; Tennen & Herzberger, 1987). People with high self-esteem, on the other hand, may self-affirm in the face of a threat to their integrity by calling to mind information about their competencies in other, possibly unrelated, domains. This tendency might protect them from some of the potential distress arising from a romantic rejection. In Study 2, I examined guided self-affirmation as a possible strategy for attenuating the negative effects of romantic rejection on people with low self-esteem. Thus, in the next section, I will briefly review the literature on self-affirmation and its relationship to trait self-esteem.

Self-Affirmation Theory and Trait Self-Esteem

Self-affirmation theory (Steele, 1988) is based on the assertion that individuals have a need to maintain an image of the self as an adaptive and moral being. Self-

affirmation occurs when there is a threat to this image. In order to resolve this threat, the individual is driven to affirm a valued, but not necessarily related, aspect of the self, which is thought to restore integrity to the self-image after a failure. In a classic demonstration of the use of self-affirmation in resolving an ego-threat in the form of cognitive dissonance, Steele, Hopp, and Gonzales (1986; cited in Steele, 1988) had university students engage in a free-choice paradigm. This paradigm induces cognitive dissonance by having participants choose between two closely-valued alternatives. Making this choice is thought to be ego-threatening because participants tend to perceive themselves as having behaved in a manner that is inconsistent with their attitudes in rejecting what was essentially an equally-valued option. In response, participants typically devalue the unchosen alternative in relation to the chosen alternative. In this experiment, however, half of the participants were asked to wear a white lab coat during the experiment. Results indicated that the students who had reported during prescreening that they identified strongly with science and who wore lab coats during the experiment showed virtually no devaluation of the unchosen relative to the chosen alternative. In contrast, students who had reported earlier that they identified with a business orientation showed the classic pattern of attitude change following the choice, regardless of whether they had worn lab coats. Presumably, the science-oriented students were able to affirm an important aspect of their identity by wearing the lab coat, thus reducing their need to resolve their dissonance by altering their attitudes about the alternatives. Perhaps the most striking aspect of this study is the lack of obvious connection between the nature of the ego-threat and the aspect of self (science orientation) that was presumably affirmed.

Apparently, simply focusing on unrelated positive or valued aspects of the self can be sufficient to resolve an ego-threat.

More recent research on self-affirmation shows that affirming the self decreases the need for self-handicapping after a challenging mathematical task and reduces thoughts about potential rejection prior to a social situation involving evaluation (Schimel, Arndt, Banko, & Cook, 2004). In this study, self-affirmation also led to improved performance on a difficult test. Furthermore, Koole, Smeets, van Knippenberg, and Dijksterhuis (1999) found that individuals who self-affirmed by filling out a value scale after receiving failure feedback on an IQ test subsequently ruminated less about the failure and were in better moods. These studies suggest that the drive to maintain a self-image of integrity has a functional purpose: decreasing distress and increasing performance.

Spencer, Josephs, and Steele (1993) have proposed that the self-affirmation process might be particularly difficult for an individual with low trait self-esteem to undertake because he or she would have difficulty recruiting positive aspects of the self, which are both fewer and less distinct than are those stored by individuals with high trait self-esteem. In fact, there is some evidence of differences in low and high self-esteem individuals' propensity for self-affirmation. In a review of the literature, Baumeister et al. (1989) documented that people with high self-esteem tend to respond to ego-threatening information with self-enhancement strategies, which are defined as cognitive or behavioural strategies designed to focus attention on one's positive characteristics. These self-enhancement strategies are similar to the self-affirmation process as described by Steele (1988). In contrast, people with low self-esteem tended to respond to ego-threats

with self-protection, which entails diverting the attention of others away from one's negative characteristics. Internally, however, people with low self-esteem seem to attend to their faults to a greater degree after experiencing an ego-threat. For example, in an experiment in which participants received feedback indicating that they had failed at a problem-solving task, those with high self-esteem tended to turn their attention toward their positive internal self-representations, whereas those with low self-esteem turned their attention toward their self-perceived weaknesses (Dodgson & Wood, 1998).

Within the context of interpersonal rejection, Ciarocco, Sommer, and Williams (1998) found that people with high self-esteem were more likely than were those with low self-esteem to self-affirm in response to receiving the silent treatment in a laboratory experiment. More recently, individuals with low self-esteem responded to a role-play involving being stood up for a dinner date with derogation of the offender to a greater extent than did individuals with high self-esteem (Nail et al., 2003). The authors suggested that people with high self-esteem likely did not feel the need to derogate the offender because they were able to spontaneously self-affirm, thus resolving the self-threat. These findings suggest that self-affirmation is a strategy that individuals with high, but now low, self-esteem might use to cope with interpersonal rejection.

Furthermore, using a classic forced-choice cognitive dissonance paradigm, Steele, Spencer, and Lynch (1993) found less attitude change among people with high self-esteem than among people with low self-esteem after participants had been made aware of their self-images. Similarly, Holland, Meertens, and Van Vugt (2002) showed that individuals with low self-esteem were more likely than individuals with high self-esteem to engage in self-justification after a cognitive dissonance induction. This finding

suggests that people with high self-esteem are mobilizing their affirmational resources, relieving their need to self-justify or change their attitudes in an attempt to restore a sense of integrity.

Although people with low self-esteem generally do not self-affirm when left to their own devices, there is some evidence that they have the ability to self-affirm when explicitly taken through the appropriate steps. For example, Spencer, Fein, & Lomore (2001) showed that people with low self-esteem no longer engaged in self-handicapping in response to a difficult intelligence test, a self-protective strategy, after they had self-affirmed by completing a value-ranking exercise. In fact, after completing the self-affirmation exercise, low self-esteem individuals were indistinguishable from high self-esteem individuals in terms of their apparent need for self-protection, which suggests that the threat to their self-image had been resolved. Thus, it is possible that getting people with low self-esteem to explicitly self-affirm might be a useful strategy for restoring a sense of integrity and diminishing distress after an ego-threatening event such as a romantic rejection.

Overview of Studies 2a and 2b

The first goal of Study 2 was to replicate the Study 1 findings in an experimental design. It is possible that the rejected and non-rejected participants in Study 1 varied systematically on an unmeasured third variable that was relevant to distress following a break-up, such as available alternative partners, or any of a number of other possibilities. An experimental design in which the context of the break-up was held constant within rejection conditions allowed me to explore causal inferences about initiator status. Although trait self-esteem could not be experimentally manipulated, any interactive

effects of third variables associated with self-esteem (e.g., pre-break-up conflict) and initiator status could also be ruled out as alternative causal explanations.

Second, because all measures were completed in the laboratory immediately following the rejection manipulation, I was able to assess the effect of romantic rejection on participants' immediate emotional and cognitive reactions, instead of collecting these data after a time lag. Third, the experimental design allowed me to investigate additional questions regarding the role of failure perception in predicting distress after romantic rejection for low self-esteem individuals and the usefulness of a self-affirmation activity in relieving this distress. Finally, the efficiency of the experimental design allowed me to collect data from a larger proportion of men than I did in Study 1. As a result, I was able to better assess the main and interactive effects of gender on distress following romantic rejection.

Undergraduate participants in romantic relationships were randomly assigned to imagine themselves in either a scenario in which either they ended the relationship (rejecter) or their partner ended the relationship (rejected). They then performed a variety of tasks including evaluating themselves on various dimensions. The basic design of each study was identical, but the methodology and the criterion measures differed slightly. In Study 2a, participants performed a lexical decision task in which I measured their reaction time to words related to success and failure after they finished reading the scenario. In Study 2b, participants were given a self-affirmation task to determine whether people who were low in self-esteem could be "coached" to self-affirm after a rejection. Because participants in Studies 2a and 2b were given the same rejection manipulation and many of the same criterion measures, I will describe each methodology

separately and then present the results in aggregate form. The results were combined for three reasons. First, I wanted to simplify the reporting of the data. Second, combining the two samples increases the power of my analyses to detect the effects of self-esteem and rejection condition on the criterion variables. Finally, the combined sample maximized the number of men included in the analyses, allowing me to more adequately examine how the pattern of results might differ as a function of gender.

Hypotheses

Hypothesis 1: Self-esteem and rejection condition will interact to predict self-evaluation, failure evaluation, mood, and state self-esteem (Studies 2a and 2b).

I expected to replicate the Study 1 finding that lower perceived responsibility for the decision to break up was related to higher post break-up distress for low (but not high) self-esteem individuals using an experimental design. Consistent with the experimental literature on self-esteem and rejection (Nezlek et al., 1997; Sommer & Baumeister, 2002), I predicted that low self-esteem participants would evaluate themselves more negatively in a broad sense, rate themselves higher on failure, report more negative mood, and experience lower state self-esteem after imagining the romantic rejected scenario than after imagining themselves ending the relationship. Conversely, participants who were high in self-esteem were not expected to differ in their general self-evaluation, failure perception, mood, or state self-esteem as a function of rejection condition. People with high self-esteem have shown themselves in experimental studies to be resistant to the potential negative influence of rejection on their self-concepts (Nezlek et al., 1997; Sommer & Baumeister, 2002).

Hypothesis 2: Self-esteem and rejection condition will interact to predict reaction time to failure relative to success words (Study 2a only).

In the lexical decision task, I predicted that low self-esteem participants would respond more quickly to failure (relative to success) words after imagining the rejected scenario than after imagining themselves ending the relationship. Given that the concepts of failure and interpersonal rejection appear to be associated in the cognitive networks of people with low self-esteem (Baldwin & Sinclair, 1996) I expected that imagining the experience of romantic rejection would activate a sense of failure for individuals with low self-esteem, thus allowing them to identify the failure words especially quickly. On the other hand, Baldwin and Sinclair (1996) did not find evidence for an association between interpersonal rejection and failure for people with high self-esteem. Thus, participants who were high in self-esteem were not expected to differ in their reaction times to failure (relative to success) words as a function of rejection condition.

Hypothesis 3: Self-esteem, rejection condition, and affirmation condition will interact to predict self-evaluation, mood, and state self-esteem (Study 2b only).

I predicted a three-way interaction between self-esteem, rejection condition, and affirmation condition. Specifically, I expected that the broad self-evaluation, failure ratings, mood, and state self-esteem of people who were high in self-esteem would remain constant across affirmation conditions in both rejection conditions. High self-esteem individuals seem to be equipped with the ability to self-enhance in the face of a demoralizing event (Baumeister, et al., 1989); I therefore expected that the self-affirmation task would offer no benefit to them over and above the positive effects of their own self-enhancement strategies.

In contrast, people who were low in self-esteem were expected to show a more positive general self-evaluation, lower failure ratings, better mood, and higher state self-esteem in the self-affirmation condition than in the no-affirmation condition. Given that people with low self-esteem are especially affected by rejection, the attenuating effect of self-affirmation was expected to be especially pronounced in the rejected condition. Low self-esteem individuals were not expected to employ self-generated strategies for attenuating the negative effects of rejection on their self-concepts. However, based on previous research (Spencer et al., 2001), I expected that they would be capable of self-affirming when "coached" into doing so and that the self-affirmation exercise would short-circuit the self-criticism and negative mood produced by an imagined romantic rejection.

Method

Study 2a

Participants

Participants were 79 introductory psychology students (mean age = 18.19 years, $SD = 1.06$) who took part in the study over the course of two school years (57 in Year 1 and 22 in Year 2). Data were originally collected from a total of 166 participants.

However, exploratory analyses revealed a three-way interaction between trait self-esteem, rejection condition and the duration of participants' relationships⁴ such that self-esteem interacted with rejection condition only for participants whose romantic relationships had been of shorter duration. A plausible explanation is that participants

⁴ Trait self-esteem (centered), rejection condition, relationship length (short or long based on a median split), and the cross-products of these variables were analyzed using a series of simultaneous multiple regressions. There was a three-way interaction for self-evaluation ($B = -.23$; $t(157) = 1.98$, $p = .05$), failure rating ($B = .20$; $t(157) = 1.71$, $p = .09$), and social state self-esteem ($B = -.24$; $t(157) = 2.53$, $p = .01$).

who were in longer-term relationships found it more difficult to imagine themselves in the scenario presented to them (i.e., had more knowledge of their partner and thus found the specific dialogue/behaviour in the scenario to be less believable). Therefore, only participants who were in relationships of less than the median relationship length for the whole sample (16 months) were included in the analyses.

Participants completed the demographic and relationship status questionnaire in a pre-screening session administered at the beginning of the fall term (Appendix A). Students who reported that they were in a romantic relationship of a duration of at least one month and between the ages of 18 and 22 were contacted over the telephone and asked if they would like to participate in the experiment. The sample consisted of 10 men and 69 women. Participants were compensated with half of an introductory psychology course credit or \$5 in cash.

Procedure

Prescreening. Participants completed the Rosenberg Self-Esteem Scale (Rosenberg, 1965; Appendix B) during the pre-screening session at the beginning of the term (i.e., a number of months before participating in the experiment) so I could obtain a baseline measure of their chronic self-esteem. See Study 1 for a complete description of this scale. Each item was rated on a scale from 1 to 7, with 1 meaning *very strongly disagree* and 7 meaning *very strongly agree*. The scale demonstrated high inter-item reliability (Cronbach's $\alpha = .87$).

Rejection Manipulation. The experiment took place in the laboratory and participants were told that I was investigating the effect of emotion on reaction time. Participants completed the experiment in groups of one to four at a time, at individual

computer stations. They read an information sheet (Appendix K) and signed a consent form (Appendix L). Next, participants were randomly assigned to receive one of two scenarios (Appendix M), which were presented in 4 blocks on the computer screen. They were asked to imagine themselves in one of the following situations: breaking up with their romantic partner (rejecter) or having their romantic partner break up with them (rejected). The scenario was tailored to each participant, in that his or her partner's actual name was inserted into the script (gender of the participant and his/her partner was also reflected). After they finished reading the scenario, participants were given one minute during which the computer asked them to, "Please take some time to think about how you would feel if you were in the situation that was presented to you". They were given a full minute to think about the situation before the next task.

The scenarios were pre-tested with 32 undergraduate students, each of whom was randomly assigned to read either the rejected or the rejecter condition (with their partners' names inserted). They then answered some questions about the scenario and about their reactions to it using a series of 7-point scales. Participants indicated that the rejecter and the rejected conditions were equally realistic ($M = 4.50, SD = 1.76; M = 3.86, SD = 2.25; t(30) = 0.91, p = .37$) and equally engaging ($M = 4.44, SD = 1.65; M = 5.21, SD = 1.48; t(30) = 1.37, p = .18$). Importantly, they also reported that they felt more rejected in the rejected ($M = 5.00, SD = 2.18$) than in the rejecter ($M = 2.78, SD = 1.44$) condition ($t(30) = 3.47, p < .005$), but that their mood, as measured using the PANAS (a self-report mood questionnaire described below), was as negative in the rejecter ($M = 3.20, SD = 0.80$) as in the rejected ($M = 3.61, SD = 1.06$) condition ($t(30) = 1.26, p = .22$).

Lexical Decision Task. Immediately after the minute spent thinking about the scenario, the lexical-decision task began. It was administered using MediaLab and Direct RT software (Empirisoft, 2004), a package that is used frequently to program psychological experiments. Instructions appeared in dark letters on a light background, while the target words appeared in light cyan so as to maximize the sensitivity of the lexical-decision task. Participants were instructed that they would be completing a reaction time task. They were told that their job would be to indicate whether each set of letters formed an English word by pressing “Z” if it was a word and “M” if it was not a word. Finally, they were asked to be accurate and to respond as quickly as possible. Before beginning the trials of interest, participants were given 9 practice trials with neutral words and non-words.

For the preliminary pool of target words, I chose the 32 words used by Baldwin and Sinclair (1996) and generated 16 others that I judged to be related to failure and success. Target words consisted of 24 failure words (e.g., *fail* and *incompetent*) and 24 success words (e.g., *succeed* and *competent*). To verify that any differences in response latency for failure and success words as a function of self-esteem were not due simply to a general mood congruency effect, 16 negatively- and 16 positively-valenced control words that were neutral with respect to achievement or interpersonal relationships, matched with the target words for length and frequency, were also generated (drawn from Taglia & Battig, 1978). The preliminary target and control words were pre-tested by having 60 undergraduate introductory psychology students rate them with respect to how much they related to two sets of bipolar adjectives, *failure-success* and *negative-positive*, on a 7-point scale. The data were subsequently transformed such that 0 represented

neutral with respect to either failure/success or positive/negative, a score of -1 to -3 indicated perception of failure or negativity, and a score of 1 to 3 represented perception of success or positivity (the absolute value corresponded to the strength of these perceptions).

The final set of target and control words was constructed by selecting the 16 words that were rated by the pre-testing sample as most related to failure, the 16 words that were rated as most related to success, and the matched negative and positive control words. Results confirmed that target failure words ($M = -1.96$, $SD = 0.42$) were seen as equally negative as were the negative control words ($M = -1.74$, $SD = 0.51$; $t(30) = 1.36$, $p = .19$), but that the negative control words were seen as less strongly related to failure ($M = -0.88$, $SD = 0.43$) than were the target failure words ($M = -1.78$, $SD = 0.47$; $t(30) = 5.63$, $p < .001$). Similarly, target success words ($M = 2.03$, $SD = 0.54$) were seen as equally positive as were the positive control words ($M = 1.95$, $SD = 0.37$; $t(26) = .45$, $p = .66$), but the positive control words were seen as less strongly related to success ($M = 1.18$, $SD = 0.40$) than were the target success words ($M = 2.12$, $SD = 0.46$; $t(26) = 5.68$, $p < .001$).

Forty-eight non-words, generated by changing one letter in each of a list of common words, were also presented. Each word was presented once, for a total of 112 trials. Words were presented in a different random order for each participant. Presentation of the selected words was preceded by nine practice trials in which participants were shown sample neutral and non-words. In all trials, the word or non-word was presented for 2 seconds. Participants were permitted to work at their own pace. See Appendix N for a complete list of words and non-words used in the lexical decision task.

Self-Report Questionnaires. Immediately after participants finished the lexical decision task, they completed a self-evaluation questionnaire (Appendix O), based on the one used by Nezlek et al. (1997), on the computer. Participants rated themselves on 12 bipolar adjectives, such as *good-bad* and *competent-incompetent*, using a 7-point scale. Five items were reverse-coded and the mean response to all items was calculated such that a low score indicated a negative self-evaluation and a high score indicated a positive self-evaluation. The scale demonstrated high inter-item reliability (Cronbach's $\alpha = .94$). A twelfth single item, *a success-a failure*, was also added so I could assess the effect of the experimental manipulation on failure perception specifically.

Next, participants completed the Positive and Negative Affect Scales (PANAS; Watson, Clark, & Tellegen, 1988; Appendix P), a questionnaire designed to assess mood state. I chose to use the PANAS to measure mood in Study 2 instead of the mood measure used in Study 1 because the PANAS has been used extensively in prior research and has demonstrated good psychometric properties (Watson et al., 1988). Participants are asked to rate the extent to which they are feeling 10 positive (e.g., *excited*) and 10 negative (e.g., *sad*) adjectives, using a 7-point scale. The negative items were reverse-coded and the mean response was calculated such that a higher score indicated a more positive mood. The scale demonstrated high inter-item reliability (Cronbach's $\alpha = .93$).

The next measure administered was the State Self-Esteem Scale (Heatherton & Polivy, 1991; Appendix Q), a 20-item self-report questionnaire that assesses how participants feel about themselves at the moment. Items, such as *I feel confident about my abilities* and *I feel like I'm not doing well*, are rated on a scale of 1 to 5, with 1 meaning *not at all* and 5 meaning *extremely*. The mean response on all of the items is used as an

index of state self-esteem. Inter-item reliability was high (Cronbach's $\alpha = .95$). The state self-esteem scale can also be divided into three subscales: performance state esteem (how participants are feeling about their performance), social state esteem (how socially successful they are feeling), and appearance state esteem (how they are feeling about the physical appearance). Inter-item reliability was respectable for these subscales, but not as high as that of the broader scale (Cronbach's $\alpha = .88, .86, .87$, respectively).

Finally, participants were asked to type any thoughts that they were having or remembered having during the experiment⁵. They were debriefed in writing (Appendix R) and thanked for their time.

Study 2b

Participants

One hundred and eleven introductory psychology students (mean age = 18.22 years, $SD = 1.26$) participated over the course of one school year. They completed the demographic and relationship status questionnaire described for Study 2a in a pre-screening session administered at the beginning of the fall term (Appendix A). Students who reported that they were in a romantic relationship of a duration between one and fifteen months and between the ages of 18 and 22 were contacted over the telephone and asked if they would like to participate in the experiment. The sample consisted of 41 men and 70 women. Participants were compensated with half of an introductory psychology course credit or \$5 in cash

⁵ The thought listing data were coded by two independent raters with regard to affect, dimension, content, and tense and were then analyzed using multiple regression analyses. Despite reasonable inter-rater reliability (Cohen's $\kappa = .83-.87$), no significant effects were obtained for the interaction between rejection condition and trait self-esteem. As a result, the analyses of the thought-listing data are not included in this document.

Procedure

Prescreening. As in Study 2a, participants completed the Rosenberg Self-Esteem Scale (Rosenberg, 1965; Appendix B) during the pre-screening session at the beginning of the term (i.e., a number of months before participating in the experiment) to ensure that their chronic self-esteem level was not activated during the experimental manipulation. See Study 1 for a complete description of this scale. Each item was rated on a scale from 1 to 7, with 1 meaning *very strongly disagree* and 7 meaning *very strongly agree*. The scale demonstrated high inter-item reliability (Cronbach's $\alpha = .87$).

Rejection Manipulation. The experiment took place in the laboratory and participants were told that I was investigating the effect of emotion on attitudes. Participants completed the experiment in groups of one to four at a time, at individual computer stations. They read an information sheet (Appendix S) and signed a consent form (Appendix T). Next, participants were randomly assigned to receive one of the two break-up scenarios described in Study 2a (Appendix M)⁶. Participants indicated using a 7-point scale that they felt more rejected in the rejected ($M = 4.03$, $SD = 2.11$) than in the rejecter condition ($M = 2.43$, $SD = 1.30$; $t(109) = 4.93$, $p < .001$).

Affirmation Manipulation. Immediately after the rejection manipulation, participants were given either a self-affirmation exercise or control task (Appendix U). In the self-affirmation condition, participants filled out a pencil and paper value-ranking scale, in which they were asked to rank order a list of 14 values in terms of personal importance, such as *a sense of accomplishment (lasting contribution)* and

⁶ In Study 2, the break-up scenarios were written in a manner that suggested that the relationship was in-town. In Study 3, I asked participants whether their relationship was in-town or long-distance, and participants who were in a long-distance relationship were given a slightly altered version of the break-up scenario. The altered scenarios were identical to the original ones, with the exception of the participant/partner asking to visit on the weekend instead of coming over the night of the phone call.

equality/brotherhood (equal opportunity for all), adapted from Rokeach's (1968) value survey. A large body of research shows that thinking about one's personal values is a self-affirming exercise (see Steele, 1988). However, I thought that some of the items on Rokeach's original scale, such as *mature love (sexual and spiritual intimacy)* and *true friendship (close companionship)*, would not have an affirming effect on participants who had just imagined the end of their romantic relationship. Thus, these items were removed. In the control condition, participants filled out a colour-ranking scale, in which they rank ordered a list of 14 colours in terms of how much they liked them. Because colour preference is not likely to be an important part of one's self-concept, this task was not expected to have an affirming effect.

Self-Report Measures. Immediately after the affirmation manipulation, participants completed the self-evaluation questionnaire (Cronbach's $\alpha = .95$), the PANAS (Cronbach's $\alpha = .92$), and the State Self-Esteem Scale (Cronbach's $\alpha = .93$), as described in Study 2. Inter-item reliabilities for the Performance, Social, and Appearance State Esteem Scales were again lower than that of the broader scale, but were respectable (Cronbach's $\alpha = .86, .83, .87$, respectively). Finally, participants were asked to type any thoughts that they were having or remembered having during the experiment. They were debriefed in writing (see Appendix V) and thanked for their time.

Results

Test of Hypothesis 1 (Studies 2a and 2b)

The results presented in this section were obtained by combining the self-report data from Study 2a and Study 2b (see Appendix W for a list of re-calculations of relevant descriptive statistics and reliability coefficients for the combined sample). These analyses were conducted to test the hypothesis that people with low self-esteem would evaluate themselves more negatively in a general sense, rate themselves higher on failure, report more negative mood, and experience lower state self-esteem after imagining the romantic rejected scenario than after imagining themselves ending the relationship, while participants who were high in self-esteem were not expected to differ on these measures as a function of rejection condition. See Table 5 for the mean scores of self-esteem and the criterion variables.

Table 5

Descriptive Statistics for Self-Esteem and Study 2 Criterion Variables

<u>Variable</u>	<u>Mean</u>	<u>Standard Deviation</u>
Self-Esteem	5.57	1.01
Self-Evaluation	5.54	0.93
Failure	2.41	1.02
Mood	4.24	1.12
State Self-Esteem	3.55	0.64
Performance	3.58	0.72
Social	3.61	0.76
Appearance	3.45	0.77

Each of the self-report measures (self-evaluation, single failure item, mood, state self-esteem, and the state self-esteem subscales) acted as the criterion variable in a series of simultaneous multiple regression, with self-esteem, rejection condition (rejected or rejecter), and sample (Study 2a or Study 2b) entered as predictor variables. The cross-product of self-esteem and rejection condition, of self-esteem and sample, and of rejection condition and sample were also entered as interaction terms, along with the 3-way cross-product of the predictor variables. Effect coding was used for rejection condition (-1 = rejecter, +1 = rejected) and sample (-1 = Study 2a, +1 = Study 2b), and self-esteem was centered prior to the regression analysis, as recommended by Aiken and West (1991).

The analyses just described were also run entering gender (-1 = male, +1 = female) and its interactions with the other predictor variables. Despite the larger number of males in this study ($n = 51$), women still outnumbered men nearly threefold. Perhaps as a result, the effect of gender and its interaction with other variables was generally weak, although a non-significant trend toward a three-way interaction between gender, self-esteem, and rejection condition emerged for most of the criterion variables, with men being less likely than women to differ in their responses as a function of self-esteem, rejection condition, or the combination of self-esteem and rejection condition. Thus, the regression analyses reported below do not include gender as a variable unless it emerged as a statistically significant predictor or interacted significantly with another predictor variable.⁷

⁷ These analyses were also conducted for the Study 2a and 2b samples separately. See Appendix X for the results.

Self-Evaluation. Although there was a main effect of sample, such that people in Study 2b evaluated themselves less positively than did those in Study 2a ($B = -1.72$; $t(183) = 2.99$, $p = .003$), sample did not interact with any of the other predictor variables. Thus, it is reasonable to interpret results for the combined sample. Self-esteem was positively related to self-evaluation ($B = 0.47$; $t(183) = 8.21$, $p < .001$). People who were lower in self-esteem evaluated themselves more negatively following the imagined break-up than did those with higher self-esteem. Rejection condition was not related to self-evaluation ($B = -0.01$; $t(183) = 0.25$, $p = .80$). Importantly, as predicted, there was also an interaction between self-esteem and rejection condition ($B = 0.15$; $t(183) = 2.67$, $p = .008$).

The meaning of this interaction was assessed further by regressing rejection condition on self-evaluation at medium (mean self-esteem score of the sample), low (mean self-esteem minus one standard deviation), and high (mean self-esteem plus one standard deviation) levels of self-esteem. Rejection condition was negatively related to self-evaluation for people who were low in self-esteem ($B = -0.17$; $t(182) = 2.04$, $p = .04$). Conversely, the relationship between rejection condition and self-evaluation was not significant for those who were moderate ($B = -0.024$; $t(182) = 0.42$, $p = .67$) or high in self-esteem ($B = 0.12$; $t(182) = 1.51$, $p = .13$). This interaction suggests that, for people with low self-esteem, imagining a partner ending a romantic relationship leads to a less positive self-evaluation than does imagining the self ending the relationship. On the other hand, romantic rejection does not seem to influence post-break-up self-evaluation for people who are moderate to high in self-esteem. See Figure 2 for a graphical

representation of self-evaluation as a function of self-esteem level and rejection condition.

Failure. There was no main effect of sample, nor did it interact with any of the other predictor variables. Thus, it is reasonable to interpret results for the combined sample. Self-esteem was negatively related to failure ($B = -0.51$; $t(175) = 3.95$, $p < .001$). People who were lower in self-esteem evaluated themselves as greater failures following the imagined break-up than did those with higher self-esteem. Rejection condition was not related to failure evaluation ($B = -0.11$; $t(175) = 0.78$, $p = .43$). Moreover, the interaction between self-esteem and rejection condition was not statistically significant ($B = -0.03$; $t(175) = 0.21$, $p = .83$). However, there was a significant three-way interaction between self-esteem, rejection condition, and gender ($B = -0.25$; $t(175) = 1.97$, $p = .05$). The meaning of this interaction was assessed further by running the analyses separately for men and women.

For women, there was an interaction between self-esteem and rejection condition ($B = -0.23$; $t(136) = 3.06$, $p < .005$). For men, however, the interaction between self-esteem and rejection condition was not statistically significant ($B = 0.28$; $t(48) = 1.22$, $p = .16$). Thus, rejection condition was regressed on failure at medium (mean self-esteem score of the sample), low (mean self-esteem minus one standard deviation), and high (mean self-esteem plus one standard deviation) levels of self-esteem for women only. As predicted, rejection condition was positively related to failure rating for women who were low in self-esteem ($B = 0.19$; $t(135) = 1.91$, $p = .06$). On the other hand, for women who were high in self-esteem, rejection condition was *negatively* related to failure rating ($B = -0.26$; $t(135) = 2.43$, $p = .02$). For women who were moderate in self-esteem, there was

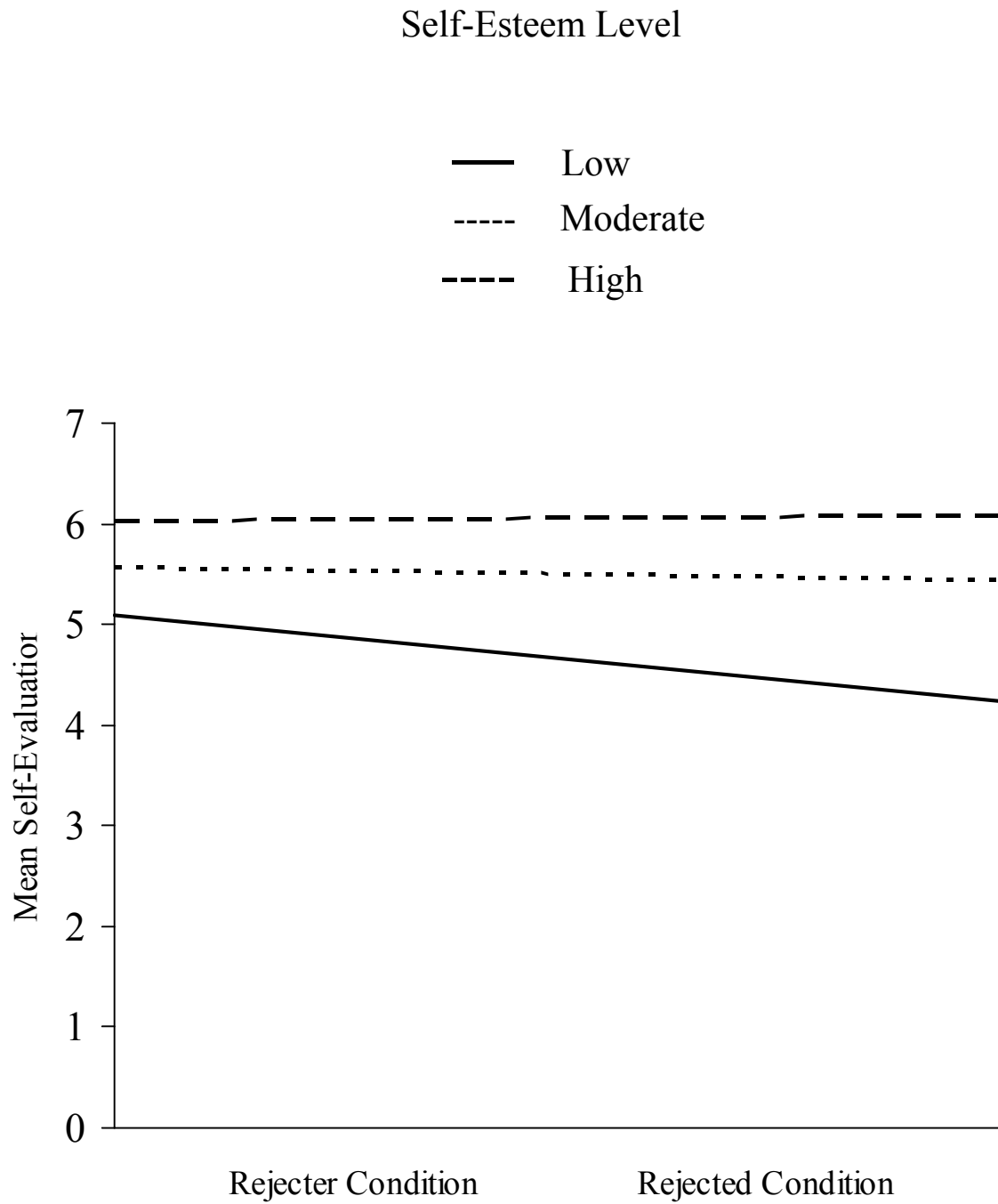


Figure 2. Study 2: Relationship between self-evaluation and rejection condition as a function of self-esteem level.

no relationship between rejection condition and failure rating ($B = -0.03$; $t(135) = 0.46$, $p = .64$). This interaction suggests that, for women with low self-esteem, imagining a partner ending a relationship leads to an increase in the perception of the self as a failure. Conversely, women who were high in self-esteem showed the opposite effect: imagining a partner ending a romantic relationship led to a *decrease* in their tendency to evaluate themselves as failures. See Figure 3 for a graphical representation of women's failure ratings as a function of self-esteem level and rejection condition.

Mood. There was a main effect of sample, such that people in Study 2a were in better moods than were those in Study 2b ($B = -0.36$; $t(175) = 2.06$, $p = .01$). There was also a marginally significant interaction between sample and gender ($B = 0.32$; $t(175) = 1.84$, $p = .07$). However, this interaction cannot be considered to be meaningful given that there were only 10 men in Study 2a. Thus, it is reasonable to interpret results for the combined sample.

Self-esteem was not related to mood ($B = 0.26$; $t(175) = 1.58$, $p < .12$), nor was rejection condition ($B = -0.17$; $t(175) = 0.99$, $p = .33$). However, there was an interaction between self-esteem and rejection condition ($B = 0.36$; $t(175) = 2.20$, $p = .03$). The meaning of this interaction was assessed further by regressing rejection condition on mood at medium (mean self-esteem score of the sample), low (mean self-esteem minus one standard deviation), and high (mean self-esteem plus one standard deviation) levels of self-esteem. Rejection condition was negatively related to mood for people who were low ($B = -0.27$; $t(182) = 2.40$, $p = .02$) and moderate in self-esteem ($B = -0.16$; $t(182) = 1.96$, $p = .05$). The relationship between rejection condition and mood was not significant

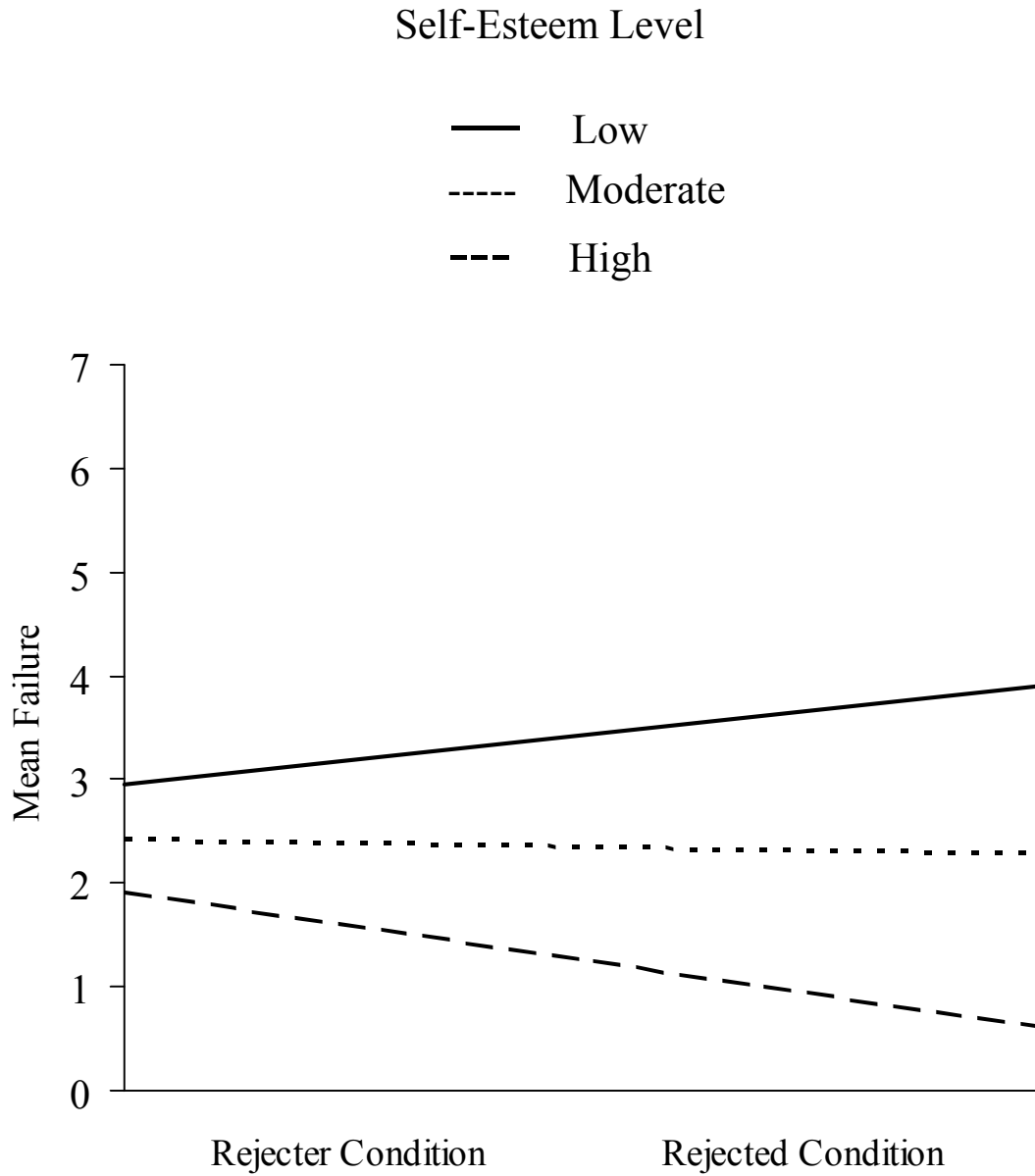


Figure 3. Study 2: Relationship between failure rating and rejection condition as a function of self-esteem level (women only).

for those who were high in self-esteem ($B = -0.004$; $t(182) = 0.32$, $p = .75$). This interaction suggests that, for people with low to moderate self-esteem, imagining a partner ending a relationship leads to a more negative mood than does imagining the self ending the relationship. On the other hand, romantic rejection does not seem to influence post-break-up mood for people who are high in self-esteem. See Figure 4 for a graphical representation of mood as a function of self-esteem level and rejection condition.

There was also a marginal three-way interaction between self-esteem, rejection condition, and gender ($B = -0.29$; $t(175) = 1.78$, $p = .08$). The meaning of this interaction was assessed further by running the analyses separately for men and women. The interaction between self-esteem and rejection condition was not statistically significant for women ($B = 0.07$; $t(135) = 0.72$, $p = .47$) or for men ($B = 0.25$; $t(47) = 1.48$, $p = .15$), so this marginal interaction will not be discussed further.

State Self-Esteem. Sample did not have a significant effect on state self-esteem (or any of the state self-esteem subscales), nor did it interact with any of the other predictor variables. Thus, it is reasonable to interpret results for the combined sample. Self-esteem was positively related to state self-esteem ($B = 0.36$; $t(183) = 9.62$, $p < .001$). People who were lower in self-esteem reported lower state self-esteem following the imagined break-up than did those with higher self-esteem. Rejection condition was not significantly related to state self-esteem ($B = -0.06$; $t(183) = 1.99$, $p = .10$). However, as predicted, there was an interaction between self-esteem and rejection condition ($B = 0.09$; $t(183) = 2.49$, $p = .01$).

The meaning of this interaction was assessed further by regressing rejection condition on state self-esteem at medium (mean self-esteem score of the sample), low

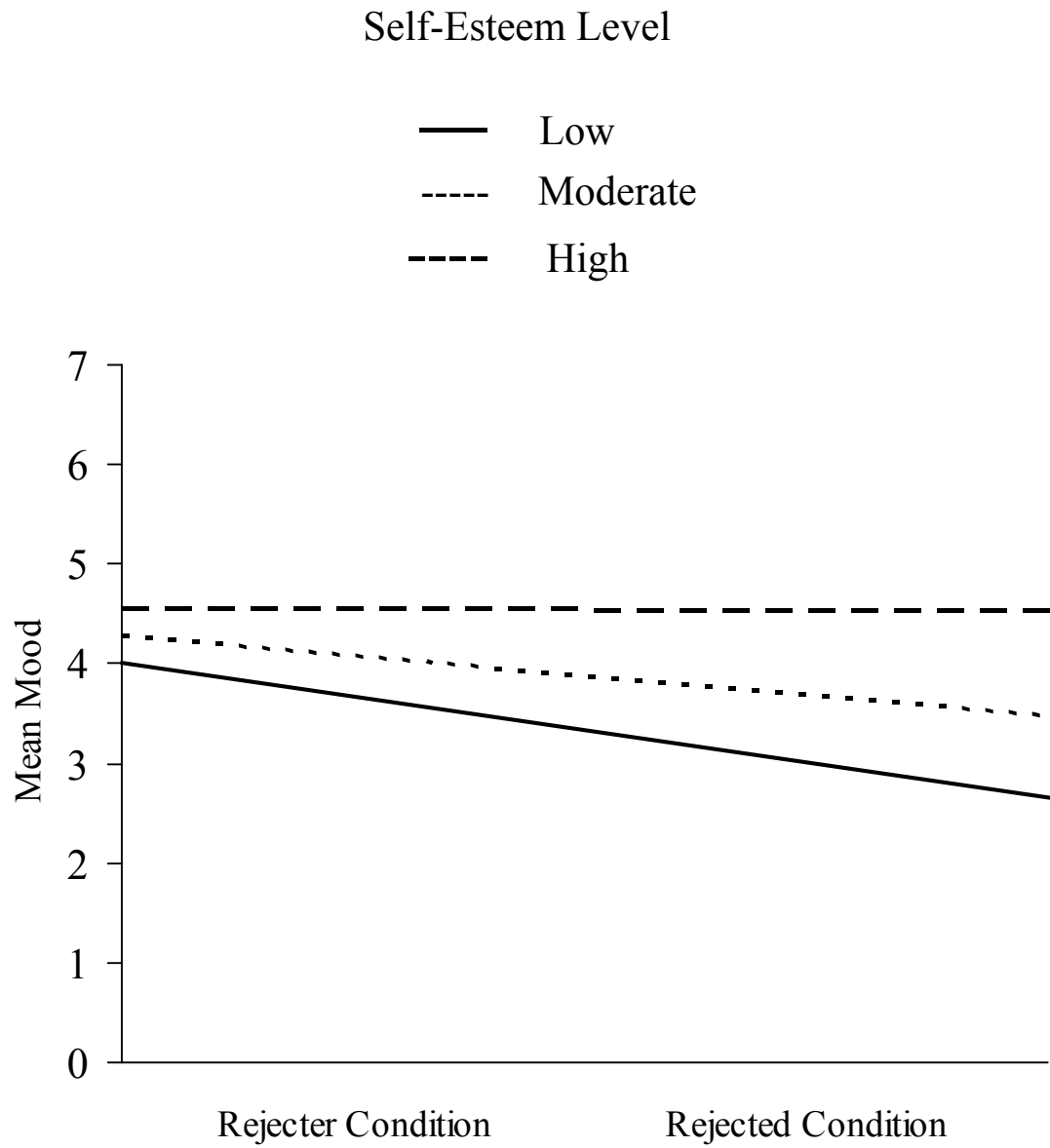


Figure 4. Study 2: Relationship between mood and rejection condition as a function of self-esteem level.

(mean self-esteem minus one standard deviation), and high (mean self-esteem plus one standard deviation) levels of self-esteem. Rejection condition was negatively related to state self-esteem for people who were low in self-esteem ($B = -0.16$; $t(182) = 3.02$, $p = .003$) and marginally but negatively related to state self-esteem for those who were moderate ($B = -0.07$; $t(182) = 1.78$, $p = .08$). The relationship between rejection condition and state self-esteem was not significant for those who were high in self-esteem ($B = 0.03$; $t(182) = 0.58$, $p = .56$). This interaction suggests that, for people with low to moderate self-esteem, imagining a partner ending a romantic relationship leads to lower state self-esteem than does imagining the self ending the relationship. On the other hand, romantic rejection does not seem to influence post-break-up state self-esteem for people who are high in self-esteem. See Figure 5 for a graphical representation of state self-esteem as a function of self-esteem level and rejection condition.

Because I was interested in assessing which facets of state self-esteem were most strongly affected by the rejection manipulation, I proceeded to analyze the results for each of the State Self-Esteem Scale subscales: performance, social, and appearance.

Performance State Self-Esteem. Self-esteem was positively related to performance state self-esteem ($B = 0.33$; $t(183) = 6.99$, $p < .001$). People who were lower in self-esteem reported lower performance state self-esteem following the imagined break-up than did those with higher self-esteem. Rejection condition was not significantly related to performance state self-esteem ($B = -0.05$; $t(183) = 1.12$, $p = .26$). Finally, the interaction between self-esteem and rejection condition was not statistically significant ($B = 0.06$; $t(183) = 1.37$, $p = .17$). Thus, performance state self-esteem was not markedly lower among participants in the rejection condition at any level of self-esteem.

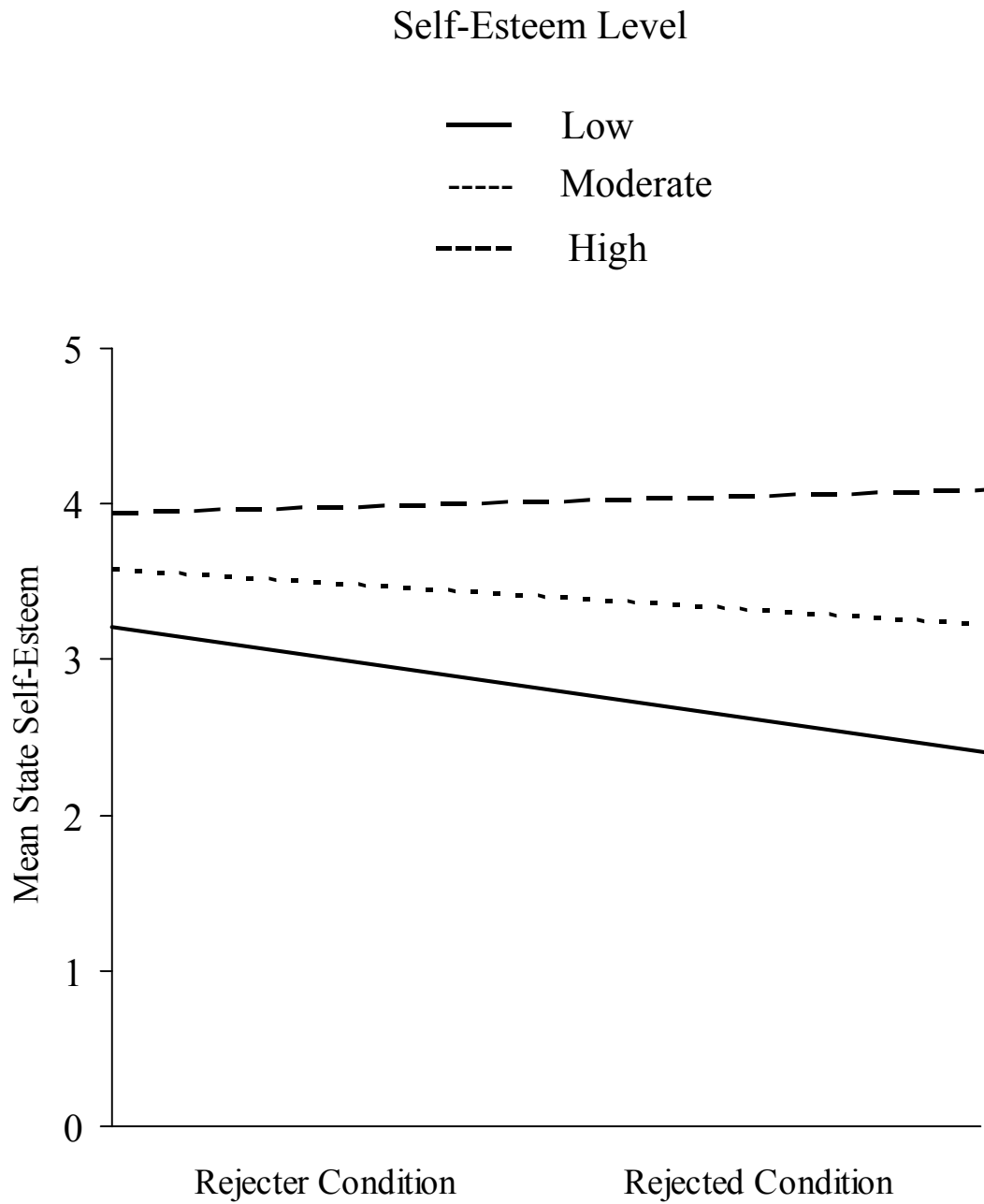


Figure 5. Study 2: Relationship between state self-esteem and rejection condition as a function of self-esteem level.

Social State Self-Esteem. Self-esteem was positively related to social state self-esteem ($B = 0.37$; $t(183) = 7.95$, $p < .001$). People who were lower in self-esteem reported lower social state self-esteem following the imagined break-up than did those with higher self-esteem. Furthermore, rejection condition was negatively related to social state self-esteem ($B = -0.11$; $t(183) = 2.31$, $p = .02$). Participants who were in the rejected condition reported lower social state self-esteem than did those who were in the rejecter condition. Finally, there was an interaction between self-esteem and rejection condition ($B = 0.13$; $t(183) = 2.86$, $p = .005$).

The meaning of this interaction was assessed further by regressing rejection condition on social state self-esteem at medium (mean self-esteem score of the sample), low (mean self-esteem minus one standard deviation), and high (mean self-esteem plus one standard deviation) levels of self-esteem. Rejection condition was negatively related to social state self-esteem for people who were low ($B = -0.25$; $t(182) = 3.75$, $p < .001$) or moderate ($B = -0.11$; $t(182) = 2.48$, $p = .01$) in self-esteem. The relationship between rejection condition and social state self-esteem was not significant for those who were high in self-esteem ($B = 0.02$; $t(182) = 0.34$, $p = .73$). This interaction suggests that, for people with low to moderate self-esteem, imagining a partner ending a romantic relationship leads to lower social state self-esteem than does imagining the self ending the relationship. On the other hand, romantic rejection does not seem to influence post-break-up social state self-esteem for people who are high in self-esteem. See Figure 6 for a graphical representation of social state self-esteem as a function of self-esteem level and rejection condition.

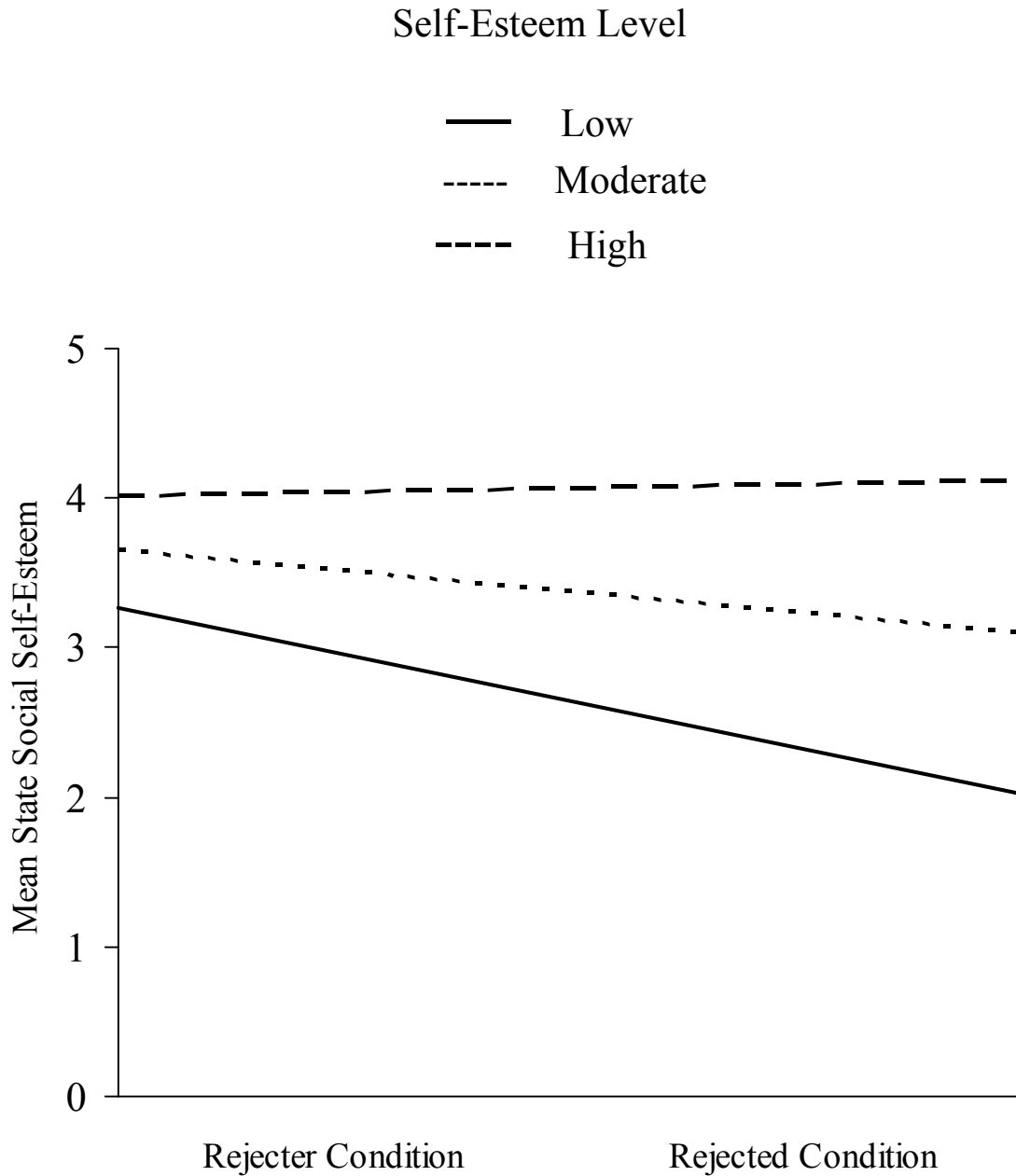


Figure 6. Study 2: Relationship between state social self-esteem and rejection condition as a function of self-esteem level.

Appearance State Self-Esteem. Self-esteem was positively related to appearance state self-esteem ($B = 0.39$; $t(183) = 8.16$, $p < .001$). People who were lower in self-esteem reported lower appearance state self-esteem following the imagined break-up than did those with higher self-esteem. Rejection condition was not significantly related to appearance state self-esteem ($B = -0.02$; $t(183) = 0.45$, $p = .65$). However, there was a marginally significant interaction between self-esteem and rejection condition ($B = 0.08$; $t(183) = 1.73$, $p = .09$).

The meaning of this interaction was assessed further by regressing rejection condition on appearance state self-esteem at medium (mean self-esteem score of the sample), low (mean self-esteem minus one standard deviation), and high (mean self-esteem plus one standard deviation) levels of self-esteem. Rejection condition was marginally negatively related to appearance state self-esteem for people who were low in self-esteem ($B = -0.12$; $t(182) = 1.68$, $p = .09$). The relationship between rejection condition and appearance state self-esteem was not significant for those who were moderate ($B = -0.03$; $t(182) = 0.66$, $p = .51$) or high ($B = 0.05$; $t(182) = 0.80$, $p = .43$) in self-esteem. This interaction suggests that, for people with low self-esteem, imagining a partner ending a romantic relationship leads to somewhat lower appearance state self-esteem than does imagining the self ending the relationship. On the other hand, romantic rejection does not seem to influence post-break-up appearance state self-esteem for people who are moderate or high in self-esteem. See Figure 7 for a graphical representation of appearance state self-esteem as a function of self-esteem level and rejection condition.

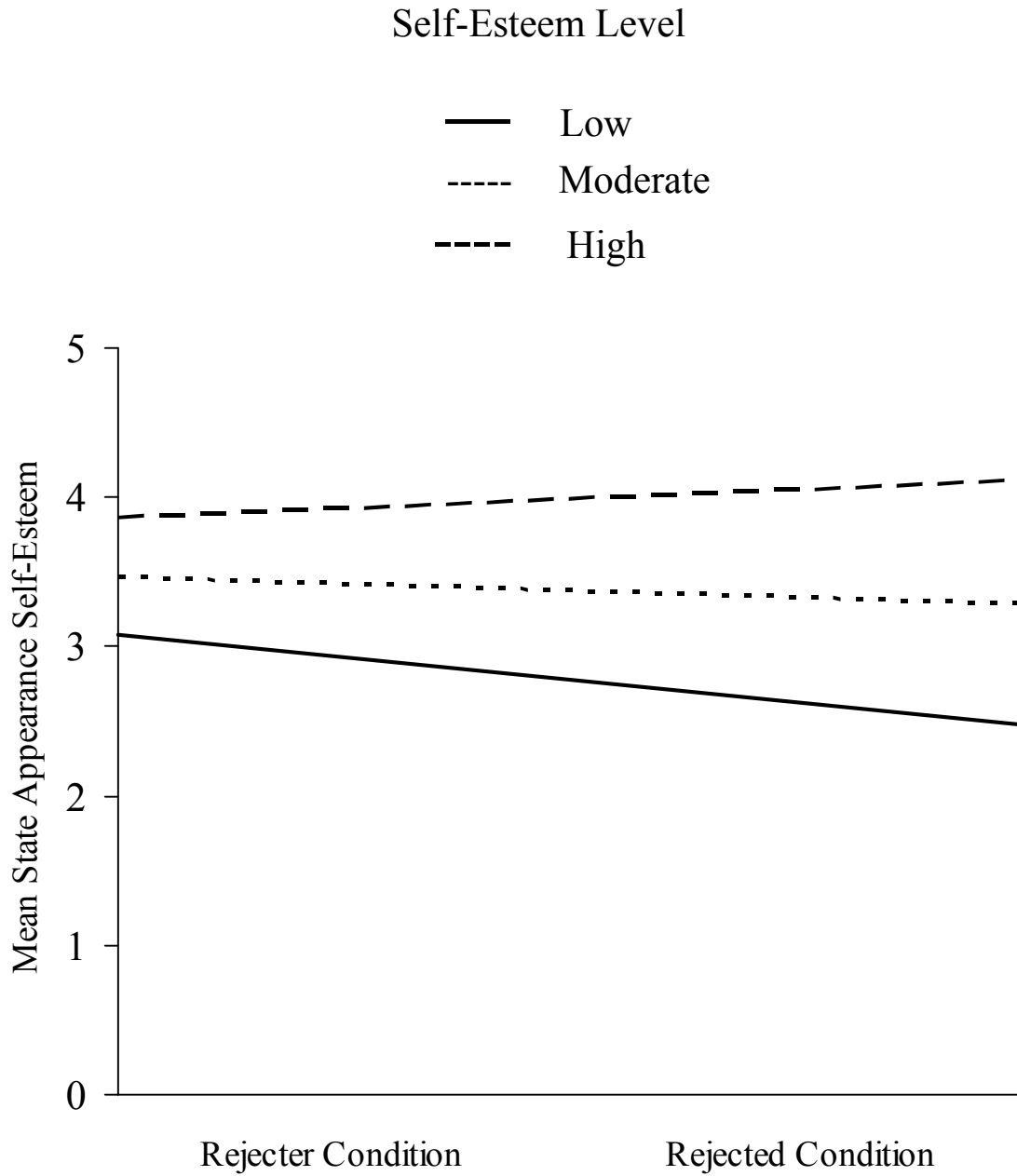


Figure 7. Study 2: Relationship between state appearance self-esteem and rejection condition as a function of self-esteem level.

Summary. This concludes the results that I will report for the combined sample from Studies 2a and 2b. As predicted, participants with low self-esteem evaluated themselves more negatively in a general sense, perceived themselves as greater failures, and reported lower state self-esteem in all dimensions than did participants with high self-esteem. Rejection condition did not predict participants' broad self-evaluation, failure perception, mood, or state self-esteem, with the exception of social state self-esteem, which was lower in participants who had imagined their romantic partner ending their relationship than in those who had imagined themselves ending the relationship.

Moreover, the effect of rejection condition differed as a function of trait self-esteem. As predicted, participants with low self-esteem evaluated themselves more negatively in a broad sense, experienced more negative mood, and reported lower state self-esteem after imagining their partner ending their relationship than after imagining themselves ending it. The effect of rejection condition on state self-esteem for low self-esteem individuals was driven by the social and, to some extent, appearance-based aspects of state self-esteem. For women with low self-esteem, rejection condition also had an effect on failure perception; those who imagined being rejected evaluated themselves as greater failures than did those who imagined themselves rejecting their partner. Participants with high self-esteem, on the other hand, did not differ in broad self-evaluation, mood, or state self-esteem as a function of rejection condition. Interestingly, women with high self-esteem actually rated themselves as *lower* on failure after imagining their partner ending the relationship than after imagining themselves initiating the break-up. Taken together, these results support the notion that romantic rejection has

a markedly negative effect on individuals with low self-esteem, whereas individuals with high self-esteem are rather immune to these negative effects.

Test of Hypothesis 2 (Study 2a only)

This section will describe the results designed to test the hypothesis that people with low self-esteem would respond more quickly to failure (relative to success) words during the lexical decision task after imagining the rejected scenario than after imagining themselves ending their relationship. People with high self-esteem were not expected to differ in their reaction times to failure (relative to success) words as a function of rejection condition.

Word trials during which participants made an error (i.e., incorrectly identified a word as a non-word) were excluded from analyses. In addition, response latencies greater than 2 seconds or less than 300 milliseconds, which are likely to be the result of inattention, lack of familiarity with the word, or indiscriminant responding, were treated as errors and were similarly excluded from analyses. As discussed by Fazio (1990, cited in Baldwin & Sinclair, 1996), this approach to dealing with skewed response latencies achieves a similar result as transforming the data to reduce the skew. In addition, the data that emerge from this approach are more immediately interpretable than are response latency data that have been transformed. After excluding the errors, the skewness statistic of the response latencies fell within acceptable limits (0 to +3) for all but two words, both of which had skewness values of less than 3.20.

Results were analyzed with a 2 (self-esteem: high or low) X 2 (rejection condition: rejected or rejecter) X 2 (word category: failure or success) repeated measures ANOVA, with mean reaction time acting as the dependent variable. Median-split self-

esteem (0 = low, 1 = high) and rejection condition (0 = rejecter, 1 = rejected) were between-subjects factors, while word category was a within-subjects factor. Because there were only 10 men in the Study 2a sample, gender effects were not examined for the lexical decision data.

There was a main effect of word category on reaction time ($F(1,73) = 17.42, p < .001$). Overall, participants categorized the success words ($M = 720.99, SD = 130.50$) more quickly than they categorized the failure words ($M = 756.27, SD = 137.16$). There was also an interaction between rejection condition and word category ($F(1,73) = 4.90, p = .03$). However, there was no interaction between self-esteem and word category ($F(1,73) = 0.31, p = .58$), or between self-esteem, rejection condition, and word category ($F(1,73) = 0.03, p = .86$).

The meaning of the word category by rejection condition interaction was assessed further by running a paired samples t-test comparing reaction time to failure words and reaction time to success words in each of the rejection conditions. In the rejecter condition, participants categorized success words ($M = 701.15, SD = 130.12$) more quickly than they categorized failure words ($M = 757.19, SD = 159.19; t(35) = 4.09, p < .001$). However, in the rejected condition, participants were not significantly faster at categorizing the success ($M = 737.53, SD = 130.04$) as compared to the failure words ($M = 755.50, SD = 116.96; t(41) = 1.63, p = .11$). This finding suggests that the bias toward success-related words that was evidenced in the rejecter condition was dampened in the rejected condition. It appears that success-related concepts became less accessible to participants after imagining themselves being rejected.

Summary. The results of the lexical decision task did not support Hypothesis 2. People with low self-esteem did not differ from those with high self-esteem in terms of their response time to failure (relative to success) words as a function of rejection condition. Participants did recognize success words more quickly than they recognized failure words overall, which is consistent with previous literature showing that people have a tendency to categorize positive words more quickly than neutral or negative words during lexical decision tasks (Baldwin & Sinclair, 1996). However, this bias toward success words disappeared in the rejected condition, most likely because imagining being rejected made the concept of success less accessible.

Test of Hypothesis 3 (Study 2b only)

This section will describe the results designed to test the hypotheses that the broad self-evaluation, failure ratings, mood, and state self-esteem of people who were high in self-esteem would remain constant across affirmation conditions, regardless of rejection condition, whereas people who were low in self-esteem would show a more positive general self-evaluation, higher failure ratings, better mood, and higher state self-esteem in the self-affirmation condition than in the no-affirmation condition, especially after receiving the rejected scenario.

Each of the self-report measures (self-evaluation, single failure item, mood, state self-esteem, and the state self-esteem subscales) was analyzed using a simultaneous multiple regression with self-esteem, rejection condition (rejected or rejecter), and affirmation condition (affirmation or control) entered as predictor variables, and the self-report measure acting as the criterion variable. Effect coding was used for rejection condition (-1 = rejecter, +1 = rejected) and affirmation condition (-1 = control, +1 =

affirmation) and self-esteem was centered prior to the regression analysis, as recommended by Aiken and West (1991). The cross-products of self-esteem and affirmation condition, of self-esteem and rejection condition, and of affirmation condition and rejection condition were entered as interaction terms, along with the three-way product of the predictor variables. Because the effects of self-esteem, rejection condition, and the interaction between these two variables were already reported for the combined sample, I will not re-report these findings.

The analyses just described were also run entering gender (-1 = male, +1 = female) and its interaction with the other predictor variables. However, gender did not have an effect on any of the criterion variables, nor did it interact with any of the other predictor variables. Thus, the regression analyses reported below do not include gender as a variable.

Self-Evaluation. Affirmation condition was positively related to self-evaluation ($B = 0.20$; $t(100) = 2.49$, $p = .01$). Participants who received the self-affirmation exercise evaluated themselves more positively than did those who received the control exercise. However, affirmation condition did not interact with self-esteem ($B = -0.08$; $t(100) = 1.02$, $p = .31$) or rejection condition ($B = -0.06$; $t(100) = 0.75$, $p = .45$), nor was the predicted three-way interaction significant ($B = -0.02$; $t(100) = 0.25$, $p = .80$).

Failure. Affirmation condition was not related to failure rating ($B = -0.04$; $t(100) = 0.36$, $p = .72$). Furthermore, affirmation condition did not interact with self-esteem ($B = 0.03$; $t(100) = 0.27$, $p = .79$) or rejection condition ($B = 0.11$; $t(100) = 1.16$, $p = .25$), nor was the predicted three-way interaction significant ($B = -0.15$; $t(100) = 1.53$, $p = .13$).

Mood. Affirmation condition was positively related to mood ($B = 0.39$; $t(100) = 3.72$, $p < .001$). Participants who received the self-affirmation exercise were in a better mood than were those who received the control exercise. Affirmation condition did not interact with self-esteem ($B = 0.01$; $t(100) = 0.10$, $p = .92$), but there was an interaction between affirmation condition and rejection condition ($B = -0.22$; $t(100) = 2.07$, $p = .04$). The predicted three-way interaction was not significant ($B = -0.01$; $t(100) = 0.10$, $p = .92$).

The meaning of the affirmation condition by rejection condition interaction was assessed further by regressing affirmation condition on mood at each of the rejecter and rejected conditions. Affirmation condition was positively related to mood for participants in the rejecter condition ($B = 0.54$; $t(99) = 3.25$, $p < .005$). However, the relationship between affirmation condition and mood was not significant for participants in the rejected condition ($B = 0.12$; $t(99) = 0.89$, $p = .37$). This interaction suggests that, among participants who imagined breaking up with their partners, those who completed the self-affirmation exercise were in a better mood than were participants who completed the control exercise. However, among participants who imagined being rejected by their partners, the self-affirmation task had no effect on mood. See Figure 8 for a graphical representation of mood as a function of affirmation condition and rejection condition.

State Self-Esteem. Affirmation condition was not related to state self-esteem ($B = 0.01$; $t(100) = 0.30$, $p = .77$). Furthermore, affirmation condition did not interact with self-esteem ($B = -0.05$; $t(100) = 1.00$, $p = .32$) or rejection condition ($B = -0.07$; $t(100) = 1.51$, $p = .14$), nor was the predicted three-way interaction significant ($B = 0.05$; $t(100) = 0.97$, $p = .34$). Because there were no significant effects of affirmation or its interactions

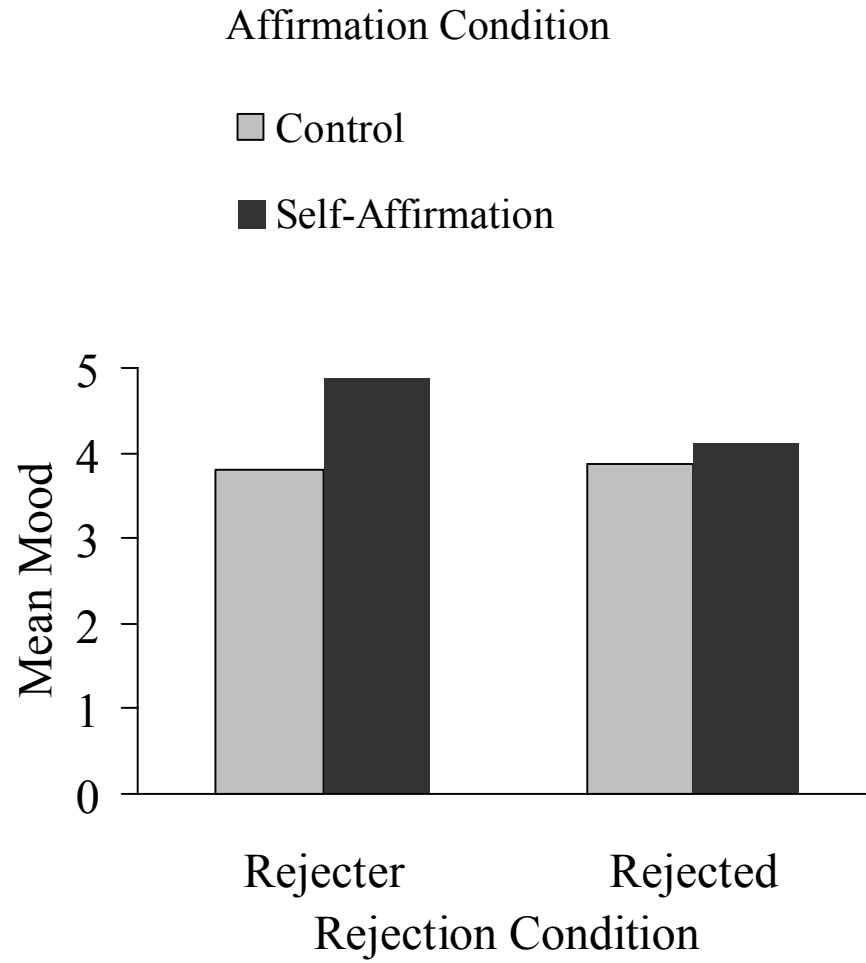


Figure 8. Study 2b: Mean mood as a function of rejection condition and affirmation condition

with the other predictor variables, the state self-esteem subscales were not examined.

Summary. Results did not support Hypothesis 3. There were no differences in the effect of self-affirmation on any of the outcome variables as a function of self-esteem. Overall, self-affirmation had a positive effect on participants' global self-evaluations, whereas failure ratings and state self-esteem were unaffected. Self-affirmation had a positive effect on mood in the rejecter condition only. Thus, the self-affirmation exercise was not successful in attenuating the negative effects of rejection on individuals with low self-esteem.

Discussion

Results of Study 2 showed that state social self-esteem was lower in participants who had imagined their romantic partner ending their relationship than in those who had imagined themselves ending the relationship. However, rejection condition was not predictive of participants' broad self-evaluation, failure perception, mood, or other facets of state self-esteem. These results generally are not consistent with the Study 1 findings of greater break-up specific distress and more negative mood in people who did not initiate the end of their romantic relationships. They also stand in contrast with the results of various naturalistic studies that found greater distress among individuals whose partners chose to end their romantic relationships (Davis et al., 2003; Goode, 1956; Helgeson, 1994; Pettit & Bloom, 1984; Sprecher, 1994; Sprecher et al., 1998), and with various experimental findings showing that rejection leads to emotional distress, negative self-evaluation, and decreased state self-esteem (Bourgeois & Leary, 2001; Buckley et al., 2004; Craighead et al., 1979; Leary et al., 2001; Leary et al., 1998). The results of Study 2 do, however, concur with the findings of various other naturalistic studies in

which initiator status did not predict distress (Kincaid & Caldwell, 1991; Newman & Langer, 1981; Sbarra, 2006; Simpson, 1990; Tashiro & Frazier, 2003), and with experimental findings showing inconsistent effects of social exclusion on mood (Baumeister et al., 2005; Twenge et al., 2002, 2003).

The inconsistency in results between Studies 1 and 2 is puzzling, but mirrors the confused state of the literature on the effects of initiator status and interpersonal rejection on distress as a whole. I propose that the reason behind the mixed findings is as follows: Overall, being rejected at the end of a romantic relationship tends to lead to marginally greater distress and self-criticism, as would be predicted by sociometer theory, which posits that people have evolved to respond to relational devaluation with an aversive emotional response (Leary et al., 1995). However, the difference between the amount of distress and self-criticism experienced by a non-initiator and an initiator, who also must cope with the loss of a significant relationship, may be small enough that it is not detected consistently across different research designs. Initiator status and rejection might, however, consistently predict distress for individuals with particular dispositions that make them vulnerable to the negative effects of rejection.

Study 2 results provide further evidence that low self-esteem is one such disposition. Results show that participants with low self-esteem evaluated themselves more negatively overall, perceived themselves as greater failures, and reported lower state self-esteem in all dimensions than did participants with high self-esteem. These results were expected and are probably most parsimoniously explained by chronic differences in state self-esteem and self-evaluation between individuals with low versus high self-esteem (Brown, 1993; Heatherton & Polivy, 1991), rather than as an effect of

the rejection manipulation. More importantly, my results also provide evidence for the predicted interaction between trait self-esteem and rejection condition, such that imagining being rejected by a real-life partner had more pronounced negative effects on individuals with lower self-esteem than did imagining the self ending the relationship. These negative effects consisted of harsher self-evaluation, more negative mood, lower state self-esteem (especially social esteem) and, for women, a greater perception of the self as having failed. In contrast, individuals with high self-esteem who imagined being romantically rejected did not appear to suffer any negative effects in terms of self-evaluation, mood, or state self-esteem beyond those associated with imagining being the one to end the relationship. If anything, women with high self-esteem might have a tendency to respond to romantic rejection with an increase in positive thinking about some aspects of the self, as evidenced by their lower failure ratings in the rejected condition.

My finding of a trait self-esteem difference in self-evaluative and emotional responses to romantic rejection replicates prior laboratory experiments (Nezlek et al., 1997; Sommer & Baumeister, 2002) and adds to the growing body of evidence showing that interpersonal rejection might not be as universally distressing as has traditionally been assumed. For people with lower self-esteem, being rejected by a partner does seem to add an additional sting to the experience of a romantic break-up. Not only do they experience a greater decrement in state self-esteem and in mood, they become more self-critical, devaluing themselves across a wide range of general descriptors. This across-the-board devaluation suggests that people with low self-esteem indeed tend to respond to interpersonal rejection by deeming themselves to be of low worth in general, regardless

of whatever past successes or positive qualities they may possess (e.g., "I've been dumped – I must be a worthless person").

This tendency is consistent with prior research showing that people with low self-esteem respond to challenges to their self-worth within a particular domain by making negative, global, internal attributions, blaming themselves and assessing themselves as unworthy in a general sense (e.g., Brown & Smart, 1991; Epstein, 1992; Fitch, 1970; Kernis et al., 1989; Tennen & Herzberger, 1987). It is possible that individuals with low self-esteem make these kinds of attributions because their self-concepts are less clear and stable than those of individuals with high self-esteem (Campbell & Lavellee, 1993), making it more difficult for them to access a full range of self-relevant information when processing the implications of a specific threat to their self-worth. From the perspective of sociometer theory (Leary et al., 1995), another possibility is that people with low self-esteem experience a distressing reaction to romantic rejection because they are highly sensitized to indicators of relational devaluation. Having a history of repeated negative interpersonal feedback, the resting point of their sociometer probably hovers just above the minimally acceptable threshold of relational value, resulting in the activation of an internal alarm system of sorts in response to any threat of interpersonal rejection. Rejection at the hands of a serious romantic partner, which is arguably the most consequential of all possible rejections, would certainly suffice to set off the alarm response in any sensitively-calibrated sociometer system.

People with higher self-esteem, on the other hand, displayed their characteristic immunity to the negative effects of a threat to self-worth on their self-evaluation, mood, and state self-esteem. Their tendency to make external attributions for such events is

well-documented (e.g., Baumeister et al., 1989; Cohen et al., 1989; Kuipner, 1978; Zautra et al., 1985), and could easily apply to the realm of romantic rejection (e.g., "He broke up with me because he needed space, not because I am a bad person"). Equipped with clearer, more stable self-concepts, individuals with high self-esteem may find it much easier to make this kind of attribution than do individuals with lower self-esteem because they have automatic access to positive self-relevant information that can be used as evidence for their self-worth. Viewed through the lens of sociometer theory, the apparent lack of responsiveness to romantic rejection in individuals with high self-esteem also makes sense. Because they have a history of relatively positive interpersonal feedback, their sociometers are probably calibrated at a resting point that is well above the threshold of minimally acceptable relational value. As a result, even the substantial dip in sociometer that would be associated with the perception of a romantic rejection would not trigger an alarm response in people with high self-esteem. They have accumulated sufficient evidence of interpersonal acceptance such that it outweighs the significance of the romantic rejection.

Interestingly, both the current research and Sommer and Baumeister (2002) have produced evidence that people with high self-esteem (women only in this research) might actually respond to interpersonal rejection by bolstering their self-view in some domains. This observation suggests a defensive response of sorts, in which people with high self-esteem are strongly motivated to protect their self-concepts from damage by artificially inflating their self-worth despite the potential costs associated with loss of accuracy in their self-appraisals. This strategy is at odds with sociometer theory's assertion that the primary function of the self-esteem system is to notify individuals of relational

devaluation in the interest of motivating corrective action. Indeed, researchers have identified a subset of individuals with high self-esteem who appear to hold lower self-esteem at an unconscious level and who exhibit a behavioural response style that can best be described as defensive (Jordan, Spencer, Zanna, Hoshino-Browne, & Correll, 2003). It is possible that the responses of participants with defensive high self-esteem drove the counterintuitive finding of lower failure ratings among women with high self-esteem in the romantic rejection condition, as well as Baumeister and Sommer's (2002) earlier demonstration of more positive self-evaluations among people with high self-esteem after exposure to rejection cues. Future research could assess whether this overcompensation is specific to people with defensive high self-esteem, as opposed to a strategy that is also used by people who are comparatively secure in their trait self-esteem.

Despite the clear pattern that emerged for explicit ratings of failure as a function of rejection condition and trait self-esteem, the results of the lexical decision task did not show a comparable interaction. Participants responded more quickly to success-related than to failure-related words overall, which is consistent with a general tendency for people to respond more quickly to positive than to negative words (Baldwin & Sinclair, 1996). This tendency was dampened in the rejected condition, which suggests that imagining a romantic rejection made success-related concepts less accessible at an implicit level than did imagining breaking up with one's partner. However, contrary to my central hypothesis, there was no effect of the interaction between trait self-esteem and rejection condition on the accessibility of failure relative to success-related words.

This result is somewhat surprising given that other researchers have demonstrated that people with low self-esteem spontaneously respond to failure cues with increased

accessibility of rejection-related words (Baldwin et al., 2004; Baldwin & Sinclair, 1996). Furthermore, the pattern of results that emerged for explicit failure ratings was consistent with my hypotheses. The failure ratings of participants with low self-esteem were influenced by the rejection manipulation in the predicted direction, which suggests that people with low self-esteem did in fact respond to romantic rejection with an increased tendency to perceive themselves as failures. If anything, explicit measures of failure perception would be expected to be *less* sensitive than implicit measures in gauging participants' honest responses. One possible explanation for the discrepancy between my results and those of Baldwin and colleagues is that the nature of the priming stimulus used in this study (i.e., imagining a break-up scenario and then completing the entire lexical decision task) differed substantially from the priming stimuli used in prior research (being exposed to failure/success words repeatedly throughout the lexical decision task). It is possible that participants were distracted from the break-up scenario and their reactions to it during the lexical decision task, which could have weakened the effect of the rejection manipulation on participants' responses. In contrast, in Baldwin and colleagues' experiments, participants were continually primed with the failure and success context words *throughout* the lexical decision task, thus ensuring that the prime remained active for the duration of the experiment.

A more intriguing explanation for the absence of an interactive effect of self-esteem and rejection condition on response time to failure words on the lexical decision task is that imagining the rejected scenario might have led to impairment in self-regulation that interfered with participants' ability to respond appropriately to the lexical decision task. In an interesting series of experiments, Twenge and colleagues

demonstrated that both implied and actual social exclusion in the laboratory (receiving bogus personality test feedback stating that one will likely lead an isolated life or believing that one has been excluded by a group of peers for a problem-solving activity) led to decrements in performance across a wide range of domains (Baumeister et al., 2005; Twenge et al., 2001, 2002, 2003). With particular relevance to the current research, these decrements included slowed reaction time on a simple discrimination task (Twenge et al., 2003) and impaired attention on a dichotic listening task (Baumeister et al., 2005). The authors of these studies argue that social exclusion creates a deconstructed state in which individuals have difficulty appropriately regulating goal-oriented behaviours and responses. Given that the lexical decision task makes demands on participants' attention and that reaction time is the outcome measure of the task, it seems likely that participants receiving the rejected manipulation would have experienced a decrement in task performance. This decrement in performance among participants in the rejected condition would have severely weakened the chances of obtaining the predicted relationship between rejection condition, self-esteem, and reaction time.

The results of the self-affirmation manipulation were similarly inconsistent with predictions. Overall the affirmation exercise did lead to more positive global self-evaluation and, in the rejecter break-up scenario, to more positive mood. These findings are consistent with previous research showing that self-affirmation leads to improved mood (Koole et al., 1999), and suggest that the manipulation was somewhat successful in fostering a more positive self-view. State self-esteem and failure perception, however, were not influenced by self-affirmation. Most importantly, and contrary to hypotheses, the effect of self-affirmation on the outcome variables did not vary as a function of either

trait self-esteem or rejection condition. I had predicted that the affirmation exercise would serve a protective function for individuals with low self-esteem who had imagined a romantic rejection, in that they would evaluate themselves more positively, experience more positive mood, and feel better about themselves after self-affirming. However, the affirmation exercise was unsuccessful in mitigating the pronounced self-denigration and distress that is experienced by people with low self-esteem after a romantic rejection. This result is surprising given that prior research has shown that people with low self-esteem are capable of self-affirming when they are explicitly taken through an affirmation exercise (Spencer et al., 2001).

One possible reason for the failure of the self-affirmation task to attenuate the distressing effects of romantic rejection for people with low self-esteem is that, while affirming important values may be useful for restoring a sense of general integrity (Steele, 1988), it does not restore an individual's sense of social worth. Leary and MacDonald (2003) argue that an individual's sense of self-worth is fundamentally linked to his or her relational value, and that the traits from which a person derives feelings of self-esteem are those that are socially valued. Research does show that successes can lead to decreases in state self-esteem and failure to increases in state self-esteem, depending on whether others react with negative or positive feedback (Jones, Brenner, & Knight, 1990). Furthermore, high self-esteem is associated not only with believing that one possesses desirable traits (e.g., general competence, material wealth, physical attractiveness), but also with the belief that these traits garner them social approval (MacDonald, Saltzman, & Leary, 2003). In essence, it is possible that perception of self-worth is largely determined by the extent to which an individual believes that he or she

possesses socially desirable characteristics. As a result, it might be necessary for a self-affirmation exercise to directly affirm a person's sense of relational value if he or she is to restore self-worth after a significant interpersonal rejection.

The results of Study 2 make several important theoretical contributions to the literature on self-esteem, initiator status, and self-affirmation. First, I have ruled out the possibility that the greater distress experienced by people with low self-esteem after a break-up is caused by the nature of the break-up (or events leading up to it) by experimentally manipulating the rejection scenario. This only difference between the two break-up conditions was which partner ended the relationship, leaving initiator status as the only variable that could have interacted with self-esteem. Second, I have shown that romantic rejection affects individuals with low self-esteem in a multitude of ways, which include general self-denigration, failure perception, more negative mood, and decreased state self-esteem with regard to their physical appearance and social competence. Researchers who have failed to consistently show that social exclusion leads to emotional distress (Baumeister et al., 2005; Twenge et al., 2001, 2002, 2003) might consider the possibility that the individual difference of trait self-esteem is an important moderator variable that should be measured in experimental rejection/exclusion paradigms.

Another important contribution of Study 2 to the romantic relationship and rejection literature is the finding that gender differences were almost non-existent in analyses of how participants responded to romantic rejection. It appears that men with low self-esteem are just as vulnerable as women with low self-esteem to evaluating themselves negatively and experiencing both lower state self-esteem and general mood after a romantic rejection. Similarly, both men and women with high self-esteem seem to

be able to protect themselves from these effects. That responses to romantic rejection would be similar across genders is consistent with the notion that relational devaluation is a highly significant and potentially consequential event for all human beings, who depend on cooperation from others for survival and reproductive needs (Leary et al., 1995).

Finally, Study 2 extended the self-affirmation literature by applying the value-affirming strategy to a new type of threat to self-integrity: rejection by an important other. In contrast with prior literature showing that this strategy is successful in resolving the threat, I did not find that affirming important values may not be particularly effective in resolving threats to a person's sense of social competence per se. It may be the case that threats to a person's social competence tap into an aspect of the self that is so important for survival that only directly re-affirming one's relational value can restore a person's equilibrium. However, it is also possible that the self-affirmation exercise did not offer a unique benefit to individuals with low self-esteem who had been rejected because of the design of this particular experiment. The fact that the rejecter condition also depicted a scenario that could be threatening to a person's sense of integrity (rejecting a significant other) may have made the affirmation exercise equally beneficial to both rejected and non-rejected participants. Indeed, there was evidence of an overall benefit of the value-ranking task in the areas of broad self-evaluation and mood.

From a practical standpoint, the results of Study 2 add weight to the call for interventions that could be used in therapeutic contexts by individuals with low self-esteem who have experienced romantic rejection or other forms of social exclusion. Protective interventions for people with low self-esteem could also be helpful in preparing them to cope with future interpersonal rejections. The results of Study 2

suggest some specific processes that could be targeted in interventions, which include how the person evaluates him or herself and general mood. Self-evaluation processes, for example, could be addressed using cognitive therapy techniques (see Beck, 2005, for a review) which train an individual to monitor his or her thoughts for irrational and maladaptive content (including faulty attributions) and to correct these thinking errors using a variety of techniques that are learned through repeated practice.

One limitation of the design of this study was that trait self-esteem was measured instead of experimentally manipulated. If trait self-esteem is not problematic in and of itself, as argued by sociometer theory (Leary & MacDonald, 2003), it is possible that a third variable that predicts post break-up distress is associated with self-esteem level. For example, research shows that people with low self-esteem tend to have less or lower quality social support (Kincaid & Caldwell, 1995). It is thus possible that perception of social support actually determines the distress response after a break-up. Short of measuring every possible third variable, the only possible solution to this problem would be to experimentally manipulate trait self-esteem. However, this endeavor would almost undoubtedly fail to effect real changes in trait self-esteem, which would not be expected to change in response to short-term experimental procedures (Rosenberg, 1986). Furthermore, even if trait self-esteem could be experimentally manipulated, such a procedure would be ethically problematic. An alternate approach would be to manipulate state self-esteem in participants before exposing them to a romantic rejection paradigm. However, experimentally manipulated state self-esteem may not be comparable to the deeply held, chronic attitude toward the self that is captured by trait self-esteem.

Nonetheless, such an approach may be worthwhile and interesting from a theoretical standpoint.

Another question that has not been adequately answered in Study 2 is whether self-affirmation strategies could be used to help people with low self-esteem to protect themselves from the negative effects of romantic rejection. As discussed earlier, it is possible that an affirmation exercise that directly re-establishes an individual's sense of social worth might be necessary for resolving the threat that is created by interpersonal rejection. From this perspective, future researchers might wish to develop an exercise that affirms a person's sense of social value or belongingness, rather than his or her general integrity, and to test the effectiveness of this affirmation in alleviating the adverse effects of rejection for people with low self-esteem. A particularly fruitful focus for such an affirmation might be an individual's belonging in a highly valued social group. Indeed, research has shown that people with low self-esteem are particularly likely to use group membership to self-enhance (Brown, Collins, & Schmidt, 1988) and to derive feelings of self-worth through associations with people who possess socially valuable characteristics (Brown, Novick, Lord, & Richards, 1992). As such, it seems likely that affirming one's membership in a group that is seen as socially desirable would provide individuals with low self-esteem with an opportunity to alleviate their distress and/or self-denigration following a romantic rejection.

Chapter 4: General Discussion

Taken together, the results of this line of research strongly suggest that initiator status and trait self-esteem are important predictors of emotional distress, self-evaluation, and feelings of self-esteem in the aftermath of a romantic break-up among university students, especially when considered simultaneously. Having one's partner end the relationship may be somewhat more distressing overall than is ending the relationship oneself. However, like previous investigations into the relative consequences of being the rejecter versus the rejected, the current research produced inconsistent findings. I propose that being the rejected leads to marginally greater distress than does being the rejecter, but that the difference in distress is actually quite small when considered in the absence of moderator variables.

Trait self-esteem is undoubtedly a moderator variable that should be considered in any future research on the effects of rejection, romantic or otherwise, on well-being. Recall that Twenge and colleagues failed to consistently show an effect of social exclusion on mood across numerous investigations (Baumeister et al., 2005; Twenge et al., 2001, 2002, 2003). However, had they measured trait self-esteem, they may well have obtained a consistently negative effect on participants' mood among those who scored low on this measure. My results show that people with low self-esteem are especially vulnerable to emotional distress, self-denigration, and decreased state self-esteem after being rejected by a partner. On the other hand, people with high self-esteem do not seem to experience these negative consequences. I have suggested a number of cognitive processes that differentiate individuals with low and high self-esteem as possible explanations for these findings. First, people with low (but not high) self-esteem seem to

hold cognitive networks that are organized into contingencies of interpersonal acceptance, associating the concepts of failure and interpersonal rejection (Baldwin et al., 2003; Baldwin & Sinclair, 1996). As a result, it is possible that experiencing a romantic rejection triggers a sense of personal failure in these individuals. In the current research, participants with low self-esteem indeed rated themselves higher on failure in the rejected than in the rejecter condition. Furthermore, prior research shows that people with low self-esteem have a chronic tendency to respond to personal failures with internal, global attributions (i.e., blaming themselves for the event and evaluating themselves negatively in a global sense; e.g., Brown & Smart, 1991; Epstein, 1992; Fitch, 1970; Kernis et al., 1989; Tennen & Herzberger, 1987). The current research provides evidence for this process; individuals with low self-esteem evaluated themselves more negatively in a broad sense after imagining the rejected scenario than after imagining the rejecter scenario.

In contrast, people with high self-esteem are liable to respond to personal failure with external attributions and disbelief of negative self-relevant information, preferring instead to blame situational factors and to deny negative implications for their personal worth (e.g., Baumeister, et al., 1989; Cohen, van den Bout, van Vliet, & Kramer, 1989; Kuiper, 1978; Zautra et al., 1985). They also make use of self-affirmation strategies when faced with clear evidence of failure, focusing on other valued aspects of the self to maintain a sense of competency and self-worth (Ciarocco et al., 1998; Dodgson & Wood, 1998; Holland et al., 2002; Nail et al., 2003; Steele et al., 1993). Given these tendencies, it is not surprising that, in the current research, individuals with high self-esteem did not evaluate themselves more negatively in a broad sense or rate themselves higher in failure

after imagining being rejected by their romantic partners than after imagining being the rejecter.

One possible explanation that I have proposed for the different self-evaluative responses to romantic rejection observed in individuals with low versus high self-esteem is a difference in self-concept clarity. Because people with low self-esteem hold self-concepts that are less internally consistent, less temporally stable, and about which they are less certain than do people with high self-esteem (Campbell, 1990), it seems likely that they would have greater difficulty accessing positive information about themselves that could be used to dispute the self-relevance of the rejection or for self-affirmation. It would be highly informative for future research to examine the possible mediating role of self-concept clarity in determining self-evaluative processes following a romantic rejection in people with low and high self-esteem

In addition to these differing cognitive processes and strategies, I have suggested that my findings are consistent with sociometer theory, which provides a broader theoretical framework for understanding self-esteem effects. Sociometer theory would predict that, because people with low self-esteem have a pre-existing history of rejection and exclusion, the decrement in relational value implied by a romantic rejection would produce an internal alarm response experienced as emotional distress in these individuals. People with high self-esteem, on the other hand, generally have histories that suggest greater social value. As a result, the decrement in relational value implied by a romantic rejection might not be sufficient to provoke an alarm response. These predictions are consistent with what I found in Studies 1 and 2, where participants with low self-esteem who were rejected reported greater distress (Study 1), more negative mood (Study 2), and

lower feelings of self-esteem (Study 2) than did participants with low self-esteem who rejected their partners. Participants with high self-esteem did not differ on these variables as a function of whether they were rejected or not. Sociometer theory is an appealing framework for understanding these self-esteem-based emotional responses because it offers a functional explanation. Within this model, distress reactions after relational devaluation are seen as adaptive in that they direct an individual's attention toward his or her tenuous social standing and have the potential motivate corrective action.

In some ways, however, sociometer theory is inconsistent with the self-protective strategies that are used by people with high self-esteem and with the self-defeating tendencies of people with low self-esteem. If the sociometer provides people with accurate feedback about their social standing, and if self-esteem level simply reflects one's true relational value, it makes little sense that both people with low and high self-esteem would consistently rely on cognitive strategies that distort the meaning of incoming information in a consistent direction (i.e., attributional bias). How can these two perspectives be reconciled? I propose that people probably have evolved with an internal system (i.e., sociometer) that keeps track of one's relational value and that sounds an alarm in the form of emotional distress when rejection or other signs of relational devaluation are perceived. People with low self-esteem may indeed have experienced histories of greater devaluation than have people with high self-esteem and, as a result, their sociometers may be calibrated at a lower level, making them sensitive even to minor rejections. However, sociometer theory does not posit a *mechanism* for how relational devaluation is perceived and encoded, and instead seems to make the assumption that relational devaluation is processed in an objective manner. It is inevitable that any such

signal must be filtered through an individual's cognitive network, subjecting it to his or her particular style of information-processing, which could include any number of biases. Because of their different attribution styles, people with low self-esteem are much more likely to accumulate a large body of evidence for their poor interpersonal standing than are people with high self-esteem, even if they receive identical social feedback. This notion is supported by the empirical observations that people with low self-esteem attend preferentially to rejection cues in attention-based tasks and in their romantic relationships (Dandeneau & Baldwin, 2004; Murray et al., 2001). It is also consistent with the finding that people with low self-esteem tend to ruminate about their personal weaknesses after experiencing failure in problem-solving (Dodgson & Wood, 1998).

This argument suggests that the sociometer systems of people with low self-esteem may be dysfunctional, in that they are overly sensitive and non-specific in detecting signs of critical relational devaluation. This exaggerated sensitivity may contribute to the increased risk of psychological symptomatology and suicide that has been observed in people with low self-esteem (as reviewed by Leary & MacDonald, 2003). Interestingly, as a result of their attribution style, at least a subset of people with high self-esteem also might have sociometers that are not functioning properly. The sociometers of these individuals could be described as insensitive and overly specific in their detection of relational devaluation. It is possible that this form of maladaptive signal detection is characteristic of those individuals whose high self-esteem is defensive (i.e., low implicit self-esteem; Jordan et al., 2003) and/or unstable (i.e., fluctuates in response to external events; Kernis et al., 1993). Indeed, both defensive and unstable high self-esteem have been associated with various behaviours that would interfere with either

correct detection of relational devaluation or actual success in relationships, including various forms of self-enhancement (Jordan et al., 2003; Kernis, Cornell, Sun, Berry, & Harlow, 1993), hostility toward others (Kernis, 2003), and narcissistic personality (Jordan et al., 2003). In future research on the negative effects of interpersonal rejection, it would be interesting and instructive to assess the role of self-esteem stability and/or defensiveness in addition to trait self-esteem. Indeed, a recent investigation showed that compartmentalization of the various aspects of one's self-concept, which is associated with unstable self-esteem, led to lower state self-esteem after a social exclusion laboratory manipulation, independent of trait self-esteem (Zeigler-Hill & Showers, 2007). Indeed, the notion that high self-esteem in itself might not always be as adaptive as has traditionally been assumed has become a topic of great interest in the field of social psychology, as well as in the public domain (e.g., Baumeister et al., 2003).

Another construct that might have an important effect on an individual's response to interpersonal rejection is his or her contingencies of self-worth. Contingencies of self-worth refer to the domains on which a person stakes his or her feelings of self-esteem (see Crocker & Park, 2003, for a review). Any given event would be expected to affect an individual's state self-esteem to the extent that it is perceived as relevant to these contingencies. For example, among students applying to graduate school, state self-esteem has been shown to fluctuate in both positive and negative directions in response to notifications of acceptance and rejection to a greater extent in people who base their self-worth in part on school competency than in those who do not (Crocker, Sommers, & Luhtonen, 2002). Similarly, one would expect that romantic rejection would be associated with a sharper sting for people who base their self-worth on social approval and/or being

in an intimate relationship. Based on this description, one might expect that attachment style, specifically degree of anxious attachment, would be especially related to social contingencies of self-worth. Indeed, in Study 1 I did find evidence for a greater distress response after rejection for individuals who were high, but not low, in attachment anxiety. However, trait self-esteem emerged as a stronger predictor of this pattern of distress responses than did anxious attachment. Furthermore, Crocker and Park (2003) specifically suggest that individuals with low trait self-esteem might hold a greater number of contingencies of self-worth than would individuals with high self-esteem. The relationship between interpersonal contingencies and trait self-esteem, as well as the respective effects of these constructs on reactions to romantic rejection would be interesting avenues for future research.

One caveat to the current results bears mentioning at this point. Although I have used the terms "low" and "high" self-esteem when discussing individuals at the end points of the trait self-esteem distribution, it should be noted that the trait self-esteem scores actually cluster around the higher end of the distribution. This pattern of scores is consistent with that found in most research into trait self-esteem (Baumeister et al., 1989). As a result, the construct of low self-esteem is probably best characterized as *intermediate* in an absolute sense, corresponding to lukewarm or ambivalent attitudes toward the self rather than self-hatred and feelings of complete worthlessness (Tice, 1993). Perhaps the reason behind the absence of truly low self-esteem in academic research is that most studies are conducted with university students. This population, by definition, represents a highly successful subset of society that probably has good reason to feel positively toward itself. It would thus be highly instructive to replicate the current

studies with a population that represented a wider of range of socioeconomic status, academic achievement, and psychological adjustment. One might expect to find a greater number of individuals whose self-esteem is low in an absolute sense, reflecting an actual absence of positive feelings about the self. These individuals may be even more sensitive to romantic rejection than are the participants described as low in self-esteem in the current studies.

Another important avenue for future research is the identification of the mechanism underlying the increased distress, negative self-evaluation, and decreased state self-esteem that was observed in individuals with low self-esteem after a romantic rejection. One possibility would be to directly measure participants' attributions for the break-up. Another intriguing possibility would be to assess participants' physiological responses to romantic rejection. Powers, Pietromonaco, Gunlicks and Sayer (2006) recently measured cortisol reactivity after subjecting young adults to a conflict negotiation task with their romantic partner in the laboratory. They observed differences in cortisol reactivity as a function of attachment style, with highly avoidant and highly anxious individuals showing the greatest stress response. The measurement of cortisol after an experimental manipulation similar to that used in Study 2 of the current research could provide additional information about what differentiates the responses to interpersonal rejection of individuals with low and high self-esteem.

Perhaps the most important avenue for future research is the further investigation of interventions that could assist people with low self-esteem to cope with romantic rejection without engaging in self-denigration and experiencing a drop in mood and feelings of self-esteem. As discussed earlier in this document, a reasonable approach

would be to assist individuals with low self-esteem to learn and to practice protective strategies that would allow them to respond to rejection in a more adaptive manner. An obvious starting point for generating such strategies is to identify what people with high self-esteem do cognitively in such situations to protect themselves from self-criticism and emotional distress. One difference that has been discussed is attribution style; people with high self-esteem may make external attributions for romantic rejection and may disbelieve suggestions that they are at fault for the rejection (see Baumeister et al., 1989). If people with low self-esteem could be trained to adjust their attribution style to be less self-blaming, they might be able to respond to rejection with less self-denigration.

Another cognitive difference that distinguishes people with low self-esteem from people with high self-esteem that has been discussed is propensity for self-affirmation. People with high self-esteem tend to respond to threats to their self-integrity by affirming an important aspect of the self, while people with low self-esteem do not (Dodgson & Wood, 1998; Nail, et al., 2003; Steele et al., 1993). In Study 2, I tested the possibility that people with low self-esteem could be coached to use self-affirmation to reduce self-denigration and distress following a romantic rejection. I did not find support for this hypothesis and have proposed that, for people with low self-esteem, the affirmation exercise might need to tap directly into the individual's sense of social worth in order to be effective at resolving the threat to self produced by interpersonal rejection. I suggest that future research investigate this possibility.

In addition to attribution style and self-affirmation, there are some other promising strategies for restoring sense of self-worth that have emerged from the research in recent years that might be of benefit to individuals with low self-esteem who are facing

romantic rejection. First, Dandeneau and Baldwin (1994) have developed a training task that is intended to train people to inhibit preferential attention to rejection-related cues. This task involves scanning a matrix of images that contains multiple frowning faces in an effort to find the single smiling face. The authors showed, using an experimental design, that individuals with low self-esteem exhibited less sensitivity to rejection-related words on a Stroop task after engaging in this task than they did when they did not engage in the task beforehand. Regular training in the rejection-inhibition task was also successful in reducing exam-related stress among university students, especially those with low self-esteem (Dandeneau, Baldwin, & Baccus, 2007). The authors suggested that the beneficial effect of the task on exam-related stress was likely mediated by the alleviation of concerns about social disapproval associated with performing poorly at school. They also provided evidence that the active search for the smiling face, rather than mere exposure to frowning faces, is the essential component in the effectiveness of this technique. It is thus quite possible that this task might be helpful in either preventing or attenuating the self-denigration and distress of individuals with low self-esteem after a romantic rejection. This strategy could be tested with relative ease in the laboratory using a rejection manipulation that is similar to the one I used in Study 2.

Similarly, Dijksterhuis (2004) offered evidence that it is possible to enhance implicit self-esteem using repeated exposure to the word "I" paired with various positive traits, and that this enhancement in implicit self-esteem seems to protect people from decrements in mood following negative feedback about their intelligence. These benefits were conferred to participants with high and low self-esteem alike, which suggests that

such a procedure could be used as a protective measure in psychotherapy for individuals with problems associated with low self-esteem.

A final possible strategy that has emerged from the recent literature is the use of independent self-construal in coping with interpersonal rejection. In an experimental investigation on the cognitive and behavioural effects of receiving feedback that they had ostensibly made a negative impression on other participants, individuals with high self-esteem were observed to increase their identification with an independent self-construal, or the extent to which the self is viewed as autonomous and separated from others (Sommer, Benkendorf, Bruno, Kirkland, Busing, & Bernieri, 2007). While this strategy might not be adaptive if taken to the extreme, it is possible that reminding individuals with low self-esteem of their autonomous/separate selves after a romantic rejection would assist them to cope more effectively.

In sum, I have offered evidence using both a naturalistic design and an experimental procedure that the effects of romantic rejection, or who initiates the end of a romantic relationship, vary depending on an individual's level of trait self-esteem. For people with low self-esteem, distress is greater when they are rejected by their partners than when they end their relationships. They also evaluate themselves more negatively, consider themselves to be greater failures, and experience lower feelings of self-esteem after imagining themselves being rejected by their partners than after imagining rejecting their partners. In contrast, people with high self-esteem experience an equivalent amount of distress after experiencing a romantic rejection and after initiating a romantic rejection. Their self-evaluation, failure perception, and state self-esteem are not affected by imagining being rejected by their partners as compared to imagining ending the

relationship themselves. I have drawn from the research on trait self-esteem, self-concept clarity, attribution style, and self-affirmation to explain these differences. I have also attempted to understand the current findings and prior research within the context of sociometer theory, which proposes an adaptive function of distress reactions to interpersonal rejection. Although I did not find support for the use of a coached self-affirmation exercise in attenuating the negative effects of romantic rejection on individuals with low self-esteem, I have discussed several alternate strategies that could prove helpful in this regard at that warrant follow-up investigation.

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Appendix A: Demographic and Relationship Status Questionnaire

Name (please print): _____

Signature: _____

Home Telephone: _____
(we need your name and number in order to contact you for participation)

E-mail Address (if you use e-mail): _____

Date of Birth: _____

Gender: _____

Are you currently involved in a romantic relationship? Yes No

If yes, how long have you been involved in your current relationship?

____ years

____ months

Appendix B: Rosenberg Self-Esteem Scale

Below is a list of statements dealing with your general feelings about yourself. Please rate each statement according to the following scale:

1	2	3	4	5	6	7
Extremely Disagree	Somewhat Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Somewhat Agree	Extremely Agree

1. On the whole, I am satisfied with myself. _____
2. At times I think I am no good at all. _____
3. I feel that I have a number of good qualities. _____
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 certainly feel useless at times. _____
7. I feel that I'm a person of worth, at least on an equal plane with others. _____
8. I wish I could have more respect for myself. _____
9. All in all, I am inclined to feel that I am a failure. _____
10. I take a positive attitude toward myself. _____

Appendix C: Study 1 Information Sheet

This study is being run by Katherine Waller, under the supervision of Dr. Tara MacDonald, and has received ethics clearance from Queen's University. Its aim is to evaluate how personality type influences behaviour in romantic relationships. The study will last from October until April of this year. At the initial session, you will be asked to fill out a series of questionnaires, which should take approximately half an hour, and compensation will be given in the form of half of a Psychology 100 research credit. At the initial session, you will also be asked if you would be willing to give us the name of and contact information for your romantic partner, so that we can ask them if they would like to participate in the study as well (a letter and set of questionnaires will be sent to them by mail, and they will be contacted by telephone a week later).

In the second phase of the study, you will be contacted by e-mail on a weekly basis and asked to answer a very short questionnaire about your relationship and send it back to us. At some point, you might be asked to come into the laboratory to fill out another set of questionnaires, which would take approximately half an hour. **If you are called in for a second session**, you will receive a second half of a Psychology 100 course credit. You will be compensated for your time with \$20 in cash at the end of the study, regardless of whether you are asked to fill out a second set of questionnaires.

Participation is entirely voluntary, and you are free to withdraw at any time. You are under no obligation to answer any questions that you find objectionable or that make you uncomfortable for any reason. Only the experimenter and the supervisor will have access to the data collected, and your anonymity will be preserved by separating your results from any identifying information. **Under no circumstances** will any of your responses or results be disclosed to your romantic partner, or anyone other than the experimenter and supervisor. The results of this study may be published, and may also serve as a foundation for other similar studies.

If you have any other questions, concerns, or complaints, they may contact either Dr. Tara MacDonald at 613-533-2843, Dr. Vernon Quinsey, Head of the Psychology Department, at 613-533-, or the Queen's University General Research Ethics Board c/o Queen's University Research Services at 613-533-6081.

Appendix D: Study 1 Consent Form

I, _____, age _____, consent to participate in Katherine Waller's study named AAngel®, a study on the influence of personality on behaviour in romantic relationships. I have read and understood the information presented to me, and have had any questions answered to my satisfaction. I understand that I will be asked to fill out a series of questionnaires, and that the total length of this session will be approximately half an hour.

I understand that I will be contacted by e-mail on a weekly basis by the researcher and asked to send back a very brief questionnaire each time. I understand that this study will last until April 2005, and that I might be asked to return to the laboratory to fill out another set of questionnaires at some point during the school year.

I understand that I will receive half of a Psychology 100 research credit for taking part in the initial session of this study, and that I will receive \$20 at the end of the school year if I choose to continue to take part in the study. I understand that I will receive a second half of a Psychology 100 course credit **if I am asked to fill out a second set of questionnaires.**

I hereby authorize the use of all records, tests, and personal data derived from this experiment for research purposes provided that there is no disclosure of the identity of the undersigned. By signing below, I indicate that I understand the nature of the study, and consent to participate voluntarily as a subject. I understand that I am free to discontinue participation of this study at any time.

I have read and understood the above statement. I freely consent to participate in this experiment.

Please print your name: _____
 Your signature: _____
 Dated: _____
 Phone number: _____
 E-mail address: _____

I agree to allow the researcher to contact my romantic partner and ask him/her if he/she would like to participate in this study using the contact information that I provide. I understand that none of my responses or results will be disclosed to my romantic partner, or to anyone who is not the experimenter or the supervisor. Furthermore, I understand that my partner's responses and results will not be disclosed to me under any circumstances.

Your signature: _____
 Dated: _____
 Partner's name: _____
 Partner's address: _____

Partner's phone number: _____
 Partner's e-mail address (if used): _____

Appendix E: Study 1 Debriefing Form

The study that you completed was designed to assess how different personality types affect relationship satisfaction and coping with the end of romantic relationships. We measured a number of personality characteristics, such as attachment style and extraversion, and intend to look at how these characteristics predict satisfaction during the relationship, and initiator status and coping at the end of a relationship.

Your responses to all of the questionnaires will be absolutely confidential. Only persons associated with this research will ever see your name and responses. In return, we want you to honour our confidentiality - **please do not tell other students about the details of this study before the end of the school year**. If other students know the purpose of the study while the study is ongoing, it could influence their responses, and as a result their data will be useless.

If you are having a difficult time coping with the end of your relationship, and you are interested in speaking to a counselor who has experience in this area, please consider making an appointment at Queens= Student Counselling Service (533-2506).

Appendix F: Break-Up Comparisons

Comparison of Personality Traits and Perception of Relationship Quality for Participants Who Broke Up Versus Those Who Did Not (Mean Scores)

<u>Variable</u>	<u>Stayed Together</u>	<u>Broke Up</u>
* Self-Esteem (Scaled)	0.77 (0.16)	0.72 (0.18)
* Agreeableness	4.08 (0.50)	3.78 (0.66)
** Attachment Anxiety	3.43 (0.89)	3.79 (1.12)
Attachment Avoidance	3.58 (1.04)	3.75 (1.05)
Conscientiousness	3.77 (0.58)	3.70 (0.67)
Desirability of Control	4.94 (0.62)	5.00 (0.65)
Extraversion	3.50 (0.78)	3.64 (0.76)
Guilt Proneness	4.14 (0.38)	4.14 (0.43)
Need for Approval (DAS)	3.21 (0.66)	3.41 (0.73)
Neuroticism	2.96 (0.83)	3.24 (0.89)
Openness	3.80 (0.62)	3.74 (0.67)
* Perfectionism (DAS)	2.61 (0.70)	2.87 (0.90)
Personal Fear of Invalidity	3.60 (0.79)	3.78 (0.85)
Responsibility (Harm)	4.25 (0.71)	4.03 (0.78)
Responsibility (Relationships)	4.63 (0.51)	4.68 (0.56)
Responsibility (Social)	4.09 (0.66)	4.14 (0.64)
Shame Proneness	2.96 (0.57)	3.08 (0.58)
Thought Action Fusion	2.36 (0.94)	2.41 (0.90)
** Relationship Quality	8.94 (1.02)	7.49 (1.78)

** $p < .01$ in independent samples t-test

* $p < .05$ in independent samples t-test

Appendix G: Mood Questionnaire

Please indicate how you are feeling right now by using the following scales.

Please be as open and honest as possible.

1	2	3	4	5	6	7	8	9	10
proud									embarrassed
1	2	3	4	5	6	7	8	9	10
discontent									content
1	2	3	4	5	6	7	8	9	10
optimistic									hopeless
1	2	3	4	5	6	7	8	9	10
sad									happy
1	2	3	4	5	6	7	8	9	10
confident									self-conscious
1	2	3	4	5	6	7	8	9	10
frustrated									not frustrated
1	2	3	4	5	6	7	8	9	10
disappointed									pleased
1	2	3	4	5	6	7	8	9	10
worried									carefree
1	2	3	4	5	6	7	8	9	10
introverted									extroverted
1	2	3	4	5	6	7	8	9	10
desirable									not desirable
1	2	3	4	5	6	7	8	9	10
satisfied									unsatisfied
1	2	3	4	5	6	7	8	9	10
foolish									smart

Appendix H: Break-Up Distress Questionnaire

Please indicate how well each of the following statements describes you since the end of your romantic relationship **on a scale from 1 (strongly disagree) to 7 (strongly agree)**.

1. The break-up has interfered with my schoolwork and or class attendance:
2. It feels as if someone I love has died:
3. I find myself spending a lot of time thinking about my former partner:
4. Since the break-up, I have felt like a worthless person:
5. I do not feel guilty about the break-up:
6. I feel as if I've been dumped:
7. I can't stop thinking about all the things I could have done differently to please my partner:
8. Sometimes I just can't believe we broke up:
9. I fear I will never get over the break-up:
10. My sleep patterns have not changed since the break-up:
11. I find myself preoccupied with the hurt that my former partner must be feeling:
12. I feel like a failure because my relationship failed:
13. I'm angry at my former partner:
14. Perhaps, with all things considered, we should have tried longer:
15. I'm confident that I will find another girlfriend/boyfriend in the future:
16. I find myself trying to win back my former partner:
17. I am embarrassed about other people knowing about the break-up:
18. I find myself eating less, or eating more to comfort myself, since the break-up:
19. I have been crying a lot since the break-up:
20. I am not thinking about what my former partner is doing now:
21. The break-up has not affected the way I feel about myself:
22. I am more concerned about my own feelings right now than my former partner's:
23. I have found it easy to tell my family and friends about the break-up:
24. This has been coming for a long time, and I'm glad we finally made the break:
25. I don't see myself ever getting back together with my former partner:
26. I worry that I will never be able to trust anyone again:
27. I have continued to attend my usual social activities since the break-up:

Appendix I: Initiator Status Questionnaire

Please indicate the extent to which both you and your former partner were responsible **for the decision to end your romantic relationship**. Express your responsibility and your former partner's responsibility as a percentage of total responsibility of the decision (it should add up to 100%).

You: _____%

Your former partner: _____%

Appendix J: Study 1 Supplementary Regression Analysis

A simultaneous multiple regression analysis was conducted that included trait self-esteem (centered), social responsibility (centered), initiator status (centered), and the cross-products of these variables as predictors. Mood acted as the criterion variable.

The overall regression model was statistically significant ($R(58) = 0.61$; $F(7,58) = 4.88$, $p < .001$). As expected, there was a positive relationship between initiator status and mood ($B = 0.02$; $t(59) = 3.81$, $p < .001$). Participants who reported less responsibility for ending the relationship reported more negative mood than did those who reported greater responsibility. Additionally, there was a positive relationship between self-esteem and mood ($B = 2.63$; $t(59) = 2.78$, $p = .007$). Participants who were lower in self-esteem reported more negative mood following a break-up than did those with higher self-esteem. Social responsibility was not related to mood ($B = 0.08$; $t(59) = 0.28$, $p = .78$), nor did it interact with initiator status to predict mood ($B = -1.60$; $t(59) = 1.48$, $p = .14$). Finally, there was a marginally significant interaction between self-esteem and initiator status ($B = -0.05$; $t(59) = 1.68$, $p = .01$).

The direction of this interaction was assessed further by regressing initiator status on mood at medium (mean self-esteem score of the sample), low (mean self-esteem minus one standard deviation), and high (mean self-esteem plus one standard deviation) levels of self-esteem. Percent responsibility was positively related to mood for people who were low ($B = .03$; $t(62) = 3.42$, $p < .001$) or moderate ($B = .02$; $t(62) = 3.72$, $p < .001$) in self-esteem. The relationship between initiator status and distress was marginally positive for those who were high in self-esteem ($B = .01$; $t(62) = 1.96$, $p = .06$). This interaction suggests that perceiving that one had less responsibility for ending a romantic relationship tends to be related to more negative mood, especially for people who are low to moderate in self-esteem.

Appendix K: Study 2a Information Sheet

Dr. Tara MacDonald and Katherine Waller (Ph.D. Candidate) from the Department of Psychology at Queen's University are conducting this study, called "Angel". Some important details about it are that:

- You will be asked to read through a scenario and imagine yourself as the main character, perform some tasks on the computer, and answer some questions about yourself.
- The study will take about 30 minutes to complete.
- In deciding whether you want to participate, please know that this study has no known physical, psychological, economic, or social risks. Please also remember that your participation is voluntary, that you are free to withdraw at any time with no effect on your standing in school, and that you may choose not to answer any question that you find objectionable or which makes you feel uncomfortable.
- The information you supply will be kept confidential in a locked room that only authorized experimenters will have access to until the raw data is no longer needed and destroyed. Thus, confidentiality will be maintained now and in the future.
- Any research reports resulting from this study will contain no individual data, but will rather focus on grouped findings. Findings from this research may be presented in a professional journal or at scientific conferences. Should you be interested in what we find, you are entitled to a copy of the findings.
- In exchange for your help, we will add 1/2 a percent to your Psychology 100 grade.
- If you have any complaints, concerns, or questions about this research, please feel free to contact Dr. Tara MacDonald (533-2873), Dr. Vernon Quinsey (533-6538), Head of the Department of Psychology, Queen's University, or the Queen's University General Research Ethics Board (533-6081).

Thank you for your time.

Katherine Waller
Dr. Tara MacDonald

Appendix L: Study 2a Consent Form

Name (please print clearly): _____

1. I have read the Letter of Information and have had any questions answered to my satisfaction.
2. I understand that I will be participating in the study called “Angel”. I also understand that this means that I will be asked to read through a scenario and imagine myself as the main character, perform some tasks on the computer, and answer some questions about myself.
3. I am aware that if I have any questions, concerns, or complaints, I may contact Dr. Tara MacDonald (533-2873), the Head of the Department of Psychology (533-6538), or the General Research Ethics Board (533-6081) at Queen’s University.
4. I understand that my participation in this study is voluntary and I may withdraw at any time.
5. I understand that the researchers will add ½ of a Psychology 100 course credit to my final grade.
6. I understand that every effort will be made to maintain the confidentiality of the data now and in the future. This will be done by keeping the data in a locked room that only authorized experimenters will have access to until the raw data is no longer needed and destroyed. Also, any research reports resulting from this study will contain no individual data.

I have read the above statements and freely consent to participate in this research:

Signature: _____ Date: _____

Appendix M: Break-Up Scenarios

Please read through the following passage slowly, allowing each sentence to “sink in”. You will be imagining yourself and your current romantic partner, NAME. Right now, please try to get an image of NAME in your mind. Now, take a few minutes to think about your relationship and what it means to you.

Rejected Scenario

Imagine that it is a Tuesday evening and that you are in your room doing some reading for a course. You pause for a minute as you think about the last time you saw NAME. Although things aren’t always perfect between the two of you, your relationship is important to you and you care about NAME very much.

The telephone rings, interrupting your train of thought. It’s NAME. He/she sounds serious and says that he/she has something important to discuss with you – can he/she come over? You – feeling curious and somewhat anxious – ask what it is about. He/she says that he/she would rather talk about it in person. You agree, and NAME says he/she will be over soon.

As you wait, you find it difficult to concentrate on your reading or anything else. Your mind is racing with thoughts about what NAME could be wanting to talk about. After what seems like ages, you hear a knock on your door. You open the door and find NAME standing there, looking very serious and a bit agitated. You greet each other somewhat awkwardly and decide to go sit down somewhere you can have some privacy. His/her expression tells you that something is definitely wrong and you start to feel sick to your stomach. NAME takes your hand gently and, before you know what is happening, he/she starts telling you that he/she cares about you and thinks you are a great person. You notice that NAME’s eyes are moist and his/her voice cracks as he/she explains that he/she no longer wants to be in a romantic relationship with you. It’s not that you did anything wrong, he/she says, this just isn’t the right relationship for him/her.

Rejecter Scenario

Imagine that it is a Tuesday evening and that you are at home in/in your residence room doing some reading for a course. You pause for a minute as you think about the last time you saw NAME. Something in your relationship has felt off to you for a while. Although you know that you still care about NAME very much, you have recently realized he/she is not the right partner for you. You have been waiting for the right time to break the news to NAME, but haven’t found it yet. You don’t think you can stand to keep this from him/her any longer, and decide that tonight we be the night.

You pick up the phone and dial NAME’s number. He/she answers, sounding cheerful. You say that you have something important to discuss with he/she – can go over to his/her place? He/she – sounding curious and somewhat anxious – asks what it is about. Feeling nervous, you say that you would rather talk about it in person. He/she agrees, and you say you will be over soon.

On your way over, your mind is racing with thoughts about how you are going to tell NAME that you want to break up. What is the right way to say it? You feel awful about knowing that you will be hurting someone who has been so important to you. After what seems like ages, you reach NAME’s place and knock on the door. NAME opens the door and finds you standing there. He/she looks concerned and you are starting to feel very agitated. You greet each other somewhat awkwardly and decide to go sit down somewhere you can have some privacy. You notice that you are feeling sick to your stomach and are not sure what to do. You take NAME’s hand gently and tell him/her that you care about him/her and that you think he/she is a great person. You notice that NAME’s eyes are moist and your voice cracks as you explain that you no longer want to be in a romantic relationship with him/her. It’s not that you did anything wrong, you say, this just isn’t the right relationship for you.

Appendix N: Lexical Decision Task Words

Failure Target Words

1. fail
2. incompetent
3. mistake
4. defeated
5. inept
6. weak
7. lose
8. stupid
9. incapable
10. blunder
11. forget
12. inadequate
13. collapse
14. letdown
15. lapse
16. disappoint

Success Target Words

1. succeed
2. perfect
3. achievement
4. victorious
5. excel
6. strong
7. smart
8. triumph
9. accomplish
10. brilliant
11. skillful
12. thrive
13. attain
14. prosper
15. blossom
16. champion

General Negative Target Words

1. prohibit
2. mortgage
3. decayed

4. confiscate
5. taxed
6. scorched
7. unpleasant
8. gun
9. strain
10. execution
11. nuclear
12. grave
13. attack
14. evil
15. death
16. complicate

General Positive Words

1. dancer
2. bunny
3. sunshine
4. kitten
5. true
6. nature
7. tulip
8. gentle
9. educational
10. vacation
11. fantasy
12. blessed
13. spring
14. rainbow
15. integrity
16. holiday

Non-Words

1. lisrened
2. thased
3. barlained
4. greefed
5. vinged
6. blerded
7. hammen
8. spling

9. advife
10. kneem
11. pledict
12. undemtake
13. skending
14. foregarning
15. daduction
16. worthip
17. talt
18. derign
19. tasquerade
20. wandel
21. invute
22. crive
23. prab
24. commert
25. drite
26. beild
27. swate
28. plabed
29. ralking
30. reasing
31. sleeb
32. spean
33. perceiva
34. wilking
35. gress
36. oyserve
37. descrine
38. calcumate
39. conjition
40. dince
41. exercine
42. ropair
43. sistribute
44. spudy
45. burchase
46. rart
47. ean
48. tibe

Appendix O: Self-Evaluation Questionnaire

Please rate the extent to which each of the following items describes you:

1 Bad	2	3	4	5	6	7 Good
1 Incompetent	2	3	4	5	6	7 Competent
1 Proud	2	3	4	5	6	7 Ashamed
1 Inadequate	2	3	4	5	6	7 Adequate
1 Useless	2	3	4	5	6	7 Useful
1 Superior	2	3	4	5	6	7 Inferior
1 Stupid	2	3	4	5	6	7 Intelligent
1 Not Confident	2	3	4	5	6	7 Confident
1 Valuable	2	3	4	5	6	7 Worthless
1 Important	2	3	4	5	6	7 Unimportant
1 Ineffective	2	3	4	5	6	7 Effective
1 Satisfied	2	3	4	5	6	7 Dissatisfied

Appendix P: PANAS

Please indicate how well each of the following statements describes how you are feeling right now on a scale from 1 (strongly disagree) to 7 (strongly agree):

1. sad
2. distressed
3. excited
4. upset
5. strong
6. scared
7. hostile
8. enthusiastic
9. proud
10. interested
11. alert
12. ashamed
13. inspired
14. nervous
15. determined
16. attentive
17. jittery
18. active
19. afraid
20. irritable

Appendix Q: State Self-Esteem Scale

This is a questionnaire designed to measure what you are thinking at this moment. There is, of course, no right answer for any statement. The best answer is what you feel is true of yourself at this moment. Be sure to answer all of the items, even if you are not certain of the best answer. Again, answer these questions as they are true for you RIGHT NOW.

Please rate each of the items as it applies to you by assigning a value of 1 to 5 as follows:

- 1 = not at all
- 2 = a little bit
- 3 = somewhat
- 4 = very much
- 5 = extremely

1. I feel confident about my abilities: _____
2. I am worried about whether I am regarded as a success or failure: _____
3. I feel satisfied with the way my body looks right now: _____
4. I feel frustrated or rattled about my performance: _____
5. I feel that I am having trouble understanding things that I read: _____
6. I feel that others respect and admire me: _____
7. I am dissatisfied with my weight: _____
8. I feel self-conscious: _____
9. I feel as smart as others: _____
10. I feel displeased with myself: _____
11. I feel good about myself: _____
12. I am pleased with my appearance right now: _____
13. I am worried about what other people think of me: _____
14. I feel confident that I understand things: _____
15. I feel inferior to others at this moment: _____
16. I feel unattractive: _____
17. I feel concerned about the impression I am making: _____
18. I feel that I have less scholastic ability right now than others: _____
19. I feel like I'm not doing well: _____
20. I am worried about looking foolish: _____

Appendix R: Study 2a Debriefing Form

*Written Debriefing***The Effect of Self-Esteem on Cognitive Responses to Romantic Rejection**

This study assessed the relationship between self-esteem and reactions to romantic rejection. We predict that people with low self-esteem will be more likely to perceive a romantic rejection as a personal failure than will people with high self-esteem, as measured by your reaction time to failure-related words presented on the computer screen. We also predict that this association between rejection and failure will lead people with low self-esteem to evaluate themselves more negatively.

Your responses to all of the questionnaires will be absolutely confidential. Only persons associated with this research will ever see your name and responses. **Please do not tell other students about the details of this study before the end of the school term.** If other students know the purpose of the study before they participate, this could influence their responses, and as a result, their data would be useless.

Thank-you very much for your participation. If you have any comments or questions about your participation in this study, please contact Dr. Tara MacDonald, Department of Psychology, Queen's University, at 533-2873, Dr. Vernon Quinsey, Head of the Department of Psychology, Queen's University, at 533-6538, or the Chair of the Queen's University General Research Ethics Board at 533-6000 ext. 74579.

If you decide that you do not want the researchers to use the information that you provided in this study, please let us know immediately. Your data will be shredded and will not be used in the study. If you found any part of your involvement in this research to be stressful or upsetting and would like to talk about your thoughts or feelings, please consider making an appointment to speak with a counselor at Student Counseling Services (533-2506).

If you would like any information about the results of the study once it is completed, please feel free to contact me, Katherine Waller, at 7kw1@qmlink.queensu.ca. If you are interested in learning more about this research topic, please refer to the following journal article:

Baldwin, M. W., & Sinclair, L. (1996). Self-esteem and "if...then" contingencies of interpersonal acceptance. *Journal of Personality and Social Psychology*, 71, 1130-1141.

Appendix S: Study 2b Information Sheet

Dr. Tara MacDonald and Katherine Waller (Ph.D. Candidate) from the Department of Psychology at Queen's University are conducting this study, called "Angel". Some important details about it are that:

- You will be asked to read through a scenario and imagine yourself as the main character, perform a ranking task, and answer some questions about yourself.
- The study will take about 30 minutes to complete.
- In deciding whether you want to participate, please know that this study has no known physical, psychological, economic, or social risks. Please also remember that your participation is voluntary, that you are free to withdraw at any time with no effect on your standing in school, and that you may choose not to answer any question that you find objectionable or which makes you feel uncomfortable.
- The information you supply will be kept confidential in a locked room that only authorized experimenters will have access to until the raw data is no longer needed and destroyed. Thus, confidentiality will be maintained now and in the future.
- Any research reports resulting from this study will contain no individual data, but will rather focus on grouped findings. Findings from this research may be presented in a professional journal or at scientific conferences. Should you be interested in what we find, you are entitled to a copy of the findings.
- In exchange for your help, we will add 1/2 a percent to your Psychology 100 grade.
- If you have any complaints, concerns, or questions about this research, please feel free to contact Dr. Tara MacDonald (533-2873), Dr. Vernon Quinsey (533-6538), Head of the Department of Psychology, Queen's University, or the Queen's University General Research Ethics Board (533-6081).

Thank you for your time.

Katherine Waller
Dr. Tara MacDonald

Appendix T: Study 2b Consent Form

Name (please print clearly): _____

7. I have read the Letter of Information and have had any questions answered to my satisfaction.
8. I understand that I will be participating in the study called “Angel” I also understand that this means that I will be asked to read through a scenario and imagine myself as the main character, complete a ranking task, and answer some questions about myself.
9. I am aware that if I have any questions, concerns, or complaints, I may contact Dr. Tara MacDonald (533-2873), the Head of the Department of Psychology (533-6538), or the General Research Ethics Board (533-6081) at Queen’s University.
10. I understand that my participation in this study is voluntary and I may withdraw at any time.
11. I understand that the researchers will add ½ of a Psychology 100 course credit to my final grade.
12. I understand that every effort will be made to maintain the confidentiality of the data now and in the future. This will be done by keeping the data in a locked room that only authorized experimenters will have access to until the raw data is no longer needed and destroyed. Also, any research reports resulting from this study will contain no individual data.

I have read the above statements and freely consent to participate in this research:

Signature: _____ Date: _____

Appendix U: Self-Affirmation Manipulation

Value-Ranking Scale (Affirmation Condition)

On this page are 14 values. Your task is to rank all of the values in terms of which ones are most important to YOU and serve as guiding principles in YOUR life.

Study the list carefully and pick out the one value that is most important to you. Place a “1” beside that value. Then pick out the value that is next most important to you and place a “2” beside that value. Continue in this manner until all 14 values have been ranked.

- _____ A COMFORTABLE LIFE (a prosperous life)
- _____ AN EXCITING LIFE (a stimulating, active life)
- _____ A SENSE OF ACCOMPLISHMENT (lasting contribution)
- _____ A WORLD AT PEACE (free of war and conflict)
- _____ A WORLD OF BEAUTY (beauty of nature and the arts)
- _____ EQUALITY (brotherhood, equal opportunity for all)
- _____ FAMILY SECURITY (taking care of loved ones)
- _____ FREEDOM (independence, free choice)
- _____ HAPPINESS (contentedness)
- _____ FAMILY LIFE (relationship with parents, siblings & relatives)
- _____ SALVATION (saved, eternal life)
- _____ SELF-RESPECT (self-esteem)
- _____ SOCIAL RECOGNITION (respect, admiration)
- _____ WISDOM (a mature understanding of life)

Colour-Ranking Scale (Control Condition)

On this page are 14 colours. Your task is to rank all of the colours in terms of which ones you like most and which ones you like least.

Study the list carefully and pick out the one value that you like the most. Place a "1" beside that colour. Then pick out the colour that is next most important to you and place a "2" beside that colour. Continue in this manner until all 14 colours have been ranked.

_____ BLACK

_____ BLUE

_____ BROWN

_____ GOLD

_____ GREEN

_____ GREY

_____ ORANGE

_____ PINK

_____ PURPLE

_____ RED

_____ SILVER

_____ TURQUOISE

_____ WHITE

_____ YELLOW

Appendix V: Study 2b Debriefing Form

*Written Debriefing***The Effect of Self-Affirmation on Reactions to Romantic Rejection**

This study assessed the relationship between self-esteem and reactions to romantic rejection. We predict that people with low self-esteem will evaluate themselves more negatively after imagining being rejected than will people with high self-esteem. However, when they are given the opportunity to think about their personal values (an exercise that acts as a protective buffer against threats to one's self-concept), people with low self-esteem should feel better about themselves.

Your responses to all of the questionnaires will be absolutely confidential. Only persons associated with this research will ever see your name and responses. **Please do not tell other students about the details of this study before the end of the school term.** If other students know the purpose of the study before they participate, this could influence their responses, and as a result, their data would be useless.

Thank-you very much for your participation. If you have any comments or questions about your participation in this study, please contact Dr. Tara MacDonald, Department of Psychology, Queen's University, at 533-2873, Dr. Vernon Quinsey, Head of the Department of Psychology, Queen's University, at 533-6538, or the Chair of the Queen's University General Research Ethics Board at 533-6000 ext. 74579.

If you decide that you do not want the researchers to use the information that you provided in this study, please let us know immediately. Your data will be shredded and will not be used in the study. If you found any part of your involvement in this research to be stressful or upsetting and would like to talk about your thoughts or feelings, please consider making an appointment to speak with a counselor at Student Counseling Services (533-2506).

If you would like any information about the results of the study once it is completed, please feel free to contact me, Katherine Waller, at 7kw1@qlink.queensu.ca. If you are interested in learning more about this research topic, please refer to the following journal article:

Steele, C. M., & Liu, T. J. (1983). Dissonance process as self-affirmation. *Journal of Personality and Social Psychology*, 45, 5-19.

Appendix W: Descriptive Statistics and Scale Reliability Coefficients (Combined Study 2 Sample)

N = 190 (139 women, 31 men)

Mean age (years) = 18.53 ($SD = 1.21$)

Rosenberg Self-Esteem Scale $\alpha = .87$

Self-Evaluation Scale $\alpha = .96$

PANAS $\alpha = .93$

State Self-Esteem Scale $\alpha = .84$

Appendix X: Study 2 Regression Analyses

Study 2a

Each of the self-report measures (self-evaluation, single failure item, mood, and state self-esteem) acted as the criterion variable in a series of simultaneous multiple regression, with self-esteem, rejection condition (rejected or rejecter) and the cross-product of self-esteem and rejection condition entered as predictor variables. Effect coding was used for rejection condition (-1 = rejecter, +1 = rejected) and self-esteem was centered prior to the regression analysis, as recommended by Aiken and West (1991).

Self-Evaluation. Self-esteem was positively related to self-evaluation ($B = 0.47$; $t(75) = 5.97$, $p < .001$). People who were lower in self-esteem evaluated themselves more negatively following the imagined break-up than did those with higher self-esteem. Rejection condition was not related to self-evaluation ($B = 0.31$; $t(75) = 0.38$, $p = .71$). Importantly, as predicted, there was also an interaction between self-esteem and rejection condition ($B = 0.15$; $t(75) = 1.92$, $p = .06$), although this difference was marginal.

The meaning of this interaction was assessed further by regressing rejection condition on self-evaluation at low (mean self-esteem minus one standard deviation), medium (mean self-esteem) and high (mean self-esteem plus one standard deviation) levels of self-esteem. The relationship between rejection condition and self-evaluation was not statistically significant for people who were low ($B = -0.16$; $t(74) = 1.38$, $p = .17$), moderate ($B = -0.003$; $t(74) = 0.04$, $p = .97$), or high ($B = 0.16$; $t(74) = 1.32$, $p = .19$) in self-esteem. However, the effects were in the expected directions.

Failure. Self-esteem was negatively related to failure ($B = -0.45$; $t(75) = 6.12$, $p < .001$). People who were lower in self-esteem evaluated themselves as greater failures

following the imagined break-up than did those with higher self-esteem. Rejection condition was not related to failure evaluation ($B = 0.13$; $t(75) = 0.17$, $p = .86$). As predicted, there was an interaction between self-esteem and rejection condition ($B = -0.12$; $t(75) = 2.56$, $p = .01$).

The meaning of this interaction was further assessed by regressing rejection condition on failure at low (mean self-esteem minus one standard deviation), moderate (mean self-esteem) and high (mean self-esteem plus one standard deviation) levels of self-esteem. As predicted, rejection condition was positively related to failure rating for people who were low in self-esteem ($B = 0.22$; $t(74) = 2.01$, $p = .05$). On the other hand, for people who were moderate ($B = 0.05$; $t(74) = 0.46$, $p = .65$) or high ($B = -0.15$; $t(74) = 1.36$, $p = .18$) in self-esteem, rejection condition was not significantly related to failure rating. This interaction suggests that, for people with low self-esteem only, imagining a partner ending a relationship leads to an increase in the perception of the self as a failure.

Mood. Self-esteem was positively related to mood ($B = 0.36$; $t(81) = 3.19$, $p < .01$), with individuals with higher self-esteem reporting more positive mood. Rejection condition was not related to mood ($B = -0.12$; $t(81) = 1.07$, $p = .29$), nor was there a significant interaction between self-esteem and rejection condition ($B = 0.11$; $t(81) = 1.00$, $p = .32$).

State Self-Esteem. Self-esteem was positively related to state self-esteem ($B = 0.37$; $t(81) = 6.31$, $p < .001$), with individuals with higher trait self-esteem reporting higher state self-esteem. Rejection condition was not related to state self-esteem ($B = -0.03$; $t(81) = 0.48$, $p = .63$), nor was there a significant interaction between trait self-esteem and rejection condition ($B = 0.06$; $t(81) = 1.06$, $p = .29$).

Study 2b

Each of the self-report measures (self-evaluation, single failure item, mood, and state self-esteem) acted as the criterion variable in a series of simultaneous multiple regression, with self-esteem, rejection condition (rejected or rejecter) and the cross-product of self-esteem and rejection condition entered as predictor variables. Effect coding was used for rejection condition (-1 = rejecter, +1 = rejected) and self-esteem was centered prior to the regression analysis, as recommended by Aiken and West (1991).

Self-Evaluation. Self-esteem was positively related to self-evaluation ($B = 0.46$; $t(106) = 5.88$, $p < .001$). People who were lower in self-esteem evaluated themselves more negatively following the imagined break-up than did those with higher self-esteem. Rejection condition was not related to self-evaluation ($B = -0.04$; $t(106) = 0.50$, $p = .62$). As predicted, there was a marginal interaction between self-esteem and rejection condition ($B = 0.15$; $t(106) = 1.93$, $p = .06$).

The meaning of this interaction was assessed further by regressing rejection condition on self-evaluation at low (mean self-esteem minus one standard deviation), moderate (mean self-esteem) and high (mean self-esteem plus one standard deviation) levels of self-esteem. The relationship between rejection condition and self-evaluation was not statistically significant for people who were low ($B = -0.18$; $t(105) = 1.57$, $p = .12$), moderate ($B = 0.09$; $t(105) = 0.93$, $p = .36$) or high ($B = 0.13$; $t(105) = 1.17$, $p = .24$) in self-esteem. However, the effects were in the expected directions.

Failure. Self-esteem was negatively related to failure ($B = -0.60$; $t(105) = 6.37$, $p < .001$). People who were lower in self-esteem evaluated themselves as greater failures following the imagined break-up than did those with higher self-esteem. Rejection

condition was not related to failure evaluation ($B = 0.10$; $t(106) = 1.05$, $p = .30$), nor was there a significant interaction between self-esteem and rejection condition ($B = -0.09$; $t(106) = 0.94$, $p = .35$).

Mood. Self-esteem was positively related to mood ($B = 0.22$; $t(106) = 2.10$, $p = .04$), with individuals with higher self-esteem reporting more positive mood. Rejection condition was not related to mood ($B = -0.17$; $t(106) = 1.56$, $p = .12$), nor was there a significant interaction between self-esteem and rejection condition ($B = 0.14$; $t(106) = 1.32$, $p = .19$).

State Self-Esteem. Trait self-esteem was positively related to state self-esteem ($B = 0.36$; $t(106) = 7.84$, $p < .001$), with individuals with higher trait self-esteem reporting higher state self-esteem. Rejection condition was not significantly related to state self-esteem ($B = -0.08$; $t(106) = 1.60$, $p = .11$). As predicted, there was an interaction between trait self-esteem and rejection condition ($B = 0.12$; $t(106) = 2.65$, $p = .009$).

The meaning of this interaction was further assessed by regressing rejection condition on failure at low (mean self-esteem minus one standard deviation), moderate (mean self-esteem), and high (mean self-esteem plus one standard deviation) levels of self-esteem. As predicted, rejection condition was negatively related to state self-esteem for people who were low in trait self-esteem ($B = -0.19$; $t(105) = 2.84$, $p = .005$). On the other hand, for people who were moderate ($B = -0.02$; $t(105) = 0.35$, $p = .73$) or high ($B = 0.05$; $t(105) = 0.87$, $p = .42$) in trait self-esteem, rejection condition was not significantly related to state self-esteem. This interaction suggests that, for people with low self-esteem only, imagining a partner ending a relationship leads to a decrease in state self-esteem.