

THE INFLUENCE OF CONTINGENT SELF-ESTEEM
AND SELF-ESTEEM VARIABILITY ON
REACTIONS TO OSTRACISM

by

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ABSTRACT

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This study examined whether contingent self-esteem and self-esteem variability uniquely influenced reactions to social exclusion. Despite the extensive research done on ostracism and its effects on self-esteem, previous research has not explored how contingent self-esteem or self-esteem variability influence reactions to being socially excluded. A total of 122 students from the University of Texas in Arlington (UT-Arlington) took part in this study. Participants completed a global self-esteem measure and demographic information as part of the department prescreening. Next, participants completed a series of self-esteem and personality measures in an on-line study entitled "Who Am I?." Finally, each participant arrived separately, under the pretext of participating in a computer mental visualization task, to play "Cyberball" with "other" participants. They were randomly assigned to an inclusion, exclusion, or partial exclusion group. Overall, the first hypothesis resulted with greater increases in threatened needs and perceived social threat for excluded participants. Partially excluded participants felt slightly less threatened than excluded participants; while, included participants felt the least threatened overall with

the experimental task (i.e. Cyberball). Furthermore, partially excluded persons higher in approval CSW experienced more threatened belongingness and more perceived social threat, especially when they were low on global self-esteem. Finally, self-esteem variability was not related to threatened needs or perceived social or physical threat.

TABLE OF CONTENTS

ACKNOWLEDGEMENTS	ii
ABSTRACT	iv
LIST OF ILLUSTRATIONS	ix
LIST OF TABLES	x
Chapter	Page
1. INTRODUCTION.....	1
1.1 General Overview of Social Exclusion	1
1.2 Threatened Needs	2
1.3 Are Some Individuals More Susceptible to Ostracism's Negative Influence	4
1.4 Influence of Self-Esteem on Social Exclusion	5
1.4.1 Self-Esteem as a Sociometer	7
1.4.2 The Stability of Self-Esteem.....	8
1.4.3 Contingent Self-Esteem	9
1.5 Present Study.....	11
2. METHOD.....	13
2.1 Participants	13
2.2 Self-Esteem Measures.....	13
2.2.1 Level of Global Self-Esteem	13
2.2.2 Stability Self-Esteem	14
2.2.3 Contingent Self-Worth.....	14

2.3 Experimental Questionnaires	15
2.3.1 Cyberball Questionnaire	16
2.3.2 Ambiguous Stories	16
2.4 Experimental Manipulation.....	17
2.4.1 Cyberball (the program)	17
2.5 Procedure.....	17
3. RESULTS.....	21
3.1 Internal Consistencies of Questionnaires	21
3.2 Intercorrelations of Self-Esteem Measures.....	22
3.3 Intercorrelations of Dependent Measures.....	23
3.4 Manipulation Check	24
3.5 Analysis of Primary Hypotheses	25
3.5.1 Do Excluded Individuals Experience Greater Threatened Needs?.....	26
3.5.2 Does Contingent Self-Esteem Affect Reactions to Social Exclusion?.....	27
3.5.2.1 Contingent Self-Esteem	28
3.5.2.2 Perceived Social Threat.....	29
3.5.2.3 Perceived Physical Threat.....	34
3.5.2.4 Threatened Needs	34
3.5.3 Does Self-Esteem Variability Affect Reactions to Social Exclusion?.....	37
3.5.3.1 Perceived Threat.....	38
3.5.3.2 Threatened Needs	38
4. DISCUSSION	39

4.1 Ostracism	40
4.2 Contingent Self-Esteem	41
4.3 Self-Esteem Stability	43
4.4 Final Conclusions.....	44

APPENDIX

A. SELF-ESTEEM MEASURES	46
B. EXPERIMENTAL MEASURES.....	53
C. DEBRIEFING STATEMENT	62
REFERENCES.....	68
BIOGRAPHICAL INFORMATION.....	78

LIST OF ILLUSTRATIONS

Figure	Page
3.1 Influence of Approval CSW on Perceived Social Threat	30
3.2 Influence of Romantic Relationship Competency on Perceived Social Threat.....	32
3.3 Influence of Social Competency on Perceived Social Threat	33
3.4 Influence of Approval CSW on Threatened Belongingness.....	36

LIST OF TABLES

Table	Page
3.1 Descriptives of Dependent Variables.....	21
3.2 Descriptive of Self-Esteem Measures.....	22
3.3 Test-Retest Reliability of Rosenberg Self-Esteem.....	22
3.4 Intercorrelations Contingent Self-Esteem	23
3.5 Intercorrelations of Dependent Measures.....	24
3.6 Manipulation Check.....	25
3.7 ANOVA Results by Condition for Dependent Measures.....	27

CHAPTER 1

INTRODUCTION

1.1 General Overview of Social Exclusion

William James (1890) once wrote that to go unnoticed by others would be worse than the “most fiendish punishment” (pg, 293-294). Indeed, the effects of ostracism can leave an individual feeling as if they are socially dead to the world. Although William James wrote this over 100 years ago, ostracism is still a major concern in today’s society. Ostracism (i.e. social exclusion) involves excluding or ignoring another person and carries with it many disturbingly negative influences on an individual’s physical and emotional well being. Ostracism has been associated with increased sadness, hurt, anxiety, anger, and even violence (Baumeister & Tice, 1990; Bourgeois & Leary, 2001; Leary, Kowlaski, Smith & Philips, 2001). Evidence also suggests that those who are rejected and/or bullied by their peers react more aggressively than those who are not (Twenge, Stucke, Baumeister, & Tice, 2001). This may lead to a higher incidence of violence (i.e. school shootings). Individuals who are excluded often experience physical illness, emotional problems, negative affective states, and depression (Bowlby, 1969; Downey & Feldman, 1996; Williams, 1997).

Due to the adverse reactions that many individuals undergo while experiencing ostracism and because many strive to avoid it, ostracism is often used as a form of punishment. Banishment is one of many ways in which a society, culture or an individual may remove and punish someone for wrongdoing. An older order of the Amish community, for example, uses a form of banishment called *Meidung*, or shunning, to punish transgressors of the faith in their community (Hostetler, 1964). In romantic relationships, angry couples will use the silent treatment (a form of ostracism) as a way to communicate symbolically to their partners that they no longer acknowledge that person’s existence (Buss, Gomes,

Higgins, & Lauterbauck, 1987; Buss, 1990; Sommer, Williams, Ciarocco, Baumeister, 2001). Coworkers and employers will often ostracize whistler blowers in work environments (Armstrong, 2002). Similarly, young children will exclude their peers when they do not fit into the norm of the group (Imich, 1994; Spinrad, Eisenberg, Harris, Hanish, Fabes, Kupanoff, Ringwald, & Holmes, 2004). Ostracism is even applied in the American prison system (i.e. solitary confinement) as a way of excluding prisoners from the rest of the prison population, family, and friends (Harrigan, 1997). Those prisoners subjected to solitary confinement are more likely to develop psychotic behaviors (McGuire & Raleigh, 1986).

With the advent of new technology, new ways in which to exclude have also developed (i.e. the internet, cell phones, dating agencies, etc.). This new form of ostracism has been coined cyberostracism (Williams, Cheung, and Choi, 2000). Researchers have begun to study this new phenomenon of social exclusion. Interestingly, these studies have found that the effects of social exclusion were still felt over these technologies. Much like when a person is ostracized from a group in person, cyberostracism makes an individual feel more alone, feel worse about themselves, and reduces their feelings of self-control and self-esteem (Williams, Crocker, Tynan, Cruickshank & Lam, 2002; Smith & Williams, 2004). Furthermore, these negative emotions are not satiated even when individuals are informed at the outset that a real person was not involved in the act of excluding them.

1.2 Threatened Needs

An important question involves why ostracism has such adverse influences on individual's psychological and physical well-being. One possibility is that it deprives individuals of the ability to form common and long lasting bonds with other people. Baumeister and Leary (1995) explain the need to form common and long lasting bonds as fundamental to our survival. Having close and reciprocally loving relationships helps one to relieve distress in potentially threatening situations. It also provides a basis for better physical and mental health as well as effective coping strategies. In order to satiate the need to belong, two criteria must be met. First, individuals must interact pleasantly, frequently and emotionally

with other people; and second, the interactions between parties must take place in a temporally secure and enduring framework of emotional concern for each other's well being (Baumeister & Leary, 1995). In other words, constantly changing interactions with different partners will be less gratifying than those interactions with the same partner over a period of time.

This need to belong is one of the strongest human motivators after primary needs such as food and shelter has been met (Baumeister, Twenge & Nuss, 2002). It is a drive that compels individuals to form and maintain meaningful and significant interpersonal relationships with others (Baumeister & Leary, 1995). There is some evidence that the need to belong is so strong that some individuals will try to seek out interpersonal relationships after being rejected or excluded. A few studies have demonstrated that an individual will replenish their need to belong and to form common bonds after experiencing exclusion. Williams and Sommer (1997) found that female participants who had been ostracized tried harder on a subsequent group task. The researchers suggest that this may have been a strategy to make themselves look better to a new group. Gardner, Pickett and Brewer (2000) found that when individuals were excluded, they paid more attention to the social aspects of a diary. It is believed that the individuals wanted to make interpersonal information more salient. Waldrup and Jensen-Campbell (2007) also found that linguistic styles after exclusion was suggestive of attempting to reconnect with important others. Finally, DeWall, Baumeister and Schaller (2007) found that participants were more likely to view individuals who rejected them in a hostile and negative light, while seeing new people as nice and friendly. DeWall and colleagues suggest that these perceptions towards new people may be in the hopes of forming new social bonds. Furthermore, they also found that when rejected, individuals would rather work with others than alone, expressed an interest in meeting new people, and also distributed positive evaluations to new partners rather than those who rejected them.

Besides threatening belongingness, Williams (2001) suggests that three other basic fundamental human needs are also threatened by ostracism, namely self-esteem, meaningful existence, and control

(Williams, 2001). For example, Zadro, Williams, & Richardson (2004) found that excluded participants reported lower levels of self-esteem, meaningful existence, need to belong, and control when participants were excluded during a computer game. Participants also reported having worsened mood, anger, and lower levels of self-esteem when exposed to exclusion over a short amount of time (Williams, 2001; Zadro et al., 2004). The adverse effects for ostracism over longer periods have been linked to depression, suicide, and even shootings (Leary, Kowalski, Smith & Philips, 2003). More interestingly, merely picturing oneself being excluded is enough for many people to feel more negatively about themselves. For example, Craighead, Kimball, and Rehack (1979) found that when people pictured being ignored by others, they made more negative statements about themselves than those who did not imagine people ignoring them.

1.3 Are Some Individuals More Susceptible to Ostracism's Negative Influence?

Although there seems to be an innate tendency for individuals to need to belong and to react negatively when those social connections are threatened (Nezlek, Kowalski, Leary, Blevins, & Holgate, 1997), some individuals may be more adversely affected by ostracism than are other individuals. That is, some individuals may be hypersensitive to exclusion threats, no matter how minor they may be.

Williams's (1997) model of ostracism briefly addresses attributes that may buffer or exacerbate the negative effects of being a target of ostracism. As discussed above, Williams's model of ostracism asserts that there are four fundamental human needs (i.e. need to belong, self-esteem, control and meaningful existence) which are likely to be threatened when faced with ostracism. William's model suggests that the impact of ostracism is, in part, moderated by certain attributes a target of ostracism holds. In other words, depending upon how an individual attributes the cause of ostracism (e.g. taking or abdicating control/responsibility, blaming others, self-deprecating) will affect the impact ostracism has on these fundamental needs. Furthermore, Williams's also describes personality attributes (e.g. rejection

sensitivity) that also may buffer against the negative effects of social exclusion or exacerbate those influences.

However, very few studies to date have examined differences in the susceptibility to ostracism. Some researchers have gone as far as to state that the influence of ostracism is both primal and universal (Zadro, Williams, & Richardson, 2004). However, one recent study (Zadro, Boland, & Richardson, 2005) has found that socially anxious people are more adversely affected by ostracism than are individuals who are less socially anxious. Moreover, Waldrup (2009) found that persons higher on need to belong were more negatively impacted by ostracism than persons lower on need to belong. Jensen-Campbell, Knack, and colleagues (2009) also found that persons higher on need to belong evidenced greater insula activity during exclusion periods than during inclusion periods.

1.4 Influence of Self-Esteem on Social Exclusion

Another potentially important attribute, besides social anxiety and need to belong, that has not yet been examined extensively in the literature, is self-esteem. The concept of self-esteem has generally been defined as a person's evaluation of the self (Baumeister, 1998; James, 1890; Pyszczynski, Greenber, Solomon, Arndt & Schimel, 2004). Self-esteem, however, is in no way a one-dimensional concept. Various types of self-esteem have been described in the literature (i.e. contingent vs. non-contingent, stable vs. non-stable) and related to the reactions we have in our daily interactions (Crocker & Wolfe, 2001; Kernis & Goldman, 1999). Moreover, self-esteem is also regarded as a basic and fundamental human need (Baumeister, Heatherton & Tice, 1993; Crocker & Park, 2004; Hater, 1993).

This need for self-esteem has sparked some researchers to believe that individuals actively pursue self-esteem to maintain and project a positive self-image to others (Baumeister, 1998; Crocker & Park, 2004; Harter, 1993; Pyszczynski et al., 2004). Furthermore, it is believed that the pursuit of self-esteem lies in an individual's need to manage their anxieties and fears (Crocker & Park, 2004; Greenberg

et al., 1992). Therefore, when an individual's self-worth is attacked (e.g., social exclusion), individuals will strive to maintain his/her self-esteem in order to protect themselves from these attacks.

Because self-esteem is such a fundamental need for individuals, researchers attribute self-esteem to a variety of positive and negative consequences such as happiness and depression (Baumeister et al., 2003; Benas & Gibb, 2007). Consequently, individuals who have poor self-esteem may be particularly vulnerable to assaults that threaten their esteem (e.g., ostracism). Schutz (1998) discovered that when faced with a threat to their self-image, low esteem individuals reacted more severely than high self-esteem individuals did. Not only did low self-esteem individuals react worse than high self-esteem individuals when threatened, they also engaged in self-defeating behavior. In other words, individuals who are lower esteem strived to attain encouragement from the partner's that were evaluating them, but, acted in a hostile manner as well. The hostile behavior often did not inspire their partners to act in an encouraging way.

Kernis, Brockner, and Frankel (1989) also demonstrated that low self-esteem increases an individual's vulnerabilities to self-esteem attacks. When low self-esteem individuals were faced with a failure, they became less motivated than those with high self-esteem did. Not only did low self-esteem individuals become less motivated when faced with a failure, they also tended to over generalize the failure to other situations. In other words, the negative feedback made their other feelings of self-inadequacy more salient even if these self-inadequacies had nothing to do with the dimensions of the negative feedback.

Sommer and Baumeister (2002) also assert that low self-esteem individuals are vulnerable to attacks on their esteem. They demonstrated this by showing that low self-esteem individuals react to interpersonal rejection with self-depreciation and withdrawal, whereas high self-esteem individuals reacted with perseverance and affirmation. Instead of giving up, high self-esteem individuals increased their efforts to be accepted when faced with rejection.

1.4.1 Self-Esteem as a Sociometer

Leary and his colleagues (1995) explain self-esteem as a continuous monitor of one's inclusionary status for cues that indicate whether one is being disapproved of, included, or rejected. It is also an alert system when one's inclusionary status is being threatened. It then motivates the person to behave in ways that restore his or her inclusionary status. When exposed to potential threats, individuals experience aversive reactions such as anxiety. Emotional distress and/or stress are a product of being susceptible to threats to self-worth. Self-esteem, therefore, acts as a sociometer to social exclusion. In sum, Leary et al. (1995) posit that state self-esteem (self-esteem that fluctuates as people move about their daily lives) as opposed to trait self-esteem (an average level of self-esteem over time and situations) is this monitor, which acts as a "fuel gauge." This monitor cues people to signals others send about their inclusionary status, which in turn, helps them avoid being socially excluded. Individuals, therefore, experience negative feelings when certain cues of rejection or exclusion are detected.

Leary, Haupt, Strausser, and Chokel (1998) have put forth alternative explanations for the way individuals use this sociometer. They suggest that people will often put a positive spin on the manner in which they process information so as to preserve their self-esteem (positive bias). Conversely, individuals may also sometimes perceive social slights to be greater than they actually are (negative bias). In other words, people may feel hurt by social slights or insults more than may be warranted. For example, Leary and colleagues (1998) found that when faced with a situation in which people were neutral to a participants' presence (i.e. "I don't really care if you stay or go"), individuals were more likely to feel as if they were rejected or disliked by that person. In other words, instead of inferring that the person may have felt neutral or noncommittal towards them, they were inclined to feel rejected by that person. Similarly, individuals may infer rejection when faced with an ambiguous or uncertain situation (i.e. partial exclusion). Moreover, Leary and colleagues suggest that individuals infer rejection because the sociometer is most sensitive to "decrements in inclusion" and not outright exclusion. For example, their

research confirmed that individuals' feelings dropped sharply as personal feedback decreased from extremely to moderately positive and bottomed out as evaluations shifted from neutral to mildly negative (1998).

1.4.2 The Stability of Self-Esteem

Some people, however, have greater variability in their moment-to-moment self-esteem than do other people. In other words, there can be two people with identical levels of trait self-esteem. However, they may vary considerably on their moment-to-moment self-esteem (temporal stability or sociometer) (Kernis et al., 1993). Consequently, persons with greater instability in their moment-to-moment self-esteem should be more sensitive to contextual factors (i.e. evaluative feedback, inclusion/exclusion status) regardless of their general level of self-esteem. In other words, they should have more sensitive sociometers.

Self-esteem stability influences reactions to the daily events an individual experiences. Because unstable self-esteem individuals do not have a strong sense of self-worth, they are more vulnerable to the positive and negative events that happen on a daily basis. They are more likely to put their self-esteem on the line on a daily basis. Greenier et al. (1999), for example, found that when unstable self-esteem individuals experienced a positive daily event, it tended to make them feel good about themselves and consequently raise their self-esteem. Conversely, when unstable self-esteem individuals experienced a negative daily event, it made them feel bad about themselves and also, lowered their self-esteem. Moreover, stable individuals did not experience this fluctuation in their sense of worth when experiencing both negative and positive daily events.

A number of studies suggest that instability in high self-esteem individuals result from a heightened concern about maintaining and attaining a more stable positive self-view, while; unstable low self-esteem individuals try to avoid a continuing negative self-view (Kernis et al., 1993; Kernis, Grannemann & Barclay, 1992). In other words, people with unstable self-esteem should react more

strongly to social exclusion than those with a more stable self-esteem status regardless of their general self-esteem level because of their unanchored sense of self-worth.

Kernis and Grannemann (1989) also found that when unstable high self-esteem individuals were faced with a threat to their self-view, they had a propensity to become angry and even hostile than stable high self-esteem individuals were. Conversely, Kernis et al. (1993) found that when faced with a threat to their self-esteem, unstable low self-esteem individuals did not react in a defensive or hostile way. Rather, they tended to make more excuses in the face of self-esteem threats. Furthermore, it is also believed that stability of self-esteem is linked to an individual's ability to absorb the damage of a self-esteem threat (Kernis & Grannemann, 1989). So, the more damage an individual's self-esteem experiences from an attack (i.e. social exclusion), the more that individual will need to restore their self-esteem.

1.4.3 Contingent Self-Esteem

It is important to understand if there are boundary conditions to when an individual's self-esteem monitors one's inclusionary status. Although some people's self-esteem may vary from moment-to-moment, others self-esteem may be uniquely conditional on specific areas that are important to them. James (1890) first suggested that our general sense of self-worth relied not on our every action or attribute, but on those domains that were important to us. In other words, if we excel in the areas we highly value, our self-esteem will be high. If we do not excel in the areas we highly value, our self-esteem will be low. Conversely, failures in areas that are not important to an individual should have very little impact on global self-worth. Moreover, Crocker and Wolfe (2001) believe that contingent self-esteem may be triggered by certain situation prompts or cues. That is, the stronger a person's self-esteem is contingent on a certain area, the more accessible and easily available this area will be.

There is evidence that one's self-esteem may be uniquely contingent upon areas that are important to that individual (e.g., relationships, work) as James first postulated. Harter (1993), for example, found that the areas most important to an individual predicted the level of an individual's global

self-esteem. In other words, an individual's perceived adequacy in a domain they deemed important sustained their high global self-esteem even if they perceived inadequacy in other domains. Conversely, an individual's perceived inadequacy in a domain important to them lowered their global self-esteem even if all other domains are perceived as adequate. Furthermore, Pelham and Swann (1989) also found that those areas most important to a person were linked to an individual's level of general self-esteem.

In addition, Crocker and Wolfe (2001) assert that the level of self-esteem may fluctuate based on the contingencies an individual bases their self-esteem on. For example, in response to successes and failures of a graduate record exam, Crocker, Sommers & Luhtanen (2002) found that increases and decreases in daily global self-esteem depended upon a person's contingency of self-worth. When a participant had high academic competence contingent self-worth, their global self-esteem either rose or fell due to the success or failure of the exam. When the participant's contingency of self-worth did not rely on their academic competency, their global self-esteem was not affected. Niiya, Crocker, and Bartmess (2004) also found that those participants high on academic contingent self-worth had lower self-esteem and higher negative affect when their academic competency was low. Other studies have also associated contingent self-esteem based on a relational context. Harter et al. (1998) found that adolescents judged their self-worth on relational contexts (e.g. parents, classmates, and teachers). That is, adolescents viewed themselves differently depending on the person they interacted with. Furthermore, a particular person may have a larger impact on their self-worth than a non-important person.

Self-esteem which is highly contingent on external sources (i.e. other's approval, academic competence or appearance) as opposed to internal sources (i.e. God's love), however, can be associated with a variety of psychological, physical, and mental stressors. For example, Sargent, Crocker, and Luhtanen (2006) found that being highly dependent on external sources of contingent self-esteem contributed to the development of depressive symptoms in college students. Luhtanen and Crocker

(2005) also found that basing one's self-esteem on external sources, specifically appearance, predicted more alcohol use in college students.

1.5 Present Study

The present study examined whether contingent self-esteem and self-esteem variability uniquely influenced reactions to social exclusion even after controlling for general levels of self-esteem. Despite the wide research done on ostracism and its effects on self-esteem, previous research had not explored how contingent self-esteem or self-esteem variability influences reactions to being socially excluded. Reactions to ostracism were assessed by self-reports and include measures of threatened needs and perceived social threat. Individuals were randomly assigned to three conditions as part of the ball-tossing task: (1) their two partners both excluded them from the game; (2) one partner included them in the game while the other partner excluded them; and (3) both partners included them in the game.

Hypothesis 1. The first hypothesis is a replication and extension. That is, I predicted that persons who were excluded would be more upset by the exclusion as evidenced by self-reported threatened needs and perceived social threat compared to individuals who are included or partially excluded.

Hypothesis 2. Second, I examined the influence of contingent self-esteem on reactions to ostracism. Crocker and colleagues suggest that self-worth is determined by the areas of life that one finds most important. That is, if a person bases his/her self-worth on others' approval, they should be particularly upset by being partially excluded (compared to individuals who do not base their self-worth on others' approval).

Since these individuals base their self-esteem in personal relationships, they should have more sensitive 'sociometers,' which should lead them to perceive social slights to be greater than they actually are (i.e., a greater negative bias). In other words, these individuals will focus on the rejection in the situation rather than the inclusion and will be more threatened by the slight of one individual than may be

warranted. In other words, instead of focusing on the fact that one person likes them, they will instead focus on the rejection on the other partner and feel more threatened.

I anticipated that those participants whose self-esteem is highly contingent on relationship domains would feel more perceived social and physical threat and have greater threatened needs when they are rejected than those with less contingent relationship self-esteem, especially in the partial exclusion condition. I expected that this relationship between contingent self-worth and threat would be strongest for those who had low global self-esteem. That is, overall self-esteem may buffer against the influence of contingent self-worth on feeling threatened.

Hypothesis 3. Third, I anticipated greater self-esteem variability would exacerbate the influence of ostracism. In other words, if a person has greater variability in the moment-to-moment esteem, they should be more responsive to ostracism (i.e., have a more sensitive sociometer). Conversely, a person's whose self-worth is stable should be less sensitive to being ostracized and should be less adversely affected by ostracism given their sociometer is not alerting them to rejection from the group. Specifically, when ostracized, persons with greater self-esteem variability should report greater threats to his/her basics needs than persons with more stable self-esteem will.

CHAPTER 2

METHOD

2.1 Participants

A total of 122 (75 females and 46 males) undergraduate students from the University of Texas in Arlington (UT-Arlington) took part in this experiment in exchange for course credit or in partial fulfillment of their research requirement or to receive extra credit in their upper-level psychology classes. Following Pedhazur's (1997) recommendations (i.e., $N \geq 104 + m$ predictors for the partial correlation), my sample size was adequate. That is, I had approximately 7-10 predictors in each analysis. The sample included a racial composition of White/Anglo-American (35.8%), Black/African-American (17.1%), Hispanic/Latino-American (13.0%), Asian (19.5%), and Other/Multi-racial (8.9%). Of the 122 participants, 121 participants completed the Who am I? phase of the study. The participant who decided to drop early from the Who am I? part of the study was also dropped from the analyses.

2.2 Self-Esteem Measures

Self-Esteem has been conceptualized in many ways. For this study, I assessed multiple aspects of self-esteem including global level of self-esteem, stability of global self-esteem, and contingent self-worth.

2.2.1 Level of Global Self-Esteem

Baseline global self-esteem was assessed using the Likert-type version of Harter's Self Perception Profile for College Students (Neemann & Harter, 1986; SPP-CS) and the Rosenberg 10-item Self-Esteem questionnaire (Rosenberg, 1965; SES). For the SPP-CS, respondents were asked to respond to each question using a 5-point scale, ranging from 1 (strong disagree) to 5 (strongly agree). The Harter SPP-CS is comprised of 13 subscales that assess perceived competence in specific domains

that are relevant to college students in addition to assessing global self-worth. The global subscale contains 6 items (e.g., I am very happy being the way I am), that can range from 4 to 20.

For the SES, respondents were asked to indicate on a 5-point scale (1=strongly disagree; 5 = strongly agree) the degree to which they agree with several statements regarding their self-worth (e.g., “On the whole, I am satisfied with myself.”). The SES was collected four times (i.e., during prescreening (Phase I), Phase II, and Phase III). First, the SES was computed for each assessment by summing and averaging each assessment over the three periods. Global level of self-esteem using the SES was computed by averaging across the four time assessments.

2.2.2 Stability of Self-Esteem

A measure of stability of self-esteem was computed using the SES. Stability of Self-Esteem was evaluated by using the repeated assessments of the SES measure (i.e., the pretest (Phase I), Phase II, and Phase III). Following procedures by Kernis, Cornell, Sun, & Berry (1993), a standard deviation for each participant was created using the four assessment of the SES. This standard deviation approach has been used in previous studies (Greenier, Kernis, McNamara, Waschull, Berry, Herlocker, & Abend, 1999; Kernis et al., 1993; Kernis, Brown, & Brody, 2000; & Kernis, Grannemann, & Barclay, 1989) and was used as a measure of stability of self-esteem.

2.2.3 Contingent Self-Worth

Contingent Self-Worth was assessed using both Harter’s Self Perception Profile and Crocker’s (2003) 35-item Contingent Self-Worth scale (CSW). For the CSW, participants were asked to indicate on a 7-point scale (1 = strongly disagree, 7 = strongly agree) the degree to which they agree with certain statements. This assessment is composed of 7 subscales: others’ approval (e.g. “I don’t care if other people have a negative opinion about me”), appearance (e.g. “When I think I look attractive, I feel good about myself”), defeating others in competition (e.g. “I feel worthwhile when I perform better than others on a task or skill”), academic competence (e.g. “My opinion about myself isn’t tied to how well I do in

school”), family love and support (e.g. “Knowing that my family members love me makes me feel good about myself”), being a virtuous or moral person (e.g. “Doing something I know is wrong makes me lose my self-respect”), and God’s love (e.g. “My self-worth is based on God’s love”). Each subscale contains 5 items and can range from 5 to 35. This study specifically focused on the contingent self-worth dimension of other’s approval and how it influenced reactions to social exclusion. The reliability of each subscale ranges from .59 to .89; however, each subscale’s reliability was examined.

Only eight subscales of Harter’s SPP-CS was collected in this study due to time constraints. These domain-specific subscales of Harter’s SPP-CS include romantic relationships (e.g., “I worry that when I like someone romantically, that person will not like me back”, “I have the ability to develop romantic relationships”), intellectual ability (e.g., “I feel like I am just as bright or brighter than most people”, “I do not feel as if I am very mentally able”), close friendship (e.g., “I am able to make close friends that I can really trust”, “I don’t have a close friend that I can share my personal thoughts and feelings with”), parent relationship (e.g., “I like the way that I act when I am with my parents”, “I find it hard to act naturally when I am around my parents”), appearance (e.g., “I am happy with my height and weight”, “I am not happy with the way I look”), social acceptance (e.g., “I am not satisfied with my social skills”, “I like the way I interact with other people”), scholastic competence (e.g., “I have trouble figuring out homework assignments”, “I do very well at my studies”), and global self-worth (e.g. “I like the kind of person I am”; “I am often disappointed with myself”). This study specifically focused on the relationship esteem domain (e.g., friendship, romantic, and social competence) and how it influenced reactions to social exclusion. All subscales contain 4 items each meaning that totals can range from 4 to 20. The reliability of each subscale was examined and can range from .76 to .92.

2.3 Experimental Questionnaires

Self-reported threatened needs and perceived social threat were assessed using the Cyberball questionnaire and the Ambiguous Stories questionnaire.

2.3.1 Cyberball Questionnaire

The Cyberball questionnaire served as the questionnaire which assessed the extent to which the participant's needs felt threatened. It also assessed participants' immediate reactions to being excluded. Respondents of the Cyberball questionnaire were asked to indicate the percentage of throws received. Participants were also asked to indicate on a 9-point scale (1 = rejected, 9 = accepted) the extent to which they felt included by the other "participants" during the game. Finally, they were asked to indicate on a 5-point scale (1=strongly disagree; 5=strongly agree) what they were feeling during the course of the game. Threatened needs assessed included: belongingness (i.e. "I felt I belonged to the group"), meaningful existence (i.e. "I felt meaningless"), control (i.e. "I felt I had control over the course of the game"), and self-esteem (i.e. "My self-esteem was high").

2.3.2 Ambiguous Stories Questionnaire

The Ambiguous Stories questionnaire assessed an individual's perception to threat after playing Cyberball. Participants responded to 11 ambiguous stories (e.g. "It is night time and you are suddenly awoken by a loud noise in the other room", "On the way to UT-Arlington, you feel a strange churning in your stomach") and were asked to visualize themselves in each situation. Each situation is accompanied by three explanations: two which are neutral (e.g. "Your roommate has left the window open and the wind has blown something over", "Your cat (pet) has knocked something over") and one which is socially or physically threatening (e.g. "Someone has broken into the house and has tripped over the furniture"). They rated the likelihood of each explanation from a range of 0 (not at all likely) to 100 (extremely likely) and then choose the explanation that is most likely. These scores (i.e. 0-100) were then divided by 10. Social and physical threat scores were then computed by summing and dividing the participants answers to each group.

2.4 Experimental Manipulation

2.4.1 Cyberball (the program)

Cyberball is a program developed by Kipling D. Williams (Williams, Cheung, & Choi, 2000) that allows experimenters to create interactive scenarios through a simple ball tossing game. In other words, the experimenter can create inclusion and exclusion scenarios. The participant is asked to throw a ball to 2 other players who are thought to be real and connected through a network. The other players are actually computerized confederates. Each participant was randomly assigned to participate in one of three conditions: exclusion, inclusion and partial exclusion. If assigned to the exclusion condition, participants received the ball for no more than 8 tosses and then were excluded from play for the remainder of the game. If assigned to the inclusion condition, participants received the ball approximately 33% of the time (i.e., equally to the other two supposed other participants). If assigned to the partial exclusion condition, participants received the ball from the left or right player for no more than 2 tosses and then were excluded by either player for the remainder the game. In addition participants are asked to mentally visualize the entire experience. They are asked to imagine what the other participants look like, to imagine what sort of people they are and to imagine exactly where they are playing. In other words, they are asked to create, in their mind, a complete mental picture of what might be going on if they were playing the game in real life. The "Cyberball" program has been previously used to examine social exclusion (Eisenberger et al., 2003, Williams, Cheung, & Choi, 2000).

2.5 Procedure

Participants were involved in three separate phases. Self-esteem measures were given to the participants four separate times during the course of the semester to allow adequate baseline measures of global self-esteem to be collected and to assess stability of self-esteem. Participants completed the Rosenberg (1965) Self-Esteem questionnaire as part of a large subject pool prescreening session (Phase

l). In addition, they also completed demographic information (e.g., sex of participant, ethnicity, age, and socioeconomic status) as part of the prescreening.

In the second phase of the experiment, the potential participants completed a number of surveys for an on-line study entitled "Who am I?" After students click on the link (at <http://uta.sona-systems.com>) to participate, the consent appeared. The participant then clicked on Accept or Decline. Students who declined were thanked and no survey appeared. Students who accept were provided with the surveys to complete. These surveys included the Rosenberg Self-Esteem Measure along with the Contingent Self-Esteem Scale (Crocker, 2003; CSW) and Self Perception Profile for College Students (1986; SPP-CS) to assess baseline and contingent self-esteem.

Finally, participants completed several personality measures that were not part of this study, which are the Need to Belong Scale (Leary, Kelly, Cottrell, Schreindorfer, 2001.), the Hurt Proneness Scale (Leary & Springer, 2000), the Rejection Sensitivity scale (Downey & Feldman, 1996; RSQ), Children's Social Experiences Questionnaire (Crick & Grotpeter, 1996; CSEQ-R-NOW), the Ten-Item Personality Inventory (Gosling, 2003; TIPI), the Pain Catastrophizing Scale (Sullivan, Bishop & Pivik, 1995; PCS), and the Positive and Negative Affect Schedule (Watson, Clark & Tellegen, 1988; PANAS).

Individuals completed both the pretest and the online surveys. Those participants who were interested in participating in the third phase signed up via the Psychology Department Human Subjects Pool. If a student signed up for the third phase (via Sona), they came in at the time they scheduled. Students did not know that Phase I and Phase II were directly related to this study at the time they signed up for this study. That is, Sona made the study visible for sign-ups once an individual completed both the prescreening and the "Who Am I?" study. In the third and final phase, each participant arrived separately under the pretext of participating in a computer mental visualization task. In other words, they were told that we were interested in brain wave patterns during mental visualization tasks. They were given a

consent form and then were instructed to complete several scales not included in this thesis (e.g., mood) as well as a measure of self-esteem.

To make certain that the participants believed that they were playing with other participants; they were told that the other participants were able to see their names on the computer screen the same way that they can see the other participants' names on the computer. Next, the participant played a virtual ball-tossing game ("Cyberball") while EEG was collected as part of another study. To further the cover story, the experimenter explained that two other participants positioned in other parts of the building would be joining in on the game. The cover story was further augmented when one of the experimenters explained that he or she must check on the other participants and experimenters during the course of the experiment. Once the participant received instructions on how to operate the game, they clicked on the appropriate links and proceeded to play. Each participant was randomly assigned to participate in one of three conditions: exclusion, inclusion and partial exclusion. If assigned to the exclusion condition, participants received the ball for no more than 8 tosses and then were excluded from play for the remainder of the game. If assigned to the inclusion condition, participants received the ball approximately 33% of the time (i.e., equally to the other two supposed other participants). If assigned to the partial exclusion condition, participants received the ball from the left or right player for no more than 2 tosses and then were excluded by either player for the remainder the game. Physiological measures were obtained while the participant played the game.

Next, the participant was asked to complete several measures including the Cyberball questionnaire and the SES. At this point, the electrode cap and other electrodes were removed. The participant then completed the Ambiguous stories questionnaire. These scales assessed threatened needs (e.g., self-esteem, belonging, threat perception) as well as immediate reactions to social exclusion.

After the participant indicated that they were finished with the last of the questionnaires, the experimenters asked the participant about their thoughts and feelings during the course of the study.

Participants were questioned whether they had played the game before with another student or during another experiment. Finally, the participant was appropriately debriefed about the aims of the study, thanked, and given their course credit.

CHAPTER 3

RESULTS

3.1 Internal Consistencies of Questionnaires

The internal consistencies and descriptive statistics of all measures (i.e., self-report measures, behavioral measures) were computed and examined. Overall, reliabilities for all measures were acceptable (See Tables 3.1 & 3.2).

Table 3.1 Descriptives of Dependent Variables

	Mean	SD	Skew	Possible Range	Actual Range	Alpha
Dependent Variables						
Cyberball Scale						
Belongingness	13.08	5.24	.07	3-27	3-27	.89
Self-Esteem	12.14	4.47	-.30	3-27	3-27	.77
Meaningful Existence	15.52	5.10	.39	3-27	3-27	.91
Control	12.92	3.99	-.18	2-18	2-18	.80
Ambiguous Stories Scale						
Physical Threat	3.23	1.68	.32	5-25	5-25	.97
Social Threat	2.55	1.79	.93	4-20	4-20	.86
Overall Threat	2.92	1.57	.60	6-30	6-30	.93

Table 3.2 Descriptives of Self-Esteem Measures

	Mean	SD	Kurtosis	Skew	Possible Range	Actual Range	Alpha
Self-Esteem Measures							
Rosenberg Self-Esteem Scale							
Prescreen	4.04	0.64	1.33	-0.9	10-50	10 -50	0.9
Who Am I	3.88	0.77	-0.69	-0.39	10 – 50	10 - 50	0.89
Baseline	4.13	0.63	-0.07	-0.62	10 – 50	10 - 50	0.9
Post	4.11	0.67	0.70	-0.78	10 – 50	10 -50	0.89
Contingent Self –Worth							
Approval	3.85	0.9	1.63	-0.04	5 -35	5 -35	0.76
Self-Esteem Variability							
SD SES	0.303	0.208	1.41	1.22			
Self Perception Profile							
Romantic	3.41	0.9	-0.06	-0.31	4 – 20	4 - 20	0.75
Social	3.67	0.89	-0.42	-0.44	4 – 25	4 - 25	0.83
Friendship	3.87	0.83	-0.09	-0.68	4 – 20	4 - 20	0.72
Global Self-Esteem	3.74	0.73	0.45	-0.36	4 – 25	4 - 25	0.83

3.2 Intercorrelations of Self-Esteem Measures

Correlations analyses were conducted to examine the interrelationships among the measures of self-esteem during the course of the study and average relational self-esteem (see Table 3.3). Indeed the self-esteem measures at each time were correlated with each other and the average relational self-esteem.

Table 3.3 Test-Retest Reliability of Rosenberg Self-Esteem

Self-Esteem				
	I	II	III	IV
SES – Time 1 (I)	-	0.74**	0.77**	0.72**
SES – Time 2 (II)		-	0.68**	0.66**
SES – Time 3 (III)			-	0.88**
SES – Time 4 (IV)				-

When examining the interrelationships among the contingent self-esteem measure, I found that some of these measures were indeed correlated with each other. For example, romantic self-worth was positively correlated with friendship self-worth ($r = 0.37$), social self-worth ($r = 0.52$) and global self-esteem ($r = 0.64$). The friendship self-worth was also positively correlated with both social self-worth ($r = 0.52$) and global self-esteem ($r = 0.49$). As might be expected, approval contingent self-worth scale (CSW) was not correlated with any of these subscales of actual self-worth (See Table 3.4). In other words, individuals can report having either high or low competency in a domain-specific relationship area while still deriving their self-worth from others' approval.

Table 3.4 Intercorrelations Contingent Self-Esteem

	I	II	III	IV	V
Approval CSW (I)		-0.02	0.03	0.16	-0.01
Romantic SPP (II)	-	-	0.37**	0.52**	0.59**
Friend SPP (III)	-	-	-	0.52**	0.43**
Social SPP (IV)	-	-	-	-	0.67**
Global Self-Esteem (V)	-	-	-	-	-

3.3 Intercorrelations of Dependent Measures

Correlations among the dependent measures were examined next. As expected, threatened belongingness was positively related to threatened control ($r = 0.69$), threatened meaningful existence ($r = 0.78$), and threatened self-esteem ($r = 0.64$) (See Table 3.5).

Table 3.5 Intercorrelations of Dependent Measures

Dependent Measures				
	I	II	III	IV
Threatened Belongingness (I)	-	.65**	.78**	.69**
Threatened Self-Esteem (II)		-	.74**	.59**
Threatened Meaningful Existence (III)			-	.68**
Threatened Control (IV)				-

3.4 Manipulation Checks

Four one-way ANOVA's were performed to determine if the manipulation of ostracism/exclusion was successful. Included participants felt significantly more accepted by the "other" participants ($M = 7.30$, $SD = 1.54$) than ostracized ($M = 3.41$, $SD = 1.54$) and partially excluded (PE) participants did ($M = 5.31$, $SD = 2.15$), $F(2,118) = 43.20$, $p < .05$. Furthermore, PE participants ($M = 5.31$, $SD = 2.15$) felt more excluded than included participants did ($M = 3.41$, $SD = 1.54$). Conversely, excluded participants felt that they were more ignored and left out by the "other" participants ($Ms = 3.82, 3.90$, $SDs = 1.15, 1.11$) than did the PE participants ($Ms = 2.75, 2.63$, $SDs = 1.15, 1.25$) and the included participants ($Ms = 1.35, 1.49$, $SD's = 0.75, 0.96$), $Fs(2,118) = 56.81, 45.27$ $p < .05$. Moreover, the PE participants also felt that they were left out and ignored less than the excluded participants but more than the included participants.

Finally, excluded participants felt that they received a lower percentage of throws ($M = 13.37\%$, $SD = 7.44$) than participants in the PE ($M = 22.53\%$, $SD = 16.86\%$) and included condition did ($M = 33.30\%$, $SD = 12.07\%$), $F(1,118) = 22.94$, $p < .05$. PE participants also felt that they were given more of a percentage of throws than the excluded participants, but less of a percentage of throws than the included participants. Overall, participants who were excluded in the Cyberball program did perceive

rejection by the “other” participants during the game. Therefore, the Cyberball manipulation did create a real social exclusion experience.

Table 3.6 Manipulation Check

	Condition	Mean	SD	F	η^2
Felt Included	Exclusion	3.41 _a	1.54	43.20**	.49
	Partially Exclusion	5.31 _{b b}	2.15		
	Inclusion	7.30 _c	1.73		
Felt Ignored	Exclusion	3.82 _a	1.15	56.81**	.47
	Partial Exclusion	2.75 _b	1.15		
	Inclusion	1.35 _c	0.75		
Felt Excluded	Exclusion	3.90 _a	1.11	45.27**	.42
	Partial Exclusion	2.63 _b	1.25		
	Inclusion	1.49 _c	0.96		
Number of Throws	Exclusion	13.37% _a	7.44%	22.94**	.30
	Partial Exclusion	22.53% _b	16.86%		
	Inclusion	33.30% _c	12.07%		

3.5 Analysis of Primary Hypotheses

Using a one-way ANOVA and moderated multiple regression, I examined and compared the reactions of excluded individuals, evidenced by self-reported threatened needs and perceived threat to PE and included individuals. Following any significant F-tests, Bonferroni post hoc tests were run. Unless otherwise stated, all p-values are less than .05. As stated previously, my three hypotheses examine and compare the reactions (e.g. threatened needs and perceived threat) of excluded individuals to PE and included individuals. It was expected that excluded individuals would report being more upset (i.e. threatened belongingness, self-esteem, etc.) than those individuals who were PE. Conversely, PE participants will report to be more upset than participants who were blatantly included.

3.5.1 Do Excluded Individuals Experience Greater Threatened Needs?

The first set of analyses tested can be viewed as replications and extensions of previous work. For example, it was expected that individuals who were socially excluded would report greater threatened needs (i.e., belongingness) than individuals in the inclusion and partially excluded condition. To determine whether gender and/or condition had an effect on the threatened needs of the participant, a 2 (sex of participant) X 3 (condition) MANOVA was used with the four types of threatened needs, two types of perceived threat.

Wilk's lambda revealed a significant difference between condition, $F(8, 224) = 10.13, \eta^2 = .27$. There was no difference associated with the sex of the participant ($F(4, 112) = 1.27, ns$). In addition, there was no condition X sex interaction, $F(8, 224) = 1.07, ns$. Following the significant MANOVA effect for condition, univariate analyses were performed. Significant differences were found for each of the four threatened needs (see Table 3.7). Overall, social exclusion resulted in an increase of threatened needs and social threat for excluded participants the most. PE participants felt slightly less threatened than excluded participants, but more threatened overall than included participants with the experimental task (i.e. Cyberball).

Table 3.7 ANOVA Results by Condition for Dependent Measures

	Condition	Mean	SD	F	Partial η^2
Belongingness	Exclusion	17.11 _a	3.75	37.10**	0.39
	Partial	14.16 _b	4.41		
	Exclusion				
	Inclusion	8.69 _c	3.64		
Meaningful Existence	Exclusion	19.48 _a	4.42	26.21**	0.31
	Partial	15.71 _b	4.53		
	Exclusion				
	Inclusion	12.13 _c	3.59		
Control	Exclusion	15.8 _a	2.50	21.42**	0.27
	Partial	13.22 _b	4.27		
	Exclusion				
	Inclusion	10.23 _c	2.80		
Self-Esteem	Exclusion	14.28 _a	4.71	11.34**	0.17
	Partial	12.80 _b	3.70		
	Exclusion				
	Inclusion	9.81 _c	3.98		
Physical Threat	Exclusion	3.05 _a	1.63	3.12*	0.05
	Partial	3.73 _b	1.90		
	Exclusion				
	Inclusion	2.88 _c	1.39		
Social Threat	Exclusion	2.80 _a	1.61	6.69**	0.10
	Partial	3.07 _b	2.11		
	Exclusion				
	Inclusion	1.82 _c	1.31		

3.5.2 Does Contingent Self-Esteem affect reactions to Social Exclusion?

Those participants high contingent self-esteem from others were predicted to have greater threatened needs than those with less contingent relational self-esteem. For these analyses, a series of moderated multiple regressions were run. Self-esteem measures were treated as continuous variables

and were centered (Cohen et al., 2003). Unweighted effects coding was used for the condition categorical variable (Aiken & West, 1991, pp. 129-130). Post hoc analyses followed procedures outlined by Aiken and West (1991) and Cohen et al. (2003).

For each analysis, condition (i.e. exclusion, inclusion, and partial exclusion), global self-esteem, and a domain-specific self-esteem variable (e.g., contingent approval) were entered on the first step. Next, the two-way cross products among global self esteem, domain-specific self-esteem and condition were entered on the second step. Finally, the three-way interaction among the variables was examined. Domain-specific self-esteem variables included contingent approval, romantic relationship competency, friendship competency, and social competency. Criterion measures included threatened needs (belongingness, self-esteem, meaningful existence, and control) and perceived social and physical threat.

3.5.2.1 Contingent Self-Esteem

It was anticipated that those individuals who were highly contingent on approval would have greater threatened needs than those who were not contingent on relationship domains. First, it is possible persons higher in approval CSW would report more social and physical threat (as assessed by the ambiguous stories measure) in the partial exclusion condition. In other words, they are more sensitive to exclusion cues because they derive their self-worth from the approval of others. Because all participants are excluded equally in the exclusion condition, it is possible that everyone will be upset by the social indifference regardless of their level of contingent approval. Similarly, it is possible that everyone will feel accepted (and thus not threatened) in the clear-cut inclusion condition.

Persons higher in other relationship domains (e.g. friendship, social, and romance) may also be more upset by the ambiguous situation created by the partial exclusion condition. Conversely, these individuals report high self-worth in their relationships so they may not be particularly bothered by exclusion from strangers. As stated previously, this study specifically focused on the contingent self-worth dimension of other's approval and how it might influence reactions to social exclusion after controlling for general self-worth. Type of Condition main effect were still significant for threatened needs,

social threat, and overall threat, but will not be discussed in detail since they were previously discussed in Hypothesis 1.

3.5.2.2 Perceived Social Threat

First, I examined whether contingent worth influenced perceived social threat. There was an overall main effect for approval CSW, $B = 1.98$, $t = 2.00$, $p < .05$. Persons higher on approval CSW perceived *more* social threat across conditions. There was an overall main effect for global self-esteem. Persons higher on global self-esteem reported *less* perceived social threat than persons lower on global self-esteem, $B = -0.96$, $t = -3.89$, $p < .01$.

Finally, there was a condition X global self-esteem X approval CSW interaction, $F(2, 109) = 4.21$, $p < .02$. As anticipated, there was no effect of self-esteem or approval CSW in the inclusion ($F(3, 42) = 1.90$, $p = 0.15$) or exclusion condition ($F(3, 31) = 1.90$, $p = 0.15$). For PE, however, there was a main effect for approval CSW, $B = 5.92$, $t = 3.17$, $p < .01$. There was also a global self-esteem main effect, $B = -1.45$, $t = -3.04$, $p < .01$. More importantly, there was a global self-esteem X approval CSW interaction, $B = -1.31$, $t = -3.08$, $p < .01$. Using procedures outlined by Aiken and West (1991), interaction terms were created using the centered variables of approval CSW and global self-esteem. For low global self-esteem, contingent approval was positively associated with perceived social threat, $B = 1.42$, $t = 3.03$, $p < .01$. For high global self-esteem, approval CSW was not related to perceived social threat, $B = -0.18$, $t = -0.62$, $p = 0.54$. In other words, having high self-esteem seemed to buffer against the influence of approval CSW on perceived social threat in ambiguous situations (See Figure 3.1).

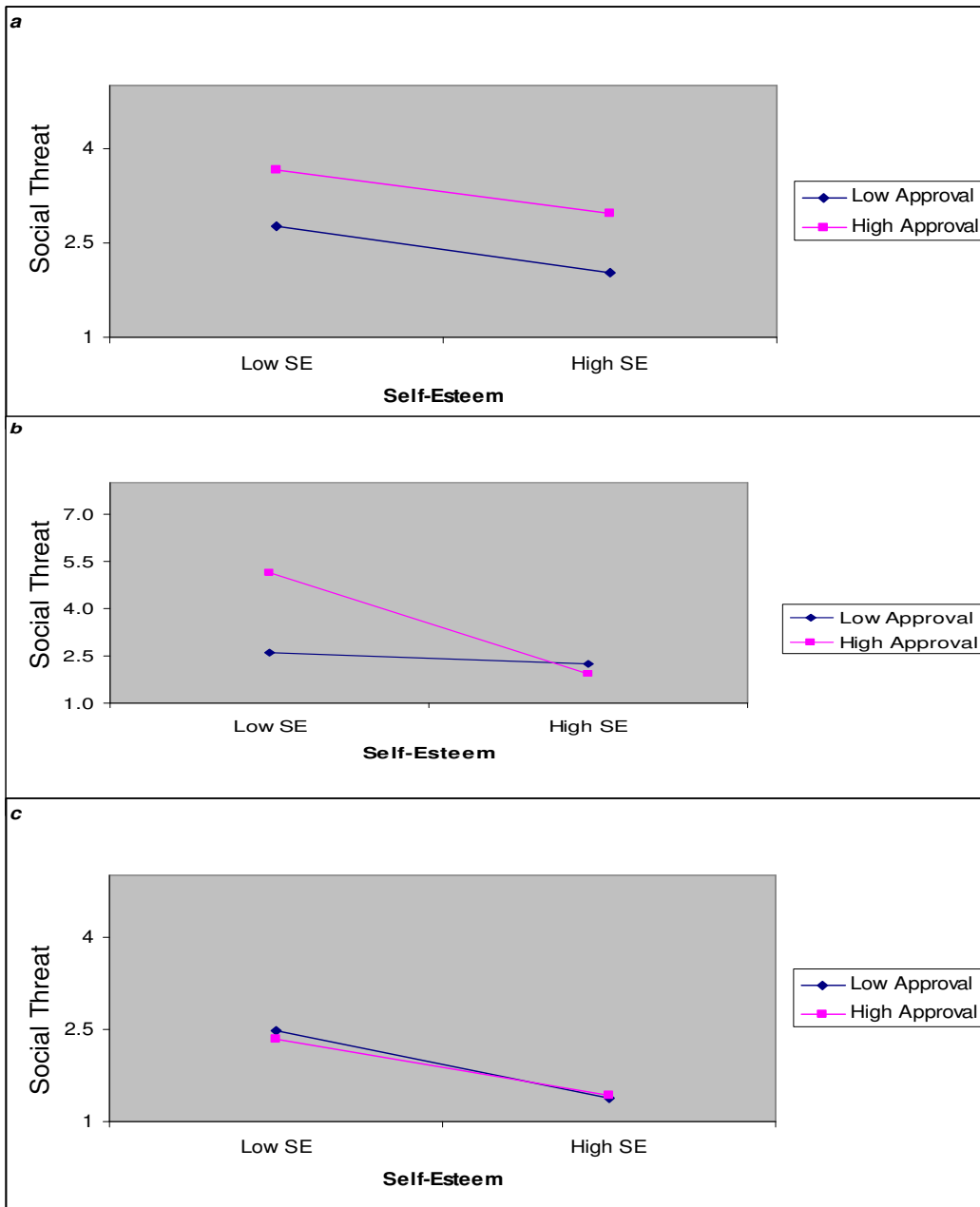


Figure 3.1 Influence of Approval CSW on Perceived Social Threat

Next, I examined the relationship self-worth and its influence on social threat. There was also an overall main effect for romantic relationship self-worth, $B = -1.39$, $t = -2.78$, $p < .01$ and social

competency, $B = -1.29$, $t = -2.06$, $p < .01$. Persons higher on romantic and social self-worth reported less social threat overall. In other words, those persons who report having more trouble being social or romantically involved with others were more likely to feel socially threatened by experimental task (i.e., Cyberball). For friendship competency, there was not an overall main effect for social threat, $B = 0.28$, $t = 0.45$, $p = 0.65$.

There was also an overall main effect for global self-esteem for all three domain specific esteem analyses (i.e. romantic relationships, social and friendship competencies). Persons higher in global self-esteem were less threatened by the interpersonal task than those persons who reported lower levels of global self-esteem, $Bs = -0.29, -0.24, -0.33$, $t = -2.75, -2.07, -3.26$, $p < .01, .05, .01$.

There were also several significant interactions related to social threat. The romantic relationship X global self-esteem interaction effect was significant, $B = 1.34$, $t = 2.75$, $p < .01$. There was also a condition X global self-esteem X romantic relationships interaction, $F(2, 109) = 5.72$, $p < .01$ and a condition X global self-esteem X social competency interaction, $F(2, 109) = 2.48$, $p = .08$. Again, as anticipated, there was no effect of global self-esteem in the analyses involving romantic relationship competency, social competency, or friendship competency in the inclusion condition ($Fs(3, 42) = 1.92, 1.98, 2.54$, $ps = 0.14, 0.13, 0.07$) or exclusion condition ($Fs(3, 31) = 1.56, 1.51, 1.43$, $ps = 0.21, 0.23, 0.25$). As anticipated, there were global self-esteem X romantic relationships and global self-esteem X social competency interactions in the partial exclusion condition, $Bs = 1.97, 1.40$, $ts = 3.35, 2.18$, $ps < 0.01, 0.04$. For low global self-esteem, romantic relationship competency was negatively associated with perceived social threat, $B = -1.68$, $t = -3.12$, $p < .01$. For high global self-esteem, romantic relationship competency was not related to perceived social threat, $B = 0.73$, $t = 1.36$, $p = 0.18$. In addition, social competency was also negatively associated with perceived social threat when self-esteem was low, $B = -1.47$, $t = 0.41$, $p < .03$. Again, for high global self-esteem, social competency was not related to social threat, $B = 0.24$, $t = -2.50$, $p = 0.68$. As with approval CSW, it seems that having high general self-esteem

buffers against the influence of perceived deficiencies in romantic and social competencies in situations that are not clearly defined (See Figure 3.2 and Figure 3.3).

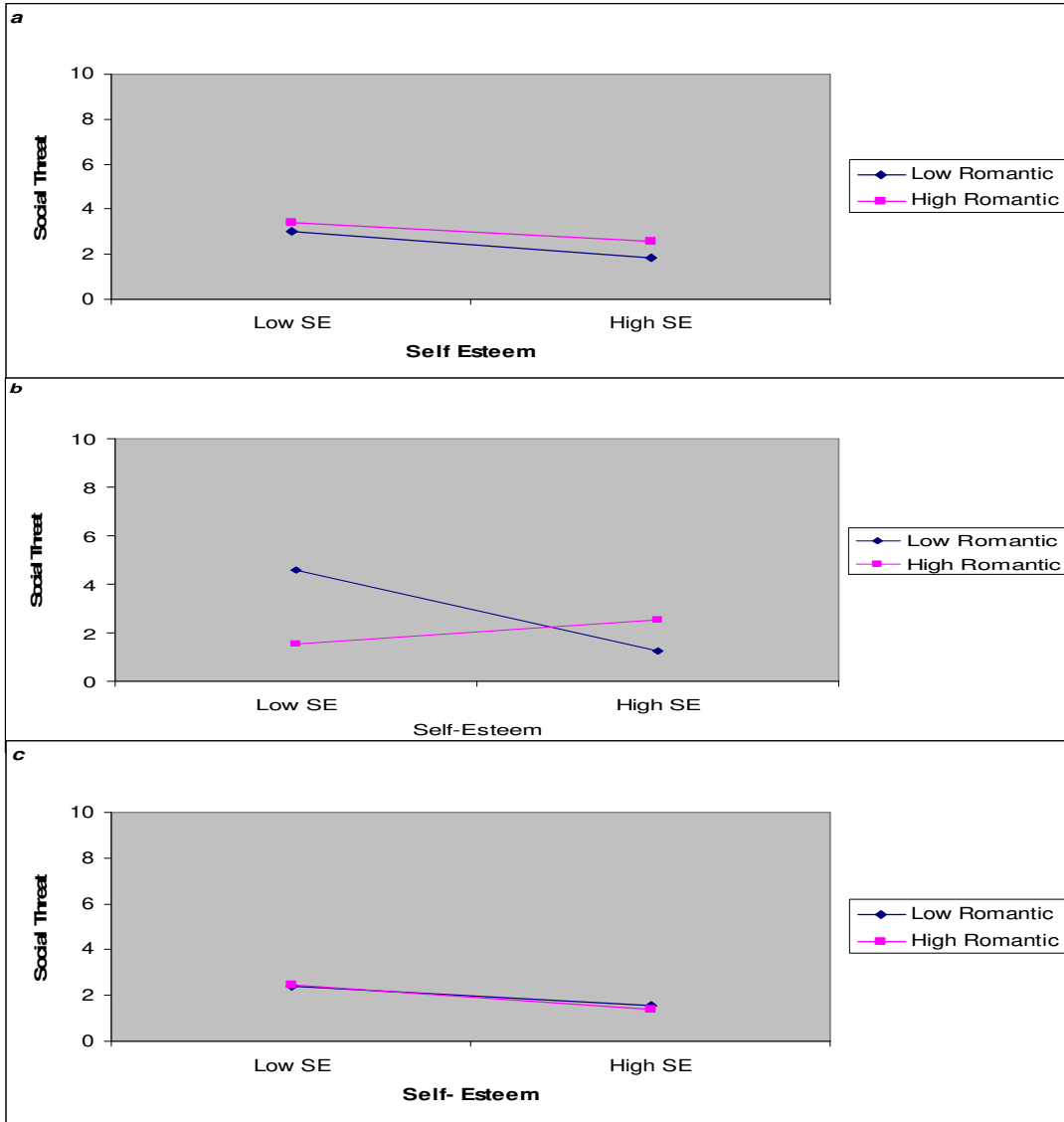


Figure 3.2 Influence of Romantic Relationship Competency on Perceived Social Threat

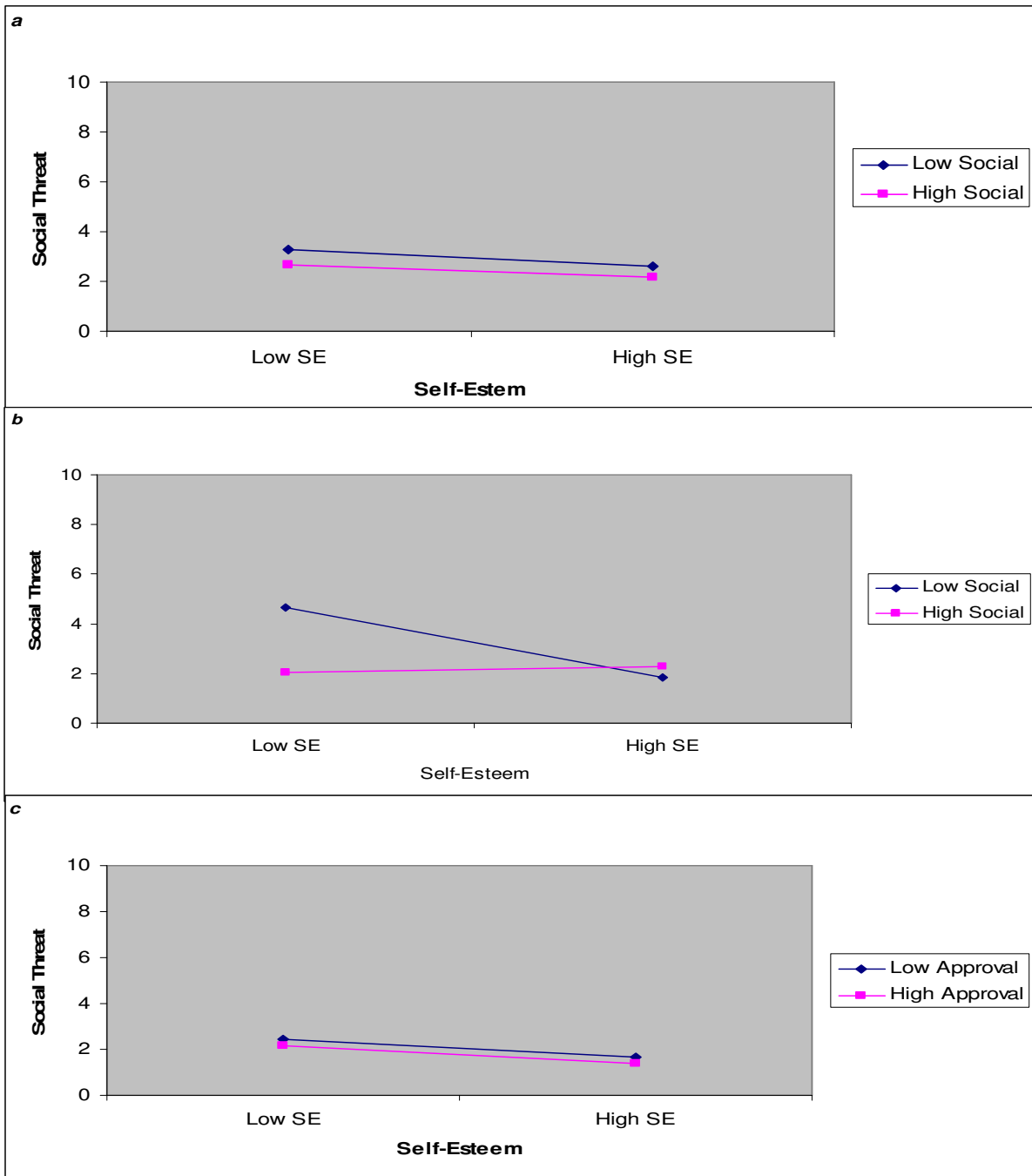


Figure 3.3 Influence of Social Competency on Perceived Social Threat

3.5.2.3 Perceived Physical Threat

I also examined whether contingent worth influenced perceived physical threat. First, I examined approval CSW. There was an overall main effect for global self-esteem, $B = -0.23$, $t = -2.51$, $p < 0.01$. However, there was no main effect for approval CSW ($B = 0.33$, $t = 0.60$, $p = 0.54$); there were also no CSW X condition interactions ($Bs = -0.79, 0.01$, $t = -0.74, 0.11$, $ps = 0.45, 0.90$). Finally, there were no significant three-way interactions ($F(2, 109) = 0.09$, *n.s.*).

Next, I examined romantic relationship competency and social competency. There was an overall main effect for global self-esteem for both, $Bs = -0.30, -0.25$, $ts = -2.58, -1.97$, $ps = 0.01, 0.05$. Again, however, there were no main effects for romantic relationship competency or social competency; there were also no romantic relationship competency X condition interactions or social competency X condition interactions. Finally, I examined friendship competency. There was an overall main effect for global self-esteem, $B = -0.27$, $t = -2.60$, $p < 0.01$. In addition, there was also a friendship competency X condition interaction, $B = -0.29$, $t = -2.52$, $p = 0.01$. However, although the slopes were significantly different from one another, the simple effects slopes for friendship competency were not significantly different from zero. Overall, those individuals lower global self-esteem felt less physically threatened than those with higher global self-esteem. However, as might be expected, being ostracized did not influence perceived physical threat. In addition, approval CSW seems to be only sensitive to social queues related to threat and does not generalize to physical threat.

3.5.2.4 Threatened Needs

Next, I examined whether contingent worth influenced threatened needs. For belongingness, there was an overall main effect for approval CSW, $B = 4.47$, $t = 1.83$, $p = 0.07$ and global self-esteem, $B = -1.08$, $t = -1.78$, $p = 0.07$. In addition, there was also a condition X global self-esteem X approval CSW interaction, $F(2,109) = 3.26$, $p < 0.05$. Again as anticipated, for belongingness, there was no effect for global self-esteem or approval CSW in the exclusion condition, $F(3,34) = 0.19$, $p = .90$ or in the inclusion condition, $F(3,42) = 1.73$, $p = 0.17$. However, for the PE condition, there was a main effect for approval

CSW, $B = 11.82$, $t = 2.82$, $p < .01$. There was also an approval CSW X global self-esteem effect, $B = -2.79$, $t = -2.93$, $p < 0.01$. For low self-esteem, persons with higher approval CSW felt that their belongingness was threatened more, $B = 2.27$, $t = 2.15$, $p < 0.04$. For high self-esteem, approval CSW as not related to belongingness, $B = -1.14$, $t = -1.72$, $p = 0.10$. High self-esteem, again, seems to act as a buffer against the influence of approval CSW on threatened belongingness (see Figure 3.4).

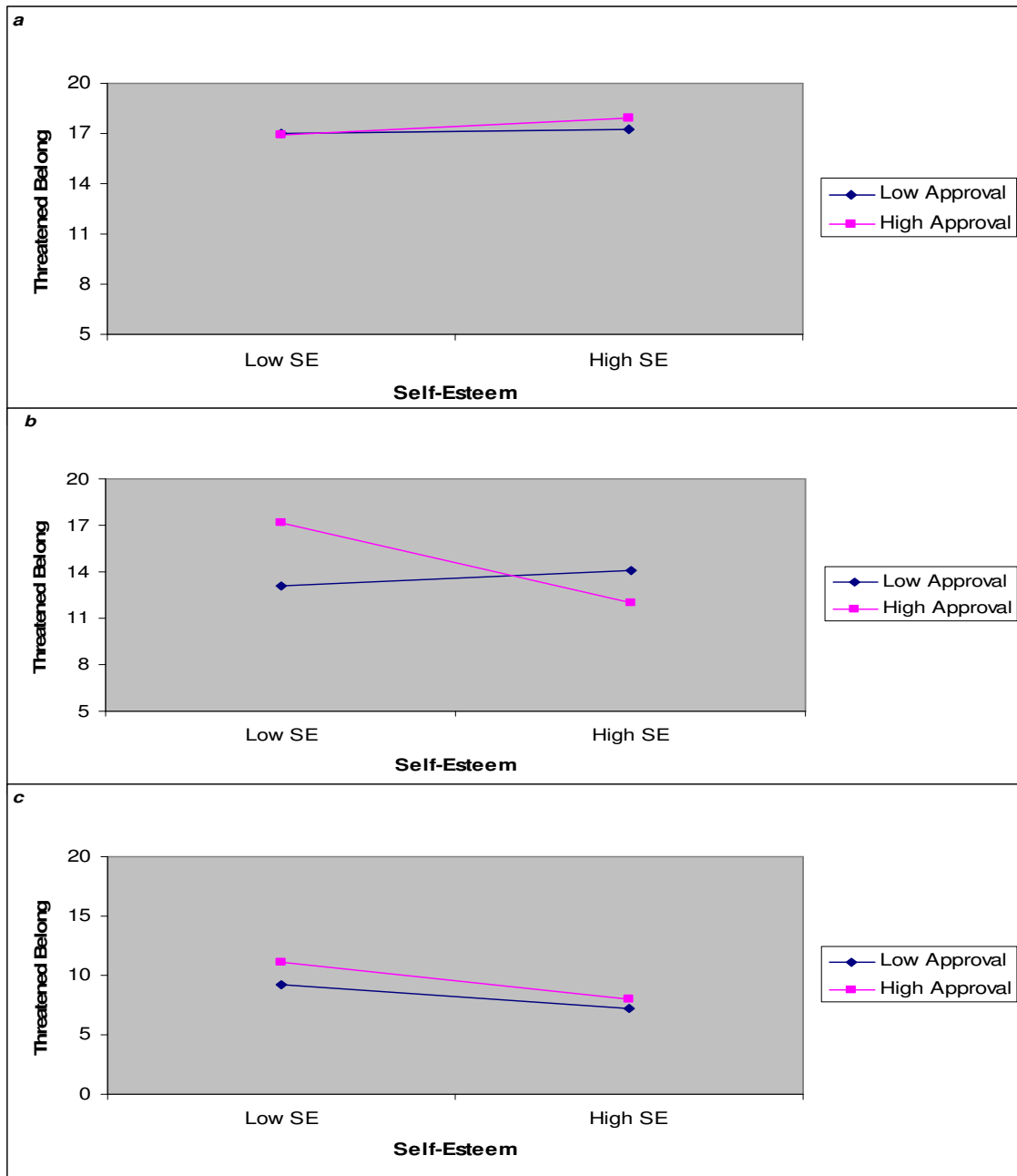


Figure 3.4 Influence of Approval CSW on Threatened Belongingness

Persons higher on global self-esteem reported less threatened control, $B = -0.19$, $t = -2.43$, $p < .02$ and less threatened self-esteem, $B = -1.64$, $t = -2.56$, $p = .01$. However, there were no main effects or

interactions associated with approval CSW. Finally, there were no significant effects for threatened meaningful existence. Next, I examined other relational domains for their influence on threatened needs. Although global self-esteem continued to predict threatened needs, there were no meaningful main effects or interactions for romantic competency, social competency, and friendship competency.

Overall, persons with lower global self-esteem felt their belongingness, self-esteem and control were threatened more than those person's with higher global self-esteem. Furthermore, when partially excluded, persons who were higher in approval CSW felt their belongingness was threatened and they perceived more social threat, especially when they were low on global self-esteem.

3.5.3 Does Self-Esteem Variability affect reactions to Social Exclusion?

Self-esteem variability was explored next. Some people have a greater variability in their moment-to-moment self-esteem than do other people. In other words, there can be two people with identical levels of trait self-esteem. However, they may vary considerably on their moment-to-moment self-esteem (temporal stability or sociometer) (Kernis et al., 1993). Consequently, persons with greater instability in their moment-to-moment self-esteem should be more sensitive to contextual factors (i.e. evaluative feedback, inclusion/exclusion status) regardless of their general level of self-esteem. In other words, they should have more sensitive sociometers. Individuals with greater self-esteem variability were anticipated to be more sensitive to social exclusion. In other words, those participants who had a greater variability in their moment-to-moment self-esteem would experience greater threatened needs during Cyberball.

To analyze self-esteem variability, the standard deviation for each participant was created using the four assessments of the SES¹ (Kernis, Cornell, Sun, & Berry, 1993). This standard deviation approach has been used in previous studies (Greenier, Kernis, McNamara, Waschull, Berry, Herlocker, & Abend,

¹ Self-esteem variability was also created using the first three assessments of the SES; however, no significant results were found using these scores.

1999; Kernis et al., 1993; Kernis, Brown, & Brody, 2000; & Kernis, Grannemann, & Barclay, 1989). Higher standard deviation scores indicated a more unstable self-esteem.

For these analyses, a series of moderated multiple regressions were run. Self-esteem measures were, again, treated as continuous variables and were centered (Cohen et al., 2003). Unweighted effects coding was used for the condition categorical variable (Aiken & West, 1991, pp. 129-130). For each analysis, condition (i.e. exclusion, inclusion, partial exclusion), self-esteem variability, and global self-esteem were entered on the first step. Next, the two-way cross products among global self-esteem, self-esteem variability, and condition were entered on the second step. Finally, the three-way interaction among the variables was examined. Dependent measures are identical to those reported in Hypothesis 2.

3.5.3.1 Perceived Threat

First, I examined whether self-esteem variability influenced perceived threat, again, using the ambiguous stories measure. Self-esteem variability was not related to physical threat. However, there was a self-esteem variability X condition interaction for social threat, $B = -0.20$, $t = -1.93$, $p < 0.05$. There was no effect in the exclusion or inclusion conditions. However, for the PE condition, there was an overall main effect for global self-esteem, $B = -0.48$, $t = -3.03$, $p < .01$. There was no overall effect for self-esteem variability in the PE condition. There was also no effect for self-esteem variability in the low global self-esteem condition or the high global self-esteem conditions.

3.5.3.2 Threatened Needs

There were no main effects or interactions related to self-esteem variability for threatened needs (i.e. belongingness, meaningful existence, self-esteem, and control).

CHAPTER 4

DISCUSSION

Despite the significant amount of research done on ostracism and its effects on self-esteem, previous research had not explored contingent self-esteem or self-esteem variability influences on reactions to social exclusion. Self-esteem is considered to be a fundamental human need—contributing to the happiness or depression we feel (Baumeister et al., 2003; Benas & Gibb, 2007). Previous work has shown that it can act as an alert system to social exclusion for individuals, cueing us to certain signals when others are excluding us (Leary et al., 1995). Crocker and colleagues (2001) believe that the level of overall self-esteem may fluctuate based on the contingencies an individual bases their self-esteem on. Furthermore, Kernis and colleagues (1989) showed that participants with unstable self-worth, regardless of their overall global self-worth, were more vulnerable when faced with threats to their self-esteem. Finally, it has been shown, in a multitude of previous work, that social exclusion results in threatened needs (i.e. self-esteem, need to belong, etc.).

Therefore, the present study sought to examine whether contingent self-esteem and self-esteem variability uniquely influenced reactions to social exclusion even after controlling for levels of self-esteem. It was predicted that those individuals who were highly contingent on approval and those with a more unstable self-worth would feel more upset by social exclusion as evidenced by greater threatened needs and more perceived social threat. Furthermore, it was also hypothesized that those individuals higher in other relationship domains (e.g. Friendship, social, and romance) would also feel more upset by social exclusion as well. It was also expected that these individuals, (i.e. higher approval contingency and relationship domains) would feel upset not only when excluded, but when faced with an ambiguous situation such as partial exclusion. In other words, these persons are more sensitive to exclusion cues

because they derive their self-worth from the approval of others. These individuals will be more negatively affected by partial exclusion than individuals who do not derive their self-worth from others. Finally, it was hoped that previous exclusion research (i.e. Williams, 2001) would be replicated and expanded. In other words, excluded participants would report greater threatened needs.

4.1 Ostracism

This study extended and replicated past research of Williams and colleagues (e.g. Williams and Zadro, 2001). Indeed, as shown by similar research, excluded individuals all showed an increase in threatened needs (e.g. self-esteem, belongingness, meaningful existence and control) and perceived social threat. Similar to other studies (e.g., Williams, 1997; Williams & Zadro, 2001, 2005; Zadro, Boland, & Richardson, 2006), ostracism is shown to have a negative effect on participants.

Interestingly, the partially excluded participants were more negatively affected by the interpersonal task than were the included participants. They reported more rejection and greater threatened needs than the included participants. Again, these results are consistent with Williams and colleagues research. For example, Williams, Cheung, and Choi (2000) found that partially excluded participants had just slightly lower levels of threatened needs than excluded participants had. In other words, compared to included persons, these participants were more upset by the partial exclusion. However, excluded participants were more affected by social exclusion than both partially excluded participants and included participants.

Past research was successively replicated to show that ostracism does negatively influence people. This study also successively extended previous research to show that individuals partially excluded are more socially and physically threatened than were included participants. These findings suggest that threat is not an “all or nothing” context. That is, there does not seem to be a certain threshold when individuals become threatened. Rather, they seem to show distress in proportion to the perceived amount of exclusion that they are experiencing.

4.2 Contingent Self-Esteem

The major aim of this study was to examine whether individuals highly contingent on approval from others would be more upset by social exclusion. As expected, persons who had a high approval CSW reported more social threat and threatened belongingness from the interpersonal task. More importantly, this perceived threat was highest in the more ambiguous partial exclusion situation, especially for those individuals who were also low on global self-esteem. As the context became more clear-cut (obvious rejection or acceptance), there were no differences between those with high and low approval CSW.

This finding is not necessarily surprising since the need to belong is thought to influence a person's motivation for personal contact and acceptance. Baumeister and Leary (1995) believed that the need to belong is an individuals' need to form and maintain meaningful and significant bonds with others. In other words, individuals need to have frequent personal contact with other individuals in order to feel that they are cared for and accepted socially. Furthermore, the need to belong should motivate individuals towards social acceptance and the avoidance of rejection (Leary, 2001). However, this study did demonstrate that those individuals who base their self-worth in other's approval were even more influenced by the perceived disruption of interpersonal acceptance. Because these individuals draw their self-esteem from others approval, they were more likely to be threatened by partial exclusion. In other words, they are more sensitive to cues of rejection and seemed to focus more on the person that was excluding them rather than the person that included them. High self-esteem, on the other hand, seemed to act as a buffer against the influence of approval CSW in these ambiguous circumstances.

Similarly, feeling competent in one's social relationships seems to buffer individuals from feeling social threatened. Persons who felt they were competent in their romantic and social relationships reported being less socially threatened by the experimental task. Conversely, those who felt less competent in these relationships were more socially threatened by the social indifference. As with

approval CSW, this perceived threat was highest in the partial exclusion condition, especially for those individuals who were also low on global self-esteem. In other words, as rejection or acceptance becomes more clear cut, there is less of a difference between those with low or high romantic relationship self-worth and social self-worth. Moreover, as with approval CSW, it seems that having high general self-esteem buffers against the influence of perceived deficiencies in romantic and social competencies in situations that are not clearly defined.

These findings, overall, support some of the previous research done by Harter and Crocker. Crocker and colleagues have found that basing one's self-esteem on the approval of others or other relational related domains leads to negative consequences such as low trait self-esteem, alcohol use and lower global self-esteem (Crocker & Wolfe, 1998; Luhtanen & Crocker, 2005). In a study done with overweight women, for example, those women who based their self-esteem on their appearance or on the approval of others were more likely to have lower trait self-esteem (Quinn & Crocker, 1999). The current study provides additional support for the importance of contingent self-worth. Not only did participants with higher contingent approval feel more perceived social threat and threatened belongingness, they also had lower self-esteem when they felt others were excluding them. This result is similar to Harter's (1993) findings. In other words, an individual's perceived adequacy in a domain they deemed important sustained their high global self-esteem even if they perceived inadequacy in other domains. .

Finally, those individuals highly contingent on others approval were more likely to be bothered by partial rejection. That is, they seem to focus on the rejection rather than the acceptance in the situation. These results also support research done by Leary and colleagues (1998). Their alternative explanation for the way individuals use their sociometers show that individuals will infer rejection when faced with a neutral situation. Because the sociometer is most sensitive to "decrements in inclusion" and not outright exclusion, individuals with a more sensitive sociometer will infer that they are being rejected in an

uncertain situation. In other words, people may feel hurt by social slights or insults more than may be warranted. The current study supports this hypothesis. Individuals who placed their self-esteem on the approval of others were more likely to feel threatened more in the partial exclusion condition than in the out right exclusion or inclusion conditions. That is, their sociometer was more attuned to the rejection than to the inclusion. So, not only are these individuals more sensitive to exclusion cues, they were more likely to derive rejection from a moderate social slight (i.e. partial exclusion).

4.3 Self-Esteem Stability

Finally, the current study explored the influence of self-esteem variability on social exclusion. Individuals with greater self-esteem variability were anticipated to be more sensitive to social exclusion. In other words, those participants who had a greater variability in their moment-to-moment self-esteem would experience greater threatened needs and social threat when excluded. There was no evidence to support this conjecture. None of the threatened needs were related to self-esteem variability. Also, self-esteem variability was not related to perceived social or physical threat.

These results, overall, do not support previous findings by Kernis and colleagues. Because unstable self-esteem individuals do not have a strong sense of self-worth, they should be more vulnerable to the positive and negative events that happen on a daily basis. One explanation for the lack of results in this hypothesis is the number of times self-esteem was assessed throughout the study. Although the current study's assessment was adequate, previous research has assessed self-esteem over longer periods of time with multiple evaluations in naturalistic settings. For example, one study asked participants to complete a measure of self-esteem when paged by the experimenter over a period of a week (Kernis, Grannemann, and Barclay, 1989). This allowed the researchers a more representative view of an individual's self-esteem stability over the course of their daily life events. Except for two online surveys done on the participants own time, all other measurements of self-esteem in the current study were done in a lab setting. This may account, partially, for the lack of results found in these hypotheses.

Another explanation may be the temporal proximity in which the self-esteem assessments were given. Previous studies have separated the measurements of a participant's self-esteem by many hours and sometimes days. Although two of the self-esteem assessments were given days and sometimes weeks apart from each other, the last two assessments were only separated by an hour or less. This time constraint between measurements was necessary given the experimental setup. However, future studies should consider adding more self-esteem assessments throughout the study to get a more accurate self-esteem measurement. Future studies should also take into consideration the settings (i.e. naturalistic vs. lab setting) in which participants are completing the evaluations.

4.4 Final Conclusions

Overall, the current study was able to replicate previous research (e.g., Williams, 1997; Williams & Zadro, 2001, 2005; Zadro, Boland, & Richardson, 2006) in finding that social exclusion leads to negative reactions (i.e. threatened needs, social and physical threat). However, previous research had not shown how self-esteem, specifically contingent self-esteem and self-esteem variability, might influence reactions to social exclusion. The current study found that contingent self-esteem, particularly self-esteem based on relationship domains (i.e. approval from others, romantic relationships, etc.) did influence reactions to social exclusion. Specifically, persons with self-esteem contingent on these relationship domains faced with an uncertain context (e.g. partial exclusion) were more likely to interpret exclusion from the situation. In other words, it was not the extreme cases of exclusion/rejection which caused individuals distress, but the moderate ones (i.e. partial exclusion). Previous research (e.g. Leary, Kolwaski, Smith & Philips, 2001; Twenge, Stucke, Baumeister, & Tice, 2001, Williams, 1997) considered outright cases of exclusion or rejection to cause strong negative reactions such as anger, depression and even violence. However, it may be that those individuals who are more sensitive to cues of rejection or exclusion are more likely to exhibit these kinds of negative reactions when experiencing even moderate exclusion (i.e. partial exclusion). Therefore, it is imperative that future research consider not only those

individuals who have been outright excluded; but also, those people who are more likely to derive exclusion from these types of situations.

Furthermore, future research should also consider not only those individuals who are sensitive to rejection, but also those individuals who notice rejection and are not affected by it. In other words, some individuals may be able to observe they are being rejected without being upset by it. Although these differences of threshold for noticing versus sensitivity to rejection are related, they are two very different concepts. Rejection sensitivity has been described by previous research (i.e. Downey & Feldman, 1996) as to anxiously expect or over react to social rejection. This research has shown those individuals who have experienced frequent rejection/exclusion (i.e. bullying) in the past may become more sensitive to rejection in the future. However, little research has considered those individuals who are able to notice rejection and be unaffected by it. Certain personality traits, for example, may allow for some individuals to notice that they are being rejected but be unmoved by its effects. Introverts, as opposed to extroverts, for example, may feel less affected by ostracism's influence. Subsequent research should consider adding questionnaires which evaluate participant's personality traits.

The current study extends and adds to previous social exclusion research. Williams and colleagues suggest that social exclusion is an "all or nothing" experience. That is, all individuals are affected the same way by exclusion. However, this research shows that self-esteem, specifically contingent self-esteem, will affect the way certain individuals react to social exclusion. Not only does contingent self-esteem affect reactions to exclusion; but, high self-esteem is also shown that it buffers against the influence of contingent approval in uncertain situations. Furthermore, the current study also extends and enhances previous self-esteem—specifically sociometer--research. Leary and colleagues have suggested that the sociometer is more sensitive to decrements in inclusion rather than to outright exclusion. Current results support this explanation. The current research, thus, provides further evidence in understanding the influence of self-esteem in reactions to social exclusion.

APPENDIX A

SELF-ESTEEM MEASURES

SES

Directions: After each statement below, is a rating scale. Circle the number that best describes your level of agreement with the preceding statement.

1. I feel that I am a person of worth, at least on an equal basis with others.

1.....2.....3.....4.....5
Strongly Disagree Disagree Neutral Agree Strongly Agree

2. I feel that I have a number of good qualities.

1.....2.....3.....4.....5
Strongly Disagree Disagree Neutral Agree Strongly Agree

3. All in all, I am inclined to feel that I am a failure.

1.....2.....3.....4.....5
Strongly Disagree Disagree Neutral Agree Strongly Agree

4. I am able to do things as well as most people.

1.....2.....3.....4.....5
Strongly Disagree Disagree Neutral Agree Strongly Agree

5. I feel I do not have much to be proud of.

1.....2.....3.....4.....5
Strongly Disagree Disagree Neutral Agree Strongly Agree

6. I take a positive attitude toward myself.

1.....2.....3.....4.....5
Strongly Disagree Disagree Neutral Agree Strongly Agree

7. On the whole, I am satisfied with myself.

1.....2.....3.....4.....5
Strongly Disagree Disagree Neutral Agree Strongly Agree

8. I wish I could have more respect for myself.

1.....2.....3.....4.....5
Strongly Disagree Disagree Neutral Agree Strongly Agree

9. I certainly feel useless at times.

1.....2.....3.....4.....5

Strongly Disagree Disagree Neutral Agree Strongly Agree

10. At times, I think that I am no good at all.

1.....2.....3.....4.....5
Strongly Disagree Disagree Neutral Agree Strongly Agree

CSW

INSTRUCTIONS: Please respond to each of the following statements by circling your answer using the scale from "1 = Strongly disagree" to "7 = Strongly agree." If you haven't experienced the situation described in a particular statement, please answer how you think you would feel if that situation occurred.

1	2	3	4	5	6	7
Strongly disagree	Disagree	Disagree somewhat	Neutral	Agree somewhat	Agree	Strongly agree

- ___ 1. When I think I look attractive, I feel good about myself.
- ___ 2. My self-worth is based on God's love.
- ___ 3. I feel worthwhile when I perform better than others on a task or skill.
- ___ 4. My self-esteem is unrelated to how I feel about the way my body looks.
- ___ 5. Doing something I know is wrong makes me lose my self-respect.
- ___ 6. I don't care if other people have a negative opinion about me.
- ___ 7. Knowing that my family members love me makes me feel good about myself.
- ___ 8. I feel worthwhile when I have God's love.
- ___ 9. I can't respect myself if others don't respect me.
- ___ 10. My self-worth is not influenced by the quality of my relationships with my family members.
- ___ 11. Whenever I follow my moral principles, my sense of self-respect gets a boost.
- ___ 12. Knowing that I am better than others on a task raises my self-esteem.
- ___ 13. My opinion about myself isn't tied to how well I do in school.
- ___ 14. I couldn't respect myself if I didn't live up to a moral code.
- ___ 15. I don't care what other people think of me.

- ___ 16. When my family members are proud of me, my sense of self-worth increases.
- ___ 17. My self-esteem is influenced by how attractive I think my face or facial features are.
- ___ 18. My self-esteem would suffer if I didn't have God's love.
- ___ 19. Doing well in school gives me a sense of self-respect.
- ___ 20. Doing better than others gives me a sense of self-respect.
- ___ 21. My sense of self-worth suffers whenever I think I don't look good.
- ___ 22. I feel better about myself when I know I'm doing well academically.
- ___ 23. What others think of me has no effect on what I think about myself.
- ___ 24. When I don't feel loved by my family, my self-esteem goes down.
- ___ 25. My self-worth is affected by how well I do when I am competing with others.
- ___ 26. My self-esteem goes up when I feel that God loves me.
- ___ 27. My self-esteem is influenced by my academic performance.
- ___ 28. My self-esteem would suffer if I did something unethical.
- ___ 29. It is important to my self-respect that I have a family that cares about me.
- ___ 30. My self-esteem does not depend on whether or not I feel attractive.
- ___ 31. When I think that I'm disobeying God, I feel bad about myself.
- ___ 32. My self-worth is influenced by how well I do on competitive tasks.
- ___ 33. I feel bad about myself whenever my academic performance is lacking.
- ___ 34. My self-esteem depends on whether or not I follow my moral/ethical principles.
- ___ 35. My self-esteem depends on the opinions others hold of me.

Harter's Self-Perception Scale

Please answer the following questions about yourself. Describe yourself as you see yourself at the present time, not as you wish to be in the future. Describe yourself as you are generally or typically with other persons you know of the same sex and of roughly the same age. There are no right or wrong answers. To answer the questions, move the arrow to the number that best describes you and press enter. Once you answer a question, you can't go back and change your answer.

1-----2-----3-----4-----5

Strongly

Strongly

Disagree

Agree

1. I like the kind of person I am.
2. I feel confident that I am mastering my coursework.
3. I am satisfied with my social skills.
4. I am not happy with the way I look.
5. I like the way I act when I am around my parents.
6. I get lonely because I don't really have a close friend to share things with.
7. I feel like I am just as smart as or smarter than other students.
8. I feel that people are romantically attracted to me.
9. I often feel disappointed with myself.
10. I do very well at my studies.
11. I find it hard to make new friends.
12. I feel happy with my height and weight.
13. I find it hard to act naturally when I am around my parents.
14. I am able to make close friends that I can trust.
15. I do not feel I am very mentally able.
16. I find it hard to establish romantic relationships.
17. I like myself as a person.
18. I have trouble figuring out homework assignments.
19. I like the way I interact with other people.
20. I wish my body was different.
21. I feel comfortable being myself around my parents.
22. I don't have a close friend I can share my personal thoughts and feelings with.
23. I feel I am just as bright or brighter than most people.
24. I have the ability to develop romantic relationships.
25. I really like the way I am leading my life.
26. I sometimes don't feel intellectually competent at my studies.
27. I feel that I am socially accepted by many people.
28. I like my physical appearance the way it is.

29. I find that I am unable to get along with my parents.
30. I am able to make really close friends.
31. I wish that I was different.
32. I feel like I am intelligent.
33. I worry that others won't like me romantically.
34. I am often dissatisfied with myself.

APPENDIX B

EXPERIMENTAL MEASURES

<i>For the next three questions, please circle the number to the right (or fill in the blank) that best represents the thoughts you had during the game.</i>					
I was ignored	1	2	3	4	5
I was excluded	1	2	3	4	5

Assuming that the ball should be thrown to each person equally (33% if three people; 25% if four people), what percent of throws were thrown to you? _____

Ambiguous Stories

Below are a series of day-to-day situations. Each situation has three explanations. Visualize yourself in each situation and then rate the likelihood of each explanation (where 0 = not at all likely and 100 = extremely likely). There is no right or wrong answer—we want your opinion.

1. On the way to UTA, you feel a strange churning in your stomach.

How likely are the following explanations?

a. You are not particularly fit at the moment and must have been walking too fast.	0	10	20	30	40	50	60	70	80	90	100
	Not at all likely										Extremely likely
b. There might be something seriously wrong with you that will require medical intervention.	0	10	20	30	40	50	60	70	80	90	100
	Not at all likely										Extremely likely
c. You ate breakfast too quickly and are suffering from indigestion.	0	10	20	30	40	50	60	70	80	90	100
	Not at all likely										Extremely likely

Now select the explanation that you think is most likely (*circle*). **a** **b** **c**

2. It is lunchtime. You go down to the cafeteria where you hope to sit down with a group of new friends from your class. As you go to sit down with them, you notice that they are all laughing and looking away from you.

How likely are the following explanations?

a. They are laughing about you and are embarrassed that you have suddenly appeared.	0	10	20	30	40	50	60	70	80	90	100
	Not at all likely										Extremely likely
b. They are so involved in joke telling that they haven't noticed you are there yet.	0	10	20	30	40	50	60	70	80	90	100
	Not at all likely										Extremely likely
c. One of them is likely to notice you soon and smile.	0	10	20	30	40	50	60	70	80	90	100
	Not at all likely										Extremely likely

Now select the explanation that you think is most likely (*circle*). **a** **b** **c**

3. You are expecting your roommate home by 7pm, but by 9pm they are still not home and you are beginning to get a bit worried.

How likely are the following explanations?

a. They have forgotten the time and not thought to give you a call.	0	10	20	30	40	50	60	70	80	90	100
	Not at all likely										Extremely likely
b. They have caught up with friends and decided to go out	0	10	20	30	40	50	60	70	80	90	100
	Not at all likely										Extremely likely
c. They have been in an accident and have been taken to hospital	0	10	20	30	40	50	60	70	80	90	100
	Not at all likely										Extremely likely

Now select the explanation that you think is most likely (*circle*). **a** **b** **c**

4. It is the beginning of a class and your professor calls your name out and asks if you will stay back to speak to him at the end of the class. You are the only student whose name is called out.

How likely are the following explanations?

a. He is giving you a warning that your contributions to the class have not been acceptable and you must make a bigger effort to contribute.	0	10	20	30	40	50	60	70	80	90	100
	Not at all likely										Extremely likely
b. He is unsure of the spelling of your name and wants to clarify this on the class roll.	0	10	20	30	40	50	60	70	80	90	100
	Not at all likely										Extremely likely
c. He wants you to help in the following weeks' class to participate in a role play exercise	0	10	20	30	40	50	60	70	80	90	100
	Not at all likely										Extremely likely

Now select the explanation that you think is most likely (*circle*). **a** **b** **c**

5. It is nighttime and you are suddenly awoken by a loud noise in the other room.

How likely are the following explanations?

a. Someone has broken into the house and has tripped over the furniture	0 Not at all likely	10	20	30	40	50	60	70	80	90	100 Extremely likely
b. Your roommate has left the window open and the wind has blown something over	0 Not at all likely	10	20	30	40	50	60	70	80	90	100 Extremely likely
c. Your cat (pet) has knocked something over	0 Not at all likely	10	20	30	40	50	60	70	80	90	100 Extremely likely

Now select the explanation that you think is most likely (*circle*). **a** **b** **c**

6. You go to your usual coffee shop to buy your morning coffee/ drink. You say hello to the cashier before ordering as you usually do, but this morning she/he does not even look up.

How likely are the following explanations?

a. They are very tired and stressed out this morning and are not in the mood to say hello.	0 Not at all likely	10	20	30	40	50	60	70	80	90	100 Extremely likely
b. They are deliberately trying to ignore you.	0 Not at all likely	10	20	30	40	50	60	70	80	90	100 Extremely likely
c. They didn't hear you properly and so haven't looked up at all.	0 Not at all likely	10	20	30	40	50	60	70	80	90	100 Extremely likely

Now select the explanation that you think is most likely (*circle*). **a** **b** **c**

7. You are driving along a major highway in heavy traffic. As you look back into your rearview mirror, you see a police car coming along in your lane, with the siren on.

How likely are the following explanations?

a. They are using their siren to get through the traffic	0 Not at all likely	10	20	30	40	50	60	70	80	90	100 Extremely likely
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b. They are driving to another accident or speeding motorist further up the highway.	0 Not at all likely	10	20	30	40	50	60	70	80	90	100 Extremely likely
c. You must be speeding or have committed some other driving error and they are after you.	0 Not at all likely	10	20	30	40	50	60	70	80	90	100 Extremely likely

Now select the explanation that you think is most likely (*circle*). **a** **b** **c**

8. Your very good friend says she/he will give you a call over the weekend to make plans to go to the movies the following week. It is Sunday night and she/he still hasn't called.

How likely are the following explanations?

a. She/he doesn't really want to go to the movies with you and is avoiding the call.	0 Not at all likely	10	20	30	40	50	60	70	80	90	100 Extremely likely
b. She/he has lost or forgotten your number.	0 Not at all likely	10	20	30	40	50	60	70	80	90	100 Extremely likely
c. You have been so busy this weekend you have probably missed her/his call.	0 Not at all likely	10	20	30	40	50	60	70	80	90	100 Extremely likely

Now select the explanation that you think is most likely (*circle*). **a** **b** **c**

9. You are walking around campus at dusk, as you've stayed longer in the library than you meant to. Suddenly, you hear footsteps behind you and you realize that someone seems to be following the same path as you.

How likely are the following explanations?

a. Someone is behind you, but it is just a coincidence that they are going in the same direction as you.	0 Not at all likely	10	20	30	40	50	60	70	80	90	100 Extremely likely
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b. There are lots of people walking around at night, but you are not being followed.	0 Not at all likely	10	20	30	40	50	60	70	80	90	100 Extremely likely
c. You are being followed and are probably going to be threatened or robbed.	0 Not at all likely	10	20	30	40	50	60	70	80	90	100 Extremely likely

Now select the explanation that you think is most likely (*circle*). **a** **b** **c**

10. You have decided to donate blood during a campus blood drive. Several weeks later you get a call from the agency that conducted the blood donation.

How likely are the following explanations?

a. Something is wrong- they have found a disease or infection in your blood donation.	0 Not at all likely	10	20	30	40	50	60	70	80	90	100 Extremely likely
b. It is a routine call to thank you and to remind you of future dates of blood drives.	0 Not at all likely	10	20	30	40	50	60	70	80	90	100 Extremely likely
c. They are letting you know what your blood type is as you didn't know this before.	0 Not at all likely	10	20	30	40	50	60	70	80	90	100 Extremely likely

Now select the explanation that you think is most likely (*circle*). **a** **b** **c**

11. It is the morning of your birthday. You have been expecting a call before you head off for school, but no one calls you.

How likely are the following explanations?

a. Your friends and family didn't want to wake you up too early	0 Not at all likely	10	20	30	40	50	60	70	80	90	100 Extremely likely
b. Your roommate must be on the internet, so no one can get through. You have probably got some text messages on your mobile	0 Not at all likely	10	20	30	40	50	60	70	80	90	100 Extremely likely

APPENDIX C

DEBRIEFING STATEMENT

Debriefing Participant

- All Participants MUST undergo the debriefing session.
- This is the script that is to be used. All major points below must be covered. However, the actual information/flow of the debriefing might vary from participant to participant based on how the participant responds to each question.
- Our debriefing process follows the guidelines described in the chapter on laboratory experiments in *The Handbook of Social Psychology* (Aronson and Carlsmith, 1968). This identifies three goals to accomplish during debriefing: (1) Ensure the participant is in a good frame of mind, (2) Ensure that the experimental process is an educational experience for all research participants, and (3) Use the participant's inputs to gain valuable information about the experimentation process. We use these goals as the basis for our debriefing session. We will first ask the participants very general questions about what they thought of the experiment, explain the design in detail, and then ask if they had any questions. Allow the participant the opportunity to answer each question. It helps them express their feelings and may provide us with valuable insight into ways we can improve the study.
- We want to be sensitive to the research participant's feelings. We should let them "discover" and discuss the experimental process. We do not want any research participant to feel bad about his/her self. **It is very important that no research participant leave the study feeling worse about him/her self than when he/she started the session.**

Questions to ask RP in debriefing:

- "What did you think about this experiment?"
- "What did you think about the tasks you were asked to perform today?"
- "What did you think of the tasks you were asked to perform today?"
*FOR SOCIAL EXCLUSION: "I noticed that you said the other participants only passed the ball to you **%. Why do you think that occurred?"*
FOR SOCIAL INCLUSION: "I noticed that you said the other persons passed the ball to you a lot during the game. Why do you think they did that?"
- "What did you think about the questions we asked you throughout the experiment? Do you any questions about what we asked you?"
- "Was there anything that you thought was strange about the task?"
- "I glad you noticed those things. Before you leave, I thought you might like to know a little more about this study. First, this study was not actually about computer mental visualization tasks as we stated

earlier. Rather, it had to do with how people respond to social exclusion or ostracism. The other players who participated in Cyberball with you were not real --- they were computer-generated participants. Using these computer generated participants, we were looking to see how people react to being excluded from a group (e.g. self-reported emotions, self-reported self-esteem, and brain activity). Half of the participants were excluded from the Cyberball game and the other half of the participants were included. At the onset of the experiment, we could not tell you that this was the purpose of the present study. If we told you about the true nature of the study, you would not react to the exclusion as you might otherwise do. ***Do you understand why we did this? Do you have any questions?***

- In addition, we wanted to see whether there are individual differences in the way people respond to social exclusion based on their levels of self-esteem. Self-esteem can be conceptualized in many ways (e.g., base level, contingent on other relationships such as relationships with others, or self-esteem stability (i.e., is it stable over time)). We wanted to see if people with higher levels of self-esteem contingent on relationships would be more distressed when excluded vs. included. In other words, we wanted to see if persons who base their self-esteem in their relationships are more bothered by ostracism than are persons who base their self-esteem in other areas (e.g., academic performance). We also wanted to see if persons whose self-esteem varies from day-to-day are more affected by ostracism than persons whose level of self-esteem varies little.

This is why we had you complete various self-esteem questionnaires so many times. By filling out these self-esteem questionnaires, we can determine whether or not self-esteem is playing a role in the reactions to social exclusion. The other questionnaires also gave us important information about your personality and how it may influence your reactions to social exclusion.

- This study also uses electroencephalographic or EEG sensors to record the electrical activity of certain areas of your brain. If you were excluded, it is anticipated that your brain will show distinct patterns of electrical activity via the sensors that were placed on your face and scalp than if you were not excluded. Thus, we can take your responses when you were playing the online game and link it to your pattern of brain waves.
- Do you understand why we did this? Do you have any questions or concerns that were not answered today?
- We also wanted to provide you with some information on Counseling services at UTA. Participating in a study about Social Exclusion may highlight emotional, behavioral, or relationship problems that you might want to discuss with a professional. Information about obtaining individual and group counseling at the University of Texas at Arlington is provided on this pamphlet. Counseling Services are free to UTA students.

- *Before you leave, we also wanted to thank you very much for participating. We also ask you not to tell anyone about the true nature of our study. If they knew the true nature of the study, they may not react naturally. Can you help with this request?*

Be sure to give participants a copy of the attached Counseling services that are available at UTA.

Be sure the participant takes their copy of the signed consent form.



Participating in a study about Social and Physical Pain may highlight emotional, behavioral, or relationship problems that you might want to discuss with a professional. Information about obtaining individual and group counseling at the University of Texas at Arlington is provided below. **Counseling Services are free to UTA students.**

Information from the UTA Counseling Services Department Website:

Phone Number: (817) 272-3671

Individual personal counseling:

A student can meet with a counselor for personal, emotional, behavioral, or relationship problems. Students also often seek personal counseling when they are having difficulties adjusting to college or juggling obligations (like attending college while working or raising a family). Counseling sessions are made by appointment, or a student may meet with the walk-in counselor without an appointment on a first-come, first-served basis. Information revealed in counseling will be treated with the utmost respect to your privacy and confidentiality; all records or communications will be kept confidential to the full extent of the law and professional ethics (see below for more information).

Each counselor has his or her own counseling approach and style. The counseling goal is to help you resolve your concerns and reach your goals in the pursuit of more satisfying, fulfilling life circumstances. UTA Counseling Services generally adheres to short-term, goal-oriented counseling approaches. The exact type of assistance you receive will be based on a collaboration between your counselor and yourself. Individuals will be informed when we are unable to provide the services you require. In such cases, we will assist you as much as possible in the referral process so that you can get in touch with someone who can meet your needs. Counseling Services are free to UTA students.

Be sure to check out our seminars also.

Group Counseling:

Many students may benefit from various forms of group counseling. In the past, Counseling Services has been able to offer groups focusing on intensive relaxation training techniques, women and self-esteem, and general group counseling. General group counseling is often helpful for people who experience relationship problems, high social anxiety, depression, and a variety of other concerns.

Limits to confidentiality:

The law mandates that parents of minor students (seventeen years old or younger) have the right to view counseling records and must give their consent to treatment, with some exceptions in extreme cases. We are also mandated by law to report to authorities when we have reasonable information that a minor (or an adult unable to protect him/herself) is in danger of abuse or neglect or when such abuse or neglect has occurred. Legal and ethical standards also permit reporting to appropriate authorities when a person poses an immediate threat to oneself or others. Professional codes of ethics set the protection of life as the highest priority.

Contacts:**Kenneth L. Farr, Director (817) 272-3671**

Kenneth L. Farr, Ph.D., Licensed Psychologist-Director of Counseling Services. Dr. Farr's training and background is in Clinical Psychology. He has served as a psychologist at UTA since 1995 and became the Director of Counseling Services in September 2001. His areas of expertise and interest include crisis intervention; counseling and psychotherapy; consultation; and working with emotional, behavioral, and interpersonal problems.

Cynthia Bing, Associate Director (817)272-3671

Cynthia Bing, M.A., L.P.C., N.C.C. - Associate Director. Ms. Bing has 15 years experience, ten years at UTA. Her areas of expertise include personal counseling, career counseling, study skills, and academic problems.

Ellen Myers, Counseling Specialist III (817)272-3671

Ellen Myers, M.S., L.P.C. - Counseling Specialist III. Ms. Myers has a wide range of experience in teaching, academic advising, and general counseling and has worked at UTA since 1997. Her areas of expertise include stress management/relaxation training, study skills, and academic counseling.

Rhonda Triana, Counseling Specialist IV (817)272-3671

Rhonda Triana, MSSW, LMSW-ACP- Counseling Specialist IV. A graduate of UTA, Ms. Triana has over seven years of experience as a therapist. Her areas of expertise include depression, anxiety, relationships, and career guidance.

Janette H. Keen, Counseling Specialist (817)272-3671

Janette H. Keen, M.A. - Counseling Specialist. Ms. Keen has 10 years of experience in residence life, academic advising and freshman programs. About to complete her sixth year at UTA, she currently assists students with study skills and college adjustment issues through the EDUC 1131 course.

Lori Leach, Counseling Specialist III 817-272-3671

Lori Leach, M.Ed., L.P.C. - Counseling Specialist III. Ms. Leach has 10 years of advising and counseling experience, 3 at UTA. Her areas of expertise include personal counseling, career counseling, and academic counseling.

LeeAnne Harker, (817) 272-3671

LeeAnne Harker, Ph.D. - Counseling Specialist-IV. Licensed Psychologist in California. Dr. Harker's training and background are in Clinical and Personality Psychology. Her areas of expertise and interest include psychotherapy and counseling, depression, life-span development, relationships, and emotion.

REFERENCES

- Aiken, L. S., & West, S. G. (1991). *Multiple Regression: Testing and interpreting interactions*. Thousand Oaks: Sage.
- Armstrong, F. (2002). Blowing the whistle: The costs of speaking out. *Australian Nursing Journal, 9* (7), 18-21.
- Baumeister, R. F. (1998). The Self . In D.T. Gilbert, S.T. Fiske, & G. Lindzey (Eds.) *The Handbook of Social Psychology* (4th ed, Vol 1, pp 680-740).
- Baumeister, R.F., Campbell, J.D., Kreuger, J.I., Vohs, K.D. (2003). Does high self-esteem cause better performance, interpersonal success, happiness, or healthier lifestyles? *Psychological Science in the Public Intrest. 4* (1).
- Baumeister, R.F., Heatherton, T.F., & Tice, D.M. (1993). When ego threats lead to self-regulation failure: Negative consequences of high self-esteem. *Journal of Personality and Social Psychology, 64*, 141-156.
- Baumeister, R. F. & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin. 117*(3), 497-529
- Baumeister, R. F. & Tice, D. M. (1990). Anxiety and social exclusion. *Journal of Social and Clinical Psychology, 9*, 165–195.
- Baumeister, R. F., Twenge, J. M., & Nuss, C. K. (2002). Effects of social exclusion on cognitive processes: Anticipated aloneness reduces intelligent thought. *Journal of Personality and Social Psychology, 83*, 817–827.

- Benas, J.S. & Gibb, B.E. (2007). Peer victimization and depressive symptoms: The role of Body dissatisfaction and self-esteem. *Journal of Cognitive Psychotherapy: An International Quarterly*, 21(2). 106-116
- Bourgeois, K. S. & Leary, M. R. (2001). Coping with rejection: Derogating those who choose us last. *Motivation and Emotion*, 25, 101–111.
- Bowlby, J. (1969). *Attachment and loss: Vol 1. Attachment*. New York: Basic Books.
- Bushman, B.J. & Baumeister, R.F. (1998). Threatened egotism, narcissism, self-esteem, and direct and displaced aggression: Does self-love or self-hate lead to violence? *Journal of Personality and Social Psychology*. 75(1), 219-229.
- Buss, D. M. (1990). The evolution of anxiety and social exclusion. *Journal of Social and Clinical Psychology*, 9(2), 196-210.
- Buss, D. M., Gnomes, M., Higgins, D. S., & Lauterbach, K. (1987). Tactics of manipulation. *Journal of Personality and Social Psychology*, 52, 1219-1229.
- Campbell, W.K., Bonacci, A.M., Shelton, J., Exline, J.J., & Bushman, B.J., (2003). Psychological entitlement: Interpersonal consequences and validation of a self-report measure. *Journal of Personality Assessment*, 83(1), 29-45.
- Ciarocco, N.J., Sommer, K.L., & Baumeister, R.F., (2001). Ostracism and Ego Depletion: The Strains of Silence. *Personality and Social Psychology Bulletin*, 27 (9), 1156-1163.
- Craighead, W.E., Kimball, H.W., & Rehack, P.J. (1979). Mood changes, physiological responses, and self-statements during social rejection imagery. *Journal of Consulting & Clinical Psychology*, 47(2), 385-396.
- Crick & Grotpeter, (1996). Children's treatment by peers: Victims of relational and overt aggression. *Development and Psychopathology*, 8, 367-380.
- Crocker, J., Luhtanen, R. A., Cooper, M. L. & Bouvrette, A. (2003). Contingencies

- of self-worth in college students: Theory and measurement. *Journal of Personality and Social Psychology*, 85 (5), 894–908.
- Crocker, J. & Park, L. E. (2004). The costly pursuit of self-esteem. *Psychological Bulletin*, 130, 392-414.
- Crocker, J., Sommers, S. R., & Luhtanen, R. K. (2002). Hopes dashed and dreams fulfilled: Contingencies of self-worth and graduate school admissions. *Journal of Personality and Social Psychology*. 28(9), 1275-1286.
- Crocker, J. & Wolfe, C. T. (2001). Contingencies of self-worth. *Psychological Review*, 108 (3), 593-623
- Davidson, R.J. (1992a). Anterior cerebral asymmetry and the nature of emotion. *Brain and Cognition*, 20, 125-151.
- Davidson, R.J. (1992b). Emotion and affective style: Hemispheric substrates. *Psychological Science*, 3, 39-43.
- Maner, J. K., DeWall, N. C., Baumeister, R. F. & Schaller, M. (2007). Does social exclusion motivate interpersonal reconnection? Resolving the “Porcupine Problem”. *Journal of Personality and Social Psychology*, 92 (1), 42–55
- Downey, G. & Feldman, F.I. (1996). Implications of rejection sensitivity for intimate relationships. *Journal of Personality & Social Psychology*, 70(6), 1327-1343.
- Eisenberger, N.I., Lieberman, M.D., & Williams, K.D. (2003). Does Rejection Hurt? An fMRI Study of Social Exclusion. *Science*, 302(5643), 290-292.
- Gardner, W. L., Pickett, C. L., & Brewer, M. B. (2000). Social rejection and selective memory: How the need to belong influences memory for social events. *Personality and Social Psychology Bulletin*, 26, 486–496.
- Greenberg, J., Solomon, S., Pyszczynski, T., Rosenblatt, A., Burling, J.,

- Lyon, D., et al. (1992). Why do people need self-esteem? Converging evidence that self-esteem serves as an anxiety-buffering function. *Journal of Personality and Social Psychology*, 63, 913–922.
- Greenier, K.D., Kernis, M.H., McNamara, C.W., Waschull, S.B., Berry, A.J., Herlocker, C.E. & Abend, T.A. (1999). Individual differences in reactivity to daily events: Examining the roles of stability and level of self-esteem. *Journal of Personality*, 67(1), 185-208.
- Gosling, S. D., Rentfrow, P. J. & Swann, W. B. (2003). A very brief measure of the Big-Five personality domains. *Journal of Research in Personality*, 37, 504–528
- Hagemann, D., 2004. Individual differences in anterior EEG-asymmetry: Methodological problems and solutions. *Biological Psychology* 67, 157–182.
- Harrigan, S. P. M. (1997). Caging the crazy. *Humanist*, 57 (1), 14-19.
- Harter, S. (1993). Visions of the self: Beyond the me in the mirror. Jacobs, Janis E. (Ed). *Developmental perspectives on motivation* (pp 99-114). University of Nebraska Press: Lincoln, NE.
- Harter, S., Waters, P. & Whitesell, N. R. (1998). Relational self-worth: Differences in perceived worth as a person across interpersonal contexts among adolescents. *Child Development*, 69 (3), 756-766.
- Hayes, A.M, Harris, M.S., & Carver, C.S. (2004). Predictors of self-esteem variability *Cognitive Therapy and Research*, 28 (3), 369–385
- Heatherton, T.F. & Vohs, K.D. (2000). Interpersonal evaluations following threats to self: Role of self-esteem. *Journal of Personality and Social Psychology*. 78(4), 725-736.
- Hostetler, J. A. (1964). Persistence and change patterns in amish society. *Ethnology*, 3(2), pp. 185-198.
- Imich, A.J. (1994). Exclusions from school: Current trends and issues. *Educational Research*, 36, 3–11.
- James, W. (1890). *The principles of psychology*. New York: Holt.

- Jasper, H. H. (1958). The ten–twenty electrode system of the International Federation. *Electroencephalography and Clinical Neuropsychology*, 10, 371–375.
- Jensen-Campbell, L.A., Knack, J.M., Waldrip, A.M., & Campbell, S.D. (2007). Do personality traits associated with self-control influence the regulation of anger and aggression? *Journal of Research in Personality*, 41, 403 - 424.
- Kernis, M.H., Brockener, J., & Frankel, B.S. (1989). Self-esteem and reactions to failure: The mediating role of overgeneralization. *Journal of Personality and Social Psychology*, 57(4), 707-714.
- Kernis, M.H., Brown, A.C. & Brody, G.H. (2000). Fragile self-esteem in children and its associations with perceived patterns of parent-child communication. *Journal of Personality*, 8(2), 225-252.
- Kernis, M.H., Cornell, D.P., Sun, C. & Berry, A. (1993). There's more to self-esteem than whether it is high or low: The importance of stability of self-esteem. *Journal of Personality & Social Psychology*, 65(6), 1190-1204.
- Kernis, M. H., & Goldman, B. N. (1999). Self-esteem. In D. Levinson, J. Ponzetti, & P. Jorgenson (Eds.), *Encyclopedia of human emotions* (pp. 593-600). New York: Macmillan Library Reference.
- Kernis, M.H., Grannemann, B.D., & Barclay, L.C. (1989). Stability and level of self-esteem as predictors of anger arousal and hostility. *Journal of Personality & Social Psychology*, 56(6), 1013-1022.
- Leary, Kelly, Cottrell, Schreindorfer (2001). Cooperation in social dilemmas and the need to belong: The moderating effect of group size. *Group Dynamics: Theory, Research, and Practice*, 7 (2), 168–174
- Leary, M. R., Haupt, A. L., Strausser, K. S., Chokel, J. T (1998). Calibration the sociometer: The relationship between interpersonal appraisals and state self-

- esteem. *Journal of Personality & Social Psychology*, 74 (5), 1290-1299
- Leary, M. R., Kowalski, R. M., Smith, L., & Phillips, S. (2001). Teasing, rejection, and violence: Case studies of the school shootings. *Aggressive Behavior*, 29, 202-214.
- Leary, M. R., & Springer, C. (2001). Hurt feeling: The neglected emotion. In R. M. Kowalski (Ed.), *Behaving badly: Aversive behaviors in interpersonal relationships* (pp. 151-175). Washington, DC: American Psychological Association.
- Leary, M. R., Terdal, S. K., Tambor, E. S., & Downs, D. (1995). Self-Esteem as an interpersonal monitor: The Sociometer Hypothesis. *Journal of Personality and Social Psychology*, 68(3), 518-534.
- Luhtanen, R. A. & Crocker, J. (2005). Alcohol use in college students: Effects of level of self-esteem, narcissism, and contingencies of self-worth. *Psychology of Addictive Behaviors*, 19 (1), 99–103
- Manor, J. K., DeWall, C. N., Baumesiter, R. F. & Schaller, M. (2007). Does social exclusion motivate interpersonal reconnection? Resolving the “Porcupine Problem.” *Journal of Personality and Social Psychology*, 92(1), 42-55.
- McDonald, G. & Leary, M.R. (2005). Why does social exclusion hurt? The relationship between social and physical pain. *Psychology Bulletin*, 131(2), 202-223.
- McGuire, M. T., & Raleigh, M. J. (1986). Behavioral and physiological correlates of ostracism. *Ethology and Sociobiology*, 7, 187–200.
- Neemann, J. & Harter, S. (1986). Self-perception profile for college students.
- Nezlek, J. B., Kowalski, R. M., Leary, M. R., Blevins, T., & Holgate, S. (1997). Personality moderators of reactions to interpersonal rejection: Depression and trait self-esteem. *Personality and Social Psychology Bulletin*, 23, 1235–1244.

- Niiya, Y., Crocker, J., Bartmess, E. N. (2004). From vulnerability to resilience: Learning orientations buffer contingent self-esteem from failure. *Psychological Science, 15* (12), 801-804
- Pelham, B. W. & W. B. Swann. (1989). From self-conceptions to self-worth: on the sources and structure of global self-esteem. *Journal of Personality and Social Psychology, 57* (4), 672-680.
- Pascual-Marqui, R.D., Esslen, M., Kochi, K. & Lehmann, D. (2002). Functional imaging with low resolution brain electromagnetic tomography (LORETA): a review. *Methods & Findings in Experimental & Clinical Pharmacology, 91-95.*
- Pascual-Marqui, R. D., Michel, C. M., & Lehmann, D. (1994) Low resolution electromagnetic tomography: a new method for localizing electrical activity in the brain. *International Journal of Psychophysiology, 18* (1), 49-65
- Pedhazur, E. J. (1997). *Multiple regression in behavioral research: Explanation and prediction.* Orlando, FL: Harcourt Brace.
- Pivik, R.T., Broughton, R. J., Coppola, R., Davidson, R. J., Fox, N. & Nuwer, M. R. (1993). Guidelines for the recording and quantitative analysis of electroencephalographic activity in research contexts. *Psychophysiology, 30*, 547-558
- Pyszczynski, T., Greenberg, J., Solomon, S., Arndt, J. & Schimel, J. (2004). Why do people need self esteem? A theoretical and empirical review. *Psychological Bulletin, 130* (3), 435–468

- Raskin, R. & Terry, H. (1988). A principal-components analysis of the Narcissistic Personality Inventory and further evidence of its construct validity. *Journal of Personality & Social Psychology*, 54(5), 890-902.
- Rosenberg, M. (1965) *Society and The Adolescent Self-Image*. Princeton, N.J.: Princeton University Press
- Sargent, J. T., Crocker, J. & Luhtanen, R. A. (2006). Contingencies of self-worth and depressive symptoms in college students. *Journal of Social and Clinical Psychology*, 25 (6), 628-646.
- Schutz, A. (1998). Coping with threats to self-esteem: the differing patterns of subjects with high versus low trait self-esteem in first-person accounts. *European Journal of Personality*, 12, 169-186.
- Smith, A. & Williams, K.D. (2004). R u there? Ostracism by cell phone text messages. *Group Dynamics: Theory, Research, Practice*. 8(4), 291-301.
- Sommers, K. (2000). Ego-Defensive strategies, self-esteem, and interpersonal relationships. In Leary, M.R. (Ed.) *Interpersonal Rejection* (pp. 167- 188). New York: Oxford University Press
- Sommer, K.L, Baumeister, R.F. (2002). Self-evaluation, persistence, and performance following implicit rejection: The role of trait self-esteem. *Personality and Social Psychology Bulletin*, 28 (7), 926-938
- Sommer, K. L., Williams, K. D., Ciarocco, N. J., & Baumeister, R. F. (2001). When silence speaks louder than words: Explorations into the intrapsychic and interpersonal consequences of social ostracism. *Basic and Applied Social Psychology*, 23(4), 225–243
- Spinrad, T. L., Eisenberg, N., Harris, E., Hanish, L., Fabes, R. A., Kupanoff, K., Ringwald, S. & Holmes, J. (2004). The relation of children's everyday nonsocial peer play behavior to their emotionality, regulation, and social functioning. *Developmental psychology*. 40(1), 67-80
- Sullivan, M. J. L., Bishop, S. R. & Pivik, J. (1995). The pain catastrophizing scale:

- Development and validation. *Psychological Assessment*, 7 (4), 524-532
- Sutton, S.K. & Davidson, R.J. (1997). Prefrontal brain asymmetry: A biological substrate of the behavioral approach and inhibition systems. *Psychological Science*, 8, 204-210.
- Twenge, J.M., Baumeister, R.F., Tice, D.M., & Stucke, T.S.(2001). If you can't join them, beat them: Effects of social exclusion on aggressive behavior. *Journal of Personality and Social Psychology*. 81(6), 1058-1069.
- Twenge, J.M. & Campbell, K.W. (2003). "Isn't it fun to get the respect that we're going to deserve?" Narcissism, social rejection, and aggression. *Personality and Social Psychology Bulletin*. 29(2), 261-272.
- Watson, D., Clark, L. A. & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology*, 54 (6), 1063-1070
- Wheeler, R.E., Davidson, R.J., & Tomarken, A.J. (1993). Frontal brain asymmetry and emotional reactivity: A biological substrate of affective style. *Psychophysiology*, 30, 82-89.
- Williams, K.D. (1997). Social ostracism. In R. M. Kowalski (Ed.), *Aversive interpersonal behaviors* (pp. 133-170). New York: Plenum.
- Williams, K. D. (2001). Ostracism: Ubiquitous and powerful. *Ostracism: The Power of Silence* (pp. 1-7). New York: The Guilford Press.
- Williams, K.D. (2001). Ostracism: A review of the literature. *Ostracism: The Power of Silence* (pp.7-15). New York: The Guilford Press.
- Williams, K.D., Cheung, C.T., & Choi, Choi, W. (2000). Cyberostracism: Effects of being ignored over the internet. *Journal of Personality and Social Psychology*. 79 (5), 748-762.
- Williams, K. D., Crocker, V., Tynan, D., Cruickshank, M. & Lam, A.(2002).

Investigations into differences between social- and cyberostracism. *Group Dynamics: Theory, Research, and Practice*. 6 (1), 65–77

Williams, K.D., Govan, C.L., Crocker, V., Tynan, D., Cruickshank, M., Lam, A. (2002). Investigations into differences between social and cyberostracism. *Group Dynamics Theory, Research, and Practice*. 6(1), 65-77.

Williams, K. D., & Sommer, K. L. (1997). Social ostracism by one's coworkers: Does rejection lead to loafing or compensation? *Personality and Social Psychology Bulletin*, 23, 693-706.

Zadro, L., Boland, C., & Richardson, R. (2005). How long does it last? The persistence of the effects of ostracism on the socially anxious. Poster presented at The Society of Personality and Social Psychology in New Orleans.

Zardo, L., Williams, K., Richardson, R. (2004). How low can you go? Ostracism by a computer is sufficient to lower self-reported levels of belonging, control, self-esteem, and meaningful existence. *Journal of Experimental Social Psychology*. 40(8), 560-568.

BIOGRAPHICAL INFORMATION

Marie Ramirez completed her undergraduate work at Saint Mary's University in southern Texas. With this thesis, she is earning a masters of science degree from The University of Texas at Arlington. Marie's research interests center around the construct of social pain (e.g., social ostracism). She is especially interested in examining the differences and similarities between social pain and physical pain. Marie has been involved in a number of research projects including an fMRI project examining neurological mechanisms involved in social pain experiences. She also collected data examining self-regulatory abilities in adolescents. Marie plans to go on with a career in academia.