

ABSTRACT

Title of Document: THE EFFECT OF REJECTION ON
PREVIOUSLY ESTABLISHED
RELATIONSHIPS: SIMILARITY PLAYS A
ROLE

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Previous research has found that people who are rejected will sometimes seek to affiliate with strangers after a rejection episode (Maner et al. 2007; Williams & Sommer, 1997). This effect is theorized to reflect seeking for belonging (Smart Richman & Leary, 2009). Research testing how rejection affects relationships with previously established relationship partners, (who were not a party to the rejection) is lacking. Three hypotheses were tested. Hypothesis 1 was that people seek to bolster belonging with established relationship partners following a rejection episode. Study 1 found that female participants indicated bolstering of belonging with a trustworthy friend after recalling a rejection experience. Hypothesis 2 was that people would bolster belonging first with relationship others who share relationship criteria with the rejecter. Study 2a found that the betrayal experienced by heterosexual participants during their most recent breakup predicted their bolstering toward an opposite-sex, but not a same-sex, friend. Study 2b used a measure of rejection instead of betrayal

but did not replicate the results of Study 2a. Study 3 manipulated rejection and found that heterosexual participants rejected by a physically attractive other indicated bolstering of belonging toward an opposite-sex, but not a same-sex, friend.

Hypothesis 3 was that people would bolster belonging with relationship others who shared idiosyncratic similarities with the rejecter. Rejection and idiosyncratic similarity of a friend to the rejecter were manipulated in Study 4. The results did not support the hypothesis. Potential explanations for these results as well as possible future research are discussed.

THE EFFECT OF REJECTION ON PREVIOUSLY ESTABLISHED
RELATIONSHIPS: SIMILARITY PLAYS A ROLE

By

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Dedication

This dissertation is dedicated to Judson Mills. Had he not passed away, Jud would have been my advisor for this dissertation. While I am sure that this is not the document that would have been produced under Jud (he would have liked it to be more precise), this dissertation would not have happened without his influence.

Acknowledgements

I must first acknowledge the support and influence that my wife, Katie, provided for this dissertation. I love her and completed this dissertation for her and my sons, Dean and Scott.

I would also like to thank Dr. Sigall's help and support for this dissertation. It was crucial to have Hal step in after Jud's death, but his graciousness and sacrifice after his retirement are especially appreciated.

I would also like to thank Carol Gorham who pulled strings and reminded me of deadlines. She truly goes above and beyond the call of duty.

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Chapter 1: Introduction

Several recent studies of the effects of rejection on relationship behavior have found that people who have been rejected show a greater desire for affiliation with potential relationship partners than do people who have not been rejected (Maner, DeWall, Baumeister, & Schaller, 2007, Williams & Somer, 1997; Ouwerkerk, Kerr, Gallucci, & Van Lange, 2005). None of these studies, however, have researched how rejection affects people's already established relationships, specifically relationships with those who did not play a part in the rejection. There were two purposes for the current research. The first purpose was to study how social rejection affects these previously established relationships with persons who were not involved in the rejection. The second purpose was to study how similarity between the rejecter and other previously established relationship partners affects the relationship with those partners.

Rejection and the Need to Belong

To understand the role of rejection on other relationships, it is first important to understand how rejection is related to the need to belong. Baumeister and Leary, (1995) were the first to present evidence that the need to belong is a basic human need. They defined the need to belong as the need to form and maintain strong relationships with a limited number of others. People who do not have their need to belong satiated suffer physically and emotionally.

The Need to Belong and the Self

An important reason why a lack of belonging results in negative consequences is due to the need to belong's effect on self-concept. Several theorists have linked the satiation of the need to belong with perceptions of the self. Leary, Tambor, Turdal, and

Downs (1995), for example, theorize that self-esteem is really a gauge, a sociometer, of how well the need to belong is being satiated. The sociometer theory points out that a person's ability to make and maintain important relationships is a reflection on the self.

Another example of how the need to belong affects the self is Andersen and Chen's (2002) theory of personality. They theorize that representations of a person's significant others are connected to self-concept through separate relationship schemas (see Figure 1). Self-concept can therefore vary as a reflection of interactions with others. They note that the motivation to interact with significant others is based on the need to belong. These two theories are just two examples of how the need to belong is theorized to have a great influence on the self.

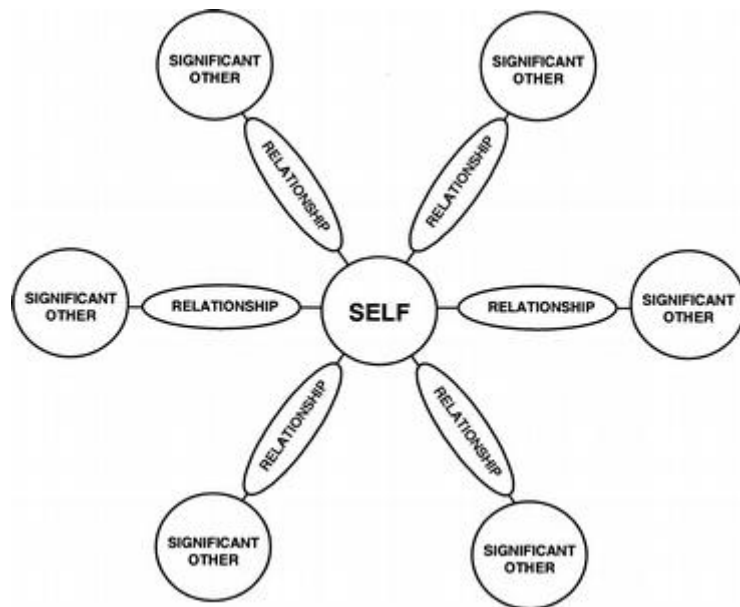


Figure 1. Linkages between the self and significant-other representations (From Andersen & Chen, 2002).

Baumeister and Leary (1995) point out many other examples of adverse consequences that occur when the need to belong is not satiated. They also point out

positive consequences of the satiation of the need to belong. The satiation or lack of satiation of the need to belong can have important consequences for a person's wellbeing.

Rejection as a Threat to Belonging

Several theorists argue that rejection and other forms of social exclusion, such as ostracism or even prejudice, are threats to the satiation of the need to belong (Leary, 2001; Smart Richman & Leary, 2009; Williams & Zadro, 2001). One way the need to belong can be threatened by rejection is simply because the rejecter is cutting off acceptance toward the rejected person. Therefore, the belonging that was being provided by the rejecter is lost. Another way that rejection threatens the need to belong is through perceived relational value to others beyond the rejecter. Relational value refers to the amount that others would want to be in a relationship with that person. This is the rejected person's perception of the self as a valuable relationship partner. Rejection by one partner potentially lowers a person's perceived relational value toward others. A lowered perceived relational value indicates that the person is less likely to have his need to belong satiated by others. This has a negative effect on the person's self-concept since self-concept is connected to the person's relationships as noted previously. It is important to note that this effect of rejection on relational value can happen whether or not the rejecter is a close significant other as long as the rejected person sees the rejection as an indication of relational value.

Reactions to Rejection

When a person lacks belonging, as with the lack of fulfillment of any other basic human need, she suffers adverse consequences (Baumeister & Leary, 1995). This means that there will be strong reactions when a person's satiation of the need to belong is

threatened by rejection. Smart Richman and Leary (2009) point out that there are many studies of the reactions to rejection. These studies often find very different reactions to rejection. There are three sets of motives that are almost always experienced by the rejected person after rejection occurs. The three motives are withdrawal, antisocial urges, and prosocial urges. These motives occur more or less simultaneously. Acting on these motives, however, depends on a variety of factors. Also, the targets of these motives are not necessarily the same people.

Withdrawal

After being rejected, the rejected person may want to withdraw from others. This is the least studied of the three motives following rejection. The motivation to withdraw from social contact after rejection stems from a desire to distance one's self from the rejecter and to avoid future pain (Smart Richman & Leary, 2009). This distancing motivation should be targeted toward the rejecter and also toward others whom the rejected person does not fully trust to offer acceptance (Vangelisti, Young, Carpenter-Theune, & Alexander, 2005). Thus, withdrawing from others can actually be a mechanism for satiating the need to belong, or at least for avoiding further deprivation of that need.

Antisocial Urges

A variety of studies in the rejection literature have found that, when a person is rejected, he may exhibit a desire to retaliate or otherwise behave antisocially (see Leary, et al. 2006). Twenge, Baumeister, DeWall, Ciarocco, and Bartels (2007), for example, show through a variety of experiments that socially excluded participants displayed fewer prosocial behaviors (donating money, volunteering time, helping after a mishap, and

cooperation in a mixed-motive game) compared to participants who had not been excluded. Other studies have shown that rejected participants were more likely to aggress, for example, by blasting their rejecter with noise (Bushman, Baumeister, & Phillips, 2001) or making them eat more hot sauce (Harmon-Jones & Sigelman, 2001). Studies of real-world acts of aggression, such as school shootings (Leary, Kowalski, Smith & Phillips, 2003), and rape (McKibben, Proulx, & Lusignan, 1994), have also made a link between rejection and aggression. It is important to note that studies of antisocial reactions to aggression most often find these antisocial behaviors are directed toward persons who are perceived to be sources of rejection (see Leary, et al., 2006). Thus, antisocial behaviors can be seen as retaliation for depriving the need to belong.

Prosocial Behaviors

Contrary to these previous studies that have found withdrawal or antisocial reactions to rejection, recent experimental studies have found evidence that social exclusion leads to increased prosocial behaviors (e.g. Maner, DeWall, Baumeister, & Schaller, 2007). These prosocial behaviors stem from a desire to affiliate after a rejection episode. Evidence for the desire to affiliate post-rejection can be seen in correlational studies such as Anderson et al.'s (2004) findings that 50% of divorcing spouses had dated someone new before the divorce was finalized. Several studies have also shown that victims of racism or other forms of discrimination seek after and/or are benefited by social support (Noh & Kasper, 2003; Clark, 2006). Experimental studies have also demonstrated a desire to affiliate after a rejection episode (Williams & Sommer, 1997; Ouwerkerk, Kerr, Gallucci, & Van Lange, 2005).

Of the studies showing prosocial reactions to rejection, Maner et al.'s (2007) provides the clearest evidence of social exclusion leading to increased motivation to satiate the need to belong with other potential relationship partners. Through a series of experiments, they showed that participants who had been rejected showed a greater desire to meet new friends and work with others. Excluded participants also saw new potential partners as friendlier and less angry. These excluded participants also treated others more favorably than did participants who were not excluded. Each of these reactions to social exclusion showed an increased desire to affiliate with others after the exclusion manipulation.

It is important to note that Maner et al.'s (2007) findings were not without conditions. Excluded participants did not show an increased desire to affiliate with all others. The excluded participants did not act more favorably toward the person who had rejected them. Nor did the rejected participants act more favorably toward another person if they did not anticipate interacting with that person. These results are in keeping with the theory that social exclusion is a deprivation of the need to belong. Participants who were excluded showed desires for affiliation which would satiate their need to belong, but not toward others who wouldn't (i.e. the rejecter) or couldn't (i.e. others with whom they did not expect to interact) satiate that need.

Rejection's Effect on Established Relationships

The first purpose for the current research was to study the effect of rejection on established relationships with partners that were not involved in the rejection. The main question, then, is which of the three reactions to rejection reviewed above will be exhibited toward these relationship partners? It is important to note that both the negative

consequences and the increased desire for affiliation after rejection stem from the need to belong not being satisfied. Baumeister and Leary (1995) theorize that, as with other basic human needs, the need to belong will be pursued until satiated. Regardless of whether the person experiences negative affect, rejection by one provider of the need to belong does not mean that the need has dissipated. To use an analogy, if I am refused service at a certain restaurant, it doesn't mean that I will no longer be hungry. Though I may be angry, I will still strive to satisfy my hunger.

A person's reaction to rejection will depend on her perception of how well a potential or established relationship partner will satiate the need to belong (see Smart Richman & Leary, 2009). Persons who are seen as the source of rejection or who cannot be trusted to provide acceptance will more likely be met with withdrawal and/or aggression (see Vangelisti et al. 2005, Leary, et al. 2006). Similarly, potential relationship partners who cannot or will not fulfill the need to belong are not met with prosocial behaviors after rejection (Maner et al. 2007). However, because the desire to affiliate and re-establish relational value is the underlying motivation after rejection, persons who have been rejected should be motivated to seek affiliation and relational value with previously established relationship partners provided that the relationship partner is not seen as unreliable in fulfilling the need to belong. Because most intimate relationships are based on the ability to trust the relationship partner (Holmes, 1991), it was predicted that, generally, rejection will result in a desire to seek belonging from an established relationship partner.

Whereas studies have not previously shown experimentally that people are motivated to satiate their need to belong through established relationships after rejection,

there is evidence that would support this idea. The multiple studies on the seeking of social support after a rejection experience support this idea (see Noh & Kasper, 2003; Clark, 2006). This prediction is also supported by Baumeister and Leary's (1995) explanation of substitutability in satiating the need to belong. They theorize that the need to belong will be pursued until satiated. If one source of satiation of the need to belong is not available, substitutability can occur. When a person is socially excluded by one person, a substitute source to satiate the need to belong will be sought after, providing that the original excluder is not seen as a viable source to provide for that need (Smart Richman & Leary, 2009). Established relationship partners usually are trusted sources of belongingness. Therefore, people who have been rejected should be motivated to reinforce their relational value via an established relationship partner. They should augment belonging with the established relationship partner in order to substitute for the belonging that was lost or threatened.

Similarity

If a person is motivated to bolster belonging with previously established relationship partners after rejection, the next important question to ask is, with which relationship partner will to bolster belonging? Will he seek to bolster belonging with all established relationship partners or will the motivation be specific to one relationship partner or a subset of relationship partners? The second purpose of this research was to study how similarity between the rejecter and other previously established relationship partners affects the relationship with those partners. I predicted that rejected individuals will have an increased motivation to reinforce belonging with relationship others who are similar to the rejecter. Two kinds of similarity are important to consider in answering

this question. The first is similarity of relationship role criteria. The second is idiosyncratic similarity. Relationship role criteria are criteria necessary for the partner to fulfill a relationship role (e.g. gender or age for a romantic relationship partner). By idiosyncratic similarity, I mean other similarities that are not relationship criteria that happened to be characteristics of the rejecter. These could be almost anything from political affiliation to preference for a certain color.

Specificity in Substitution

While discussing future directions for research, Maner, et al. (2007) mention that it would be well to research whether rejection by a relationship partner within a specific relationship domain (e.g. a romantic partner) will lead to desires to affiliate with others who can fill that specific relationship role or with others in general. This is based on theories that different relationships serve different functions and provide for different needs. For example, Kirkpatrick and Ellis (2001) expanded on Leary et al.'s (1995) sociometer theory by stating that self-esteem is not just a general gauge of fulfillment of the need to belong, rather, people have specific sociometers for specific relationships. This is because these relationships are distinct in function and importance. Therefore following social exclusion, a person may have a motive not just to seek belonging in general, but rather, the person will seek belonging with others who can fulfill needs that are specific to the relationship domain. An example of this can be seen in Weiss' (1975) findings that, after a romantic relationship had dissolved, participants expressed two different types of loneliness: emotional isolation which focused on missing a romantic partner, and social isolation which focused on missing more general social connections. These theories would indicate that, when rejected, the desire for belonging should be

focused toward a relationship partner who would fulfill the needs specific to the relationship that were expected from the rejecter. To expand the analogy of the restaurant, if I am denied service at Baskin-Robbins, I will probably go to another ice cream parlor before I will go to P.F. Chang's. It's not that Chinese food won't satiate hunger, it's just that my craving is more specific. After rejection, a person's belongingness vis-à-vis a specific other is called into question, therefore the desire to bolster belonging and relational value should also be focused toward a relationship partner within that same relationship domain. That could mean seeking belonging with the rejecter, or if that is not feasible, with someone that can fulfill the relational domain of the rejecter.

If a person's desire for belonging after rejection is toward others who can fill the relationship role of the rejecter, those others will necessarily hold similarities to the rejecter. For example, if a heterosexual male is dumped by his girlfriend, then he will most likely seek a new relationship with someone who is similar to his girlfriend at least in her gender and age. That is, someone who could meet criteria to fulfill the specific relationship that was filled by the rejecter. However, other idiosyncratic similarities that are not necessary criteria for fulfilling a relationship role are also likely to influence with whom the person seeks belonging, as argued below.

Similarity and Transference

The importance of idiosyncratic similarity between relationship others has been studied by Susan Andersen and her colleagues in their work on transference. They have shown that, when a new other shares similarities to a person's significant other, characteristics, affect and motivations toward the significant other can be transferred to

the new other even when there is no evidence that the new other holds these characteristics (Andersen & Glassman, 1996). Experiments in transference generally follow the same paradigm. The experiment is done in two parts. In the first part, participants name one or more significant others and then write several sentences (generally 14) that describes each significant other. The participants then rank-order these statements as to how characteristic each is of the significant other. Then the participants select several adjectives that are irrelevant to the significant other. The second part of the experiment is done days, if not weeks, later. The participant learns information about a new target person. In the similar condition, this new target person is described with some of the characteristic statements about the participant's significant other as well as some of the irrelevant adjectives. Each participant in the similar condition is yoked with another participant in the non-similar condition such that both participants see exactly the same description of the new target person. In the similar condition, this description is similar to that of the participant's significant other, whereas in the non-similar condition the exact same description is not similar to the participant's significant other. The participants then complete the dependent measure which, in early studies, was a rating of how confident the participant was that the target held each of the significant other's characteristics. Since the participants were only presented with some of the characteristics of their significant other, confidence that they saw other characteristics not presented would indicate transference. This effect was found in several replications. Moreover, participants in the similar condition were significantly more confident, than were the yoked participants in the non-similar condition, that they had seen other descriptive statements of their significant other in the target other's

description. Since the yoked participants saw exactly the same description of the significant other, the transference of the significant other's characteristics to the target other cannot completely be explained by Implicit Personality Theory (IPA). The association of certain traits was idiosyncratic to the significant other, not generally held or dependent on personality as would be predicted by IPA (see Schneider, 1973).

Expanding on these findings, Andersen and Baum (1994) also showed evidence for transference of schema-triggered evaluation as described by Fiske (1982). That is, evaluations of a significant other were transferred to the new target if the target was similar to the significant other. Furthermore, Andersen and Baum (1994) found that participants indicated a greater motivation to become close (emotionally) with a new target if that target person was similar to a positively-toned significant other compared to a negatively-toned significant other. The same pattern was not found for target others described with the characteristics of a yoked participant's significant other. This finding constitutes evidence that motivation toward one significant other can be transferred to a new person.

As mentioned previously, Andersen and Chen (2002) theorize that representations of the significant other are connected with self-concept through a relationship schema (see Figure 1). The significant other is an exemplar, an n-of-one representation. This representation of the significant other is essentially confounded with the role that he or she plays for the person. This means that activating the concept of the significant other will also activate broader categories that the significant other represents. A person's self-concept is informed by the relationship that he has with his various relationship partners. This means that perceived relational value is one of the most important determinants of a

person's self-concept. The perception of relational value is specific to a given relationship, though. As discussed previously, different relationships have different functions and meanings (Kirkpatrick & Ellis, 2001). A person's perceived relational value to a parent may be quite different from her relational value to a boyfriend. Therefore, perceived relational value should be specific to a given relationship (e.g. a boyfriend) or to persons who can fill that role (e.g. a potential boyfriend). Andersen and Chen's (2002) theory and findings on transference would suggest that perceived relational value could also be informed by persons who are similar to a relationship partner (e.g. men of a similar age as a boyfriend). If perceived relational value is based on cognitions about a given relationship category and the motivation to fulfill the need to belong with a member of that category, and Andersen and Baum (1994) have found that motivations and cognitions about a significant other are transferred to a new target who is similar to the significant other, then perceived relational value and the motivations connected with that perceived value should also transfer.

Chapter 2: The Present Research

Based on these findings and theories described above, people who are rejected should feel that their need to belong is not being satiated. They should therefore seek to bolster belonging with previously established relationship partners in order to see themselves as relationally valued. The rejected person will not seek belonging indiscriminately, however. Because the need to belong is specific to certain relationships, the person should seek to bolster belonging with someone who is similar to the rejecter in relationship criteria. For example, a male dumped by his girlfriend should seek to bolster belonging with a female outside of his own family.

Beyond the basic criteria of the specific relationship role, though, the person should also seek to bolster belonging with a relationship partner who shares more idiosyncratic similarities with the rejecter. If a person's relational value is called into question through rejection by a specific other, then the person should be motivated to bolster her relational value with that person, if feasible. If that is not feasible, however, she should seek to reinforce her relational value with someone who is perceived as similar to the rejecter. This is the same transference process described by Andersen and Chen (2002) except that it is a motivation transferred to an established relationship partner instead of toward a stranger. This is also an example of substitutability (Baumeister & Leary, 1995) since the motivation to satiate the need to belong is moving from the rejecter to the substitute. In this case, the substitute is a previously established relationship partner. Determining which previously established relationship partner is most likely to become the substitute should happen as per the transference literature. That is, the motivation to bolster belonging should be transferred to someone who shares

idiosyncratic similarities with the rejecter. To extend the analogy of the restaurant, if I am denied service at Baskin-Robbins, I will seek another ice cream parlor, but if none are available, I will seek a frozen yogurt place or even a donut shop before I will go to the Chinese restaurant.

It should be noted that the current research focuses on rejection episodes in which repairing the relationship with the rejecter is not feasible, which is often the case. When repairing the relationship is not feasible, the person should be motivated to find a substitute source of belonging to compensate for any loss of belonging with the rejecter and also to feel relationally valuable to others.

Hypotheses

There were three main hypotheses for this research:

Hypothesis 1: Persons who are rejected (vs. not rejected) will be more motivated to bolster belonging with previously established relationship partners, provided that that partner can be trusted to provide a sense of belonging.

This effect has been shown for strangers (Maner et al. 2007). I hypothesized that the same effect would be found for previously established relationship partners.

Hypothesis 2: Persons who are rejected will be more motivated to bolster belonging with relationship partners who share similar relationship role criteria with the rejecter than with previously established relationship partners who do not share these similarities with the rejecter.

Hypothesis 3: Persons who are rejected will be more motivated to bolster belonging with relationship partners who share other similarities besides role

criteria with the rejecter than with previously established relationship partners who do not share these other similarities with the rejecter.

Measuring Bolstering of Belonging

By bolstering of belonging, I mean an increase in motivation, behavior, or cognition that would assure or reassure the person that the relationship partner will provide belonging. To measure the bolstering of belonging, I combined three measures of relationships, the Communal Strength Scale (Mills, Clark, Ford & Johnson, 2004), a Liking scale (also from Mills, et al. 2004), and the Inclusion of the Other in the Self (IOS) scale (Aron, Aron, & Smollan, 1992). Each of these measures was completed by the participant and was scored. Z-scores were calculated separately for the measures and the mean of the three z-scores was used as the bolstering of belonging score.

These three measures were used because they represent three important aspects of belonging. Baumeister and Leary (1995) stated that satisfying the need to belong requires meeting two criteria. First, “frequent, affectively pleasant interactions with a few other people, and second, these interactions must take place in the context of a temporally stable and enduring framework of affective concern for each other’s welfare” (pg. 497). The three measures of relationships measure different aspects of these criteria. The combined score of these three measures provides a good general measure of bolstering of belonging.

The Communal Strength Scale. The communal strength scale measures the concern for each other’s welfare mentioned in the second criterion of belonging. Indeed, Baumeister and Leary (1995) mention that meeting this criterion is at least part of people’s desire for communal relationships. Communal relationships are relationships in

which benefits are given in response to needs or to demonstrate a general concern for the other person (Clark & Mills, 1979). Communal relationships can be contrasted with exchange relationships in which a person gives a benefit in expectation of receiving a benefit of equal value in return or as repayment for a previously received benefit. For most people, their most important relationships are their communal relationships. Communal relationships can vary in strength; i.e., some communal relationships are stronger than others.

Communal strength refers to the motivation to respond to a specific partner's needs without expectation of an exchange-like reciprocation. Mills, et al. (2004) developed a measure of communal strength (see Table 1). They theorized that, the stronger the communal strength, the more responsibility a person will feel for a partner's welfare, the more cost a person will incur to provide for the needs of the partner, and the more distress or guilt a person will feel for not responding to the partner's need. They found that greater communal strength predicted participants' likelihood of providing benefits to a partner. They even found that communal strength toward a spouse will predict that spouse's marital satisfaction. Lemay, Clark and Feeney (2007) found that people project their own communal strength onto their partner. That is, a person's communal strength toward her partner is a better predictor of the person's perception of her partner's communal strength toward the person than is the partner's actual communal strength toward the person. This would indicate that people use communal strength toward a partner as an indicator of relational value to the partner.

Table 1.

The Communal Strength Scale (From Mills et al. 2004).

1. How far would you be willing to go to visit ——?
2. How happy do you feel when doing something that helps ——?
3. How large a benefit would you be likely to give ——?
4. How large a cost would you incur to meet a need of ——?
5. How readily can you put the needs of —— out of your thoughts?
6. How high a priority for you is meeting the needs of ——?
7. How reluctant would you be to sacrifice for ——?
8. How much would you be willing to give up to benefit ——?
9. How far would you go out of your way to do something for ——?
10. How easily could you accept not helping ——?

Note. Items 5, 7, and 10 are reverse scored. The instructions given are as follows: Keeping in mind the specific person, answer the following questions. As you answer each question, fill in the person's initials in the blank. Circle one answer for each question on the scale from 0 = not at all to 10 = extremely before going on to the next question. Your answers will remain confidential.

The measurement of communal strength is particularly useful for measuring bolstering toward a previously established relationship partner because the measure is specific toward one person. Communal strength is one person's motivation to respond communally to a *specific* partner's needs. Communal strength should not be confused with communal orientation (Clark, Ouellette, Powell, & Milberg, 1987). Communal orientation is one's general tendency to behave communally. Communal strength is the measurement of the motivation a person has to behave communally to one specific relationship partner. For example, I have a different communal relationship with my

father, my wife, and my son. I therefore may have a different amount of communal strength toward each of these relationship partners. This is an important distinction because a specific manipulation, (e.g. a rejection manipulation) can lead to an increase or decrease of communal strength with one relationship partner and not another.

The Liking Scale. Communal strength alone does not necessarily cover both of the criteria for belonging. The first criterion included having affectively pleasant interactions with relationship partners. This criterion may be better measured with a scale of liking, than with the Communal Strength scale. Mills, et al. (2004) showed that liking is distinct from communal strength though they are correlated. They theorize that there may be times when people may feel obligated to behave communally with a relationship partner, though they may not particularly like the relationship partner. To test this distinction, they created a Liking scale. Their scale includes three items (see Table 2).

Table 2.

The Liking Scale (From Mills et al. 2004).

1. How much do you personally like——?
 2. How annoying do you find——?
 3. How positive is your general evaluation of——?
-

Note. Item 2 is reverse scored.

As with the Communal Strength Scale, the participant entered the specific person's initials for each item. The items were answered on a scale from 0 = not at all to 10 = extremely.

Mills et al. (2004) found that liking toward a new friend was greater than toward a relative, whereas communal strength was greater toward the relative than the friend. In terms of the criteria for belonging, it may be that interacting with a new friend may be more affectively pleasant, however, that new friend may not be as actively concerned for the person's welfare as would be a relative. Thus, liking indicates a different aspect of belonging than does communal strength.

The Inclusion of Other in the Self (IOS) Scale. Besides communal strength and liking, I also used the Inclusion of Other in the Self (IOS) Scale (Aron, Aron, & Smollan, 1992). This is a widely used scale that asks the participants to indicate which pair of overlapping circles best describes his relationship with the other (see Figure 2). It is a measure of perceived closeness and mutuality with the relationship other. I included this measure in order to tap into the sense of stability and enduringness that is part of the second criterion of belonging.

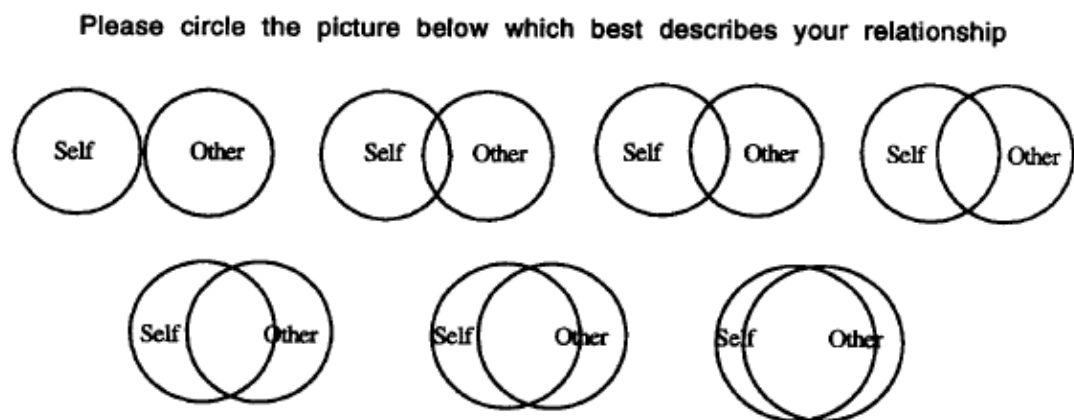


Figure 2. The Inclusion of Other in the Self (IOS) Scale (From Aron, Aron, & Smollan, 1992).

Aron et al. (1992) found that the IOS scale, while simple, is effective at measuring feelings of closeness to the relationship other as measured by more complex measures. They also found that it correlates to behaviors that indicate closeness as measured by other, more complex scales such as the Relationship Closeness Inventory (Berscheid, Snyder, & Imoto, 1989).

It may be that IOS is related to belonging in a more general sense as well. For example, Young, Bernstein and Claypool (2009) sought to study how IOS toward a candidate affected feelings of rejection and belonging. They found that conservatives who indicated a high IOS toward John McCain felt less of a sense of general belonging after the 2008 election than did conservatives who indicated a lower IOS toward McCain. This was interpreted as a greater feeling of personal rejection following the election which led to less of a sense of belonging. Unlike in this study, however, the current research sought to measure IOS as an indication of belonging after rejection instead of a predictor how rejected a person will feel.

The Communal Strength, Liking, and IOS scales have all been shown to be correlated with each other, though each has also been shown to be distinct from the other (Aron et al. 1992; Mills et al. 2004; Curtis & Mills, 2008). It was predicted that, following rejection, participants would show greater scores on each of these measures toward an established relationship partner. The reason that the combination of three different measures was used instead of just one general item asking for perceived belonging is twofold. First, these three measures have been shown to be reliable and valid in other studies. Second, an item asking about perceived belonging is more likely to entail a judgment about how the other perceives the person. Since participants in the

current research were rejected, it was theorized that their relational value would be threatened. If participants felt less relationally valued, they may indicate less of a sense of belonging with a relationship partner even though the participant would have a greater desire to bolster belonging with that partner. The three measures used do not directly ask the participant to judge how the relationship other perceives him or her, rather they measure cognitions and motivations indicative of belonging on the part of the participant toward the relationship partner.

For each of the following studies, the mean of the Communal Strength scale, the mean of the Liking scale, and the IOS score were each transformed into z-scores. The mean of the three z-scores was used as the bolstering of belonging score.

Overview of Studies

Four studies were conducted to test my hypotheses. Study 1 asked participants to think of a rejection experience or another negative experience and then measured communal strength, liking, and IOS toward a trustworthy vs. untrustworthy friend. Study 2 used a correlational method to test whether rejection during a breakup predicted responses to the three measures toward friends who are similar (by sex) or dissimilar to an ex-boyfriend/girlfriend. Study 3 used an experimental method (the Cyberball game) to see how rejection vs. inclusion by attractive strangers affects communal strength, liking, and IOS toward a same vs. opposite-sex friend. Study 4 combined methodology from Maner, et al. (2007) and Andersen's transference paradigm to test whether rejection by a new target other who shared (vs. did not share) similarities with a participant's current significant other affected communal strength, liking and IOS toward that significant other (compared to communal strength toward another significant other).

Chapter 3: Study 1

This was a simple experiment testing Hypothesis 1: Persons who are rejected (vs. not rejected) will be more motivated to bolster belonging with previously established relationship partners, provided that that partner can be trusted to provide a sense of belonging. The method was derived from Maner et al.'s (2007, Study 1) who asked participants to think of a rejection experience, an acceptance experience, or a neutral experience. They then measured the participants' desire to meet and connect with others. It was found that participants who wrote about a rejection experience (versus an acceptance or neutral experience) had a greater desire to meet and connect with others. The current experiment sought to replicate this finding toward currently established relationship partners. The experiment incorporated a 2 (Rejection: High vs. Low) x 2 (Trust: Trustworthy friend vs. Untrustworthy friend) between-subjects design. Participants were asked to write about either an experience when they were rejected or when they were physically injured. Participants were asked to write about a physical injury instead of an acceptance experience because one potential explanation for Maner et al.'s (2007) findings is that any negative event, not just rejection, could have lead participants to desire to affiliate with others. Participants then completed the Communal Strength, Liking, and IOS scales about a friend whom they trust or do not trust. I predicted that participants who wrote about a rejection experience would report greater bolstering of belonging toward a trustworthy friend compared to those who wrote about a physical injury. I did not predict that pattern when participants reported about an untrustworthy friend.

Method

Participants. 134 undergraduates (91 female, 43 male) at the University of Maryland participated in exchange for course credit. The age of participants ranged from 18 to 28 with a mean age of 20.26 years.

Procedure. Participants were given a questionnaire to fill out by hand (See Appendix A). They first completed several demographics questions followed by the Communal Orientation scale (Clark et al. 1987), a lie scale, and the Rosenberg Self-Esteem scale (Rosenberg, 1965). The lie scale consists of three of the five lie items included in Webster and Kruglanski's (1994) Need for Closure scale. The items included were: "I have never met a person I didn't like," "I have never hurt another person's feelings," and "I have never been late for an appointment."

The participants were then asked to think of a platonic friend who is not their best friend whom they trust (Trustworthy Friend Condition) or do not trust (Untrustworthy Friend Condition). The participants were then asked to write the first name of that friend. On the next page, participants were asked to think of an experience when he/she felt rejected (Rejection Condition) or was physically injured (No Rejection Condition). They were specifically asked to think of an experience that did not involve the friend whose name they wrote on the previous page. Participants were asked to think of an experience that, on an 11 point scale where 0 is no pain and 10 is extreme pain, they would rate as a 7 or 8. A response scale with 7 and 8 circled was shown. Participants were asked to write a paragraph describing this experience. The rest of the page had several blank lines where they wrote about their experience.

Participants then filled out the Communal Strength, Liking and IOS scales about the friend whose name they had written on the page before their experience. Following these scales was an item asking how romantically attracted the participant was toward the friend. A final item asked the participant to indicate, in months, how long he/she has known the friend.

Results

Of the 134 original participants, nine were not included in the final analyses. One participant did not write about an experience, one participant's experience essay was incomprehensible, and one participant's physical injury experience involved rejection. Six other participants were not included because of high scores on the Lie scale. As per Webster and Kruglanski's (1994) scoring procedure, responses to the three items on the Lie scale were summed. Participants whose sum was 18 or higher were not included. A score of 18 would have required an average score over the midpoint of the response scale (6 on a scale from 0 to 10) for each item. Participants who scored too high on the lie scale were excluded because the measures that make up the bolstering of belonging score are susceptible to dishonest responding due to social desirability. The items that make up Webster & Kruglanski's (1994) Lie scale are measures of social desirability. Participants whose answers indicate that they wish to be seen as more socially desirable may also indicate more communal strength, liking, or Inclusion of the Other in the Self with their relationship partner. This is because relationship strength reflects on evaluations of the self (Leary et al. 1995; Andersen & Chen, 2002). Participants who are willing to lie about the items on the Lie scale are therefore likely to have lied on the scales that make up the dependent measure in order to represent themselves as better relationship partners

and therefore more socially desirable. These participants were therefore excluded from the analyses.

Analyses. An initial analysis correlated each of the three measures that make up the bolstering of belonging score. Each of the measures was significantly correlated with each of the others as seen in Table 3.

Table 3.

Pearson Correlations for Each of the Dependent Measures

	Communal Strength	Liking
IOS	.58	.38
Communal Strength	--	.69

Note: For each correlation $p < .01$.

Means were calculated separately for the Communal Strength and Liking scales. These two means along with the IOS score were transformed into z-scores. The mean of the three z-scores was used as the score for bolstering of belonging.

A 2 (Rejection: rejection experience vs. physical injury experience) x 2 (Trust: Trustworthy friend vs. untrustworthy friend) x 2 (Sex: Male vs. Female) between-subjects ANCOVA with Communal Orientation and Self-Esteem as covariates was run for bolstering of belonging. Communal orientation indicates expectations of how relationship others should act communally and was therefore controlled for. Self-esteem may be an indication of current relational belonging (Leary et al., 1995) and was therefore controlled for as well. Whereas differences between men and women were not predicted, nor were they found by Maner, et al. (2007), sex differences have been found

in one study involving ostracism (Williams & Sommer, 1997). Sex was therefore included as a factor.

A significant main effect for Trust $F(1,115) = 115.24, p < .001$ was found. Bolstering of belonging toward a trustworthy friend ($M = .59, SE = .07$) was significantly higher than toward an untrustworthy friend ($M = -.56, SE = .08$). This main effect was qualified, however, by a significant three-way interaction among Rejection, Trust, and Sex $F(1,115) = 8.60, p < .01$ (see Table 4). Pairwise comparisons compared cell means by Rejection, Trust, and Sex. For female participants, bolstering of belonging toward a trustworthy friend was significantly greater ($p < .01$) when writing about a rejection experience ($M = .89, SE = .12$) than when writing about a physical injury ($M = .42, SE = .12$). Bolstering toward a trustworthy friend when writing about a rejection experience was also significantly higher ($p < .01$) for female participants ($M = .89, SE = .12$) than for male participants ($M = .31, SE = .17$). Pairwise comparisons also found that communal strength was greater toward trustworthy friends than toward untrustworthy friends for both levels of Sex and Rejection. (see Table 4). No other significant comparisons were found.

Table 4.

Bolstering of Belonging Scores Toward a Friend as a Function of the Participant's Sex, Whether the Participant Wrote About a Rejection or Physical Injury Experience, and Whether the Friend was Trustworthy or Untrustworthy.

	Females		Males	
	Trustworthy Friend	Untrustworthy Friend	Trustworthy Friend	Untrustworthy Friend
Rejected	.89 (.12) ^{a,b,c}	-.69 (.11) ^c	.31 (.17) ^{b,e}	-.31 (.18) ^e
Physical Injury	.42 (.12) ^{a,d}	-.63 (.11) ^d	.75 (.17) ^f	-.62 (.21) ^f

Note: Means that share a superscript differ, $p < .05$. Standard errors are in parentheses.

Discussion

The results partially supported Hypothesis 1, that persons who are rejected (vs. not rejected) will be more motivated to bolster belonging with previously established relationship partners, provided that that partner can be trusted to provide a sense of belonging. Female but not male participants who had written about a rejection experience indicated greater bolstering of belonging toward a trustworthy friend than did participants who had written about an experience when they were physically injured. Rejection did not influence bolstering of belonging toward an untrustworthy friend. The results for females support the idea that people who are rejected will be motivated to seek out belonging with relationship partners whom they can trust to provide that belonging. Rejection is theorized to be a reduction in the fulfillment of the need to belong. It also

indicates that the rejected person may have a lower relational value and therefore would be at risk of not having the need to belong fulfilled in the future. In order to maintain a positive perception of the self as having relational value, and in order to provide reassurance that the need to belong is being fulfilled, participants should look to established relationship partners as a source of that reassurance. They would therefore seek to bolster belonging with relationship partners whom they could trust to provide acceptance.

While the results support Hypothesis 1 for females, the male participants did not show the same results. Males' bolstering of belonging scores toward their trustworthy friends did not significantly differ when the when writing about a rejection experience compared to a physical injury. This was not predicted, nor was there a sex difference in Maner et al.'s (2007) study. I did not predict a gender difference because both men and women should feel a threat to the need to belong. As mentioned previously, however, Williams and Sommer (1997) did find a sex difference in their study of ostracism. They found that female participants contributed more during a group task after being excluded during a ball tossing game than did the female participants who were included in the game. Male participants, on the other hand, showed more social loafing after being excluded during the ball tossing game. Williams and Sommer (1997) speculate that this may be because men are more likely to deal with rejection by saving face instead of striving to improve relationships. They speculate that the male participants still felt rejected, and hence, a threat to belonging, but that they adopted different strategies for coping with the rejection. Studies of jealousy, which involves the threat that belonging will be lost to a rival, support the possibility of this idea (Miller & Perlman, 2009). These

studies have shown that men who experience jealousy are more likely to protect their egos and devalue the relationship whereas women are more likely to work to improve the relationship. In the current research, the result that men did not show bolstering after the rejection manipulation may be an indication that male participants incorporated a different strategy, other than bolstering, to deal with the threat to belonging. For example, male participants may have been psychologically distancing themselves from relationship partners when they remembered a rejection experience. This one result is not enough, however, to support the speculation that men react differently to rejection, but it is intriguing and may lead to an interesting line of future research.

Implications for substitutability. The results for females did support my hypothesis. It is important to note that, in this study, the participants were specifically asked to not write about an experience that involved the trustworthy or untrustworthy friend. One important aspect of Hypothesis 1 is that participants will seek to bolster belonging with a relationship other who was not involved in the rejection. This was in order to show that the bolstering belonging was not a reaction to rejection from that specific friend. This provides evidence for substitutability in providing for the need to belong (Baumeister & Leary, 1995). Participants' bolstering of belonging with a relationship partner that was outside of the rejection experience shows that they do use previously established relationships to substitute for a threat to belonging from another source.

These results replicate and expand on Maner et al.'s (2007) study 1 findings. Just as in their study, participants sought to bolster belonging after writing about a rejection experience. The current results, however, show that bolstering belonging was shown not

by a desire to affiliate with strangers, but rather by bolstering belonging with previously established relationship partners. These results also show that participants will not just bolster belonging with any relationship partner. Participants only showed bolstering with relationship partners whom they trusted. This result shows one condition of substitutability, specifically that people will seek to bolster belonging with someone they can trust. The following three studies seek to show another condition of substitutability; that participants will seek to bolster belonging with relationship partners who share similarities with the rejecter.

Chapter 4: Study 2a

Studies 2a and 2b both tested Hypothesis 2: Persons who are rejected will be more motivated to bolster belonging with relationship partners who share similar relationship role criteria with the rejecter than with previously established relationship partners who do not share these similarities. Studies 2a and 2b both employed a correlational method. A common rejection experience is a romantic breakup. Feelings of betrayal and rejection that occurred at the time of a breakup should influence other relationships as well. It was predicted that participants who felt betrayed or rejected during their most recent breakup would show a greater desire to bolster belonging. I theorized that this is because their need to belong was not being fulfilled to the extent that the person wished. However, I hypothesized that this bolstering should be specific to members of the category that perpetrated the rejection. For single heterosexuals, this would be members of the opposite sex. These people have an unfulfilled need to belong with members of the opposite sex.

Overview

Participants were asked to complete a Communal Strength, Liking, and IOS scale about a platonic male friend, a platonic female friend, and their most recent ex-boyfriend/girlfriend. Several other items asked for other information regarding their most recent ex-boyfriend/girlfriend such as how much their trust had been violated at the time of the breakup and if they now had a new boyfriend/girlfriend.

Method

Participants. 111 undergraduates (84 female and 27 male) completed the questionnaire in exchange for course credit. The age of participants ranged from 18 to 25 ($M=19.9$).

Procedure. Participants filled out a paper and pencil questionnaire (see Appendix B). The questionnaire began with several demographic items followed by the Communal Orientation Scale and the Need for Closure scale (Webster & Kruglanski, 1994). Participants were then asked to think of a platonic, male friend and fill out a Communal Strength, Liking, and IOS scales about that friend along with an item asking how romantically attracted they were to that friend. They were then asked to think about a platonic, female friend and complete the Communal Strength, Liking, and IOS scales as well as the attraction item about that friend. The participants were then asked to think about their most recent ex-boyfriend/girlfriend and fill in the same scales along with several extra items measuring the participants' reactions to the breakup. One of these was a single item about betrayal: "when the breakup occurred, I felt that I had been betrayed." Every participant completed scales about their relationship partners in the same order. Scales about the platonic male friend were presented first, followed by platonic female friend, and finally their most recent ex.

Results

Since the predictions for this study rely on the assumption that participants would be motivated to bolster belonging with relationship partners who were of the same sex as their most recent ex, participants who indicated that they are homosexual or bisexual were not included in the final analyses. There were five participants that indicated that

they were homosexual or bisexual. There were five participants who had scores on the Lie scale that were too high. There was also one participant who was married who was not included in the final analysis. This left 100 participants (76 female and 24 male).

As in Study 1, means were calculated separately for the Communal Strength and Liking scales. These two means along with the IOS score were transformed into z-scores. The mean of the three z-scores was used as the score for bolstering of belonging. Also as in Study 1, each of these scales was correlated with the other scales that make up the measure. Most of the correlations were significant (see Table 5).

Table 5.

Pearson Correlations for each of the Dependent Measures Regarding a Same-sex and Opposite-sex Friend in Study 2a.

		Opposite-Sex Friend			Same-Sex Friend		
		Communal Strength	Liking	IOS	Communal Strength	Liking	IOS
Opposite-Sex	Communal Strength	--	.60**	.58**	.28**	.21*	.014
	Liking	--	--	.43**	.18	.20*	.06
	IOS	--	--	--	.04	.10	.30**
Same-Sex	Communal Strength	--	--	--	--	.69**	.65**
	Liking	--	--	--	--	--	.47**

*Note: *p < .05, **p < .01*

I conducted a hierarchical regression analysis focusing on bolstering of belonging toward the participant's opposite sex friend. Using Cohen, Cohen, West, and Aiken's,

(2003) recommendation, betrayal scores were centered before the analysis. Communal strength toward the opposite-sex friend was regressed on betrayal and relationship status (whether or not the participant had a new boyfriend/girlfriend) in the first step and their centered interaction in the second step. In the third step, in addition to betrayal, relationship status and their interaction, I also controlled for time since the relationship, duration of the relationship, Communal Orientation and Need for Closure. Results indicated a significant interaction between betrayal and relationship status, $\beta = .36$, ($t=2.47$), $p < .05$ in the model of the second step (see Figure 3, Dawson, 2010). Betrayal predicted increased bolstering of belonging toward the opposite sex friend when the participant did not have a new boyfriend/girlfriend. When the participant had a new boyfriend/girlfriend, bolstering did not increase with betrayal. It should be noted that, when other items were controlled for in the third step, the model was only marginally significant ($p = .058$)

I then conducted the same analysis described above with bolstering of belonging toward the same-sex friend as the dependent variable. The only significant predictor of bolstering of belonging was communal orientation, $\beta = .40$, ($t=4.08$), $p < .01$. None of the other predictors nor the interaction were significant.

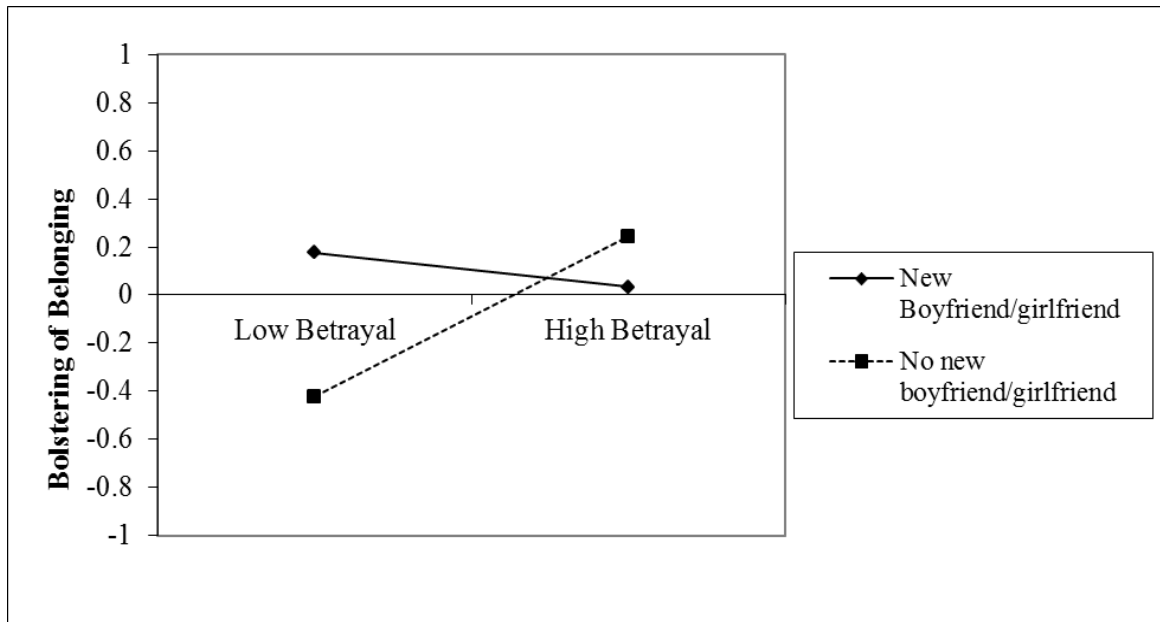


Figure 3. Interaction between relationship status and betrayal on bolstering of belonging toward the opposite sex friend. Points indicate one standard deviation above and below the mean for Betrayal (Dawson, 2010).

Gender effects. Because of the unexpected gender effect in Study 1, additional analyses were run to see if there was a significant effect for gender on the models. Because the addition of gender and each of the resulting interactions with the other predictors would greatly diminish the power of the multiple regression analysis, I added only the three-way interaction term between betrayal, relationship status, and gender to the model presented above for each of the dependent measures as per the recommendation of Cohen et al. (2003). The three-way interaction term was not significant for either the opposite-sex or the same-sex friend for any of the measures.

Discussion

The results of the analysis support hypothesis 2: Persons who are rejected will be more motivated to bolster belonging with relationship partners who share similar relationship role criteria with the rejecter than with previously established relationship

partners who do not share these similarities. The more betrayal the participants felt at the time of their last breakup, the greater their bolstering of belonging toward their opposite-sex friend. This effect was not found when the participant had a new boyfriend/girlfriend.

These results fit with the idea that betrayal by the ex leads to the need to belong with members of the opposite sex being unfulfilled. The betrayed individual would be motivated to bolster belonging with a trusted member of the same gender as the ex. This is because the need to belong that is not being satisfied is specific to a relationship category. The participant should have a particular desire to increase his or her perceived relational value with members of the opposite sex since betrayal by the ex indicates relational devaluation vis-à-vis that specific relationship category. There would be less of a desire to bolster belonging with the same-sex friend because the felt lack of belonging from the betrayal was with a specific category that the same-sex friend is not a part of. Participants who have a new boyfriend/girlfriend already have the need to belong with a member of the opposite sex taken care of via the new significant other.

There are, of course, several limitations to this study. One is that this study used a single item of betrayal as the predictor instead of a specific measure or rejection. Betrayal and rejection should affect the need to belong in essentially the same way. Both betrayal and rejection are instances of the need to belong not being satisfied (Smart Richman & Leary, 2009). In fact, Fitness (2001) theorizes that betrayal is such a negative experience because it implies rejection. Therefore, both betrayal and rejection should lead to the same desire to bolster belonging with trusted relationship partners. To

specifically address this concern, however, Study 2b included a rejection scale that was used as the predictor in lieu of the single betrayal item.

Of course, another limitation is the correlational nature of the research. It could just as easily be concluded that participants with a high communal strength toward their opposite-sex friends are more likely to feel betrayed at the time of a breakup and are less likely to have a new significant other. To address this concern, Study 3 was run concurrently with study 2b. Study 3 includes an experimental manipulation of rejection.

Chapter 5: Study 2b

Study 2b used the same design as Study 2a with a few changes. As mentioned previously, a 4-item scale was created to measure feelings of rejection at the time of breakup with the most recent ex. The order of the questionnaires was varied such that half of the participants completed the scales about their most recent ex before completing the scales about friends. The other half of the participants completed the scales about their most recent ex after the scales about the friend, as was done in Study 2a. The Need for Closure scale was not included as it provided no unique information in study 2a. Instead, Rosenberg's (1965) self-esteem scale was included as a possible covariate considering Leary et al.'s (1995) sociometer theory of self-esteem discussed previously.

Method

Participants. 183 undergraduates (130 female and 53 male) completed this study for course credit. The age of participants ranged from 18 to 53 years old ($M=19.85$).

Procedure. Participants filled out the demographics sheet followed by the communal orientation scale, a lie scale (the same as in Study 1), and the Rosenberg Self-Esteem scale. The order of the remaining scales was varied such that participants either filled out scales about a platonic, male friend first or their most recent ex-boyfriend/girlfriend first. This was followed by scales about the platonic, female friend and then the scale that they did not receive first. Assignment to order was random. As in study 2a, participants filled out a communal strength scale, a liking scale, an IOS scale, and an item asking about romantic attraction toward each of the friends and the ex. An item asking how long the participants knew each of the friends was included. Several

items regarding their most recent ex from study 2a were excluded in order to accommodate the 4-item rejection scale (see Table 6).

Table 6.

The rejection scale.

-
1. When the breakup occurred, I felt that my expectations for the relationship had not been met.
 2. When the breakup occurred, I felt that I had been rejected.
 3. When the breakup occurred, I felt that I had been betrayed.
 4. When the breakup occurred, I felt that my trust had been violated.
-

Results

As in study 2a, participants were excluded from analysis if they reported their sexual preference as homosexual or bisexual (10 participants), had no ex-boyfriend or girlfriend (5 participants), or if they were married (1 participants). Eight participants were also excluded from analyses because their scores on the lie scale were too high. Two participants were excluded because of missing or unusable information. This left 157 participants (111 women and 46 men) with an age range from 18 to 30 years old ($M=19.63$).

As in the previous studies, the dependent measures were each correlated with each other. All of the measures were correlated with each other (see Table 7).

Table 7.

Pearson Correlations for each of the Dependent Measures Regarding a Same-sex and Opposite-sex Friend in Study 2b.

		Opposite-Sex Friend			Same-Sex Friend		
		Communal Strength	Liking	IOS	Communal Strength	Liking	IOS
Opposite-Sex	Communal Strength	--	.76**	.61**	.51**	.29**	.31**
	Liking	--	--	.51**	.51**	.41**	.39**
	IOS	--	--	--	.24**	.17*	.45**
Same-Sex	Communal Strength	--	--	--	--	.65**	.63**
	Liking	--	--	--	--	--	.44**

*Note: *p < .05, **p < .01*

Cronbach's α was computed for the 4-item rejection scale. With all four items, $\alpha=.85$. The analysis indicated that excluding the first item, "When the breakup occurred, I felt that my expectations for the relationship had not been met," would increase alpha to .91. This item was excluded from the following analyses. A rejection score was computed by taking the average of the remaining three items.

The same hierarchical linear regression that was run in Study 2a was run only with the mean score of the rejection scale was substituted for the betrayal score. Need for closure was not included as a control variable while self-esteem was included. The bolstering of belonging score toward the opposite-sex friend and then toward the same-sex friend was regressed separately on rejection and relationship status (whether or not

the participant had a new boyfriend/girlfriend) in the first step and their centered interaction was included in the second step. In the third step, in addition to rejection, relationship status and their interaction, I also controlled for time since the relationship, duration of the relationship, Communal Orientation and self-esteem. The model was run separately for opposite-sex and same-sex friends. While the model at the third step was significant for bolstering of belonging toward the opposite-sex friend, the only significant predictors were communal orientation, $\beta = .35$, ($t=4.59$), $p < .01$, and duration of the relationship, $\beta = -.18$, ($t=-2.39$), $p < .05$. For bolstering of belonging toward the same-sex friend, again, the third step was significant, but the only significant predictor was communal orientation, $\beta = .44$, ($t=5.83$), $p < .01$.

Order and gender effects. To test for any order or gender effects, I conducted a 2 (Order: Ex first vs. Male Friend first) x 2 (Gender: Men vs. Women) x 2 (Friend: Opposite-Sex vs. Same-Sex) mixed ANOVA with Order and Gender as between-subjects variables and Friend as a within-subjects variable for bolstering of belonging. The ANOVA found a significant main effect for Gender $F= 21.58$, (1, 153) $p<.01$, such that female participants ($M=.17$) indicated greater bolstering of belonging toward their friends than did males ($M=-.39$). This was qualified by a Gender by Friend interaction $F= 6.96$, (1, 153) $p<.01$ (see Table 8). Pairwise comparisons indicated that females had higher bolstering scores than males did, but also that males' bolstering of belonging toward a same-sex friend ($M=-.53$) was significantly lower ($p < .05$) than toward an opposite sex friend ($M=-.26$).

Table 8.

Bolstering of Belonging Scores for a Friend as a Function of the Participant's Sex and the Sex of the Friend.

	Same-Sex Friend	Opposite-Sex Friend
Male Participants	-.53 (.11) ^{a,c}	-.26 (.13) ^{a,b}
Female Participants	.23 (.07) ^c	.11 (.08) ^b

Note: Means that share a superscript are significantly different, $p < .05$.

Discussion

Study 2b did not replicate the findings of Study 2a. It was expected that rejection experienced during the breakup would predict bolstering of belonging toward the opposite-sex friend and not toward the same-sex friend. It was predicted that this would only be the case for participants who did not have a new boyfriend or girlfriend. This was not found.

There were only two differences between the procedures of Study 2a and Study 2b. The first was the inclusion of the rejection scale items. The second was the varying of the order of which relationship partner the participant answered the scales about first. Either of these could have been the cause of why the results did not replicate from Study 2a to Study 2b. There is evidence, however, that neither of these are plausible reasons for these results. First, the rejection scale items included the original betrayal item as well as two other items. These items together showed good reliability ($\alpha=.91$). It would seem that those who indicated high betrayal, which was the predictor in Study 2b, also indicated high scores on the other two items of rejection scale. If these items were not

reliable, then it would be plausible that this change could be the reason why the results did not replicate. Since the items were highly reliable, this seems to be a less plausible reason.

The second change to the procedure was varying of the order. Participants either answered the scales that make up the bolstering of belonging score for their most recent ex or for a male friend first. The test for order effects did not find that scores differed significantly based on the order in which the participant answered the scales. Therefore, this indicates that this is also not a likely cause for the difference between the results of Studies 2a and 2b.

Due to the correlational nature of these two studies, it is difficult to determine why the results from one study did not replicate to the second. It could be that there are simply too many variables that affect bolstering of belonging toward a friend besides rejection from the participant's most recent ex. In order to better control for these variables, Study 3 used an experimental method to test Hypothesis 2.

Chapter 6: Study 3

Study 3 sought to use an experimental method to replicate findings from study 2a. Because heterosexual participants are motivated to seek relationships with attractive, opposite-sex others, rejection by such an attractive other was manipulated. Communal strength, liking, and IOS were then measured toward a platonic same-sex and a platonic opposite-sex friend.

Study 3 tested hypothesis 2 using a 2 (Rejection: High vs. Low) x 2 (Target Friend: same-sex vs. opposite-sex friend) experimental design. Rejection was manipulated between-subjects using the Cyberball computer program (see Zadro, Williams, & Richardson, 2004). Sex of the friend was a within-subjects variable with all participants completing the dependent measures for both a male and female friend. I predicted that participants in the rejection condition would have higher communal strength, liking, and IOS toward their opposite sex friend than participants in the no-rejection condition. I also predicted that communal strength, liking and IOS toward the same-sex friend would not differ as much between the rejection and no-rejection condition. Heterosexual participants were predicted to be more motivated to be seen as a valuable relationship partner to the attractive opposite-sex rather than same-sex “confederate”. Therefore, when rejected by both, the participant should be more motivated to be seen as a valuable relationship partner to someone similar to the attractive opposite-sex confederate. This should result in a desire to bolster belonging more with the opposite-sex friend than with the same-sex friend.

Method

Participants. 32 undergraduates (20 female, 12 male) completed the experiment in exchange for course credit. 5 participants were excluded from analyses because of their score on the lie scale. This left 27 participants (19 female, 8 male) with an age range from 18 to 23 years old ($M=19.07$) in the final analyses.

Procedure. Participants were recruited to take part in a study titled “Reactions to People.” Participants arrived individually to the study and waited in the hallway where they completed a consent form. The participant was then asked to enter the lab room and have his photo taken with a web-camera. The participant was then asked to sit in the hall for a couple of minutes while the experimenter uploaded the photo. While the participant waited in the hallway, the experimenter saved the participant’s photo in a file location that would be accessed by the Cyberball program. With the door open so that the participant could hear, the experimenter pretended to make two phone calls. The experimenter would say, “Hello, _____? *Pause.* Yes, my participant is here and I already uploaded the photo. *Pause.* Okay, bye,” and then, “Hello, _____? *Pause.* Yes, my participant is here and I already uploaded the photo. *Pause.* Okay, bye.” The pretend phone calls were made to help make the participant believe that there were two other participants in other locations. The experimenter then invited the participant to re-enter the lab room and sit at the computer.

The participant was told that the first part of the experiment would be done completely on the computer. The experimenter informed that the participant to inform her when prompted to do so by the computer. The experimenter then left the room, closing the door. On the computer, the participant completed a demographics form, the

communal orientation scale, and the lie scale. The participant was then informed via instructions on the computer that she would be interacting with two other people and that the experimenter would collect several reactions to this person before the interaction happened (see Appendix C). The participant was assured that the interaction partners would not see their answers. The participant was presented with a photo of an attractive female. The photo was from the website hotornot.com where users rate the attractiveness of photos on a scale of 1 to 10. This photo was rated a 9.7 by 3,781 votes. The participant was asked if he or she recognized the woman in the photo. The participant was then asked to rate how attractive the woman is and how much they would look forward to meeting this person. The same questions were then asked regarding an attractive male whose photo was also pre-rated as very attractive via hotornot.com. His photo was rated a 9.8 by 55 votes. The participant was then prompted to inform the experimenter that she was ready for the next part of the experiment. Upon informing the experimenter, the participant was asked to sit at the computer while the experimenter “made sure we were ready for the next part of the experiment.” Leaving the door open, the experimenter went into the hallway and again made two pretend phone calls saying, “Hello _____? My participant is ready,” followed by “Hello _____? My participant is ready.” The experimenter then re-entered the lab room, told the participant that they were ready for the next part of the experiment, and instructed the participant to follow the instructions on the screen. The experimenter then started the Cyberball program which was the manipulation of rejection.

The Cyberball program has been used in many studies to manipulate feelings of ostracism. In this experiment, a web browser is opened and an introduction screen told

the participant that he or she would be playing catch with two other people via computer. The participant was told that it was important for her to visualize herself actually playing catch with the other two people (see Appendix C). When the participant was ready to begin, she pressed a button which opened a new screen. The participant saw the photo of the attractive female on the left, the attractive male on the right, and her own picture at the bottom of the screen. By each of the photos was an animated figure. The one next to the attractive female had a ball in its hand. The ball was thrown to the participant who would then click on either photo to throw the ball to that person's figure. The throwing of the ball by both the attractive male and the attractive female was programmed such that, at the beginning of the game, the participant was thrown the ball once each by the attractive male and the attractive female. In the rejection condition, the participant was never thrown the ball again and watched the attractive male and female throw the ball back and forth to each other for a total of 40 throws. In the acceptance condition, when either the attractive male or the attractive female received the ball, the program randomly chose either the participant or the other confederate to throw the ball to. This way, both of the confederates threw the ball equally to the participant and the other confederate. This was also done for a total of 40 throws.

After the 40th throw, the program ended and the participant was asked to close the web browser and continue with the experiment. The participant was asked to indicate how rejected or accepted he felt during the game. The participant completed a self-esteem scale and was then asked to complete a communal strength scale, a liking scale, and an IOS scale for a platonic male friend, a platonic female friend, and his most recent

ex along with the extra items regarding the ex. Once this was done, the participant was checked for suspicion and debriefed.

Results

No participant guessed the true hypothesis of the experiment, though some were dubious as to whether the other participants were real. Seven participants indicated that they did not believe that the other participants were real or that the study was about rejection. While these suspicions were not desirable, Zadro, Williams, and Richardson (2004) have found that participants still feel threatened belonging even when they are completely aware that Cyberball is a computer program that will ostracize them. In order to test whether the suspicion of the Cyberball program had an effect on the manipulation of the study, I conducted a 2 (Suspicion: Suspicious vs. Not Suspicious) x 2 (Rejection: High vs. Low) ANOVA with the item “How rejected did you feel?” as the dependent variable. There was no main effect for Suspicion $F < .4$. There was a main effect for Rejection $F(1,23) = 69.80, p < .001$. On an 11 point scale with 0 representing “not at all” and 10 representing “extremely,” participants in the High Rejection condition ($M = 8.29$) indicated that they felt significantly more rejected than participants in the Low Rejection condition ($M = 2.15$). There was no significant interaction between Suspicion and Rejection.

As with the other studies, each of the measures was correlated with the others. The only significant correlations were among the different measures for the specific friend (see Table 9).

Table 9.

Pearson Correlations for each of the Dependent Measures Regarding a Same-sex and Opposite-sex Friend in Study 3.

		Opposite-Sex Friend			Same-Sex Friend		
		Communal Strength	Liking	IOS	Communal Strength	Liking	IOS
Opposite-Sex	Communal Strength	--	.51**	.50**	.03	.22	-.11
	Liking	--	--	.49*	-.06	.32	-.22
	IOS	--	--	--	-.27	-.09	-.03
Same-Sex	Communal Strength	--	--	--	--	.60**	.71**
	Liking	--	--	--	--	--	.21

*Note: *p < .05, **p < .01*

The bolstering of belonging score was calculated the same way as with the previous studies.

In order to test my hypothesis, I ran separate 2 (Rejection: High vs. Low) x 2 (Friend: Same-Sex vs. Opposite-Sex) ANCOVAs with communal orientation and self-esteem as covariates for bolstering of belonging. In this analysis, Rejection was a between-subjects variable whereas Friend was a within-subjects variable. A preliminary analysis included gender as a between-subjects factor, however there was no effect for gender or its interactions on the dependent measure. Gender was therefore dropped from the analysis.

The analysis revealed a main effect for Rejection. Bolstering scores were greater for participants in the High Rejection condition ($M=.22$) than for participants in the Low Rejection condition ($M=-.24$). This main effect was qualified, however, by a significant interaction between Rejection and Friend $F(1,23)= 4.42, p<.05$ (see Table 10). Pairwise comparisons were run for both Friend and Rejection. The only significant difference ($p < .01$) between means is that bolstering of belonging toward the opposite sex friend in the High Rejection condition ($M=.45$) was significantly higher than in the Low Rejection condition ($M=-.48$). No other significant effects were found.

Table 10.

The Effect of Rejection on Bolstering of Belonging Toward both an Opposite-sex Friend and a Same-sex Friend.

	Opposite-Sex Friend	Same-Sex Friend
High Rejection	.45 (.20)*	-.004 (.19)
Low Rejection	-.48 (.21)*	.01 (.20)

Note: Standard errors are in parentheses. Italics indicate a significant difference $p < .01$.

Discussion

The results for the communal strength and IOS measures supported Hypothesis 2. Participants who were rejected showed increased bolstering of belonging (greater communal strength and IOS scores) toward an opposite-sex friend compared to a same-sex friend than did participants who were not rejected. This replicates the finding from Study 2a and supports Hypothesis 2: Persons who are rejected will be more motivated to bolster belonging with relationship partners who share role criteria with the rejecter than

with previously established relationship partners who do not share these similarities. It should be noted that, in the High Rejection condition, the participant was rejected by both the same-sex as well as the opposite-sex confederate. However, the rejection manipulation only affected bolstering of belonging toward the opposite-sex friend. This result makes sense considering that romantic relationships are particularly important for our relational value. As Baumeister and Dhavale (2009) put it: “To fail at romantic love thus strikes at the core of one’s sense of competent personhood” (pg. 55). Heterosexual participants should be more motivated to seek belonging from an attractive, opposite-sex confederate than from the same-sex confederate because acceptance from a desirable member of the opposite sex is particularly important to the participant’s self-concept. Therefore, when the confederates rejected the participants, the participants should have been especially motivated to seek belonging from a relationship partner who shares relationship criteria with the attractive, opposite-sex other. The results of the experiment show that even though the rejection experience was the same from both the male and female confederates, bolstering of belonging scores were greater toward the opposite-sex friend, but not toward the same-sex friend in the rejection condition. The same pattern was not seen in the low rejection condition. Participants bolstered their relationship with the friend who shared the relationship criteria (sex in this case) with the rejecter from whom rejection would be more threatening. If rejection simply motivated people to bolster belonging with any relationship partner regardless of similarity to the rejecter, then there would have been a main effect for rejection without the interaction. Instead, the results indicated that the participants especially sought to bolster belonging with the opposite-sex friend and not the same-sex friend.

It should be noted that the experience of rejection in this study may be quite different from the experience of a breakup with a significant other (as measured in Study 2). While the experiences may be different, both of these experiences are indicative of a threat to the need to belong. This is most definitely the case with the breakup; however, it is also the case with being rejected by an attractive member of the opposite sex. While there was no previous relationship with the attractive opposite-sex confederate, the rejection from this confederate indicates a low relational value with a desirable relationship partner. This would threaten belonging with potential mates which would lead to a desire to bolster belonging with people who share the relationship criterion of gender with the rejecter. If anything, the experience of rejection in the lab should be weaker than in real life. The results indicated, however, that rejection, albeit in the lab, resulted in bolstering of belonging with opposite-sex but not same-sex friends.

One alternative explanation for the results might be that, instead of feeling particularly rejected by the Cyberball game, participants in the low rejection condition may have felt included. Being included in a task may affect participants in a way that is different from a totally neutral experience (Blackhart, Nelson, Knoles, & Baumeister, 2009). It is therefore important to make sure that the results of the study were not due to a feeling of inclusion rather than a feeling of exclusion. Feeling included by an attractive, opposite-sex other could result in the participant desiring to distance his or herself from the opposite-sex friend. This could be in order to facilitate a relationship with the opposite-sex confederate. The inclusion would then result in the different bolstering of belonging scores for the opposite-sex friend but not the same-sex friend. This inclusion explanation is not likely correct, however. One reason why this

explanation is not likely is because the results of the manipulation check indicated that participants felt more rejected in the rejection condition. The results of Study 1 and study 2a, as well as the results from previous research (i.e. Maner et al. 2007; Williams & Sommer, 1997) show that there is a desire to improve relationships with trusted friends after rejection. Also, the pairwise comparisons indicated that there was not a significant difference between bolstering of belonging scores between the same-sex and opposite-sex friend within either the High or Low Rejection conditions. For the inclusion explanation to be correct, there would have to be a significant difference between the bolstering of belonging scores for the same-sex and opposite-sex friends in the Low Rejection condition. This was not found. It can therefore be assumed that there was an increase in bolstering caused by rejection rather than a distancing caused by acceptance.

The results of Study 3 are compelling because the only similarities that the participant could construe between the “confederates” and the friends were those visible in the photos. Therefore, other idiosyncratic similarities besides sex are not likely to have influenced the difference in communal strength or IOS. The most salient criteria would have been the sex of the confederate. Study 4 sought to show that more subtle similarities between the rejecter and the relationship partner will also affect the desire to bolster relationships.

Chapter 7: Study 4

Study 4 tested Hypothesis 3: Persons who are rejected will be more motivated to bolster belonging with relationship partners who share other similarities besides role criteria with the rejecter than with previously established relationship partners who do not share these similarities. Unlike the previous studies, the similarity of the target friend with the rejecter was manipulated. This similarity was idiosyncratic instead of a relationship role criterion. Study 4 used methodologies derived from Andersen et al.'s (1996) study on transference and Maner et al.'s (2007) study of rejection. Andersen et al. (1996) found that motivation toward a significant other was transferred to a new target other who was idiosyncratically similar to the significant other. Since rejection should increase the motivation to bolster belonging with established relationship partners, as was seen in studies 1 and 3 particularly, it is logical that this motivation should transfer to relationship partners who are idiosyncratically similar to the rejecter.

Overview

This was a 2 (rejection: high vs. low) x 2 (similarity: high vs. low) x 2 (friend: targeted vs. non-targeted) split-plot experimental design. Rejection and similarity were manipulated between-subjects. The targeted vs. non-targeted friend was a within-subjects variable. As are other studies of transference, this was a two part study. In the first session, the participant provided descriptive statements of two friends and filled out the Communal Strength, Liking, and IOS scales regarding each friend. In the second session, participants believed that they were going to interact with another participant (actually a confederate). Similarity was manipulated by providing participants a description of the confederate which included some of the descriptive statements of one of the two friends

described in session 1 (in the similar condition) or a description which includes descriptive statements about a yoked participant's friend (non-similar condition).

Participants were then rejected or not rejected by the confederate. Communal Strength, Liking, and IOS toward both of the friends were then measured again.

Method

Participants. Because of constraints on the subject pool, and in order to better control differences in the perceived role of the rejecter, all participants were female. Also, due to the deception used for the study only participants who had not taken any psychology course beyond the introductory course were included in the study. 43 undergraduates successfully completed both sessions of the experiment. Three participants were not included in the final analysis. Two participants had lie scores that were too high. One participant indicated in the debriefing that she had had an argument with one of her friends that influenced her responses to the dependent measures. 40 participants were included in the final analyses.

Procedure for Session 1. Participants were recruited to participate in a two part study entitled "Relationship Interactions". In the first session, participants were asked to fill out several scales via computer. First, they filled out a demographics questionnaire, the Rosenberg Self-Esteem Scale, the Communal Orientation scale and a lie scale. The participants were then be asked to think of two platonic, same-sex friends, neither of which is a best friend and write down the first name and last initial of each friend. As in other transference studies (e.g., Andersen, et al. 1996) the participants were asked to provide descriptions of each friend. Beginning with one of the friends, the participants wrote 14 descriptive statements that describe that friend. Participants were told to think

of characteristics that “uniquely characterize this person and distinguish her from other people” (Andersen et al. 1996) and write them down by completing 14 sentences that begin “*Friend’s Name* _____” (see Appendix D). They then rank-ordered each sentence to indicate how important each sentence was in describing that friend. The participants were then shown a list of 42 adjectives (from Anderson, 1968) (see Appendix D). They were asked to choose 10 traits from that list that describe their friend, 10 counter-descriptive/opposite traits, and 12 irrelevant/neutral traits. The participants then completed a communal strength scale, a liking scale, and an IOS scale about that friend. The process was then repeated for the other friend. The participant completed the 14 statements and chose the descriptive, counter-descriptive, and neutral traits for the other friend and then completed the dependent measures for that friend.

After completing the scales about each friend, an error message appeared stating that there was an encoding error and that some of the information they provided may have been corrupted (see Appendix D). This was a part of the cover story for Session 2 where they were asked to complete the dependent measures again for both of the friends.

After responding to the items about the two friends, participants provided 14 descriptive statements about themselves. This was also used as part of the cover story for Session 2 when participants were told that they would receive their interaction partner’s list of 14 statements about themselves and that the participant’s list would be given to the interaction partner. The participants then completed the Rejection Sensitivity Questionnaire (Downey & Feldman, 1996).

Participants were then told that the first session of the experiment was over. They were told that the information that they have given helped us understand their interaction

style. They were also informed that in Session 2 they would be having a conversation with a stranger and that the experimenter would be asking for their impression of that interaction. They were reminded of their scheduled timeslot several days after Session 1 and dismissed.

Procedure for Session 2. Session 2 was held at least 5 days (generally one week) after Session 1. Participants were met at one location where they completed the consent form and then were taken to a different room within the same building for the experiment. They were reminded of the cover story, that they would be having a 20 minute conversation with a stranger, and were told that they were asked to meet in a different location other than the location of the experiment in order to guarantee that they did not accidentally meet their interaction partner.

Participants were led to a room that had a computer on a table and a one-way mirror in the wall. The experimenter explained that she needed to give some instructions to the participant's interaction partner. The experimenter closed the door, opened the door to the room next door which shared the wall with the one-way mirror. The participant could hear the experimenter give instructions to the person in that room. The experimenter then re-entered the participant's room and delivered the same instructions which were that she would be having a 20 minute conversation with her interaction partner. She was then told that it was very important that the participant and her interaction partner be strangers. She would therefore be asked to look at her interaction partner through the one-way mirror and indicate whether or not she recognized the interaction partner. The experimenter turned off the lights in the participant's room and removed a cover from the one-way mirror. Inside the adjoining room, the participant

could clearly see a female, who was actually a confederate. The female confederate was sitting at a desk with her head resting on the desk. The confederate was looking toward the one-way mirror and maintained a neutral expression. The participant was told that her interaction partner's name was Nicole and asked if she recognized her. When she indicated that she did not, the lights were turned on again and the experimenter told the participant that she would now ask "Nicole" if she recognized the participant. The experimenter then left the room, turned off the lights in the confederate's room and asked the confederate if she recognized the participant. The experimenter then gave the confederate instructions as if she were a participant. These same instructions were subsequently delivered to the participant. The participant was told that she would be having a 20 minute conversation with her interaction partner, but before the interaction, she would receive the list of 14 descriptive statements that she had written about herself in Session 1. She was also told that her interaction partner had received the list of 14 statements that she had written about herself. The participant was told that she should look over the list for a few minutes to get to know something about her interaction partner and to facilitate the conversation. She was then left with a list of 14 statements (see Appendix D).

The list of descriptive statements describing the confederate was used to manipulate similarity.

High similarity condition. In the high similarity condition, the participant was given a description of the confederate that included some of the descriptive statements the participant wrote in Session 1 to describe one of her friends. I randomly chose which of the two friends' descriptions would be used to generate the list. The description of the

confederate included eight of the descriptive statements the participant had generated about her friend. The statements used in the description of the confederate were the statements that the participant ranked 4-11 in descriptiveness of her friend. The rest of the description consisted of six of the 12 adjectives from the list of 42 that the participant indicated were irrelevant/neutral in describing her friend. Specifically, these were the second, fourth, sixth, eighth, tenth and twelfth irrelevant/neutral adjectives the participant had listed. Both the descriptive statements and the adjectives were put in the first person (I am _____). These descriptions were presented in an order that was determined randomly, but was the same for all participants.

Low similarity condition. Each participant in the low similarity condition was yoked with a participant in the high similarity condition. The participant in the low similarity condition saw the same list of descriptive statements as a participant in the high similarity condition with whom she was yoked. Since the list was derived from the description of the participant in the high similarity condition's friend, it was not similar to either of the friends described by the participant in the low similarity condition. The content of each list was therefore seen equally by participants from both the similar and dissimilar conditions (Andersen & Chen, 2002).

While the participant looked over the list of descriptive statements about "Nicole," the confederate opened an envelope that indicated which level of the rejection manipulation would be delivered. After two minutes passed, the confederate opened her door and delivered the rejection manipulation in the hall outside the participant's door.

High rejection condition. In the high rejection condition, the confederate said, to the experimenter, "*Excuse me, I don't think I can complete the experiment. I really*

don't want to talk to this girl." The experimenter then asked the confederate to come to another room which was away from the participant's door. The experimenter waited for about one minute and then entered the participant's room and said: *"I'm really sorry. Um...your partner read the description you gave and decided that she doesn't want to talk to you....so we can't continue with the conversation. I'm sorry. I need to go ask my supervisor what to do."*

Low rejection condition. In the low rejection condition, the confederate said, to the experimenter, *"Excuse me, I don't think I can complete the experiment. I really don't feel well."* The experimenter then asked the confederate to come to another room which was away from the participant's door. The experimenter waited for about one minute and then entered the participant's room and said: *"I'm really sorry. Your partner is not feeling well, so we can't continue with the conversation. I'm sorry. I need to go ask my supervisor what to do."*

In both conditions, before leaving the participant, the experimenter said that while she was gone to talk to her supervisor, the participant would complete some information about her friends from Session 1 that had not been encoded properly. The experimenter then verified the names of the participant's two friends and enters the names into the computer in a random order. This determines which of the two friends will be presented first. The experimenter then left the room while the participant completed the communal strength, liking, and IOS scales about both of the same friends she had given information about in Session 1. The experimenter also took the list of descriptive statements about "Nicole" at this time.

The experimenter returned to the participant's room about five minutes later and told the participant that her supervisor had given instructions that she should complete part, but not all of the after-conversation questions. The experimenter then opened a set of questions on the computer, skipped the first 17 questions and left while the participant responded to the remaining questions.

These questions were a check for transference. This was done with the same procedure used by (Andersen, et al. 1996). Participants were presented with statements, one at a time, and asked if the statement had been one of the statements presented on the list of descriptive statements about "Nicole." For each statement, the participant indicated whether or not she had seen the statement and then indicated how confident she was that she had/had not seen the statement. All of the statements were statements or neutral adjectives that the participant had given for her two friends from Session 1 as well as several statements from the description list that she had been given. All of the statements were presented in the first person. Each participant was given a list of statements that was unique to her. This included the statements that she had rank ordered 1-3 for both of her friends as well as the first, third, and fifth neutral adjectives for both of the friends. Eight of the descriptive statements about "Nicole" were included as well. Four of these were statements that had been given about the original friend and four were statements created from neutral adjectives about the original friend. The order of presentation of the statements was the same for all participants. Following these items, the participant was checked for suspicion and was debriefed.

Results

As with the previous studies, the dependent measures were correlated with each other. The scores on the dependent measure in Session 1 were correlated with the scores of the same measure in Session 2. The dependent measures toward each friend were also correlated with each other (see Table 11). The bolstering of belonging score was calculated in the same way as the other studies.

Table 11.

Pearson Correlations for each of the Dependent Measures Regarding both Friends in Session 2.

		Referenced Friend			Other Friend		
		Communal Strength	Liking	IOS	Communal Strength	Liking	IOS
Referenced	Communal Strength	--	.43**	.53**	.43**	-.15	.19
	Liking	--	--	.56**	.04	-.02	.03
	IOS	--	--	--	-.10	-.29	.21
Other	Communal Strength	--	--	--	--	.50**	.60**
	Liking	--	--	--	--	--	.55**

Note: * $p < .05$, ** $p < .01$. The Referenced Friend is the one who is similar to the description in the Similar condition.

Manipulation check. There was no specific measure of rejection or similarity in this study. This was done in order to minimize suspicion about the cover story. In the suspicion check, no participant suspected the true nature of the study nor did any suspect

that the confederate was not a real participant. Qualitatively, the research assistants acting as experimenters commented that the participants in the rejected condition expressed concern and distress about being rejected by the confederate. Participants in the low rejection condition did not express this distress.

Instead of a direct manipulation check, the memory task at the end of Session 2 was meant to be a test of transference. The first transference studies found that, after receiving a list of descriptive statements about a new target other, participants were more likely to falsely remember seeing a significant other's trait that had not been listed if the original description of the target other included other traits of the same significant other (compared to another participant's significant other) (Andersen & Chen 2002). In Andersen, et al.'s (1996) study, they found that motivation transferred to the new target other as well as traits.

In order to test for transference, the participant's confidence that she had seen a trait of a friend that had not been on the list of descriptions of the confederate was the dependent measure. If she indicated that she had not seen the trait, her confidence level was multiplied by -1. That way, the greater the score, the more incorrectly confident was the participant. One participant's memory task was not included in the analysis because she gave the same answer and confidence level for every item. A 2 (Rejection: High vs. Low) x 2 (Similarity: High vs. Low) x 2 (Friend: Referenced friend vs. Other friend) split-plot ANCOVA with Rejection and Similarity as between-subjects variables and Friend as a within-subjects variable. Referenced friend refers to the friend that was referenced to create the list of descriptions of the confederate in the High Similarity condition. In the Low Similarity condition, it is the participant presented in the same

position (first or second) as the yoked participant in the High Similarity condition's Referenced friend. The participant's confidence scores for the neutral adjectives about her friends was included as a covariate. The analysis revealed no significant effects (all F 's < 1.63).

In order to test the accuracy of memory of the descriptive statements that were actually on the description sheet, a 2 (Rejection: High vs. Low) x 2 (Similarity: High vs. Low) x 3 (Target Statement: Shown vs. Referenced friend vs. Other friend) split-plot ANOVA with Rejection and Similarity as between-subjects variables and Target Statement as a within-subjects variable was run. The descriptive statements that were actually shown to the participant were the Shown Target Statements. The ones that were not shown but were tested were statements about the Referenced Friend or the Other Friend. The analysis revealed a significant main effect for Target Statement $F(2,70) = 243.80, p < .001$. Participants confidence that they had seen the statements that were actually presented to them ($M=6.65$) was significantly greater than the confidence that they had seen the description of their referenced friend ($M=-7.51$) or their other friend ($M=-6.97$).

In order to test for the effect of the experimental conditions on the memory test, the same ANCOVA was run with confidence level (not transformed) as the dependent measure. This analysis revealed a main effect for rejection. Participants in the High Rejection condition ($M=8.62$) indicated a significantly greater confidence in their memory (regardless of whether it was correct) than did participants in the Low Rejection condition ($M=7.85$). No other significant effects were found.

Testing bolstering of belonging. A score for change in bolstering of belonging was calculated. The bolstering of belonging score at Session 1 was subtracted from the mean score for each scale at Session 2. This indicated a difference in score from Session 1 to Session 2.

In order to test Hypothesis 3, a 2 (Rejection: High vs. Low) x 2 (Similarity: High vs. Low) x 2 (Friend: Referenced friend vs. Other friend) split-plot ANCOVA with rejection sensitivity, communal orientation, and self-esteem as covariates was run on the difference scores for bolstering of belonging. No significant effects were found.

Discussion

The results of the analyses did not support Hypothesis 3, that persons who are rejected will be more motivated to bolster belonging with relationship partners who share other similarities besides role criteria with the rejecter than with previously established relationship partners who do not share these similarities. Indeed, the results did not show any significant differences in the expected directions. This lack of significant results is puzzling especially since the method of the study was derived from effective past studies (Andersen et al. 1996; Maner et al. 2007). Also, the results from Studies 1 and 3 of the current research indicate that manipulations of rejection at least should result in differences in bolstering of belonging. There are several potential explanations, however, for why no significant results were found.

Manipulations. One possible explanation is that the manipulations were not effective. There was no specific manipulation check in this study. A manipulation check was not included in an effort to minimize suspicion from the participants. The procedure was effective in avoiding suspicion, but at the expense of certainty in the

effectiveness of the manipulations. I cannot, therefore, be sure that the manipulation of rejection or of similarity was completely effective. I will discuss the two manipulations in turn.

Rejection. The results of Studies 1 and 3 as well as the results of Maner et al. (2007) would indicate that, if the rejection manipulation was successful, there should have been differences found on the measure of relationship bolstering. Since there were no significant differences for this study, and there was no specific manipulation check, the effectiveness of the rejection manipulation may be called in to question. There are some indications, however, that the rejection manipulation was effective. The first indication is that the research assistants acting as researchers noted that participants reacted much more negatively to the High Rejection manipulation than to the Low Rejection manipulation. The participants in the High Rejection condition would seem distraught and would ask about the description given to the confederate. These behaviors were not seen in the Low Rejection condition. The check of transference would also indicate that there was a difference between participants in the High vs. Low Rejection conditions. Participants in the High Rejection condition indicated greater confidence in their memory of which attributes had been presented. Though not conclusive, these indications make the possibility that the rejection manipulation was ineffective less likely.

Similarity. There were also no significant differences between the levels of the Similarity manipulation. The results show no specific evidence that the participants realized that the description of the confederate was or was not similar to one of the friends that the participant had written about in Session 1. It does seem clear, however,

that the participants did read and remember the descriptions of the confederate. Participants were generally quite accurate and correctly confident in their memory of the descriptive statements that were shown compared to those that were not shown. Also, there was an effect of Similarity on Liking. That is, general liking for both friends increased if the participant had seen a description of the confederate that was similar to one of her friends. It therefore seems clear that the participants did notice and remember the descriptions of the confederate. The transference effect as described in other studies (i.e. Andersen et al. 1996), however, was not found.

Anchoring. A better possible explanation for why there were no significant results in the predicted directions may be that the participants' responses to the dependent measures in Session 2 were anchored to their responses in Session 1. Essentially, the participants may have remembered their answers from the first session and did not deviate much from those answers in the second session. This would indicate that the participants were not changing their scores from one session to the other regardless of the manipulations. Again, this could be an indication that the manipulations were not effective, but it may be due to remembering the specific scores for the friends from Session 1. Effort was taken to discourage remembering the scores from one session to the next. A period of at least 5 days separated the first and second sessions. The participants had no instructions to remember their responses, nor was there any part of the procedure that should have directly motivated them to remember the responses. It is possible, however, that since the scales were about relationship partners as opposed to a stranger, the participants may have been motivated to pay more attention to the measures of closeness with these friends. It is also possible that the surprise of the error message may

have made have led these participants to remember the scores for their friends. The manipulations may not have been strong enough for participants to adjust these scores from one session to the other. This was an unfortunate limitation of the study.

Despite the potential for remembering scores from one session to the next, it was important to the aims of the study to get a difference score. The prediction was that participants would bolster belonging with a friend who is idiosyncratically similar to the rejecter. It was therefore necessary to measure the participants' relationships with two friends, one who was similar to the rejecter and one who was not. The measurement of the relationships in Session 1 gives a baseline for each relationship. Therefore, the measure in Session 2 was better able to detect differences in bolstering toward the similar and dissimilar friends. Unfortunately, it may have also anchored the scores.

Another possible explanation for the lack of differences on the bolstering of belonging scores is that participants may have anchored their score toward one friend with the score toward the other friend. The participants were instructed to think of two friends, neither of whom was their best friend. The participants may have interpreted this to mean two friends who are equally close to the participant. In each case, the participant knew that she would be responding about both friends before she answered the individual items. This may have motivated her to indicate similar bolstering of belonging for the two different friends despite the manipulations. In order to eliminate these potential problems, future studies may use a similar procedure to this one except use different measures of closeness for the pretest and posttest. Also, the procedure may ask about relationships with several different relationship partners that vary in closeness with the

participant. Relationship partners may then be chosen for posttest items based on a similar closeness level with the participant.

Different effects for different similarities. Of course, one final reason why the results did not support the hypothesis may be because there is something different about idiosyncratic and criteria similarities such that they do not affect the bolstering of belonging in the same way. It may be that people do not bolster relationships relationship partners who are idiosyncratically similar to the rejecter. One problem with this alternative explanation, however, is that participants who were rejected should have bolstered belonging with their friends as seen in Study 1. This was not the case. Of course, this may have been due to both an incorrect hypothesis and a faulty manipulation. However, rejection did lead to increased confidence scores in the memory task indicating that there was some effect from the rejection manipulation. All together, the results do not indicate definitively why the prediction was not supported. Regardless of the reasons, Hypothesis 3 was not supported. The data did not show bolstering of belonging among participants who had been rejected, nor did it show bolstering of belonging based on similarity with the rejecter.

Chapter 8: General Discussion

Previous research has found that rejection leads people to seek affiliation with new others (Maner et al. 2007; Williams & Sommer, 1997). It has been theorized that this desire for affiliation is an effort to reestablish belonging that has been threatened during the rejection episode (Baumeister & Leary, 1995; Smart Richman & Leary, 2009). In real life, belonging is likely to be provided by previously established relationship partners. The first purpose of the current research was to study the effect of rejection on previously established relationships. The results of Study 1 supported the hypothesis that persons who are rejected (vs. not rejected) will be more motivated to bolster relationships with previously established relationship partners, provided that that partner can be trusted to provide a sense of belonging. Female participants who thought of a rejection experience showed greater bolstering of belonging toward a trustworthy friend than did participants who had written about a physical injury. This was not found, however, when the participants wrote about an untrustworthy friend. These results replicate previous findings (e.g. Maner et al. 2007) that participants seek affiliation after a rejection experience, but unlike the previous findings, these results show that this affiliation response is also directed to a previously established relationship partner. Participants sought to bolster belonging with previously established relationship partners, not just to seek new relationships. Together with the previous findings from other researchers, the current results support the theory that people seek belonging after it has been threatened by rejection. People do not seek belonging indiscriminately, however. They will seek belonging from a person whom they trust to provide that belonging. An untrustworthy friend would not be seen as a reliable source of belonging. Thus, people will seek a

substitute source of belonging when it is lost (Baumeister & Leary, 1995). However, there are conditions, such as trustworthiness, that influence who people will seek as a substitute for belonging following a rejection experience. Another possible condition is the similarity of a relationship partner to the rejecter. This condition was also studied in the current research.

The second purpose of the current research was to study how similarity between rejecter and relationship partner affected the relationship with that partner. Since relationships differ in function and importance, people may vary in their desire for belonging from different relationship partners (Kirkpatrick & Ellis, 2001). Therefore, if a person is rejected by a specific other, that person may experience a threat to belonging that is specific to a category that the rejecter represents. For example, if a woman is rejected by her boyfriend, she may feel more of a threat to her belonging with males than she would her belonging with females. This was tested by Studies 2 and 3 of the current research. These studies tested the hypothesis that persons who are rejected will be more motivated to bolster belonging with relationship partners who share similar relationship role criteria with the rejecter than with previously established relationship partners who do not share these similarities. In the current studies, the relationship role criterion was the gender of the relationship partner.

In Study 2a, the amount of betrayal experienced by heterosexual participants during their most recent breakup predicted the participant's bolstering of belonging toward an opposite-sex friend, but not toward a same-sex friend. The more betrayal felt during their last breakup, the greater the participants' bolstering of belonging toward their opposite-sex friend. The same pattern was not found for the same-sex friend. This was

also only true for participants who did not have a new boyfriend or girlfriend. Since betrayal is a threat to belonging, those who have been betrayed should seek belonging from a substitute source. In this study, betrayal came from a boyfriend/girlfriend. Therefore participants should have been especially motivated to seek belonging from a source that shares relationship criteria with a boyfriend/girlfriend. Since all of the participants in this study were heterosexual, participants' opposite-sex friends, but not their same-sex friends, shared a relationship criterion with their ex. Therefore, the more betrayed a participant felt during their most recent breakup, the more motivated they should have been to bolster belonging with their opposite-sex, but not their same-sex, friend. If the participants had a new boyfriend or girlfriend, however, they had already found a substitute source of belonging from the threatened relationship role. These participants would not have felt a need to bolster their relationship with the opposite-sex friend.

While the results of Study 2a supported Hypothesis 2, the results of study 2b failed to replicate Study 2a's findings. The correlational nature of this study, as well as the mixed results, called for the testing of this hypothesis using an experimental method. Study 3 did this and replicated the findings of study 2a. Participants in Study 3 were rejected (or not rejected) by a physically attractive male confederate and a physically attractive female confederate during a game of Cyberball. As in study 2, all participants in this study were heterosexual. Participants should have been specifically motivated to seek belonging from an opposite-sex source after being rejected by an attractive member of the opposite sex. This is precisely what was found. Participants indicated greater

communal strength and IOS toward an opposite-sex friend, but not a same-sex friend, after they had been rejected.

The evidence from Studies 2a and 3 supports the idea that people would seek to bolster belonging with partners who share similar role criteria with the rejecter. Other studies, specifically studies of transference (Andersen & Chen, 2002; Andersen et al. 1996), have found that motivations toward a particular relationship partner can be transferred, not just to others who are similar in category to the relationship partner, but also to others who are idiosyncratically similar to the relationship partner. Since rejection has been found to motivate people to seek belonging, including bolstering previously established relationships, then idiosyncratic similarities between the rejecter and the relationship partner may predict bolstering behaviors. Study 4 tested Hypothesis 3, that persons who are rejected will be more motivated to bolster belonging with relationship partners who share other similarities besides role criteria with the rejecter than with previously established relationship partners who do not share these similarities. This study used a transference paradigm which consisted of two sessions. In the first session, information was collected about two of the participants' friends in a pretest session. Then, in a second session several days later, participants were made to feel rejected (or not rejected) by a confederate who was (or was not) idiosyncratically similar to one of her friends from the first session. While it was predicted that participants would bolster belonging with the similar friend in the rejection condition, there were no significant results for this study. The current research is therefore unable to provide evidence that people seek to bolster belonging with relationship partners who are idiosyncratically similar to the rejecter. This lack of results may reflect a problem with the design more

than with the hypothesis, however. While it is unclear what part of the design would have caused these null results, there was no main effect found for rejection on the dependent measures. Rejection manipulations did lead to bolstering in Studies 1 and 3 so it appears that the lack of at least a main effect for rejection was an anomaly.

The results of Studies 2b and 4 did not support the hypotheses, however, the hypotheses were supported by the results of Studies 1, 2a, and 3. The results of these three studies support findings from other studies on the need to belong (Baumeister & Leary, 1995; Smart Richman & Leary, 2009). Specifically, these studies support the idea of substitutability in providing for the need to belong. One important finding from these studies is that people seek belonging from established relationships after belonging has been threatened. This is a particularly important finding because many times, people will look to current relationship partners to provide belonging when belonging is threatened. This has not been tested previously in the rejection literature. A second important finding from these studies is that it is possible to predict which relationships are more likely to be substitute sources of belonging. The results indicate that people do not seek belonging indiscriminately. Instead, they seem to prioritize which relationship types they find more valuable and then bolster relationships with current partners who share criteria with the rejecter. While different relationships have been hypothesized to differ in priority and meaning (Kirkpatrick & Ellis, 2001; Baumeister & Dhavale, 2001) the idea that people would seek belonging from a current relationship partner who shares similar relationship criteria is new. These findings have exciting implications for future directions in studies of substitute sources of belonging.

Future Research

While these studies show a pattern of results supporting the idea that rejection and similarity to the rejecter affect the bolstering of belonging with relationship partners, it would be well to continue investigating how these factors affect established relationships. One obvious need for future research is the effect gender on reactions to rejection. Study 1, for example, found an unexpected gender effect where the rejection manipulation only seemed to be effective for females. The difference between males and females in bolstering behavior after rejection could yield interesting results that would have interesting implications. If males and females react differently to rejection experiences, this could lead to differing expectations of how partners would react after a rejection episode. For example, if a wife expects her husband to seek belonging after a rejection episode but instead he seeks to protect his ego, this could have real consequences for the satisfaction of the marriage.

Another line of future research could study the effects of different types of similarity on the bolstering behaviors. While the current series of studies did not find evidence that idiosyncratic similarities between rejecter and relationship partners lead to bolstering behaviors, other types of similarity may be studied. Specifically, similarity of different role criteria may affect bolstering in different ways. For example, someone may have criteria for the relationship “girlfriend” may consist of the criterion “female” which would be rather universally consistent, but it may also have a more particular criterion such as “musically inclined.” This may have implications for which relationships a person would seek to bolster after a rejection episode.

These studies found at least two conditions that affect bolstering of belonging after a rejection episode. There are sure to be more conditions that could be studied as well. For example, the availability of a relationship partner after a rejection episode may affect bolstering behaviors. There are many possible conditions that could be explored in future research. In the broader study of substitutability in the need to belong, there are also other sources of substitution for belonging besides established relationship partners. These sources of belonging may also be affected by conditions of similarity to a source of a threat to belonging. One interesting implication is the role of media as a substitute source of belonging. Some researchers theorize that people seek out media as a substitute for belonging (see Smart Richman & Leary, 2009). Therefore, understanding the conditions that affect bolstering of belonging may very well lead to greater understanding of which media people choose to consume.

Another interesting line of research from these findings would be to compare involuntary separation from relationship partners, instead of rejection, and its effect on bolstering of belonging. While involuntary separation should not have the same effect on perceived relational value as rejection, it should still represent a lack of belonging. This could very well lead to bolstering belonging with other relationship partners or even seeking out substitute sources of belonging who may share similarities with the separated partner.

One final line of research that would be an interesting extension of these studies is to study how a person reacts to the rejection of a relationship partner. If the relationship partner is the one who is rejected and the person is the one who is sought out as a substitute source of belonging, it would be interesting to test how the person would react

to bolstering behaviors. It may be that the person may not perceive a bolstering of belonging that the relationship partner does perceive.

The four studies reported here provide evidence that people do bolster belonging with previously established relationship partners after a rejection episode. They also provide evidence that people will bolster belonging with a relationship partner who is similar, at least in a relationship criterion, to the rejecter. These results provide important insight into how people react to the experience of rejection. They also provide interesting implications for future work on how people substitute for threatened belonging.

Appendices

Appendix A: Materials for Study 1

INSTRUCTIONS

THIS IS A STUDY ABOUT RELATIONSHIP MEMORIES.
PLEASE COMPLETE ALL OF THE FOLLOWING ITEMS AS
COMPLETELY AS POSSIBLE. ALL OF YOUR ANSWERS WILL
BE KEPT CONFIDENTIAL.

SUBJECT NUMBER

DEMOGRAPHICS SURVEY

Please answer the following questions about yourself. Remember that all information collected is stored only by a random number.

- 1. Gender
 - Male
 - Female

- 2. Age

- 3. Year
 - Freshman
 - Sophomore
 - Junior
 - Senior

- 4. Major

- 5. Race (check all that apply)
 - Caucasian
 - Hispanic
 - African American
 - Asian
 - Native American
 - Pacific Islander
 - Other

- 6. Political affiliation
 - Conservative
 - Independent
 - Liberal
 - Other

- 7. Religious affiliation
 - Catholic
 - Protestant
 - Other Christian
 - Muslim
 - Jewish
 - Buddhist
 - Agnostic
 - Atheist
 - Other

- 8. Sexual affiliation
 - Heterosexual
 - Homosexual
 - Bisexual

- 9. Marital Status
 - Single
 - Committed, unmarried relationship
 - Married

- 10. Residential status
 - On campus
 - Off campus

Read each of the following statement and rate how characteristic each statement is of yourself. Circle one answer for each question on the scale from 0=*not at all* to 10=*extremely* before going on to the next question. Your answers will be kept confidential.

1. It bothers me when other people neglect my needs.

Extremely 0 1 2 3 4 5 6 7 8 9 10 *Extremely*
Uncharacteristic *Characteristic*

2. When making a decision, I take other people's needs and feelings into account.

Extremely 0 1 2 3 4 5 6 7 8 9 10 *Extremely*
Uncharacteristic *Characteristic*

3. I'm not especially sensitive to other people's feelings.

Extremely 0 1 2 3 4 5 6 7 8 9 10 *Extremely*
Uncharacteristic *Characteristic*

4. I don't consider myself to be a particularly helpful person.

Extremely 0 1 2 3 4 5 6 7 8 9 10 *Extremely*
Uncharacteristic *Characteristic*

5. I believe people should go out of their way to be helpful.

Extremely 0 1 2 3 4 5 6 7 8 9 10 *Extremely*
Uncharacteristic *Characteristic*

6. I don't especially enjoy giving others aid.

Extremely 0 1 2 3 4 5 6 7 8 9 10 *Extremely*
Uncharacteristic *Characteristic*

7. I expect people I know to be responsive to my needs and feelings.

Extremely 0 1 2 3 4 5 6 7 8 9 10 *Extremely*
Uncharacteristic *Characteristic*

8. I often go out of my way to help another person.

Extremely 0 1 2 3 4 5 6 7 8 9 10 *Extremely*
Uncharacteristic *Characteristic*

9. I believe it's best not to get involved taking care of other people's personal needs.

Extremely 0 1 2 3 4 5 6 7 8 9 10 *Extremely*
Uncharacteristic *Characteristic*

10. I'm not the sort of person who often comes to the aid of others.

Extremely Uncharacteristic 0 1 2 3 4 5 6 7 8 9 10 *Extremely Characteristic*

11. When I have a need, I turn to others I know for help.

Extremely Uncharacteristic 0 1 2 3 4 5 6 7 8 9 10 *Extremely Characteristic*

12. When people get emotionally upset, I tend to avoid them.

Extremely Uncharacteristic 0 1 2 3 4 5 6 7 8 9 10 *Extremely Characteristic*

13. People should keep their troubles to themselves.

Extremely Uncharacteristic 0 1 2 3 4 5 6 7 8 9 10 *Extremely Characteristic*

14. When I have a need that others ignore, I'm hurt.

Extremely Uncharacteristic 0 1 2 3 4 5 6 7 8 9 10 *Extremely Characteristic*

15. I have never met a person I didn't like.

Disagree Strongly 0 1 2 3 4 5 6 7 8 9 10 *Agree Strongly*

16. I have never hurt another person's feelings.

Disagree Strongly 0 1 2 3 4 5 6 7 8 9 10 *Agree Strongly*

17. I have never been late for an appointment or work.

Disagree Strongly 0 1 2 3 4 5 6 7 8 9 10 *Agree Strongly*

Instructions: Below is a list of statements dealing with your general feelings about yourself. If you strongly agree, circle **SA**. If you agree with the statement, circle **A**. If you disagree, circle **D**. If you strongly disagree, circle **SD**.

1. On the whole, I am satisfied with myself. SA A D SD
2. At times, I think I am no good at all. SA A D SD
3. I feel that I have a number of good qualities. SA A D SD
4. I am able to do things as well as most other people. SA A D SD
5. I feel I do not have much to be proud of. SA A D SD
6. I certainly feel useless at times. SA A D SD
7. I feel that I'm a person of worth, at least on an
equal plane with others. SA A D SD
8. I wish I could have more respect for myself. SA A D SD
9. All in all, I am inclined to feel that I am a failure. SA A D SD
10. I take a positive attitude toward myself. SA A D SD

Instructions

Please think of a platonic friend who is not your best friend. This should be a person you trust (*do not trust*) to be there for you and provide a feeling of acceptance and belonging. Please write the first name of this friend in the space below.

First name of friend: _____

Instructions

Please think of an experience when you felt rejected (*were physically injured*). This experience should **not** involve in any way the friend who you just named on page 6. This experience should be a relatively negative experience. If you were to rate this experience on a scale from 1 to 10 with 1 being “not negative at all” and 10 being “extremely negative,” this experience should be a 7 or 8.

Not negative at all 0 1 2 3 4 5 6 (7 8) 9 10 *Extremely Negative*

Please write a paragraph describing this experience.

Now, think of the friend whose name you wrote on page 6. Answer the following questions about that friend. As you answer each question, fill in the person's initials in the blank. Circle one answer for each question on the scale from 0=*not at all* to 10=*extremely* before going on to the next question. Your answers will be kept confidential.

How far would you be willing to go to visit _____?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

How happy would you feel when doing something that helps _____?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

How large a benefit would you be likely to give _____?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

How large a cost would you incur to meet a need of _____?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

How readily can you put the needs of _____ out of your mind?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

How high a priority for you is meeting the needs of _____?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

How reluctant would you be to sacrifice for _____?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

How much would you be willing to give up to benefit _____?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

How far would you go out of your way to do something for _____?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

How easily could you accept not helping _____?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

How much do you personally like _____?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

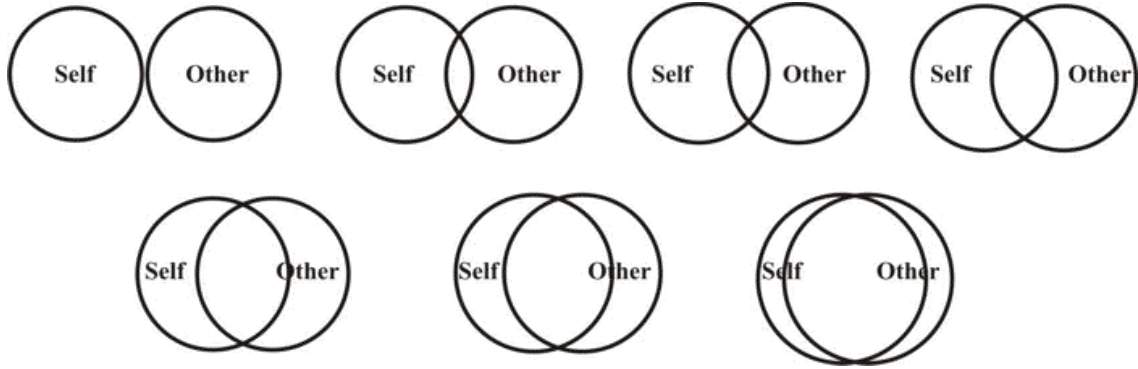
How annoying do you find _____?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

How positive is your general evaluation of _____?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

Please circle the picture that best describes your current relationship with _____.



How romantically attracted are you to _____?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

How long have you known _____? (In months) _____

SUBJECT NUMBER

DEMOGRAPHICS SURVEY

Please answer the following questions about yourself. Remember that all information collected is stored only by a random number.

11. Gender

- Male
- Female

12. Age

13. Year

- Freshman
- Sophomore
- Junior
- Senior

14. Major

15. Race (check all that apply)

- Caucasian
- Hispanic
- African American
- Asian
- Native American
- Pacific Islander
- Other

16. Political affiliation

- Conservative
- Independent
- Liberal
- Other

17. Religious affiliation

- Catholic
- Protestant
- Other Christian
- Muslim
- Jewish
- Buddhist
- Agnostic
- Atheist
- Other

18. Sexual affiliation

- Heterosexual
- Homosexual
- Bisexual

19. Marital Status

- Single
- Committed, unmarried relationship
- Married

20. Residential status

- On campus
- Off campus

Read each of the following statement and rate how characteristic each statement is of yourself. Circle one answer for each question on the scale from 0=*not at all* to 10=*extremely* before going on to the next question. Your answers will be kept confidential.

1. It bothers me when other people neglect my needs.

Extremely 0 1 2 3 4 5 6 7 8 9 10 *Extremely*
Uncharacteristic *Characteristic*

2. When making a decision, I take other people's needs and feelings into account.

Extremely 0 1 2 3 4 5 6 7 8 9 10 *Extremely*
Uncharacteristic *Characteristic*

3. I'm not especially sensitive to other people's feelings.

Extremely 0 1 2 3 4 5 6 7 8 9 10 *Extremely*
Uncharacteristic *Characteristic*

4. I don't consider myself to be a particularly helpful person.

Extremely 0 1 2 3 4 5 6 7 8 9 10 *Extremely*
Uncharacteristic *Characteristic*

5. I believe people should go out of their way to be helpful.

Extremely 0 1 2 3 4 5 6 7 8 9 10 *Extremely*
Uncharacteristic *Characteristic*

6. I don't especially enjoy giving others aid.

Extremely 0 1 2 3 4 5 6 7 8 9 10 *Extremely*
Uncharacteristic *Characteristic*

7. I expect people I know to be responsive to my needs and feelings.

Extremely 0 1 2 3 4 5 6 7 8 9 10 *Extremely*
Uncharacteristic *Characteristic*

8. I often go out of my way to help another person.

Extremely 0 1 2 3 4 5 6 7 8 9 10 *Extremely*
Uncharacteristic *Characteristic*

9. I believe it's best not to get involved taking care of other people's personal needs.
- | | | | | | | | | | | | | |
|-------------------------|---|---|---|---|---|---|---|---|---|---|----|-----------------------|
| <i>Extremely</i> | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | <i>Extremely</i> |
| <i>Uncharacteristic</i> | | | | | | | | | | | | <i>Characteristic</i> |
10. I'm not the sort of person who often comes to the aid of others.
- | | | | | | | | | | | | | |
|-------------------------|---|---|---|---|---|---|---|---|---|---|----|-----------------------|
| <i>Extremely</i> | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | <i>Extremely</i> |
| <i>Uncharacteristic</i> | | | | | | | | | | | | <i>Characteristic</i> |
11. When I have a need, I turn to others I know for help.
- | | | | | | | | | | | | | |
|-------------------------|---|---|---|---|---|---|---|---|---|---|----|-----------------------|
| <i>Extremely</i> | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | <i>Extremely</i> |
| <i>Uncharacteristic</i> | | | | | | | | | | | | <i>Characteristic</i> |
12. When people get emotionally upset, I tend to avoid them.
- | | | | | | | | | | | | | |
|-------------------------|---|---|---|---|---|---|---|---|---|---|----|-----------------------|
| <i>Extremely</i> | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | <i>Extremely</i> |
| <i>Uncharacteristic</i> | | | | | | | | | | | | <i>Characteristic</i> |
13. People should keep their troubles to themselves.
- | | | | | | | | | | | | | |
|-------------------------|---|---|---|---|---|---|---|---|---|---|----|-----------------------|
| <i>Extremely</i> | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | <i>Extremely</i> |
| <i>Uncharacteristic</i> | | | | | | | | | | | | <i>Characteristic</i> |
14. When I have a need that others ignore, I'm hurt.
- | | | | | | | | | | | | | |
|-------------------------|---|---|---|---|---|---|---|---|---|---|----|-----------------------|
| <i>Extremely</i> | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | <i>Extremely</i> |
| <i>Uncharacteristic</i> | | | | | | | | | | | | <i>Characteristic</i> |

Read each of the following statements and decide how much you agree with each according to your beliefs and experiences. Circle your answer for each statement.

01. I think that having clear rules and order at work is essential for success.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

02. Even after I've made up my mind about something, I am always eager to consider a different opinion.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

03. I don't like situations that are uncertain.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

04. I dislike questions which could be answered in many different ways.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

05. I like to have friends who are unpredictable.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

06. I find that a well ordered life with regular hours suits my temperament.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

07. I enjoy the uncertainty of going into a new situation without knowing what might happen.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

08. When dining out, I like to go to places where I have been before so that I know what to expect.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

09. I feel uncomfortable when I don't understand the reason why an event occurred in my life.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

10. I feel irritated when one person disagrees with what everyone else in a group believes.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

11. I hate to change my plans at the last minute.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

12. I would describe myself as indecisive.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

13. When I go shopping, I have difficulty deciding exactly what it is I want.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

14. When faced with a problem I usually see the one best solution very quickly.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

15. When I am confused about an important issue, I feel very upset.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

16. I tend to put off making important decisions until the last possible moment.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

17. I usually make important decisions quickly and confidently.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

18. I have never been late for an appointment or work.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

19. I think it is fun to change my plans at the last moment.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

20. My personal space is usually messy and disorganized.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

21. In most social conflicts, I can easily see which side is right and which is wrong.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

22. I have never known someone I did not like.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

23. I tend to struggle with most decisions.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

24. I believe orderliness and organization are among the most important characteristics of a good student.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

25. When considering most conflict situations, I can usually see how both sides could be right.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

26. I don't like to be with people who are capable of unexpected actions.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

27. I prefer to socialize with familiar friends because I know what to expect from them.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

28. I think that I would learn best in a class that lacks clearly stated objectives and requirements.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

29. When thinking about a problem, I consider as many different opinions on the issue as possible.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

30. I don't like to go into a situation without knowing what I can expect from it.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

31. I like to know what people are thinking all the time.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

32. I dislike it when a person's statement could mean many different things.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

33. It's annoying to listen to someone who cannot seem to make up his or her mind.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

34. I find that establishing a consistent routine enables me to enjoy life more.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

35. I enjoy having a clear and structured mode of life.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

36. I prefer interacting with people whose opinions are very different from my own.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

37. I like to have a plan for everything and a place for everything.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

38. I feel uncomfortable when someone's meaning or intention is unclear to me.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

39. I believe that one should never engage in leisure activities.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

40. When trying to solve a problem I often see so many possible options that it's confusing.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

41. I always see many possible solutions to problems I face.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

42. I'd rather know bad news than stay in a state of uncertainty.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

43. I feel that there is no such thing as an honest mistake.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

44. I do not usually consult many different options before forming my own view.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

45. I dislike unpredictable situations.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

46. I have never hurt another person's feelings.

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

47. I dislike the routine aspects of my work (studies).

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

Beginning on the next page you will be asked a series of questions three times about three separate people. Please answer as completely and honestly as you can. All your answers will be kept confidential.

Think of a platonic, male friend. As you answer each question, fill in the person's initials in the blank. Circle one answer for each question on the scale from 0=*not at all* to 10=*extremely* before going on to the next question. Your answers will be kept confidential.

How far would you be willing to go to visit _____?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

How happy would you feel when doing something that helps _____?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

How large a benefit would you be likely to give _____?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

How large a cost would you incur to meet a need of _____?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

How readily can you put the needs of _____ out of your mind?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

How high a priority for you is meeting the needs of _____?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

How reluctant would you be to sacrifice for _____?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

How much would you be willing to give up to benefit _____?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

How far would you go out of your way to do something for _____?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

How easily could you accept not helping _____?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

How much do you personally like _____?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

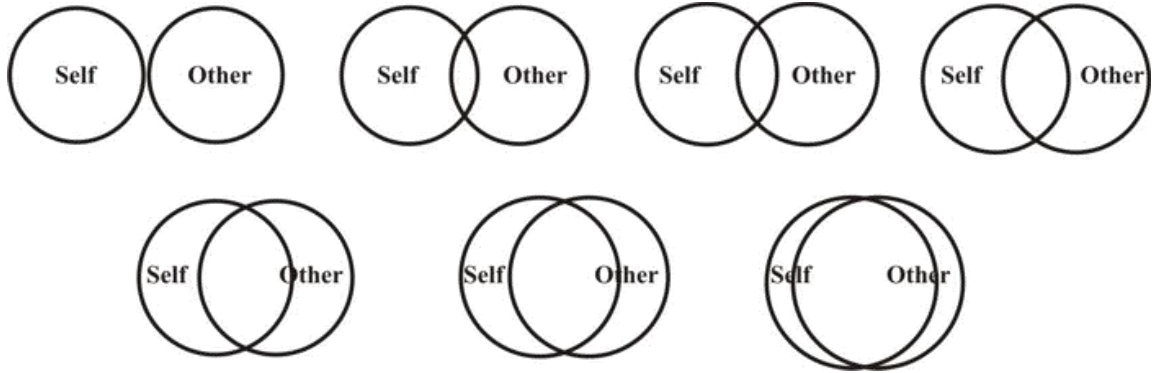
How annoying do you find _____?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

How positive is your general evaluation of _____?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

Please circle the picture that best describes your current relationship with _____.



How romantically attracted are you to _____?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

Think of a platonic, female friend. As you answer each question, fill in the person's initials in the blank. Circle one answer for each question on the scale from 0=*not at all* to 10=*extremely* before going on to the next question. Your answers will be kept confidential.

How far would you be willing to go to visit _____?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

How happy would you feel when doing something that helps _____?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

How large a benefit would you be likely to give _____?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

How large a cost would you incur to meet a need of _____?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

How readily can you put the needs of _____ out of your mind?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

How high a priority for you is meeting the needs of _____?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

How reluctant would you be to sacrifice for _____?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

How much would you be willing to give up to benefit _____?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

How far would you go out of your way to do something for _____?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

How easily could you accept not helping _____?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

How much do you personally like _____?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

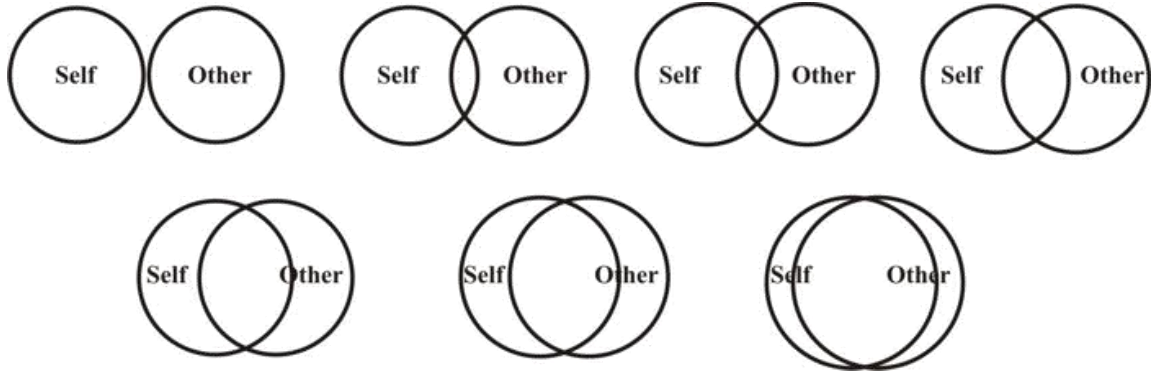
How annoying do you find _____?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

How positive is your general evaluation of _____?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

Please circle the picture that best describes your current relationship with _____.



How romantically attracted are you to _____?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

Think of your *most recent* ex-boyfriend/girlfriend. As you answer each question, fill in the person's initials in the blank. Circle one answer for each question on the scale from 0=*not at all* to 10=*extremely* before going on to the next question. Your answers will be kept confidential.

How far would you be willing to go to visit _____?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

How happy would you feel when doing something that helps _____?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

How large a benefit would you be likely to give _____?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

How large a cost would you incur to meet a need of _____?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

How readily can you put the needs of _____ out of your mind?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

How high a priority for you is meeting the needs of _____?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

How reluctant would you be to sacrifice for _____?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

How much would you be willing to give up to benefit _____?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

How far would you go out of your way to do something for _____?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

How easily could you accept not helping _____?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

How much do you personally like _____?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

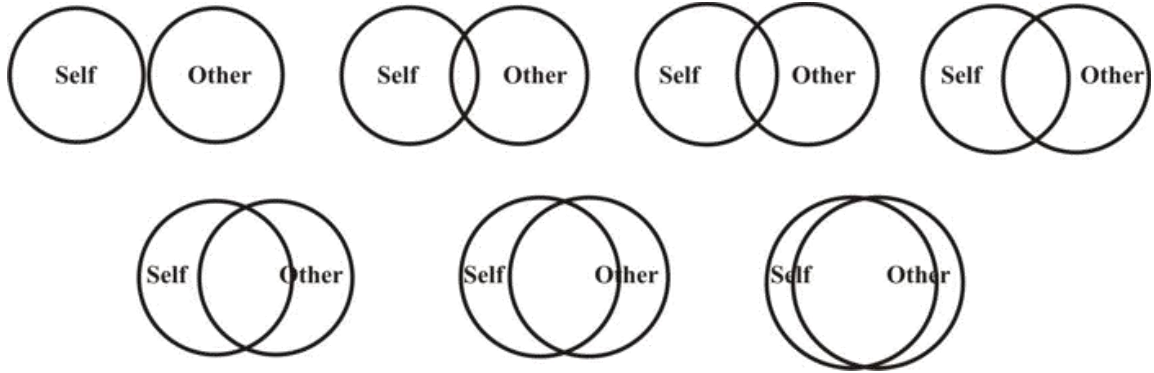
How annoying do you find _____?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

How positive is your general evaluation of _____?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

Please circle the picture that best describes your current relationship with _____.



How romantically attracted are you to _____?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

How emotionally intimate was your relationship with _____?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

While keeping in mind your most recent ex; Please read the following statements and answer on the scale to the degree with which you believe that these statements apply to you. Circle one answer for each question on the scale from 0=*not at all* to 10=*extremely* before going on to the next question. Your answers will be kept confidential.

When the breakup occurred I felt that I had been betrayed

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

When the breakup occurred I felt that my trust had been violated

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

After the breakup I feel that our current relations are friendly

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

When I entered the relationship I had difficulties trusting people

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

When I entered the relationship I had difficulties with emotional intimacy

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

When I entered the relationship I had difficulties with commitment

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

In general I have problems in relationships with the opposite sex (i.e. Family, Friends, etc)

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

Who ended the relationship? (please circle one) I did They did It was mutual

How long were did the relationship last? (In months) _____

How long has it been since the breakup? (In months) _____

How abrupt was the breakup?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

Who (if anyone) did you turn to for support after the breakup occurred?
(please circle all that apply)

Mother Father Sister Brother Male Best Friend

Female best friend Male Friend Female Friend

Other _____

Do you have a new boyfriend or girlfriend? (please circle one) Yes No

Does your most recent ex have a new boyfriend or girlfriend?
(please circle one) Yes No Don't know

To what extent do you believe that the breakup had a positive effect on your relationships with friends of the opposite sex?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

To what extent do you believe that the breakup had a negative effect on your relationships with friends of the opposite sex?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

To what extent do you feel that you have achieved closure and moved on emotionally from the relationship after the breakup?

Not at all 0 1 2 3 4 5 6 7 8 9 10 *Extremely*

How many exes have you had? (excluding the one you wrote about)_____

Appendix C: Selected Materials from Study 3

Cover Story Instructions

Next, you will be participating in an online activity with other students in a different location. Before you begin the actual activity, we need to ask you some questions about the people with whom you will be interacting. They will not see any of the answers that you respond about them and you will not see any of their responses about you.

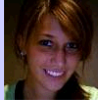
Continue ▶

Please wait while we access the internet. . .

Female Photo

This is a photo of one of the people with whom you will be interacting. We will refer to this person as Person 1. Do you recognize Person 1?

- 1 Yes
- 2 No

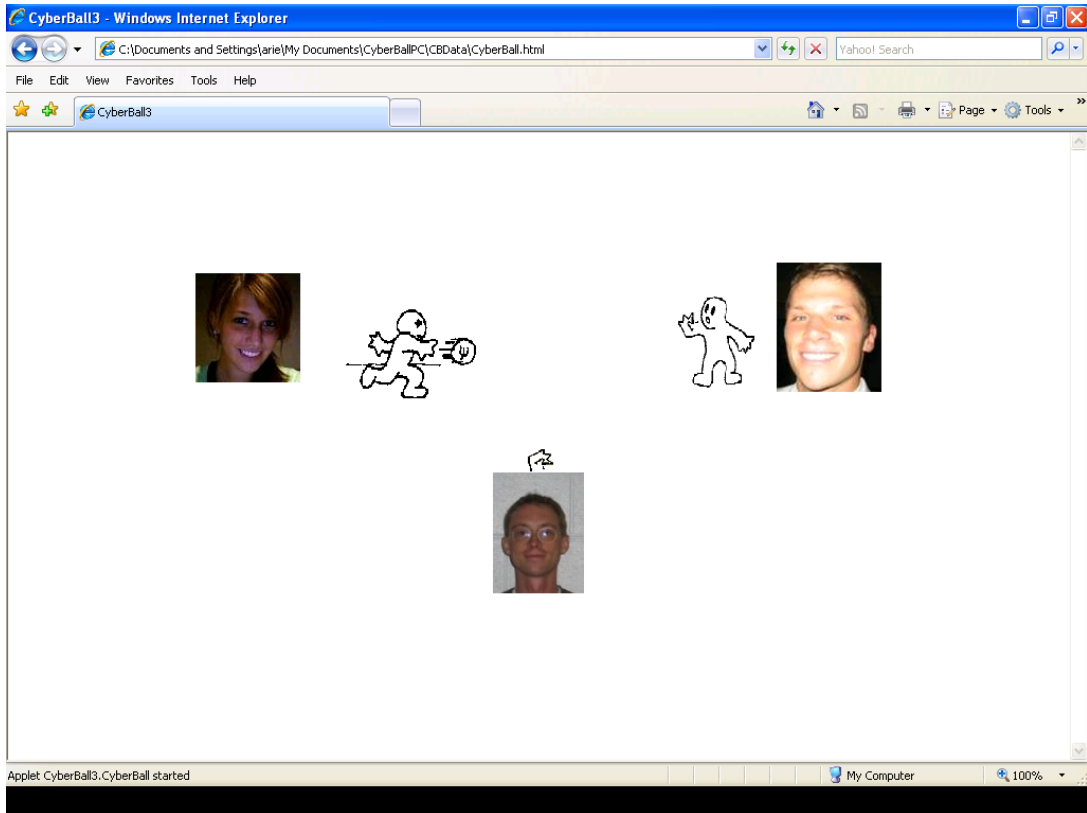


Male Photo

This is a photo of one of the people with whom you will be interacting. We will refer to this person as Person 2. Do you recognize Person 2?

- 1 Yes
- 2 No





Appendix D: Selected Materials from Study 4

Listing Descriptive Statements

Please write your descriptions, one at a time, in the space provided. These should be short sentences (no more than about 6 words) that uniquely distinguish <friend1> from other people. Press Enter after completing each sentence.

1. <friend1> _____
2. <friend1> _____
3. <friend1> _____
4. <friend1> _____
5. <friend1> _____
6. <friend1> _____
7. <friend1> _____
8. <friend1> _____
9. <friend1> _____
10. <friend1> _____
11. <friend1> _____
12. <friend1> _____
13. <friend1> _____
14. <friend1> _____

Description 1. <friend1>. . .

[◀ Go Back](#) [Continue ▶](#)

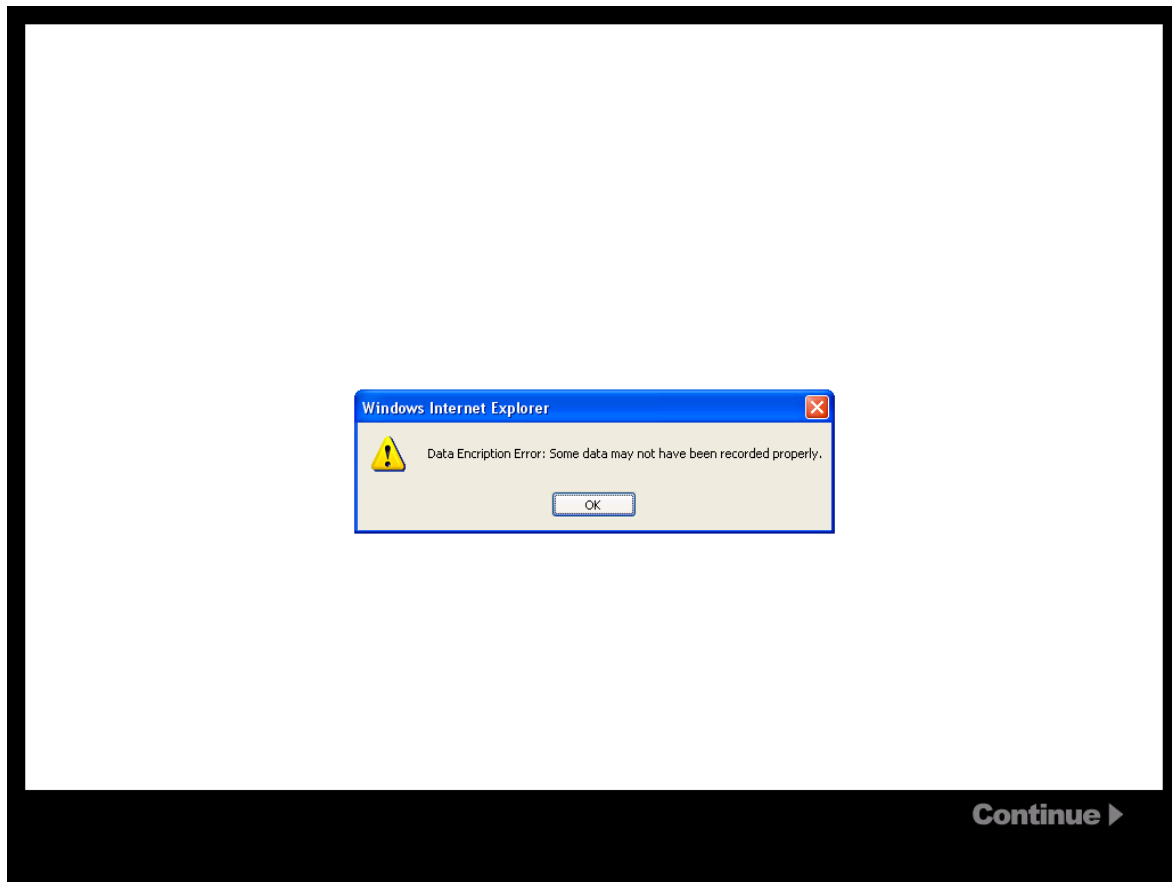
Selecting Adjectives From the List

Please choose six of the following adjectives that describe <friend1>. On the next several screens, you will write these adjectives one at a time. In the blank below, please write one of the adjectives from this list that describes <friend1>.

Conservative	Impressionable	Undecided
Shy	Ordinary	Clownish
Hesitant	Strict	Anxious
Unpredictable	Skeptical	Conforming
Average	Extravagant	Critical
Emotional	Forceful	Radical
Unlucky	Inexperienced	Dissatisfied
Bashful	Daydreamer	Old-fashioned
Authoritative	Materialistic	Troubled
Lonesome	Rebellious	Overcautious
Restless	Eccentric	Silent
Naive	Opinionated	Tough
Opportunist	Dependent	Ungraceful
Theatrical	Self-conscious	
Unsophisticated		

[Continue ▶](#)

The Error Message



An Example Descriptive Statement

Descriptive Statements about :
Nicole

I am troubled
I am very independent
I take school very seriously
I am a daydreamer
I am outgoing
I am organized
I am eccentric
I am ordinary
I am anxious
I am someone you can rely on
I enjoy going out
I am silent
I am dependable
I like to be in control

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