TAKE IT EASY ON YOURSELF: THE ROLE OF SELF-COMPASSION

IN RESPONSE TO SOCIAL OSTRACISM

By

Joshua L Clark

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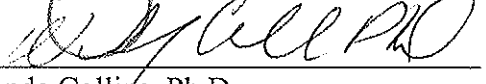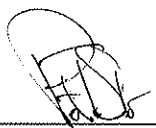the Requirements for the Degree of

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Chair:

Kathleen Gunthert, Ph.D.

Anthony Ahrens, Ph.D.

Wanda Collins, Ph.D.

Dean of the College of Arts and Sciences

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I dedicate this paper to coffee, without which I would accomplish nothing, and to Elisa, with whom everything is better.

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ABSTRACT

Self-compassion involves forgiving oneself following failure, viewing negative emotions from a mindful perspective, and understanding that all human beings are imperfect (Neff, 2003). Self-compassion is associated with a host of positive psychological and physical variables, and it can be induced to help individuals deal with stress. The present study examines whether self-compassion can be induced in a student sample and whether this induction can help participants cope with social ostracism. Results indicate that the induction was not effective in helping individuals respond adaptively to the ostracism manipulation. Discussion focuses on potential problems with the methodology and future directions for research on self-compassion.

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CHAPTER 1

INTRODUCTION

Although in friendships it often comes naturally to provide support and point out when peers are being too hard on themselves, it can be very difficult to provide the same level of comfort and care for ourselves..   The ability to be compassionate toward oneself following failures or stressors is complicated further by the emphasis placed in contemporary American society on having high self-esteem (Baumeister, Smart, & Boden, 1996; Baumeister, Bushman, & Campbell, 2000).  Societal expectations dictate that one should always try to feel good about oneself and one's achievements.  While this may seem beneficial, these expectations have the potential to create the unrealistic expectation that one should and will always succeed and feel good about oneself.  With the emphasis on feeling good about oneself and one's achievements, we might deemphasize the need to learn to care for ourselves when we feel unhappy or when we fail.

Neff (2003) has argued that instead of placing importance on high self-esteem, we could benefit from emphasizing self-compassion.  She defines self-compassion in three parts: acceptance, mindfulness, and shared humanity.  Acceptance refers to forgiving and accepting rather than blaming oneself during times of failure or weakness.  Mindfulness is viewing uncomfortable thoughts and feelings from a slightly detached and balanced perspective instead of over-identifying with them.  Lastly, shared humanity involves

understanding the inherent imperfection of humanity rather than feeling isolated during times of failure or weakness (Neff, 2003; Neff, Kirkpatrick, & Rude, 2007; Neff & Vonk, 2009).

Neff's research (e.g. 2003; Neff, Kirkpatrick, & Rude, 2007; Neff & McGehee, 2010; Neff & Vonk, 2009), suggests that those high in self-compassion cope more effectively with the inevitable stressors and disappointments that life brings than those low in self-compassion. She argues that high self-compassion allows people to respond to adversity with a resiliency that increases the capacity to achieve at higher levels over time (Neff & Vonk, 2009). My research extends the investigation of self-compassion by exploring its relationship with our reaction to social ostracism, a particularly pervasive and problematic source of psychological stress (Case & Williams, 2004; Williams, 1997; Williams, 2007).

<center>Social Ostracism and its Negative Consequences</center>

Social ostracism occurs when a single person or a group of people is ignored or excluded (Case & Williams, 2004). The phenomenon is pervasive cross-culturally (Gruter & Masters, 1986), and it can occur at an interpersonal level or at a societal level, such as when an individual is shunned by his/her entire community (Faulkner et al., 1997). Kip Williams (1997, 2001) argues that ostracism is aversive because it threatens four fundamental human needs: social self-esteem (feeling good about oneself in a social relationship), a sense of control, a sense of belonging, and a sense of meaningful existence. He argues that these four needs are threatened automatically after a person experiences social ostracism (Williams, 2007; Zadro, Boland, & Richardson, 2006), and

that the threat occurs even if there are financial incentives to being ostracized (Van Beest & Williams, 2006).

Consistent with this negative experience, ostracized individuals have a neurological experience that resembles that of physical pain (Eisenberger, Lieberman, & Williams, 2003; Creswell, Eisenberger, & Lieberman, 2008).  Ostracism is also associated with aggressive responses (Heppner et al., 2008; Twenge et al., 2001; Warburton, Williams, & Cairns, 2006; Wirth et al., 2010; Zadro, Williams, & Richardson, 2004), unnecessary risk-taking (Twenge, Catanese, & Baumeister, 2002), and  disruptions in self-regulating behaviors like healthy eating (Baumeister et al., 2005; Oaten et al., 2008).  Some research suggests that being ostracized is also associated with an increase in pro-social responses (Maner et al., 2007) such as increased attention to social cues (Bernstein et al., 2008) and increased conformity (Williams, Cheung, & Choi, 2000).  Williams (2007) argues that all of these responses to ostracism serve to compensate for the threat to social self-esteem, control, belonging, and meaningful existence that occur during ostracism.  An individual can compensate through aggressive behaviors, seeking the immediate comfort from unhealthy eating, or being accepted by others through pro-social behavior.

This compensation has also been captured through measuring one's implicit self-esteem (Chartrand et al., 2010; Rudman et al., 2007).  Implicit self-esteem is different from traditional (or explicit) self-esteem in at least of one of the following four ways: it is less controllable, automatic, highly efficient, or expressed below the level of control or immediate awareness (Bargh, 1994; Nosek, 2007; Koole, Govorun, Cheng, & Gallucci, 2009).  Measures of implicit self-esteem assess self-esteem without the individual's

awareness of the nature of the test.  Interestingly, scores of implicit self-esteem are uncorrelated with scores of the individual's explicit self-esteem (Bosson, Swann, & Pennebaker, 2000), so implicit assessment is likely not just an alternative measure of the same construct.

Individuals who are given a measure of implicit self-esteem following a threat, such as ostracism, actually score higher in implicit self-esteem than those who are not threatened.  This is a form of compensation following threat that has been referred to as implicit self-enhancement (Chartrand et al., 2010).  For instance, participants experiencing a social and intellectual threat scored higher on a measure of implicit self-esteem (Rudman et al., 2007), the Implicit Association Test (See Greenwald & Farnham, 2000), than non-threatened participants.  Chartrand and colleagues (2010) found that following an intellectual threat, which involved giving participants difficult mental tasks, participants scored higher on a measure of implicit self-esteem that asked them to rate the importance of various demographic variables, many of which were their own.  In this measure, implicit self-esteem was defined by the difference between participants' ratings of the importance of traits that they also possessed and the importance of traits that they did not possess.   Finally, Jones and colleagues (2002) observed that threatened participants scored higher on another measure of implicit self-esteem, The Name-Letter Preference Task.  However, this enhancement only occurred for participants who were high in explicit self-esteem.

Converging evidence for implicit self-enhancement comes from studies in Terror Management Theory.  This line of research investigates how people cope with the threat of death (see Solomon, Greenberg, & Pyszczynksi, 2004, for full discussion).  Terror

Management Theory holds that the purpose of self-esteem is to protect oneself mentally from the threat of death that permeates human existence. Studies of terror management have found that relative to a control group, participants faced with a threat of death: placed higher importance in values to which they adhered (Goldenberg et al., 2000); had higher self-serving biases (Mikulincer & Florian, 2002); were more accepting of positive information related to themselves (Dechesne et al., 2003); were more defensive of American viewpoints (Greenberg et al., 1990); and donated more money to charities representing demographics similar to their own (Jonas, Greenberg, & Frey, 2003). These outcomes may represent another form of implicit self-enhancement, as these studies all measure values related to the self without the participants' direct awareness. Furthermore, some researchers (e.g. Case & Williams, 2004; Williams, 2007) argue that ostracism is similar to a threat of death, because it is a threat of "social death" (Williams, 2007), and thus a threat to one's fundamental need to belong (Baumeister & Leary, 1995). Therefore, the brain may react similarly in response to ostracism as it does to the threat of death. Indeed, as mentioned before, the neurological response to ostracism mimics that of the response to physical pain (Eisenberger, Lieberman, & Williams, 2003). However, ostracism and the threat of death may not be as similar with individuals for whom social connection is not a basic need. While some researchers (e.g. Baumeister & Leary, 1995) claim that social connection is a fundamental human need, it may not be for everyone.

Displaying implicit self-enhancement following ostracism or a threat of death does have the short-term positive effect of compensating for the negative effect of ostracism, but it is potentially maladaptive in the long-term. Individuals automatically

protect themselves in the short term, but by doing so, they may sacrifice their long term

goals such as healthy eating (Fein & Spencer, 1997; Jordan et al., 2003; Spencer et al.,

1998; Rudman et al., 2007).  Consider an individual who may be feeling down but he/she

turns to junk as a source of comfort.  While, it may provide an immediate improvement in

mood, it may lead to feelings of guilt and interfere with one's goal to eat better.   Self-

enhancement may also occur at the expense of others and in this way may be alienating

or destructive for other individuals.  For this example, an individual in a conversation

with a confident and accomplished individual may feel threatened and insecure, so he/she

lists several of his/her accomplishments so as to impress that other person and feel more

important.   Ironically, this may serve to frustrate and push away that other person. This

theory has been supported empirically by studies of pairs of roommates (See Crocker,

2011 for review).  In these studies, experimenters found that individuals who were trying

to enhance their self-image were actually perceived as more negative by their roommate,

than if the individual was trying to be compassionate.  This study will examine the factors

that allow an individual to be less vulnerable to engaging in implicit self-enhancement.

<u>Social Ostracism and Self-Esteem</u>

Historically, high self-esteem has been thought to protect oneself from

maladaptive responses to threats, such as ostracism (Baumeister, Smart, & Boden, 1996;

Bushman & Baumeister, 1998; Jordan et al., 2003; Nezlek et al., 1997; Twenge et al.,

2001). Those who react violently to threat have been assumed to have low self-esteem

(Baumeister, Smart, & Boden, 1996).  Support for the protective value of high self-

esteem has come from studies linking high self-esteem with less aggression (Twenge et

al., 2001) and fewer negative cognitions following ostracism (Nezlek et al., 1997), and

less anxiety following a threat of death (Greenberg et al., 1992). High self-esteem is also correlated positively with motivation and perseverance in the face of adversity (Taylor & Brown, 1988; Sommer & Baumeister, 2002). Finally, individuals with high self-esteem do not feel as badly about themselves following social and intellectual threats as do those with low self-esteem (Brown, 2010).

Yet, despite this research, there has been little development in understanding how self-esteem can be increased (Baumeister et al., 2003; Crocker, 2006b), and school-based interventions directed at increasing self-esteem have been largely unsuccessful (Baumeister et al., 2003) Furthermore, many researchers have questioned the value of encouraging individuals to develop high self-esteem (e.g. Baumeister, Campbell, Krueger, & Vohs, 2003). This is because high self-esteem is associated with narcissism (Baumeister, Tice, & Hutton, 1989; Neff, 2003; Neff & Vonk, 2009), unnecessary risk taking, and interpersonal conflict (Bushman & Baumeister, 1998; Baumeister, Bushman, & Campbell, 2000; Baumeister, Heatherton, & Tice, 1993). Individuals with high self-esteem are also more likely to have unrealistic optimism, to claim to be closer to their "ideal" selves (Bosson et al., 2003), and to show favoritism toward members of their own group (Brown, Collins, & Schmidt, 1988).

There is also only mixed support for the connection between low self-esteem and aggression (Bushman & Baumeister, 1998). In fact, a study of violent inmates found that they were significantly higher than average in self-esteem (Bushman et al., 1999). When threatened, people with high self-esteem are more likely than those with low self-esteem to act with prejudice toward out-group members (Brockner & Chen, 1996; Jordan, Spencer, & Zanna, 2005), to set unrealistic and risky goals (Baumeister, Heatherton, &

Tice, 1993), and to be deemed less likable (Heatherton & Vohs, 2000). Prior to an evaluated public performance, participants with high self-esteem prepare in private the same amount of time as individuals low in self-esteem. However, when the practice is in front of other people, those high in self-esteem practice significantly less than those low in self-esteem (Tice & Baumeister, 1990). These findings all suggest that high self-esteem could actually be a risk factor for responding maladaptively in the face of a threat. Individuals with high self-esteem may be more concerned about maintaining their self-esteem than with being effective in the task at hand, and since they have more self-esteem to begin with, when they are threatened, there could be more implicit compensation that would have to take place for a high self-esteem individual to return to his/her baseline self-esteem.

The reason for the discrepancy in self-esteem research may in part be due largely to how self-esteem is defined (Crocker, 2006a; Crocker, 2006b; Kernis, 2003; Jordan et al., 2003; Rhodewalt, 2006). Most research measures self-esteem using the Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965), a well-validated ten question scale measuring an individual's level of self-esteem. However, the construct of self-esteem may be far more complex and heterogeneous than the scale is able to capture.

Kernis (2003), for instance, argues that self-esteem varies in four different ways. Self-esteem can be implicit or explicit, stable or unstable, contingent or true, and defensive or genuine. The difference between implicit and explicit has been discussed above. Individuals whose implicit and explicit self-esteem are discrepant are more prone to prejudice (Jordan et al., 2003; Jordan, Spencer, & Zanna, 2005), narcissism (Jordan et al., 2003), and emotional problems such as depression (Schröder-Abé, Rudolph, &

Schütz, 2007) than individuals whose implicit and explicit self-esteem levels are similar. Stable self-esteem refers to low fluctuation of self-esteem during the course of everyday life. Unstable self-esteem, when compared with stable self-esteem, is associated with greater risk for depressive symptoms in reaction to life stressors (Kernis et al., 1998) and in fifth grade children, with less openness to learning potentially difficult activities (Waschull & Kernis, 1996). Contingent self-esteem is dependent upon a certain context. For instance, an individual may only feel good about him/herself if he/she performs well at work or is in a positive mood. Self-esteem that is contingent is associated with greater anger in response to insults (Kernis & Paradise, 2002) than non-contingent self-esteem. Furthermore, self-esteem that is contingent upon external factors, such as academic performance or physical appearance, is associated with more problems, such as drug use or disordered eating, during the freshman year of college than self-esteem that is contingent upon internal factors such as religion (Crocker 2002, Crocker, Sommers, & Luhtanen, 2002). Lastly, defensive self-esteem serves to protect oneself from the more negative opinion of oneself that he/she actually holds. Defensive self-esteem is associated with more anger and depression than secure self-esteem (Kernis et al., 2010). In summary, this suggests that there can be healthy self-esteem that is secure and consistent, and unhealthy self-esteem that is easily disrupted by the ups and downs of life.

Taken together, this evidence suggests that what is problematic about high self-esteem is not actually possessing it, but rather *trying* to possess it (Crocker, 2006a; Crocker 2006b). Striving for high self-esteem is associated with possessing an unrealistically high self-image (Sedikides, 1993), prejudiced attitudes (Aberson, Healy, & Romero, 2000), and adverse effects on one's interpersonal relationships, creativity, and

learning (Kernis, 2003; Crocker 2006b; Rhodewalt, 2006).  Furthermore, in the face of

threat, individuals trying to pursue a high level of self-esteem are vulnerable to using

maladaptive strategies such as self-handicapping, which is when an individual identifies

or creates an external factor to explain any personal failure (Berglas, 1985);  defensive

pessimism, which is when someone actively cultivates lowered expectations so as to

make to make possible failure more tolerable (Norem & Cantor, 1986); or increased

aggression (Baumeister, Smart, & Boden, 1996).

The paradox of self-esteem is that while having high levels of it may be adaptive,

actively pursuing high self-esteem can make a person susceptible to additional stress and

anxiety (Crocker & Park, 2004; Crocker, 2006a; Crocker, 2006a; Kernis, 2003), and

consequently engage in maladaptive self-enhancement strategies.  Many researchers have

thus argued that it is the "pursuit of self-esteem" (Crocker & Park, 2004) that is

problematic.  Ryan and Brown (2003) argue that emphasizing the self "leads people to be

overly attached to achievements, possessions, and relationships despite the true

impermanence and interdependent origins of such things" (p. 75).  Focusing on the self

alienates one from the dynamic interpersonal connections that exist, and it may even

include pushing others down in order to feel good about oneself (Neff, 2009).  This is

corroborated by the studies of roommates that were mentioned above (See Crocker,

2011).  In these studies individuals who were pursuing self-image goals actually ended up

having lower self-esteem than those who were pursuing compassionate goals.  The author

argues that high self-esteem does not result from explicit attempts to capture it, but rather

from building relationships with people who feel cared for and thus respond by caring for

you.  Self-esteem, therefore appears to be maladaptive to pursue, so focus needs to be

shifted toward an alternative concept for individuals to pursue in order to construct a healthy attitude toward themselves.

<p align="center">Social Ostracism and Self-Compassion</p>

There is evidence that self-compassion is one alternative. As mentioned earlier, self-compassion entails practicing kindness and acceptance of oneself, viewing negative emotions and thoughts in a detached and balanced way, and understanding the inherent imperfection of the human condition. Self-compassion offers a way to relate kindly and positively toward oneself without the risk of becoming self-absorbed, because it also facilitates a feeling of connection with others. Because of its detached attitude toward the self, self-compassion shares significant conceptual overlap with the principle of mindfulness (Neff, 2003; Neff, Hsieh, & Dejitterat, 2005). Mindfulness is generally understood as an accepting and open awareness of the present moment (Baer et al., 2006). Similarly, self-compassion involves cultivating an accepting and compassionate attitude toward the self. Both self-compassion and mindfulness help engender acceptance and care for oneself as well as liberation from the insecurities and desires that plague the pursuit of high self-esteem. Self-compassion differs from mindfulness however in that it is a self-directed attitude that is specific to how one relates to him/herself during times of stress or failure (Neff, 2003).

Self-compassion is correlated positively with life satisfaction and negatively with depression (Neff, Pisitsungkagarn, & Hsieh, 2008). Level of self-compassion partially mediates the protective functions that maternal support and other family factors have on self-report measures of well-being (Neff & McGehee, 2010), and it is a partial mediator of the relationship between attachment anxiety and mental health (Raque-Bogdan et al.,

2011).   Furthermore, for individuals mistreated as children, level of self-compassion mediates their ability to regulate their emotions (Vettese et al., 2011).

While self-esteem is positively associated with narcissism, self-compassion is not (Neff, 2003; Neff & Vonk, 2009).  In fact, even though self-compassion is correlated positively with a measure of pride, it is uncorrelated with a measure of arrogance (Mosewich et al., 2011).  While self-esteem and self-compassion do correlate with one another (Neff, 2003; Neff & Vonk, 2009), self-compassion provides psychological benefits beyond those of self-esteem.  Self-compassion is more negatively correlated with anxiety, depression, thought suppression, and rumination than is self-esteem (Neff & Vonk, 2009).  Among women who exercise, self-compassion correlates more negatively than self-esteem with exercising due to a sense of obligation, which is an attitude associated with greater potential for anxiety and exercising while injured (Magnus, Kowalski, & McHugh, 2010).  Also among young female athletes, self-compassion is a stronger negative predictor than self-esteem for anxiety related to one's body image (Mosewich et al., 2011).  Self-compassion is also a more positive predictor than self-esteem of adaptive performance strategies, such as the pursuit of mastery rather than achievement, or giving up on an unattainable goal to refocus on a more realistic goal (Neely et al., 2009; Neff, Hsieh, & Dejitterat, 2005).  Self–compassion is also associated with adaptive emotional coping strategies, such as acceptance of emotion, rather than fixation upon emotion (Neff, Hsieh, & Dejitterat, 2005).

Additionally, among individuals who rated their performance on a videotaped monologue, those who were high in self-compassion rated themselves more similarly to others' ratings of their performance than did participants low in self-compassion.  This

suggests that rather than putting people at risk for developing an inflated and unrealistic self-image as self-esteem does, self-compassion helps a person see him or herself more objectively (Leary et al., 2007).

Further evidence for the supportive role of self-compassion comes from a study where individuals participated in a mock job interview that involved having them consider their greatest weakness. After level of self-esteem was controlled, self-compassion was still significantly inversely related to level of anxiety after completing this task. Conversely, when self-compassion was controlled, level of self-esteem did not predict level of anxiety (Neff, Kirkpatrick, & Rude, 2007). Another study found that among participants who gave video-taped monologues, those high in self-compassion were less anxious after receiving standardized neutral feedback (supposedly from another participant) than participants low in self-compassion. Compared with participants low in self-compassion, those high in self-compassion were also less likely to take any feedback personally and were less affected by that feedback in giving their own opinions of the evaluator. Participants high in self-compassion also were not as self-critical after telling a mildly embarrassing story on camera than those low in self-compassion (Leary et al., 2007). Individuals with self-compassion appear to be able to withstand the adversity of feeling threatened in a way that is less destructive to themselves and to those around them.

There is also evidence that self-compassion can be induced. Adams and Leary (2007) first measured individuals' restrictive eating habits, and then they had participants eat a donut. Self-compassion was manipulated by having a researcher tell participants not to be too hard on themselves since everyone eats unhealthily at times, and one donut

is not a big problem in the long run.  Participants were then given an opportunity to eat an unlimited amount of candy.   Results of the study indicate that inducing self-compassion in individuals who have guilt related to their eating habits helps them to minimize unhealthy eating following a break in their diet and it also positively influenced their mood.

Self-compassion has also been induced after participants were asked to write about a negative event from their past that involved "failure, humiliation, or rejection" (Leary et al., 2007; p. 89).  Following this threat, participants were assigned to one of four conditions: a self-compassion induction in which they were asked to write on a prompt about self-compassion; a self-esteem induction, in which they were asked to write about positive qualities of themselves; a writing control group, in which they were asked to write about the emotional response to the humiliating event; and a non-writing control group.  Participants in the self-compassion control reported the least negative affect, while the negative affect among the other three groups did not differ significantly. Participants in the self-compassion induction also took more responsibility for that previous event and expressed more of a similarity between their experience and that of others.  These results suggest that self-compassion allows an individual to both confront and embrace their past while also keeping it in perspective.  Ultimately, this study demonstrated that self-compassion can be induced in a way to help people cope with a social threat.

### Present Study

There is accumulating evidence that possessing high self-compassion may protect one from the negative effects of social ostracism in a way that self-esteem does not.

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Social ostracism threatens self-esteem, belonging, control, and meaningful existence. There is converging evidence that individuals who experience a threat, such as social ostracism, score higher on measures of implicit self-esteem. This response has been referred to as implicit self-enhancement. However, researchers have not yet tested whether a self-compassion induction can lead to a decreased need to self-enhance following social ostracism, nor has a self-compassion induction been demonstrated to protect against the negative impact social ostracism has on self-esteem, belonging, control, and meaningful existence. Unlike past research, this study gave participants the self-compassion manipulation *before* they receive the ostracism manipulation. By doing so, this study investigated the ability of a self-compassion induction to protect against future ostracism.

The present study induced social ostracism using the computer-based ball toss game called *Cyberball* (Williams, Cheung, & Choi, 2000; Zadro, Williams, & Richardson, 2004). *Cyberball's* validity as a manipulation of social ostracism is evidenced by the repeated findings that participants who are ostracized with *Cyberball* score lower on measures of control, self-esteem, meaningful existence, and belonging than those who receive a version of *Cyberball* where they are included in the ball toss (Williams, Cheung, & Choi, 2000; Zadro, Williams, & Richardson, 2004). These effects remain forty-five minutes after the manipulation ends (Oaten, Williams, Jones, & Zadro, 2008) and even occur when participants are aware that the game is designed to ostracize them (Zadro, Williams, & Richardson, 2004).

The present study included a measure for the four fundamental needs threatened by ostracism, consistent with Williams' (1997; 2001) theory of ostracism. If self-

compassion is more effective than self-esteem in protecting oneself from the harmful effects of social ostracism, participants receiving the self-compassion induction should have higher scores on measures of control, self-esteem, meaningful existence, and belonging than those receiving the self-esteem induction or a control.

This study used an implicit self-enhancement measure adapted from work by Chartrand and colleagues (2010).   If self-compassion makes one less vulnerable to feeling threatened, then participants receiving the self-compassion induction should self-enhance less than participants receiving the self-esteem induction.

This study also explored the main effects and moderating roles that trait self-compassion, trait self-esteem, and trait mindfulness play in helping a person cope with social ostracism.  Additionally, self-compassion was examined to see if it still offers a protective benefit from social ostracism when mindfulness is controlled.   In the past, self-compassion has been a stronger predictor of psychological health than mindfulness (Van Dam et al., 2011), but the present study will use a different measure of mindfulness to see if that difference remains.

CHAPTER 2

METHOD

<u>Participants</u>

159 participants (34 men, 125 women) took part in the study. This number was determined by an *a priori* Power Analysis (using *GPower* Version 3.1.2) with a small effect size of Cohen's $d$ =0.25, a total alpha level of 0.05, a power of 0.8, three different groups (self-compassion condition, self-esteem condition, and control condition), and four different measurements, and a 0.5 correlation among the four measurements. Participants' mean age was 19.7. 67% were Caucasian, 9% Asian/Asian-American, 8% Hispanic/Hispanic-American, 8% African-American, 3% Arab-Americans, 1% Pacific Islander, 1% West-Indian, 1% South Korean-Irish, 1% Egyptian, and 1% Creole, and 1% did not respond.

The participants were mostly undergraduate students from American University who were recruited through advertisements on the psychology department's internet home page and the department's bulletin board. Three participants (mean age=28) were recruited through email advertisements in the Washington DC community. For their participation, participants either received course credit for any of their psychology courses, or they were entered into a lottery to win $50 (odds of winning 1/25).

<u>Materials</u>

All tasks were completed on a Dell desktop computer, except for the experimental manipulations of self-compassion, self-esteem, and the control, which were printed on an

8 1/2 inch by 11 inch piece of plain white paper.  All tasks were completed in a psychology lab at American University.

Experimental Conditions

Previous studies (Adams & Leary, 2007; Leary et al., 2007) used self-compassion and self-esteem inductions that were tailored to the specific threats used in their studies. For example, Adams and Leary (2007) threatened participants by having them eat junk food and their self-compassion induction was to give them brief presentation on how everybody eats junk food once in awhile and that in the long run the calories from the food they eat will not be that big of a deal.   Therefore, the previous two self-compassion inductions would not be relevant in the present study, so a new induction was created. The self-compassion induction, self-esteem induction, and control were articles supposedly written for a college newspaper.  The self-esteem and self-compassion inductions described the pressures that today's college students must face, and how a new program at the University of Kentucky is encouraging its students to change their attitudes toward themselves. In the self-compassion induction, the new program promoted self-compassionate ideals, based on Neff's (2003) three-part model of self-compassion: acceptance, common humanity, and mindfulness.  The article also contained eight bullet-points at the end that offer advice for incorporating high self-compassion into one's daily routine.  Three examples of these points were: "When you're going through a hard time, remember to be kind to yourself" (non-judgment); "When you experience problems, remind yourself that everyone goes through difficulties as part of life.  Failure is a part of the shared human experience" (shared humanity); and "When you fail at something important to you, try to keep things in perspective" (mindfulness).  See

Appendix for A for complete article. Each statement was chosen and worded to capture one of the three aspects of the construct of self-compassion based on Neff's model (2003).

The self-esteem induction was identical, except it stated that the new program at the University of Kentucky was promoting self-esteem ideals, based on Rosenberg's (1965) model of self-esteem. It also contained eight bullet-points at the end that offer advice for incorporating high self-esteem into one's daily routine. Three examples of bullet points at the end of this article were: "When you are going through a hard time, make a mental list of all of the good qualities that you have;" "When you experience problems, think back to a previous similar circumstance when you were able to prevail or be successful;" and "When you feel insecure, remember that you deserve better." These statements were designed to capture aspects of the construct of self-esteem based on Rosenberg's (1965) questionnaire. See Appendix B for complete article.

The control article was the same length as the self-compassion and self-esteem inductions. It detailed a new landscaping project underway at the University of Montana. It was created to be as neutral as possible while attempting to replicate the same degree of cognitive demand in reading it as the self-compassion and self-esteem inductions. See Appendix C for complete article.

<div align="center">Social Ostracism Manipulation</div>

The *Cyberball* program (Williams, Cheung, & Choi, 2000: Williams, 2010) was used to ostracize the participants. Once participants were logged into *Cyberball*, they saw a welcome page that informed them that they were playing an online game where it was important that they visualize the interaction occurring between him/herself and the

other participants.  In order to keep the cover story consistent, the welcome page also included a message that encouraged participants to act as though they were really taking a break from studying.  This was the only change made from a previous version of the game (Williams, 2010).  Participants were instructed that when they received the ball from one of the other three characters, they could click on the name of the character to whom they wanted to throw.   Participants saw their names entered into the login screen before they began in order to add legitimacy to the cover story that they were participating in an actual online game.  Participants played with three other characters with the names Elisa, Steven, and Cassie.  However, consistent with past studies (e.g. Williams, Cheung, & Choi, 2000), the other participants were computer controlled characters who were programmed to ostracize the participants.  Once the game began, participants received three throws in the beginning, but did not receive any throws for the remainder.  There were a total of 30 throws.  All participants received this ostracism manipulation.

<div align="center">Manipulation Check</div>

Participants were given a list of 31 adjectives and asked to rate the degree to which they currently felt each adjective, on a five-point Likert scale from 1 = "not at all" to 5 = "extremely strongly."  12 of the adjectives represented self-compassion-related feelings.  These adjectives were derived from Neff's (2003) three-part model that defines self-compassion as involving acceptance, mindfulness, and common humanity.  Each adjective came from a specific question from the Self-Compassion Scale (SCS; Neff, 2003).  For example, question number nineteen is "I'm kind to myself when I'm experiencing suffering."  From this question, the adjective "self-kindness" was derived,

and it measures the acceptance aspect of self-compassion. Another example is the adjective, "curious," which comes from question number twenty-two: "When I'm feeling down I try to approach my feelings with curiosity and openness." This assesses the mindfulness aspect of self-compassion.

There are also ten adjectives that are derived from Rosenberg's (1965) model of self-esteem in a manner similar to the self-compassion adjectives. For example, the adjective "worthy" comes from question number one: "I feel that I'm a person of worth at least the equal of others." The adjective "no good" (reverse-scored) comes from question number ten: "At times I think I am no good at all." An additional nine filler adjectives were included so as to disguise the purpose of the measure. See Appendix D for the complete measure.

Participants' scores on the self-compassion-related adjectives composed the momentary self-compassion score. Participants' scores on the self-esteem-related adjectives composed the momentary self-esteem score. These were used to see whether the participants in the different experimental conditions varied on their momentary self-compassion and self-esteem. If participants in the self-compassion condition scored higher on momentary self-compassion than participants in the other two conditions, then the experimental manipulation of self-compassion could be considered effective in inducing self-compassion. Similarly, if participants in the self-esteem condition scored higher on momentary self-esteem than participants in the other two conditions, then the experimental manipulation of self-esteem could be considered effective in inducing self-esteem. The momentary self-compassion measure demonstrated poor internal reliability, Cronbach's alpha = .569. Further analysis indicated that ratings of three adjectives in

particular did not seem to be consistent with responses to the other adjectives. *Perfectionistic*–reverse scored had a corrected item-total correlation of $r=0.103$. *Empathic* had a corrected item-total correlation of $r=-0.033$ and *curious* had a corrected item-total correlation of $r=-0.008$. Since these three adjectives each came from a different one of the three aspects of Neff's (2003) model of self-compassion, the remaining nine adjectives were still proportionately representative of the model. However, Cronbach's alpha for the remaining 9 items was only $\alpha=.646$. The acceptance subscale for the remaining items demonstrated poor internal reliability, Cronbach's alpha=0.265, as did the mindfulness subscale for the remaining items, Cronbach's alpha=0.371, and the common humanity subscale for the remaining items, Cronbach's alpha=0.472. Therefore, it appears as though the items on the assessment were just not measuring the same construct. The momentary self-esteem measure demonstrated good internal reliability, $\alpha=.855$.

<div align="center">Aversive Impact Index</div>

Following *Cyberball,* participants' level of perceived ostracism and mood were measured with a 14-item questionnaire answered on a nine-point Likert Scale, from one= "not at all," to nine="very much." The questionnaire was adopted from Zadro and colleagues (2004) and assessed ostracism according to Williams' (1997; 2001) model. The questionnaire consisted of questions measuring participants' level of socially-relevant self-esteem (e.g. "I felt that the other players failed to perceive me as a worthy and likeable person"), meaningful existence (e.g. "I felt as though my existence was meaningless during the *Cyberball* game"), control (e.g. "I felt that I was able to throw the ball as often as I wanted during the game"), and belonging (e.g. "I felt poorly accepted by

the other players"). Items were randomized in the order they appeared to participants.

The Aversive Impact Index has demonstrated good internal reliability in the past (Self-esteem subscale, $\alpha$ =.81; Meaningful existence subscale, $\alpha$=.67; Control subscale, $\alpha$ =.81; and Belonging subscale, $\alpha$ =.83; Bastian & Haslam, 2010). The current study demonstrated adequate internal reliability for the overall scale ($\alpha$=0.739) but inadequate reliability for the subscales (Self-esteem subscale, $\alpha$=0.698; Meaningful existence subscale, $\alpha$=0.383; Control subscale, $\alpha$=0.511; and Belonging subscale, $\alpha$ =0.498). Inspection of the inter-item correlations for each subscale demonstrated that the lack of internal reliability did not come from any specific item. Rather, the questions that composed each subscale did not appear to be measuring the same thing. Therefore, the subscales were not used in any further analyses.

## Mood

I measured mood using three questions, each asking participants to rate their mood on a nine-point scales. The three nine-point scales were one=bad to nine=good, one= tense to nine=relaxed, and one=aroused to nine=not aroused. These items were randomized in the order they were presented to participants. I adopted this measure from previous studies that measured mood following social ostracism (e.g. Zadro et al., 2004). I did not combine responses to the three mood items, so they remained separate dependent variables.

## Self-Enhancement Measure

The self-enhancement measure was adapted from Chartrand and colleagues (2010) for use with current American University students. Participants were told that they were taking a survey on beliefs they felt were important for one's success after

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college. They were given one of four different vignettes about a recent graduate from American University who was now successful in his or her professional and social life. Male participants read one of two vignettes about a male; female participants read one of two vignettes about a female. The two different versions (each with a male and female version for a total of four vignettes) differed in terms of the character's political affiliation and other aspects of his or her upbringing. These demographics were varied in order to be able to eliminate any unexpected effect of having just one version of the demographics.

The measure was changed from its original version (Chartrand et al., 2010) in two ways. First, the current vignette character was from American University, rather than from Ohio State University. Second, the income of the vignette character was increased to correspond with inflation and higher cost of living in Washington D.C. than the setting in which the original version was constructed.

After reading the vignette, participants were asked to rate the importance that several demographic variables (e.g., political affiliation, involvement in sports) played in the character's success. Importantly, each demographic variable did not represent an adaptive skill, such as hard-working or intelligent. Therefore, those demographics should objectively be unrelated to any career success and any attribution of success to those variables should show subjective bias toward those variables. Participants were then asked to provide their own demographic information to indicate the degree of overlap between their own characteristics and those that they indicated to be important to the success of the vignette character. Participants were given multiple choice questions to elicit their demographic information. If participants endorsed a trait that was explicitly

ascribed to the vignette character (e.g., grew up in a small town), then that trait was coded as *shared*. If participants endorsed a trait other than the one explicitly ascribed to the vignette character, then the trait was coded as *non-shared*. Then the average of the non-shared scores was subtracted from the average of the shared scores to determine relative self-enhancement scores. Higher scores represent higher self-enhancement. This measure was developed using the self-serving definition of success task (Dunning et al., 1995).

## Filler Task

This task consisted of a list of 23 short anagrams to complete. The anagrams were taken from various early education websites and are of a varying level of difficulty. The task was meant to distract participants from the true nature of the study and to be consistent with the cover story that participants are being tested on their ability to concentrate on reading comprehension tests. Filler task performance was scored by calculating the number of anagrams completed correctly. Several participants appeared to misread the instructions and only re-arranged some of the letters into a word, rather than using all of the letters. Therefore 57 participants' anagram data were not recorded. There was no significant correlation between anagram performance and any other outcome variable. See Table 1. There was also no significant difference in anagram performance across the three experimental conditions: $F(2, 100)=0.680$, $p=0.509$, ns.

Table 1. Pearson Correlations between Anagram Performance and FFMQ, RSES, and SCS, ISE, and AII.

| Variable | Anagram Scores | |
|---|---|---|
| | $r$ | $p$ value |
| FFMQ   (N=103) | 0.125 | 0.208 |
| RSES (N=103) | 0.106 | 0.285 |

| | | |
|---|---|---|
| SCS (N=103) | 0.016 | 0.873 |
| ISE (N=103) | 0.022 | 0.826 |
| AII (N=14) | 0.149 | 0.611 |

All *p* values are two-tailed

## Trait Self-Esteem

Trait self-esteem was measured using the Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965). This scale is the most widely used scale for trait self-esteem. A study of the RSES across 53 countries (Schmitt & Allik, 2005) demonstrated that it had good internal consistency (Cronbach's alpha =0.81) and convergent and discriminant validity when correlated with the various factors of the Big Five Personality Inventory (McCrae, 2002). It consisted of ten statements to which participants responded on a six-point Likert Scale, from one=disagree strongly to six=agree strongly. Examples of statements include: "I feel that I am a person of worth at least the equal of others;" and, "I feel that I have a number of good qualities." The scale demonstrated good internal reliability for the current study, Cronbach's $\alpha$=0.895.

## Trait Self-Compassion

Trait self-compassion was measured using the Self-Compassion Scale (SCS; Neff, 2003). This scale consisted of 26 statements to which participants respond on a five-point scale from one=almost never to five=almost always. The measure consists of six subscales representing each of the three components of the construct of self-compassion as well as a corresponding reverse scored subscale. The subscales are self-kindness, self-judgment (reverse-scored), common humanity, isolation (reverse-scored), mindfulness, and over-identification (reverse-scored). Examples of statements include: "I'm

disapproving and judgmental about my own flaws and inadequacies;" (self-judgment) and, "I try to be loving toward myself when I'm feeling emotional pain" (self-kindness).

Neff (2003) demonstrated that the scale has good internal consistency: overall, Cronbach's alpha= .92; Self-Kindness subscale, $\alpha$=.78; Self-judgment, $\alpha$=.77; Common Humanity, $\alpha$=.80; Isolation, $\alpha$=.79, Mindfulness, $\alpha$=.75, and Over-identification, $\alpha$=.81. Test-retest reliability over a period of three weeks was also good; overall, Pearson $r$= .93, Self-kindness subscale, $r$=.88; Self-judgment subscale, $r$=.88; Common Humanity subscale, $r$=.80; Isolation subscale, $r$=.85; Mindfulness subscale, $r$=.85; and Over-identification subscale, $r$=.88.

The scale's construct validity has been measured by its convergent validity with self-esteem ($r$=.59, $p$<0.01), acceptance ($r$=.62, $p$<0.01), and self-determination ($r$=.43, $p$<0.01). Its discriminant validity was demonstrated with its non-significant correlation with narcissism ($r$=.11, ns). The scale's construct validity has been further assessed through its negative prediction of anxiety ($r$=-0.66, $p$<0.01), depression ($r$=-0.55, $p$<0.01), rumination ($r$=-0.5, $p$<0.01), and thought suppression ($r$=-0.37, $p$<0.01; Neff, 2003).

The current study also demonstrated good internal reliability: Overall, Cronbach's alpha =0.921, Self-kindness subscale, $\alpha$=0.802, Self-judgment subscale, $\alpha$=0.790, Common Humanity subscale, $\alpha$=0.781, Isolation subscale, $\alpha$=0.795, Mindfulness Subscale, $\alpha$=0.710, and Over-identification subscale, $\alpha$=0.743.

## Trait Mindfulness

Since self-compassion shares a great deal of overlap with mindfulness, trait

mindfulness was measured to assess whether self-compassion has any added predictive validity for how one copes with social ostracism beyond that which is offered by mindfulness. Trait mindfulness was measured using the Five Facet Mindfulness Questionnaire (FFMQ; Baer et al., 2006). This scale was developed by combining items from previous mindfulness questionnaires. Items loaded onto five different factors of mindfulness: Observe, Describe, Acting with Awareness, Nonjudge, and Nonreact. The scale consisted of 39 statements to which participants respond on a five-point Likert scale, from one= "never/very rarely true" to five= "very often or always true." Examples of statements include: "When I'm walking, I deliberately notice the sensations of my body moving" (Observing); "I'm good at finding words to describe my feelings" (Describing); "When I do things, my mind wanders off and I'm easily distracted" (Acting with Awareness; reverse-scored); "I criticize myself for having irrational or inappropriate emotions" (Non-judging; reverse-scored); and, "I perceive my feelings and emotions without having to react to them" (Non-reacting).

Baer and colleagues (2006) demonstrated good internal consistency for each of the subscales (the Observing subscale, $\alpha$=.83; Describing subscale, $\alpha$=.91; Acting with Awareness subscale, $\alpha$=.87; Non-reacting subscale, $\alpha$=.74; and Non-judging subscale, $\alpha$=.87). Baer and colleagues (2006) also found that the subscales are each correlated with the Self-Compassion Scale but at greatly differing levels: Observing subscale, $r$= 0.14, $p<0.001$, Describing subscale, $r$= 0.30, $p<0.001$, Acting with Awareness subscale, $r$=0.40, $p<0.001$; Non-reactivity subscale, $r$=0.53, $p<0.001$; and Non-judging subscale, $r$=0.48, $p<0.001$.

The present study also demonstrated good internal reliability for the FFMQ: Overall, Cronbach's alpha = 0.877, Observing subscale, $\alpha=0.735$, Describing subscale, $\alpha=0.909$, Acting with Awareness subscale, $\alpha=0.866$, Non-reacting subscale, $\alpha= 0.767$, and Non-judging subscale, $\alpha=0.877$.

<div align="center">Self-Esteem Restoring Task</div>

This consisted of asking participants to list three positive values that they have. The purpose of this task was to help negate any lingering negative effects created by the ostracism manipulation.   Past research (see Crocker et al., 2008) has suggested that merely allowing one to express his/her positive values can help to affirm the self.

<div align="center">Procedure</div>

Participants signed up for individual one-hour time slots. They were then assigned randomly into one of three groups: self-compassion induction, self-esteem induction, or control condition.  The assignment was made using a random string of integers generated from random.org.  After arriving to the psychology lab, they completed an informed consent.  Participants were then told the following cover story:

> This study is designed to replicate a realistic college studying environment. We're going to have you read on regular paper, on the computer and, in between, you're going to be taking a break and play a computer game. Specifically, we're interested in how the mental visualization that occurs while playing computer games affects our ability to complete reading comprehension tasks.

Following this, participants were given one of three different college newspaper articles to read, depending on which group to which they were randomized. They were told to read the article carefully, proceed to the computer in front of them for the online game, and when the game finished to open the *Medialab* file to complete the remainder

of the tasks.  The file contained, in order, the self-enhancement task, mood and ostracism

check, the filler task, the FFMQ, RSES, SCS, and then the self-esteem restoring task.

They were then debriefed and thanked for their participation.  They were given either

course credit or entered into the lottery.

The experiment was conducted by four different undergraduate research assistants

and the lead researcher.  The experimenters were not blind to the experimental condition

or the hypotheses.  The lead researcher was a Caucasian male in his mid-twenties.  The

four undergraduate research assistants were all women about the age of twenty.  Three

were Caucasian, and one was Asian-American.  The experimenters all oriented the

participants to the study, received informed consent, and debriefed the participants.

However, the experimenters were in a different room during the actual tasks in which the

participants took part.  The experimenters were given research scripts and their

interactions with the participants were minimized so as to avoid any experimenter

expectancy effects.

<div align="center">Predictions</div>

Consistent with Leary and colleagues (2007), participants in the self-compassion

induction condition were expected to be less adversely affected by the ostracism

manipulation.  This means that they were hypothesized to score lower on implicit self-

enhancement, higher on the Aversive Impact Index, and higher on mood.  Also,

consistent with Leary and colleagues (2007), there was expected to be no significant

difference in implicit self-enhancement, Aversive Impact, and mood between participants

in the self-esteem condition and those in the control condition.

Levels of trait self-compassion, self-esteem, and mindfulness were each predicted to have main effects on level of ostracism, mood, and self-enhancement tendencies. Consistent with Jones and colleagues (2002), participants high in self-esteem, as measured by the RSES, were predicted to have a higher need to self-enhance following the ostracism manipulation. Therefore, there was a predicted positive correlation between RSES scores and self-enhancement scores. Consistent with Neff and Vonk (2009) and Leary and colleagues (2007), participants higher in self-compassion were predicted to have less of a need to self-enhance following the ostracism manipulation. Therefore, there was a predicted negative correlation between self-compassion scores and self-enhancement scores. Consistent with past research on mindfulness (e.g. Baer et al., 2006), participants higher in mindfulness were predicted to have less of a need to self-enhance following the ostracism manipulation. Therefore, there was a predicted negative correlation between mindfulness scores and self-enhancement scores.

CHAPTER 3

RESULTS

All statistics were computed using SPSS Version 17.0.

Descriptive Statistics

159 participants completed the main dependent measure, Implicit Self-

Enhancement (ISE) and the measures of trait self-compassion (SCS), trait self-esteem

(RSES), and trait mindfulness (FFMQ).  Only 97 participants completed the manipulation

checks (momentary self-compassion and momentary self-esteem) due to a mistake in

protocol.  All participants either received the manipulation check or they received the

Aversive Impact Index.  No participant received both.  See Table 2 for the frequencies of

participants receiving and not receiving the manipulation check and their assignment to

experimental condition.   A Chi-square analysis of the distribution of participants

receiving the manipulation check and not receiving it across the three conditions indicate

that there was no significant difference from what would have been expected by chance,

$\chi^2$=0.104, $p$=0.949, ns.

Table 2. Frequencies for Receiving the Manipulation Check and Experimental Condition.

|  | Did Receive the Manipulation Check | Did Not Receive the Manipulation Check | Total |
|---|---|---|---|
| Self-compassion  Condition | 37 | 23 | 60 |
| Self-esteem Condition | 33 | 21 | 54 |
| Control Condition | 27 | 19 | 46 |
| Total | 97 | 63 | 160 |

Independent Samples T-tests indicate that participants who did and did not get the

manipulation checks did not vary in trait self-esteem: $t$(157)=-0.818, $p$=0.415, ns; trait

mindfulness: $t(157)=-0.085$, $p=0.933$, ns; or trait self-compassion: $t(157)=0.293$,

$p=0.770$, ns. Only 63 participants completed the Aversive Impact Index (AII) as it was

added at a later portion of testing. See Table 3 for full descriptive statistics.

Table 3. Descriptive Statistics for ISE, AII, RSES, FFMQ, and SCS.

| Measure | N | Mean | Standard Deviation |
|---|---|---|---|
| ISE | 160 | 0.618 | 15.750 |
| AII | 63 | 45.10 | 13.333 |
| RSES | 159 | 47.10 | 9.085 |
| FFMQ | 159 | 126.64 | 15.750 |
| SCS | 159 | 80.25 | 16.372 |

Of note, of the two manipulation checks, only momentary self-esteem had adequate

internal reliability. The measure of momentary self-compassion may not have been

measuring any one construct in particular. All other measures demonstrated adequate to

good internal reliability.

Next, I created a matrix of all possible bivariate correlations among trait self-

esteem (RSES), trait self-compassion (SCS), trait mindfulness (FFMQ), momentary self-

esteem (MSE), momentary self-compassion (MSC), aversive impact (AII), and implicit

self-enhancement (ISE). See Table 4.

Table 4. Pearson Correlations RSES, SCS, FFMQ, MSE, MSC, AII, and ISE.

| | RSES | SCS | FFMQ | MSE | MSC | AII | ISE |
|---|---|---|---|---|---|---|---|
| RSES | 1 | 0.637** | 0.546** | 0.567** | 0.464** | 0.088 | 0.094 |
| SCS | 0.637** | 1 | 0.588** | 0.463** | 0.457** | 0.166 | 0.140 |
| FFMQ | 0.546** | 0.588** | 1 | 0.427** | 0.378** | -0.153 | 0.173* |
| MSE | 0.567** | 0.463** | 0.427** | 1 | 0.590** | N/A | 0.069 |
| MSC | 0.464** | 0.457** | 0.378** | 0.590** | 1 | N/A | 0.130 |
| AII | 0.088 | 0.166 | -0.153 | N/A | N/A | 1 | -0.001 |
| ISE | 0.094 | 0.140 | 0.173* | 0.069 | 0.130 | -0.001 | 1 |

* Correlation is significant at the p<0.05 level (2 tailed).
** Correlation is significant at the p<0.01 level (2 tailed).

Trait self-esteem, trait self-compassion, trait mindfulness, momentary self-esteem, and momentary self-compassion all correlated positive with one another. However, only trait mindfulness correlated with implicit self-enhancement; $r=0.173$, $p<0.05$, and aversive impact did not correlate significantly with any of the remaining variables.

<u>Preliminary Analyses</u>

Momentary Self-Compassion

To evaluate the effectiveness of the self-compassion induction, first I ran a one-way ANOVA to compare the momentary self-compassion level across the three conditions. The ANOVA was chosen because it was a conservative approach that could protect against alpha inflation. The ANOVA demonstrated that the experimental manipulation to induce higher self-compassion was not effective, $F(2,94)=2.083$, $p=.130$, ns. Momentary self-compassion levels did not vary across the three conditions. See Table 5.

Table 5. Means and Standard Deviations for MSE, MSC, AII, and ISE in each Experimental Condition

| Measure | Self-compassion Condition | | Self-esteem Condition | | Control Condition | |
|---|---|---|---|---|---|---|
| | M | SD | M | SD | M | SD |
| MSC | 40.76 | 5.08 | 41.67 | 5.66 | 43.59 | 5.94 |
| MSE | 34.97 | 7.53 | 37.00 | 6.11 | 37.04 | 5.70 |
| AII | 43.13 | 13.43 | 49.95 | 14.33 | 42.11 | 11.04 |
| ISE | 0.17 | 2.47 | 0.96 | 1.98 | 0.80 | 1.27 |

However, because this analysis was central to my study since it could demonstrate whether my experimental manipulation was effective, I also ran a planned contrast comparing the momentary self-compassion level in the self-compassion condition with each of the other two conditions. There was no significant difference between

momentary self-compassion levels in the self-compassion group and the self-esteem

group, $t(68)=-0.709$, $p=0.481$, ns.   There was a significant difference between

momentary self-compassion levels in the self-compassion group and the control group,

$t(62)=-2.053$, $p=0.044$.  However, the difference was not in the predicted direction.

Individuals in the control condition (mean=43.59) had higher momentary self-

compassion than those in the self-compassion condition (mean=40.76).  A planned

contrast comparing momentary self-compassion levels in the self-esteem and control

condition indicated that there was not a significant difference, $t(58)=-1.282$, $p=0.205$, ns.

Since the measure of momentary self-compassion had such poor internal reliability, I

examined whether each individual item in the measure on its own was significantly

different among the three experimental conditions.  See Table 6.  I ran a one-way for each

self-compassion related adjective and found that none of them were significantly

different across the experimental conditions.

Table 6. Descriptive Statistics for each Adjective on the Momentary Self-Compassion
Measure across each Experimental Condition.

| | Self-Compassion | | Self-Esteem | | Control | |
|---|---|---|---|---|---|---|
| Adjective | Mean | SD | Mean | SD | Mean | SD |
| Self-kindness | 2.92 | 1.038 | 3.15 | 1.004 | 2.93 | 0.997 |
| Self-critical (RS) | 2.86 | 1.206 | 3.03 | 1.237 | 3.19 | 1.241 |
| Accepting | 3.68 | 0.915 | 3.55 | 1.121 | 3.85 | 1.167 |
| Perfectionistic (RS) | 3.03 | 1.518 | 2.85 | 1.176 | 3.30 | 1.137 |
| Connected | 2.84 | 1.214 | 3.12 | 1.219 | 3.30 | 0.912 |
| Self-Pitying (RS) | 4.46 | 0.767 | 4.30 | 0.918 | 4.48 | 0.700 |
| Empathic | 3.03 | 1.323 | 3.12 | 1.139 | 3.33 | 1.301 |
| Isolated (RS) | 3.84 | 1.214 | 4.15 | 1.064 | 4.30 | 0.993 |
| Balanced | 3.08 | 1.064 | 3.30 | 1.075 | 3.41 | 1.083 |
| Obsessive (RS) | 3.68 | 1.180 | 3.85 | 1.278 | 4.00 | 1.109 |
| Curious | 3.49 | 1.070 | 3.79 | 0.960 | 3.74 | 1.059 |
| Ruminating (RS) | 3.86 | 0.948 | 3.45 | 1.277 | 3.78 | 1.121 |

*RS= Reverse scored.

Momentary Self-Esteem

I also ran a one-way ANOVA to compare the momentary self-esteem levels across the three conditions. The experimental manipulation to induce higher self-esteem was also not effective in inducing greater momentary feelings of self-esteem, $F(2,94)=1.101$, $p=0.337$, ns. Additionally, I ran planned contrasts comparing both momentary self-esteem levels in the three conditions. There was no significant difference between momentary self-esteem levels in the self-compassion condition and the self-esteem condition, $t(68)=-1.227$, $p=0.224$, ns. There was also no significant difference between momentary self-esteem levels in the self-compassion condition and the control condition, $t(62)=-1.195$, $p=0.237$, ns. Lastly, there was also no significant difference between momentary self-esteem levels in the self-esteem condition and the control condition, $t(58)=-0.024$, $p=0.981$, ns. Therefore, the self-esteem manipulation was also not successful in inducing momentary feelings of self-esteem. Unlike the measure of momentary self-compassion, the momentary self-esteem measure did have good internal reliability. The self-esteem induction apparently just did not work.

Trait Variables

Next, to see whether the trait measures of self-compassion, self-esteem, and mindfulness were influenced by the experimental manipulations, I ran three one-way ANOVAs to compare the levels of each of those scores across each experimental condition. For trait self-compassion, the ANOVA yielded $F(2,156)=1.296$, $p=0.276$, ns. For trait self-esteem, the ANOVA yielded $F(2,156)=1.909$, $p=0.152$, ns. For trait mindfulness, the ANOVA yielded $F(2,156)=0.630$, $p=0.534$, ns. Therefore, it appears as though none of the three trait measures were reactive to the experimental inductions.

Implicit Self-Enhancement

Implicit self-enhancement (ISE) was the most important outcome measure in my analysis. It was calculated by averaging how much participants endorsed traits that they did not possess and subtracting that number from the average endorsement of traits that participants did possess. In the self-compassion group, the mean ISE score was 0.172, $SD$=2.469. In the self-esteem group, the mean ISE score was 0.962, $SD$=1.977. In the control group, the mean ISE score was 0.797, $SD$=1.268. Therefore, individuals in the self-compassion group appeared to self-enhance less than those in the other two groups. To see if these differences were statistically significant, I ran a one-way ANOVA comparing self-enhancement scores among the three conditions. The results indicated that the difference was approaching significance, $F(2,157)$=2.433, $p$=0.091, $r^2$=0.030. A Tukey's HSD Post Hoc analysis demonstrated that the difference was in the predicted direction, such that self-enhancement was lowest in the self-compassion group, and there was no difference between the self-esteem and control groups. Because only roughly one-half of the participants received the manipulation check, I also ran a one-way ANOVA comparing implicit self-enhancement across the three conditions among those who did not get the manipulation check. These results indicated that the difference in implicit self-enhancement scores across the three conditions also approached significance, $F(2,59)$=2.779, $p$=0.070. A Tukey's HSD post hoc analysis showed the difference between ISE scores in the self-compassion and the self-esteem condition approached significance, $p$=0.129 as did the difference between the ISE scores in the self-compassion and control condition, $p$=0.103.

Next, I examined whether FFMQ, RSES, or SCS moderated the relationship between experimental condition and implicit self-enhancement.  Preliminary analysis of these relationships showed that several of the relationships appeared distinctly non-linear. Therefore, in order to best capture these trends, I recoded each FFMQ, RSES, and SCS score into three groups: low, medium, and high. Therefore, each FFMQ, RSES, and SCS score was coded as either one (lowest third), two (middle third), or three (top third).

First, I examined whether FFMQ moderated the relationship between the experimental condition and implicit self-enhancement.  The two-way COND x FFMQ ANOVA yielded $F(4,150)=2.728$, $p=.601$, ns.  This indicated that there was no interaction between experimental condition and FFMQ.  See Table 6 for descriptive statistics of this moderation analysis.  However, since the difference in implicit self-enhancement between the self-compassion and control groups was approaching significance, I also looked at potential moderating relationships when just looking at those two conditions  A 2 (Condition)  x 3 (FFMQ) two-way ANOVA using only those two experimental conditions yielded $F(2,99)=1.188$, $p=0.309$,  ns.  There was no significant interaction between experimental condition and trait mindfulness when looking at implicit self-enhancement in just the self-compassion and control groups. There was also no significant main effect of FFMQ on ISE: $F(2,99)=1.735$,  $p=0.182$, ns, nor was there a significant main effect of condition on ISE: $F(1,99)=2.202$, $p=0.141$, ns.

Table 7. Descriptive Statistics for Experimental Condition x FFMQ Level with Implicit Self-enhancement as the Dependent Variable.

| Condition | FFMQ Level | Mean | Standard Deviation | N |
|---|---|---|---|---|
| Self-compassion | Low | -0.148 | 1.653 | 20 |
| | Medium | -0.380 | 2.480 | 22 |
| | High | 1.201 | 2.980 | 18 |
| | Total | 0.172 | 2.469 | 60 |

| | | | | |
|---|---|---|---|---|
| Self-esteem | Low | 0.397 | 1.347 | 16 |
| | Medium | 0.608 | 1.689 | 16 |
| | High | 1.631 | 2.392 | 22 |
| | Total | 0.962 | 1.977 | 54 |
| Control | Low | 0.822 | 1.223 | 15 |
| | Medium | 0.730 | 1.351 | 17 |
| | High | 0.903 | 1.343 | 13 |
| | Total | 0.811 | 1.279 | 45 |
| Total | Low | 0.308 | 1.472 | 51 |
| | Medium | 0.250 | 1.999 | 55 |
| | High | 1.307 | 2.391 | 53 |
| | Total | 0.621 | 2.042 | 159 |

Next, I analyzed RSES as a potential moderator. The two-way ANVOA for COND x RSES yielded $F(4,150)=1.068$, $p=.375$, ns. There was no significant interaction between experimental condition and trait self-esteem on implicit self-enhancement. See Table 7 for descriptive statistics for this moderation analysis. When only the self-compassion and control conditions were examined, the two-way ANOVA yielded $F(2,99)=1.531$, p=0.221. There was no significant interaction between experimental condition and trait self-esteem when looking at implicit self-enhancement in just the self-compassion and control groups. There was also no significant main effect of RSES on ISE: $F(2,99)=0.057$, $p=0.944$, ns, nor was there a significant main effect of condition on ISE: $F(1,99)=2.503$, $p=0.117$, ns.

Table 8. Descriptive Statistics for Experimental Condition x RSES Level with ISE as the Dependent Variable.

| Condition | RSES Level | Mean | Standard Deviation | N |
|---|---|---|---|---|
| Self-compassion | Low | 0.555 | 0.915 | 21 |
| | Medium | -0.107 | 1.381 | 19 |
| | High | 0.034 | 3.998 | 20 |
| | Total | 0.172 | 2.469 | 60 |

| | | | | |
|---|---|---|---|---|
| Self-esteem | Low | 0.346 | 1.207 | 13 |
| | Medium | 1.300 | 1.545 | 20 |
| | High | 1.023 | 2.617 | 21 |
| | Total | 0.962 | 1.977 | 54 |
| Control | Low | 0.217 | 1.273 | 15 |
| | Medium | 1.163 | 1.236 | 17 |
| | High | 1.035 | 1.183 | 13 |
| | Total | 0.811 | 1.279 | 45 |
| Total | Low | 0.396 | 1.099 | 49 |
| | Medium | 0.781 | 1.519 | 56 |
| | High | 0.659 | 2.978 | 54 |
| | Total | 0.621 | 2.042 | 159 |

Next, I analyzed SCS as a potential moderator. The two-way ANOVA for COND x SCS yielded $F(4,150)=1.107$, $p=0.356$, ns. There was no significant interaction between experimental condition and trait self-compassion on implicit self-enhancement. See Table 8 for descriptive statistics for this moderation analysis. When only the self-compassion and control conditions were included in the analysis, the ANOVA yielded $F(2,99)=1.888$, $p=0.157$, ns. There was no significant interaction between experimental condition and trait self-compassion when looking at implicit self-enhancement in just the self-compassion and control groups. There was also no significant main effect of SCS: $F(2,99)=0.895$, $p=0.412$, ns, nor was there a significant main effect of condition on ISE: $F(1,99)=2.448$, $p=0.121$, ns. There were therefore no significant moderators of the relationship between experimental condition and implicit self-enhancement.

Table 9. Descriptive Statistics for Experimental Condition x SCS Level with ISE as the Dependent Variable.

| Condition | SCS Level | Mean | Standard Deviation | N |
|---|---|---|---|---|
| Self-compassion | Low | 0.120 | 1.231 | 22 |
| | Medium | -0.242 | 2.600 | 21 |
| | High | 0.751 | 3.385 | 17 |
| | Total | 0.172 | 2.469 | 60 |

| | | | | |
|---|---|---|---|---|
| Self-esteem | Low | 0.414 | 1.143 | 16 |
| | Medium | 1.309 | 2.446 | 18 |
| | High | 1.089 | 2.033 | 20 |
| | Total | 0.962 | 1.977 | 54 |
| Control | Low | 0.201 | 1.320 | 16 |
| | Medium | 1.497 | 0.819 | 14 |
| | High | 0.820 | 1.325 | 15 |
| | Total | 0.811 | 1.279 | 45 |
| Total | Low | 0.231 | 1.216 | 54 |
| | Medium | 0.744 | 2.320 | 53 |
| | High | 0.901 | 2.375 | 52 |
| | Total | 0.621 | 2.042 | 159 |

Aversive Impact

To test whether participants' aversive impact was lessened in the self-compassion condition, I ran a simple one-way ANOVA to compare the AII levels across the three conditions. The analysis yielded $F(2,60)=2.203$, $p=.119$, ns. There was no significant difference in aversive impact across the three experimental conditions.

I also examined the scores for FFMQ, RSES, and SCS to see if they moderated the relationship between the Experimental Condition and AII. The two-way COND x FFMQ ANOVA yielded $F(4,53)=0.897$, $p=0.473$, ns. There was no significant interaction between experimental condition and trait mindfulness on aversive impact. See Table 9 for descriptive statistics for this moderation analysis.

Table 10. Descriptive Statistics for Experimental Condition x FFMQ Level with AII as the Dependent Variable.

| Condition | FFMQ Level | Mean | Standard Deviation | N |
|---|---|---|---|---|
| Self-compassion | Low | 42.71 | 10.719 | 7 |
| | Medium | 41.29 | 18.182 | 7 |
| | High | 44.89 | 12.464 | 9 |
| | Total | 43.13 | 13.431 | 23 |

| Self-esteem | Low | 56.75 | 13.435 | 8 |
|---|---|---|---|---|
| | Medium | 51.20 | 10.521 | 5 |
| | High | 42.38 | 14.947 | 8 |
| | Total | 49.95 | 14.330 | 21 |
| Control | Low | 42.50 | 5.822 | 6 |
| | Medium | 42.29 | 12.365 | 7 |
| | High | 39.20 | 15.353 | 5 |
| | Total | 41.50 | 11.025 | 18 |
| Total | Low | 48.00 | 12.474 | 21 |
| | Medium | 44.26 | 14.286 | 19 |
| | High | 42.68 | 13.548 | 22 |
| | Total | 44.97 | 13.403 | 62 |

The two-way COND x RSES ANOVA yielded $F(4,53)=0.185$, $p=0.945$, ns. There was no significant interaction between experimental condition and trait self-esteem on aversive impact. See Table 10 for descriptive statistics for this moderation analysis.

Table 11. Descriptive Statistics for Experimental Condition x RSES Level with AII as the Dependent Variable.

| Condition | RSES Level | Mean | Standard Deviation | N |
|---|---|---|---|---|
| Self-compassion | Low | 41.33 | 13.186 | 6 |
| | Medium | 43.43 | 14.593 | 7 |
| | High | 44.00 | 14.119 | 10 |
| | Total | 43.13 | 13.431 | 23 |
| Self-esteem | Low | 44.00 | 14.519 | 6 |
| | Medium | 50.75 | 14.964 | 8 |
| | High | 54.14 | 13.813 | 7 |
| | Total | 49.95 | 14.330 | 21 |
| Control | Low | 40.75 | 7.274 | 4 |
| | Medium | 41.33 | 12.903 | 9 |
| | High | 42.40 | 11.929 | 5 |
| | Total | 41.50 | 11.025 | 18 |
| Total | Low | 42.19 | 11.873 | 16 |
| | Medium | 45.08 | 14.111 | 24 |
| | High | 46.86 | 13.905 | 22 |
| | Total | 44.97 | 13.403 | 62 |

The two-way ANOVA for COND x SCS yielded $F_{(4,53)}=0.993$, $p=0.420$, ns. There was

no significant interaction between experimental condition and trait self compassion on

aversive impact. See Table 11 for descriptive statistics for this moderation analysis. In

summary, none of the three trait variables moderated the relationship between

experimental condition and aversive impact.

Table 12. Descriptive Statistics for Experimental Condition x SCS Level with AII as the Dependent Variable.

| Condition | SCS Level | Mean | Standard Deviation | N |
|---|---|---|---|---|
| Self-compassion | Low | 39.57 | 11.559 | 7 |
| | Medium | 44.22 | 18.939 | 9 |
| | High | 45.29 | 5.251 | 7 |
| | Total | 43.13 | 13.431 | 23 |
| Self-esteem | Low | 42.83 | 14.798 | 6 |
| | Medium | 54.64 | 12.902 | 11 |
| | High | 47.75 | 16.153 | 4 |
| | Total | 49.95 | 14.330 | 21 |
| Control | Low | 45.80 | 4.970 | 5 |
| | Medium | 38.90 | 12.142 | 10 |
| | High | 43.00 | 15.395 | 3 |
| | Total | 41.50 | 11.025 | 18 |
| Total | Low | 42.39 | 11.142 | 18 |
| | Medium | 46.27 | 15.770 | 30 |
| | High | 45.50 | 10.603 | 14 |
| | Total | 44.97 | 13.403 | 62 |

## Mood

Experimental condition was also not related to positive feelings: $F_{(2,60)}=0.711$,

$p=0.495$, ns; feelings of relaxation: $F_{(2,60)}=0.014$, $p=0.986$, ns; or feelings of arousal:

$F_{(2,60)}=0.486$, $p=0.617$, ns.

I also examined whether FFMQ, RSES, or SCS moderated the relationship

between the Experimental Condition and mood. I kept the trait variables separated by

whether they were low, medium, or high.  First, I ran a two-way COND x FFMQ

ANOVA with each of the three mood items as the outcome variable.  For positive

feelings, the analysis yielded $F(4,53)=4.884$, $p= 0.002$.  See Figure 1.  There was a

significant interaction between experimental condition and trait mindfulness on reports of

positive feelings.  For individuals in the control condition, those who were high in trait

mindfulness reported much more positive mood than those with medium and low

mindfulness.  Conversely, those in the self-compassion condition reported the lowest

mood when they were also high in mindfulness.  See Table 12 for descriptive statistics of
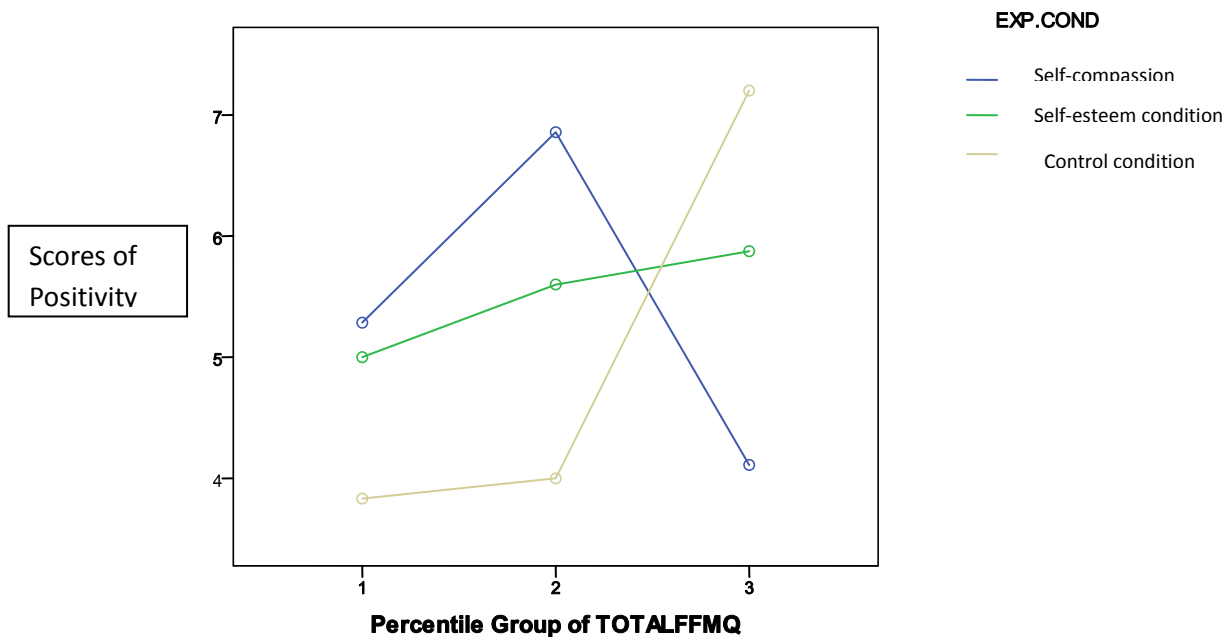
this moderation analysis.



Figure 1. Moderating Effect of FFMQ on the Relationship between Experimental
Condition and Positive Feelings.

Table 13. Descriptive Statistics for Experimental Condition x FFMQ Level with Positive Feelings as the Dependent Variable.

| Condition | FFMQ Level | Mean | Standard Deviation | N |
|---|---|---|---|---|
| Self-compassion | Low | 5.29 | 1.254 | 7 |
| | Medium | 6.86 | 1.864 | 7 |
| | High | 4.11 | 1.537 | 9 |
| | Total | 5.30 | 1.893 | 23 |
| Self-esteem | Low | 5.00 | 1.604 | 8 |
| | Medium | 5.60 | 1.817 | 5 |
| | High | 5.87 | 2.642 | 8 |
| | Total | 5.48 | 2.040 | 21 |
| Control | Low | 3.83 | 1.329 | 6 |
| | Medium | 4.00 | 1.155 | 7 |
| | High | 7.20 | 2.683 | 5 |
| | Total | 4.83 | 2.229 | 18 |
| Total | Low | 4.76 | 1.480 | 21 |
| | Medium | 5.47 | 1.982 | 19 |
| | High | 5.45 | 2.483 | 22 |
| | Total | 5.23 | 2.028 | 62 |

For feelings of relaxation, the analysis yielded $F(4,53)=0.371$, $p=0.828$, ns. See Table 13

for descriptive statistics of this moderation analysis.

Table 14. Descriptive Statistics for Experimental Condition x FFMQ Level with Feelings of Relaxation as the Dependent Variable.

| Condition | FFMQ Level | Mean | Standard Deviation | N |
|---|---|---|---|---|
| Self-compassion | Low | 5.86 | 2.193 | 7 |
| | Medium | 6.00 | 2.000 | 7 |
| | High | 7.67 | 1.225 | 9 |
| | Total | 6.61 | 1.924 | 23 |
| Self-esteem | Low | 6.50 | 1.414 | 8 |
| | Medium | 5.80 | 1.483 | 5 |
| | High | 7.38 | 1.188 | 8 |
| | Total | 6.67 | 1.426 | 21 |
| Control | Low | 6.67 | 1.751 | 6 |
| | Medium | 6.43 | 1.512 | 7 |
| | High | 7.20 | 1.483 | 5 |

| | | | | |
|---|---|---|---|---|
| | Total | 6.72 | 1.526 | 18 |
| Total | Low | 6.33 | 1.742 | 21 |
| | Medium | 6.11 | 1.629 | 19 |
| | High | 7.45 | 1.224 | 22 |
| | Total | 6.66 | 1.629 | 62 |

For feelings of arousal, the analysis yielded $F_{(4,53)}=2.941$, $p=0.029$. See Figure 2.

There was a significant interaction between experimental condition and trait mindfulness

on reports of arousal. For participants in the control condition, those who were high in

mindfulness were much less aroused than those with medium or low mindfulness.

Conversely, those in the self-compassion condition reported the most arousal when they

were also high in mindfulness. See Table 14 for descriptive statistics of this analysis.
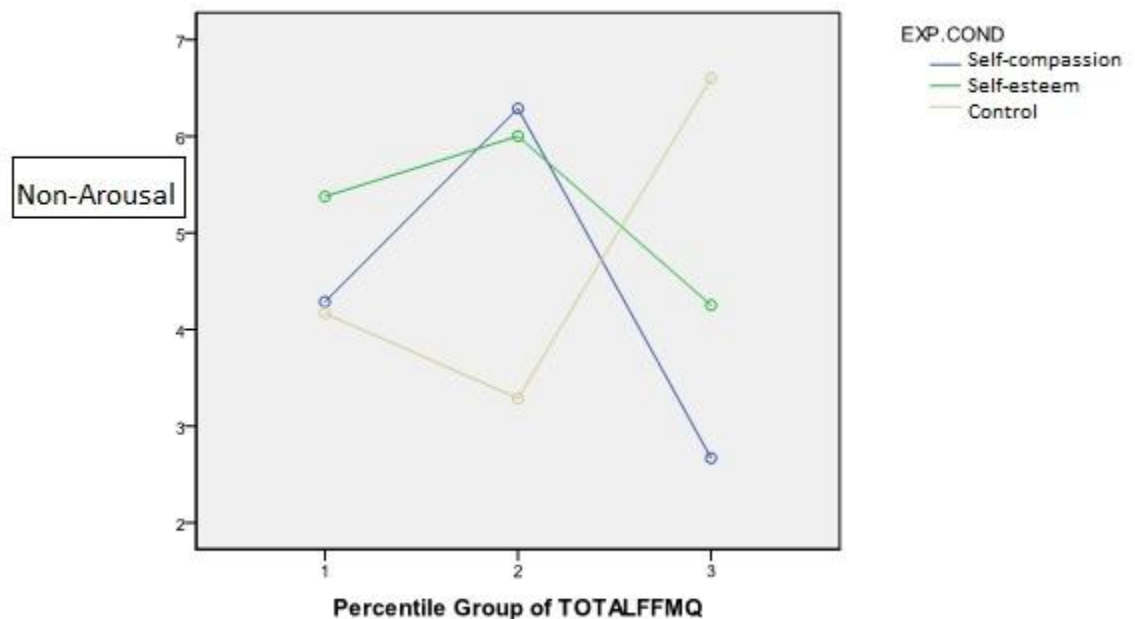


Figure 2. Moderating Effect of FFMQ on the Relationship between Experimental
Condition and Feelings of Arousal.

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Table 15. Descriptive Statistics for Experimental Condition x FFMQ Level with Feelings of Arousal as the Dependent Variable.

| Condition | FFMQ Level | Mean | Standard Deviation | N |
|---|---|---|---|---|
| Self-compassion | Low | 4.29 | 2.752 | 7 |
| | Medium | 6.29 | 3.094 | 7 |
| | High | 2.67 | 2.062 | 9 |
| | Total | 4.26 | 2.927 | 23 |
| Self-esteem | Low | 5.38 | 3.159 | 8 |
| | Medium | 6.00 | 2.828 | 5 |
| | High | 4.25 | 2.866 | 8 |
| | Total | 5.10 | 2.914 | 21 |
| Control | Low | 4.17 | 2.858 | 6 |
| | Medium | 3.29 | 1.890 | 7 |
| | High | 6.60 | 2.302 | 5 |
| | Total | 4.50 | 2.618 | 18 |
| Total | Low | 4.67 | 2.852 | 21 |
| | Medium | 5.11 | 2.865 | 19 |
| | High | 4.14 | 2.783 | 22 |
| | Total | 4.61 | 2.813 | 62 |

Therefore for two of the three outcome measures for mood, FFMQ level moderated the relationship between Experimental Condition and Mood. For individuals who were highest in mindfulness, those in the self-compassion group report the lowest mood, followed by those in the self-esteem group, and the highest mood was reported by those in the control condition. However, no pattern emerged for individuals in the lowest and the middle levels of mindfulness. Put a different way, individuals in the control condition reported the most positive moods when they were highest in mindfulness, but those in the self-compassion condition reported the lowest mood when they were highest in mindfulness.

Next, I ran a two-way COND x RSES ANOVA with each of the three mood items as outcome variables. See Table 15 for descriptive statistics for these moderation analyses.

Table 16. Descriptive Statistics for Experimental Condition x RSES Level with Feelings of Positivity, Relaxation, and Non-Arousal as Dependent Variables.

| Condition | RSES Level | Positivity | | Relaxation | | Non-Arousal | | |
|---|---|---|---|---|---|---|---|---|
| | | Mean | SD | Mean | SD | Mean | SD | N |
| Self-compassion | Low | 5.67 | 0.516 | 4.83 | 1.472 | 4.67 | 2.733 | 6 |
| | Medium | 4.43 | 1.618 | 7.29 | 1.704 | 2.57 | 2.299 | 7 |
| | High | 5.70 | 2.452 | 7.20 | 1.751 | 5.20 | 3.155 | 10 |
| | Total | 5.30 | 1.893 | 6.61 | 1.924 | 4.26 | 2.927 | 23 |
| Self-esteem | Low | 6.00 | 1.414 | 6.17 | 0.753 | 6.17 | 2.994 | 6 |
| | Medium | 4.75 | 1.753 | 6.38 | 1.598 | 4.75 | 3.012 | 8 |
| | High | 5.86 | 2.734 | 7.43 | 1.512 | 4.57 | 2.936 | 7 |
| | Total | 5.48 | 2.040 | 6.67 | 1.426 | 5.10 | 2.914 | 21 |
| Control | Low | 4.25 | 1.500 | 6.00 | 1.633 | 4.00 | 3.830 | 4 |
| | Medium | 5.00 | 2.500 | 7.44 | 1.333 | 4.78 | 2.863 | 9 |
| | High | 5.00 | 2.550 | 6.00 | 1.414 | 4.40 | 1.140 | 5 |
| | Total | 4.83 | 2.229 | 6.72 | 1.526 | 4.50 | 2.618 | 18 |
| Total | Low | 5.44 | 1.315 | 5.62 | 1.360 | 5.06 | 3.043 | 16 |
| | Medium | 4.75 | 1.962 | 7.04 | 1.546 | 4.13 | 2.833 | 24 |
| | High | 5.59 | 2.462 | 7.00 | 1.633 | 4.82 | 2.666 | 22 |
| | Total | 5.23 | 2.028 | 6.66 | 1.629 | 4.61 | 2.813 | 62 |

For positive feelings, the analysis yielded $F(4,53)=0.490$, $p=0.743$, ns. For feelings of tenseness, the analysis yielded $F(4,53)=1.992$, $p=0.109$, ns. For feelings of arousal, the analysis yielded $F(4,53)=0.941$, $p=0.448$, ns. Trait self-esteem did not moderate the relationship between Experimental Condition and any of the three mood variables.

Lastly, I ran a two-way COND x SCS ANOVA with each mood items as an outcome variable. See Table 16 for descriptive statistics for these moderation analyses.

Table 17. Descriptive Statistics for Experimental Condition x SCS Level with Feelings of Positivity, Relaxation, and Non-Arousal as Dependent Variables.

| Condition | SCS Level | Positivity | | Relaxation | | Non Arousal | | |
|---|---|---|---|---|---|---|---|---|
| | | Mean | SD | Mean | SD | Mean | SD | N |
| Self-compassion | Low | 4.86 | 1.069 | 5.86 | 1.952 | 3.43 | 2.699 | 7 |
| | Medium | 6.11 | 1.965 | 6.11 | 2.088 | 5.44 | 3.005 | 9 |
| | High | 4.71 | 2.289 | 8.00 | 0.816 | 3.57 | 2.936 | 7 |
| | Total | 5.30 | 1.893 | 6.61 | 1.924 | 4.26 | 2.927 | 23 |
| Self-esteem | Low | 6.17 | 1.169 | 6.17 | 0.753 | 6.17 | 2.994 | 6 |
| | Medium | 5.55 | 1.916 | 6.55 | 1.635 | 5.27 | 2.901 | 6 |
| | High | 4.25 | 3.202 | 7.75 | 1.258 | 3.00 | 2.309 | 4 |
| | Total | 5.48 | 2.040 | 6.67 | 1.426 | 5.10 | 2.914 | 21 |
| Control | Low | 4.80 | 1.500 | 7.40 | 0.894 | 5.40 | 2.191 | 5 |
| | Medium | 4.80 | 2.500 | 6.60 | 1.838 | 4.40 | 2.914 | 10 |
| | High | 5.00 | 1.000 | 6.00 | 1.000 | 3.33 | 2.517 | 3 |
| | Total | 4.83 | 2.229 | 6.72 | 1.526 | 4.50 | 2.618 | 18 |
| Total | Low | 5.28 | 1.708 | 6.39 | 1.461 | 4.89 | 2.805 | 18 |
| | Medium | 5.47 | 2.113 | 6.43 | 1.794 | 5.03 | 2.871 | 30 |
| | High | 4.64 | 2.240 | 7.50 | 1.225 | 3.36 | 2.499 | 14 |
| | Total | 5.23 | 2.028 | 6.66 | 1.629 | 4.61 | 2.813 | 62 |

For positive feelings, the analysis yielded $F(4,53)=0.658$, $p=0.624$, ns. For feelings of tenseness, the analysis yielded $F(4,53)=1.684$, $p=0.167$, ns. For feelings of arousal, the analysis yielded $F(4,53)=0.860$, $p=0.494$, ns. Trait self-compassion also did not moderate the relationship between Experimental Condition and Mood.

<center>Trait Variables</center>

Next FFMQ, SCS, RSES, were examined to see if they predicted ISE, AII, or mood. The trait variables were kept as continuous for these analyses, as preliminary analysis indicated that these relationships appeared linear. These analyses were somewhat redundant with the correlations mentioned in the preliminary statistics. However, as you

can see in Table 17, I also included correlations between each of the three trait variables

and the three mood variables.

Table 18. Pearson Correlations between FFMQ, RSES, SCS, ISE, AII, Feelings of
Positivity, Feelings of Relaxation, and Feelings of Non-Arousal.

| Dependent Variable | FFMQ | RSES | SCS |
|---|---|---|---|
| ISE    (N=159) | $r$=0.173* | 0.094 | 0.140 |
| AII    (N=62) | -0.153 | 0.088 | 0.166 |
| Positivity  (N=62) | 0.131 | 0.004 | -0.095 |
| Relaxation    (N=62) | 0.277* | 0.384** | 0.269* |
| Non-Arousal   (N=62) | -0.134 | -0.032 | -0.155 |

* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).

First, I looked at FFMQ, which was significantly and positively correlated with ISE:

$r$=0.173, $p$<0.05.  However, neither SCS, $r$=0.140, ns, nor RSES, $r$=0.094, ns, were

significantly correlated with ISE.  Only trait mindfulness was correlated with implicit

self-enhancement.  Individuals who scored higher on trait mindfulness tended to score

higher on implicit self-enhancement.

Next I looked at AII.  FFMQ was not significantly correlated with AII: $r$=-0.153,

$p$=0.235, ns.  RSES was not significantly correlated with AII: $r$=0.088, $p$=0.498.  SCS

was also not significantly correlated with AII: $r$=0.166, $p$=0.198, ns. None of the three

trait variables were significantly correlated with AII.    Lastly, the three mood variables

were examined as dependent variables.  First, I examined feelings of positivity.  FFMQ

was not correlated with feelings of positivity: $r$=1.31, $p$=0.312, ns; neither was RSES:

$r$=0.004, $p$=0.973, ns; and neither was SCS: $r$=-0.095, $p$=0.461, ns. Next, I looked at

feelings of arousal.  FFMQ was not correlated with feelings of arousal: $r$=-0.134,

$p$=0.300, ns: neither was RSES: $r$=-0.032, $p$=0.803, ns, and neither was SCS: $r$=-0.155,

$p$=0.230, ns.  Last, I looked at feelings of relaxation. FFMQ was positively correlated

with feelings of relaxation: $r=0.277$, $p=0.29$; as was RSES: $r=0.384$, $p=0.002$; and so was

SCS: $r=0.269$, $p=0.035$.  Scores on all three trait measures correlated positively with

feeling relaxed.

CHAPTER 4

DISCUSSION

The primary question I investigated in this study was whether a self-compassion induction that is delivered before a social ostracism manipulation could help individuals cope with that ostracism. The secondary questions I investigated were how trait self-compassion, trait self-esteem, and trait mindfulness affected individuals' responses following social ostracism. I used three different outcome variables that assessed how participants coped. These were implicit self-enhancement, aversive impact, and mood.

Hypotheses

In exploring the primary question, I made three hypotheses. I hypothesized that compared to the self-esteem group and the control group, individuals in the self-compassion group would self-enhance less, experience less aversive impact, and would endorse a higher mood. I hypothesized that there would be no significant difference between the self-esteem group and the control group in any of these three outcomes. The results failed to support all three of the hypotheses. However, there was a non-significant trend in the hypothesized direction, such that individuals in the self-compassion group self-enhanced less than those in the other two groups, and there was no difference between the self-esteem group and the control group. In summary, there is not strong evidence that the self-compassion induction helped individuals cope with social ostracism. This is inconsistent with findings from Leary and colleagues (2007) and

Adams and Leary (2007) who both found that self-compassion inductions allowed individuals to cope more adaptively with a threat.

<u>Problems with Methodology</u>

Problem with Inductions

The failure to find any significant difference among the self-compassion induction, the self-esteem induction, and the control group may be due to problems with the methodology the theory informing the hypotheses, or both. First, I will address potential problems with the methodology. As previous research (Leary et al., 2007, Adams & Leary, 2007) used self-compassion inductions that were tailored to their specific threat, I created my own self-compassion and self-esteem inductions. To address whether the induction was effective in increasing momentary self-compassion, I ran a manipulation check. This involved measuring momentary levels of self-compassion and self-esteem in all participants. I hypothesized that momentary self-compassion would be highest among those receiving the self-compassion induction, and momentary self-esteem would be highest among those receiving the self-esteem induction. The manipulation check failed to find a significant difference in momentary self-compassion or self-esteem among the three groups. However, the measure of momentary self-compassion lacked adequate internal reliability, so it is possible that even if there was a difference in momentary self-compassion levels across the three conditions, the manipulation check would not have captured it.

One potential reason that the induction may have failed is that participants were asked to read the newspaper article (experimental induction) and then to answer various questions afterward. Participants may have felt that they were going to be quizzed on the

article and so they may have taken an approach to reading the article that focused on memorizing main points rather than really reading it and reflecting on the content. Perhaps if individuals were asked to reflect on the content of the articles in a meaningful way, such as by writing about the importance of self-compassion as mentioned in the article, they may have more fully absorbed the meaning of the construct.

Another potential problem with the manipulations could have been that there was no check as to whether participants actually read the inductions. Adams and Leary (2007) induced self-compassion by telling participants about the importance of self-compassion. Therefore, participants may have been influenced by social pressures to pay attention to the speaker. Leary and colleagues (2007) had individuals write about self-compassion, so participants were forced to engage in the material by writing about it. Both of these methods of induction may have made it more likely that participants engaged with the content matter. Since I simply asked participants to read the article and told them there would be reading comprehension questions later on, there was no way to monitor whether they in fact did read it. Another potential flaw with the experimental manipulations could have come from the fact that the three articles described programs going on at different universities. Because the articles did not detail events at American University, or even a nearby university, it is possible that participants did not find the articles relevant.

A final reason that participants may not have been as engaged in the articles is that they occurred before the ostracism manipulation. In Leary and colleagues (2007) and Adams and Leary (2007), the self-compassion induction occurred before individuals were ostracized. In the previous two studies utilizing a self-compassion induction,

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individuals were threatened first and then given an induction that was individually

tailored to the threat.  This not only made the induction more relevant but it also occurred

at a time when individuals may have been more motivated to pay attention to the

induction.  The *sociometer theory* (Leary et al., 1995) states that self-esteem functions as

a way of signaling how well one is currently socially accepted.  Therefore, when an

individuals are threatened (e.g. by social ostracism) and their state level of self-esteem

drops, then they are motivated to raise it by actively trying to do something to improve

his/her mood.  Therefore, a self-compassion induction offered when one's state self-

esteem is lower may be taken more seriously.  My self-compassion induction, on the

other hand, was offered before the social ostracism manipulation, and therefore before

any possible decrease in state levels of self-esteem.  Crocker and Park (2004) argue that

individuals are only motivated to increase their self-esteem *after* their state level of self-

esteem has decreased.

All of the preceding arguments address why the self-compassion induction may

not have been effective in raising feelings of self-compassion.  However, they do not

address why the reverse effect occurred.  Participants in the self-compassion condition

actually had significantly *lower* levels of momentary self-compassion than did those in

the control group.  Granted this difference was found using a measure with inadequate

internal reliability.  Nevertheless, finding a *reverse* effect deserves further consideration.

One possibility is that the control condition may have been calmer and less threatening

for participants than the self-esteem or self-compassion articles.  This is because both

experimental inductions described how potentially stressful college life could be.  While

the articles were intended to provide ways of coping with this stress, perhaps they

functioned to prime participants with feeling anxious.  The control article, on the other hand, did not mention how stressful college life could be.  Rather, it talked about how a program at the University of Montana was ensuring that the campus continued to be filled with trees.  This article may have been comforting to participants.  However, this argument loses strength when noticing that there were no significant differences in participants' mood across the three conditions.

The last concern I will mention regarding the experimental inductions is related to the lack of experimenter blindness.  All of the experimenters were aware of the experimental condition that the participants were in.  While the study was designed to limit the interaction that experimenters had with participants, it is possible that the experimenters still could have influenced the participants.  This is significant because the experimenters knew both what condition each participant was in as well as the study's hypotheses.  Perhaps, the experimenters inadvertently were warmer to those in the self-compassion condition or colder to those in the self-esteem or control condition.

<center>Problems with Ostracism Manipulation</center>

Another potential methodological flaw with the study may have come from the ostracism manipulation.  Anecdotal evidence from several of the participants suggests that perhaps *Cyberball* was not an effective form of ostracism.   Many said they knew the game was intentionally excluding them and others found it hard to take the game seriously as it was relatively low-tech compared to other computer games they have played.  While previous research suggests that participants still feel ostracized even when they are told they are being ostracized as part of the game (Zadro et al., 2004), perhaps improvements in computer game technology have made *Cyberball* less realistic and

effective.  Therefore, participants may be less likely to take it seriously and be affected by it.

If participants did not feel ostracized by *Cyberball*, then participants would not have the motivation to self-enhance.  Previous research on self-enhancement found that individuals scored higher on implicit self-esteem when they are threatened compared to non-threatened controls.  This study hypothesized that those receiving the self-compassion induction would not experience the need to self-enhance, but if *Cyberball* did not ostracize participants, then theoretically nobody should experience an increased need to self-enhance.  Self-compassion as a concept is only relevant when individuals are facing distress or failure.  Therefore, without any failure or distress, the self-compassion induction may have been irrelevant.  However, other contemporary research (See Bernstein & Claypool, 2012 or McDonald & Donnellan, 2012) has also demonstrated that *Cyberball* produces feelings of ostracism in participants who receive the manipulation.  Therefore, while it is possible that my study did not create a feeling of ostracism using *Cyberball,* other studies being conducted at the same time, are creating ostracism using *Cyberball.*

<center>Problems with Outcome Measures</center>

The outcome measures may have also been problematic. First, it is possible that the measure of self-enhancement was not a valid measure of implicit self-enhancement. The measure was adapted from a previous study (Chartrand et al., 2010), but it has not been used extensively beyond that particular study.  When it has been used, it has been in conjunction with an implicit threat as well, and *Cyberball* was not an implicit threat. Since my results suggested a trend toward a significant difference in self-enhancement

among the three groups, it is possible that the outcome measure simply was not powerful enough to detect the difference at a $p<0.05$ level.

Second, it is possible that there was a problem with the measure of the four fundamental needs of ostracism, the Aversive Impact Index (AII). While this measure has been used extensively in the past, the internal reliability was not as high in the current study. The AII is intended to measure the level of ostracism experienced by participants during *Cyberball,* but if *Cyberball* did not actually create feelings of ostracism, the measure would be irrelevant. The lack of a control condition in which participants received a version of *Cyberball* in which they were included makes it impossible for me to tell whether the *Cyberball* manipulation was actually effective in manipulating ostracism. Additionally, the total number of participants receiving the Aversive Impact Index (N=63) was much lower than those receiving the self-enhancement measure (N=160). Therefore, it is possible that it was more difficult to find an effect for the AII due to the relatively low N.

Third, there may have been a problem with the mood measure that I used. My finding of no difference in mood across the three conditions is inconsistent with previous research (Adams & Leary, 2007; Leary et al., 2007). Furthermore, my finding of no difference in arousal or tension among the three conditions seems to be in direct contrast Leary and colleagues (2007) that individuals receiving the self-compassion induction had lower anxiety. On the other hand, Adams and Leary (2007) assessed emotion in a different manner than I did. They asked participants to rate the extent to which they felt guilty, ashamed, disgusted, disappointed, and worried. My study did not examine those emotions specifically. However by examining arousal and tension, I was measuring

something at least similar to Adams and Leary's (2007) measurement of being worried. Perhaps if I had assessed a greater variety of emotions, I may have found a difference in mood among the three conditions. However, it seems unlikely, as I found no difference for arousal and tension, and they are similar to being worried.

Fourth, there may have been a problem with the manipulation checks that I used. The measure of momentary self-compassion was derived by capturing key adjectives that were used in the Self-Compassion Scale (Neff, 2003). The momentary self-esteem measure was derived in a similar manner from the Rosenberg Self-Esteem Scale (Rosenberg, 1965). However, it is possible that by taking the adjectives out of the context in which they were written in the trait measures, I was measuring something different in my manipulation checks than what was being assessed in the trait measures.

<u>Theoretical Implications</u>

In evaluating the theory linking self-compassion and the response to social ostracism, I will first discuss self-compassion. Trait self-compassion as an adaptive construct has received extensive support in the past (See Neff & Vonk, 2009). However, only two studies (Leary et al., 2007; Adams & Leary, 2007) have demonstrated that it is possible to successfully induce self-compassion. Furthermore, Jennifer Crocker (2011) has argued that it is difficult to induce compassion in other individuals. She writes, "years of failed attempts to 'manipulate' compassionate goals suggest to me that people truly have a compassionate goal only when they generate it themselves, and choose it" (p. 405). She continues that laboratory experiments may not be the most conducive settings to manipulate compassion. While she is referring to compassion toward others, and I am examining self-compassion, it is possible that there are similarities in how to induce the

two.  Therefore, even if increased self-compassion was related to a decreased need to self-enhance, it is possible that self-compassion may be difficult to induce.  However, previous literature has shown that variables similar to self-compassion, such as mindfulness, can be induced (Heppner et al., 2008) and individuals can increase their capacity to be mindful (Davidson et al., 2003) and self-compassionate over time (Gilbert & Proctor, 2006).   However, it is possible, that increasing one's present moment awareness, via mindfulness exercises, is easier than increasing one's compassionate attitude toward oneself.  Therefore, a brief induction of self-compassion may be more difficult to achieve than a brief induction of mindfulness.

Previous research has been able to induce self-compassion, but only after individuals had *already* been threatened and the method of induction was *specific* to the threat used in the study. My self-compassion induction may not have been perceived to be as salient for participants who as a result may not have been as engaged with the manipulation as I had intended.

Another possibility is that self-compassion does not have a clear link with implicit self-enhancement.  Past research has demonstrated that self-compassion is related to explicit self-esteem, but there is no research indicating whether there is a connection between self-compassion and implicit self-esteem.  I hypothesized implicit self-enhancement as a form of vulnerability that individuals exhibit following a threat.  However, some past research (Wirth et al., 2010) found that social ostracism actually lowered implicit self-esteem.  The *sociometer theory* (Leary et al., 2005) also points to any sort of threat as lowering self-esteem, even the proponents of this theory do not differentiate between implicit or explicit.  It may also be possible that increased self-

esteem does not represent a vulnerability to threats such as social ostracism.  Some past research has found that individuals who are already high in trait self-esteem score higher on implicit self-esteem following a threat (Brown, 2010; Jones et al., 2002), however this difference does not occur when they are not threatened (Brown, 2010).  However, I did not find trait self-esteem to moderate the relationship between Experimental Condition and Implicit Self-Enhancement.   This all suggests that the failure to find any difference in implicit self-enhancement, Aversive Impact, or mood, likely stems from problems in the methodology.  The trend toward significance among the three groups in implicit self-enhancement suggests that although a difference might exist, methodological restrictions might have impeded my ability to detect an effect.

<p style="text-align:center">Trait Variables</p>

My secondary hypothesis was that trait self-compassion would have a main effect on implicit self-enhancement, Aversive Impact, and mood.  There was a significant positive correlation between trait self-compassion and feelings of relaxation.  This finding is consistent with previous research showing the therapeutic benefits of self-compassion (Neff & Vonk, 2009).  However, that was the *only* outcome measure that was related to trait self-compassion.  On the whole, my secondary hypothesis was not supported.  This runs contrary to previous research that indicates the adaptive role of trait self-compassion (Neff, 2003; Neff & Vonk, 2009).  It is often difficult to know what to make of null findings, but certainly my concerns about methodology relate to these findings as well.  If there were the problems that I mentioned above with the measure of implicit self-enhancement and AII, then perhaps, those measures were not valid outcome measures for my hypothesis.  I am inclined to conclude that methodological restrictions

led to the null findings, as there is a breadth of literature demonstrating the value of trait self-compassion. It should also be noted trait self-compassion was positively correlated with trait mindfulness and trait self-esteem. This is consistent with past research (Baer et al., 2006; Neff, 2003) that has repeatedly demonstrated the overlap among these constructs. Trait self-compassion was also positively correlated with momentary self-compassion as well as momentary self-esteem. Both of these correlations would also be expected given the constructs that they are measuring. However, I would have expected the correlation with momentary self-compassion to have been higher than with momentary self-esteem. This could point again to a problem with the manipulation checks as actually measuring the constructs they were intended to measure.

I also found that trait self-esteem and trait mindfulness predicted relaxation scores following the ostracism. Both the individuals who were high in self-esteem and the individuals high in mindfulness both reported greater relaxation than those low in those measures. The positive relationship between self-esteem and relaxation is consistent with the notion in Terror Management Theory that self-esteem "buffers" people from anxiety when they feel threatened (Pyszczynski et al., 2004). However, it was surprising that trait self-esteem did not predict implicit self-enhancement. Previous research (Brown 2010; Jones et al., 2002) has suggested that individuals high in self-esteem exhibit greater self-enhancement following a threat than those low in self-esteem.

Trait mindfulness, on the other hand, predicted feelings of relaxation as well as implicit self-enhancement. The finding that higher scores in mindfulness were related to higher feelings of relaxation is consistent with findings by Baer and colleagues (2006) that mindfulness is related to decreased anxiety. The finding that mindfulness is related

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to greater implicit self-enhancement may suggest a more adaptive role that implicit self-enhancement plays in response to threat. Past research has indicated that higher mindfulness has been related to less of a need to be aggressive or self-enhance following a threat (Heppner et al., 2008). Therefore, implicit self-enhancement may represent a positive response to threat that could be a sign of strength or resilience.

Trait mindfulness also moderated the relationship between experimental condition and feelings of positivity and feelings of arousal. In both relationships, individuals in the control condition reported the most positive mood when they were also highest in mindfulness. However, individuals in the self-compassion condition reported the lowest mood when they were highest in mindfulness. Therefore, individuals who were highest in mindfulness reacted differently in terms of mood depending on what experimental condition they were in. One explanation is that individuals who were high in mindfulness were more sensitive to the self-compassion condition, which as discussed previously, may have also been somewhat threatening. Meanwhile, individuals who were highest in mindfulness may have found the control article, which was about trees, very relaxing, whereas those low in mindfulness were not as affected by it. Another explanation is that those who were low in mindfulness were highly affected by the experimental inductions in terms of reporting more positive mood, but those who were highest in mindfulness were not affected by the experimental conditions, in fact they appear to have been adversely affected by the self-compassion condition. It is difficult to find a consistent explanation for this. On one hand, I could argue that individuals low in mindfulness were potentially more reactive and vulnerable to improving their mood more quickly upon receiving an experimental condition. However, on the other hand it appears

as though, those who were high in mindfulness, may have been more susceptible to *lowering* their mood as a result of the self-compassion condition. It also appears as though the control condition had a positive effect on those high in mindfulness, but a relatively low effect on those with low or medium levels of mindfulness. A more likely explanation may simply lay in the possibility of a Type I error. Furthermore, the very small N's in the different cells in this moderation analysis also weaken the ability to discern a clear explanation.

A final concern in interpreting the trait variables may be the filler task that participants took directly before the trait measures. All individuals completed 23 anagram tasks in between responding to the self-enhancement measure and the trait measures. While intended to be a neutral filler task to distract participants from the earlier mood inductions (self-compassion, self-esteem, or control), anecdotal evidence suggests that individuals actually found the anagram task very stressful. Therefore, the trait variables may have been influenced by the perception of the anagram task as threatening. If individuals feel threatened from both the social ostracism manipulation and the anagram task, it is possible that perhaps any benefit that the self-compassion induction may have had was mitigated. The self-compassion induction may have had such a small effect size, that its effectiveness was not visible with both the ostracism and the anagram task serving to threaten the participants. Lastly, the failure to counterbalance the order in which participants received the three trait measures may have lead to a reactivity effect in which scores on the SCS (which was given last) may have been influenced by the participants' completion of the previous two measures.

Directions for Future Research

In this study, I was attempting to examine whether self-compassion can be induced in order to help individuals cope with social ostracism. The study failed to find evidence of the protective capability of a self-compassion induction. However, there were methodological limitations in the self-compassion induction, the ostracism manipulation, and the three main dependent variables. To address these problems, several steps may be taken in future research. First, future research should develop a more valid form of inducing self-compassion than the one in the present research. Those methods used in Adams and Leary (2007) and Leary and colleagues (2007) may have been effective in their specific studies, however they are not generalizable to other situations beyond the specific contexts of their respective studies. Therefore a more general method of inducing self-compassion may need to be developed. This may even have further implications for cultivating self-compassion in other settings, such as in schools or in therapy. Cultivating self-compassion in different contexts is the ultimate goal of the study, as self-compassion has been consistently linked with a variety of beneficial physical and psychological outcomes (e.g. Neff & Vonk, 2009). However, as other researchers (Crocker, 2011) have suggested, inducing self-compassion may be a very difficult task that only occurs when the participants are highly motivated to engage in the induction.

Promising evidence on how to induce self-compassion may come in the way of research on loving-kindness meditation. This is a form of meditation designed to cultivate "a mental state of unselfish and unconditional kindness to all beings" (p. 1127; Hofmann, Grossman, & Hinton, 2011). Participants in a 7 week loving kindness training

experienced increases in their positive emotions which in turn are related to improvements in measures of well-being, such as physical health and decreases in depression (Frederickson, et al., 2008). An 8 week loving kindness training for individuals with chronic lower back pain decreased their anger, distress, and physical pain more so than a control group receiving standard care (Carson et al., 2005). A much briefer loving-kindness induction by Hutcherson, Seppala, and Gross (2008) found that merely 4 minutes of imagining participants' imagining a compassionate scene led to an increased ability to exhibit compassion toward strangers as measured both implicitly and explicitly.

Other more extensive meditation training has also been demonstrated to be effective in increasing self-compassion. Kuyken and colleagues (2010) have found that scores on the Self-Compassion Scale can also be increased through Mindfulness-Based Cognitive Therapy, which is an 8-week group therapy course that emphasizes mindfulness meditation. Gilbert and Proctor (2006) developed a 12 week training course called compassionate mind training and they found that at post-treatment, participants had less depression, anxiety, and this decreased depression, anxiety, and increased. The training was also effective in reducing the hostility of auditory hallucinations in patients with schizophrenia (Mayhew & Gilbert, 2008). Of these efforts at increasing self-compassion, only one (Hutcherson, Seppala, & Gross, 2008) would be realistic in a brief experimental setting. While their findings of the effectiveness of a 4 minute intervention is very promising, a review of the literature in conjunction with the present study's null effects suggests that the future of research in increasing self-compassion may be with longer and more intensive induction models.

Another area of future research will focus on how to standardize a manipulation of ostracism. While other contemporary research has confirmed *Cyberball's* validity, it is also possible that future research may be directed at finding a more effective way of manipulating social ostracism, or at least updating the *Cyberball* paradigm to a more modern form. In addition to *Cyberball*, ostracism research has utilized a variety of different methods, including direct ostracism by real individuals (See Zadro et al., 2005), and indirect ostracism manipulation that asks individuals to remember instances of ostracism in the past (See Leary et al., 2007). However, the latter ostracism manipulation has been demonstrated to be less effective in inducing ostracism than *Cyberball* (Bernstein & Claypool, 2012). There seems to be something very powerful about immediate in-the-moment ostracism. Additionally, *Cyberball* allows the experimenter to standardize the experience of ostracism that each individual receives. It is also very easy and efficient to use. Other forms of direct ostracism with real individuals involve more intensive training and time on the part of the experimenter and the confederates. Furthermore, there is still the possibility that the confederates will not be entirely consistent in their implementation of the manipulation. However, such manipulations might induce more realistic ostracism. Therefore, future research needs to be directed toward finding an efficient yet valid way of manipulating ostracism in the present moment.

One such promising manipulation has been developed by Wirth and colleagues (2010). This involves having participants stare at a computer avatar who first makes eye contact before eventually breaking eye contact for an extended period of time. Participants who receive the condition involving the avatar's breaking eye contact report

greater aversive impact and lower self-esteem than non-ostracized participants. While, this and other computer-based manipulations (e.g. Williams, Cheung, & Choi, 2000; Zadro, Williams, & Richardson, 2004) are able to effectively induce ostracism, they still lack the ecological validity that in-person manipulations may have. One type of in-person ostracism, which actually became the basis for *Cyberball*, involves confederates who casually initiate a game of catch with the real participant as they are waiting for the experimenter to be ready. After awhile the confederates begin to exclude the participant in the game (Williams & Sommer, 1997). Another example involves seating participants next to two trained confederates, and all three are asked to pretend as though they are riding a train. In this study (Zadro, Williams, & Richardson, 2005) the two confederates initially include the real participant before eventually excluding him/her for the duration of the manipulation. These latter two manipulations are much more labor-intensive and time consuming than either *Cyberball* (Williams, Cheung, & Choi, 2000) or the eye gaze diversion paradigm (Wirth et al., 2010). Additionally, the increasing role that online communication plays in our society only enhances the validity of computer-based ostracism manipulations. Therefore, it does not appear clear yet whether the future of ostracism research will occur online or offline.

It does appear clear that future research should use more widely validated measures of implicit self-enhancement, such as the self-esteem IAT (See Greenwald & Farnham, 2000) or the name-letter task (See Jones et al., 2002). The implicit self-enhancement measure that I used has only had limited use in published research, so it has not been as extensively validated as other measures of implicit self-esteem. It is also possible that implicit self-enhancement does not necessarily indicate a maladaptive

reaction to social ostracism. While previous research has demonstrated that individuals do score higher on implicit self-esteem when they are threatened then when they are not, there has not been any evidence that this is necessarily a bad thing. To my knowledge, scoring higher on a measure of implicit self-esteem following a threat has not been directly related with aggression, lower mood, or prejudice. Future research should be directed at looking to see whether implicit self-enhancement that occurs after a threat is related to those more clearly maladaptive behavior. It is possible that while implicit self-enhancement does occur following a threat, it could be an adaptive reaction.

There are other methodological improvements that should be addressed in future research. First, my study did not have a control group in which participants were not ostracized. This prevented us from knowing whether *Cyberball* actually succeeded in ostracizing participants. If participants did not feel ostracized, then they would have no motivation to self-enhance. I did not use a control group because of the overwhelming evidence in the past that *Cyberball* is a valid means of manipulating ostracism. However, it may be possible that the manipulation is no longer as effective, because of improvements in video games since the inception of *Cyberball*. Second, a more reliable measure of state self-compassion needs to be used. My measure did not demonstrate adequate internal reliability and so I was unable to determine whether my self-enhancement induction was effective in raising participants' level of momentary self-compassion.

## Conclusion

In the present study, I investigated the role that self-compassion plays in helping individuals cope with social ostracism. While self-compassion as an adaptive coping

strategy for social ostracism remains a viable theory, this study was unable to support that conclusion. The only main effects were that trait mindfulness was positively correlated with self-enhancement, trait self-esteem, trait mindfulness, and trait self-compassion were all positively correlated with feelings of relaxation, and the self-compassion condition was actually associated with lower *levels* of momentary self-compassion than the control condition. Trait mindfulness also moderated the relationship between experimental condition and mood. Future research should improve on the experimental manipulation of self-compassion and the measurements for how individuals cope with social ostracism. Specifically, future research should investigate whether increases in implicit self-esteem following a threat are associated with negative responses, such as aggression or prejudice or more adaptive responses, such as acceptance of emotions or active problem-solving.

APPENDIX A

Today's Generation of Students Dealing with New Pressures of College Life.

Up early, to bed late. The life of today's college student is busier than ever. Academic, athletic, and other extracurricular responsibilities creep into almost every waking minute of students' lives, yet the urge to socialize is still as strong as it was in the classic college film, *Animal House*. "Coming into college, I expected to be busy, but I thought that I would still have the occasional opportunity to relax. Now I'm finding that I really have to wait 'til vacations to catch up on my sleep," says one American University sophomore.

Dr. Stephen Hoffman, a professor of education here at AU, has devoted his career to studying the stressful life of the modern undergraduate student. While the consequences of this stress often take a more chronic path, Dr. Hoffman explains that perhaps the most difficult challenge facing today's college student is how to deal with acute instances of failure or rejection. Many students work harder than they've ever worked and still find themselves struggling to get B's or A-'s. "We have raised our children to believe that they are the smartest kids in the world. Many parents instill the belief into their kids that they can do no wrong," he says. "Now, those same kids are young adults in a competitive academic environment where not everyone can be the most qualified or smartest."

Since these students aren't used to dealing with failure or rejection, these experiences can lead to negative consequences. Dr. Hoffman has teamed recently with University of Maryland professor of psychology, Dr. Mary Foster, to study the effect that academic rejection or failure can have on students. "These experiences can lead to feelings of depression and a decreased sense of self-worth in all areas of one's life. The trouble is that today's students have learned to associate failure in a certain activity with a sign that the whole person is a failure. Ironically, this value of perfectionism can actually hurt one's academic performance by creating levels of stress and anxiety that function to distract them and decrease their energy and motivation," she explains in recent research.

However, a new program at the University of Kentucky has attempted to address these stressors in the students' lives. At this school, students are encouraged to practice *self-compassion*, rather than being too hard on oneself. "Just because we expect great things from ourselves, doesn't mean that we have to beat ourselves up if we happen to fail occasionally," argues Dr. Hoffman. This program at the University of Kentucky, organized through their counseling center, teaches students to try to be their own best friend while developing a compassionate and accepting attitude toward themselves even in the face of failure or rejection. "Nobody is perfect and we should be kind to ourselves," reads the brochure given to every University of Kentucky incoming freshman.

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University of Kentucky students are instructed to remember that even at their lowest points where they feel rejected by those around them, they needn't give up on themselves. The following pieces of advice were posted on every residential bulletin board throughout campus.

-Life is too short to get down on yourself.
-When you're going through a hard time, remember to be kind to yourself.
-When you experience problems, remind yourself that everyone goes through difficulties as part of life. Failure is a part of the shared human experience.
-Remember that your thoughts and emotions are fleeting. Try not to fixate on them or get carried away with your negative feelings.
-Anxiety breeds anxiety. Everyone feels anxious from time to time, so it's best to just accept it and move on.
-It is OK to have flaws and inadequacies.
-When you feel insecure, remember that there are others around you going through the same thing. You are not alone.
-When you fail at something important to you, try to keep things in perspective.

Although the program at the University of Kentucky only began in the Fall of '07, university officials are already calling it a success. Significantly, this more accepting and compassionate approach to education has not hurt grades, according to results from the Dean of Students. Grades remain constant and enthusiasm has risen.

Dr. Hoffman points to this program as a great early success and a model for other schools around the country. "Today's college student has to deal with a lot," he says. "Practicing self-compassion helps deal with that stress and rejection or failure while maintaining happiness and success in students' lives."

APPENDIX B

New Generation of Students Dealing with New Pressures of College Life.

Up early, to bed late. The life of today's college student is busier than ever. Academic, athletic, and other extracurricular responsibilities creep into almost every waking minute of students' lives, yet the urge to socialize is as strong as it was in the classic college film, *Animal House*. "Coming into college, I expected to be busy, but I thought that I would still have the occasional opportunity to relax. Now I'm finding that I really have to wait 'til vacations to catch up on my sleep," says one American University sophomore.

Dr. Stephen Hoffman, a professor of education here at AU, has devoted his career to studying the stressful life of the modern undergraduate student. While the consequences of this stress often take a more chronic path, Dr. Hoffman explains that perhaps the most difficult challenge facing today's college student is how to deal with acute instances of failure or rejection. Many students work harder than ever yet still find themselves struggling to get B's or A-'s. "We have raised our children to believe that they are the smartest kids in the world. Many parents instill the belief into their kids that they can do no wrong," he says. "Now, those same kids are young adults in a competitive academic environment where not everyone can be the most qualified or smartest."

Since these students aren't used to dealing with failure or rejection, these experiences can lead to negative consequences. Dr. Hoffman has teamed recently with University of Maryland professor of psychology, Dr. Mary Foster, to study the effect that academic rejection or failure can have on students. "These experiences can lead to feelings of depression and a decreased sense of self-worth in all areas of one's life. The trouble is that today's students have learned to associate failure in a certain activity with a sign that the whole person is a failure. Ironically, this value of perfectionism can actually hurt one's academic performance by creating levels of stress and anxiety that function to distract them and decrease their energy and motivation," she explains in recent research.

However, a new program at the University of Kentucky has attempted to address these stressors in the students' lives. At this school, students are encouraged to reinforce their *self-esteem*, rather than being too hard on oneself. "Just because we expect great things from ourselves, doesn't mean that we have to forget about all of our other strengths if we happen to fail occasionally," argues Dr. Hoffman. This program at the University of Kentucky, organized through their counseling center, teaches students to try to resist getting down on their abilities as well as trying to maintain confidence in their own ability even in the face of failure or rejection. "Nobody is perfect, but we should still remember that we are all very talented in many aspects of life," reads the brochure given to every University of Kentucky incoming freshman.

University of Kentucky students are instructed to remember that even at their lowest points where they feel rejected by those around them, they needn't give up on themselves.  The following pieces of advice were posted on every residential bulletin board throughout campus.

-Life is too short to forget about your positive assets.
-When you are going through a hard time, make a mental list of all of the good qualities that you have.
-Remember that your thoughts and emotions can be great motivators.  When you feel bad, focus on how you can use that emotion to drive yourself to succeed.
-Spend more time with people who like you and help you to feel good about yourself.
-When you experience problems, think back to a previous similar circumstance when you were able to prevail or be successful.
-If other people think that you have flaws, it's because they don't know the real you.
-When you feel insecure, remember that you deserve better
-Believe in your abilities and be proud of yourself and your achievements

Although the program at the University of Kentucky only began in the Fall of '07, university officials are already calling it a success.  Significantly, this more accepting and compassionate approach to education has not hurt grades, according to results from the Dean of Students.  Grades remain constant and enthusiasm has risen.

Dr. Hoffman points to this program as a great early success and a model for other schools around the country.  "Today's college student has to deal with a lot," he says. "Reinforcing one's self-esteem helps deal with that stress and rejection or failure while maintaining happiness and success in students' lives.

APPENDIX C

Montana University Preserve Beauty of "The Quad" Amid Massive Renovations

Few images are as peaceful and inspiring as that of a lone undergraduate student sitting and reading contently under a shady tree on an academic quad. The official domain of academia may still reside inside the many buildings at the edges of our universities' green spaces, and most students can still be found completing homework assignments in the library or late at night in a basement computer lab. However, the sight of a student with his/her eyes glued to a classic like Freud's *Interpretation of Dreams* or Plato's *Republic*, on a sunny day captures the unofficial and perhaps more personal exploration that occurs in college amid the late night parties and constant busywork.

Yet, the quad is the setting for so much else. Above that reading student, can be seen flying Frisbees or footballs. The quads may also be dotted with kissing couples, study groups, or even hookah smoking circles. Nowhere is the energy of a college campus more palpable than in the countless tree-lined green spaces that serve as the crossroads for so many campuses. "Whenever I meet up with my friends, provided its not raining or freezing, it's in the middle of the quad here, right outside the union. Usually we end up seeing other friends too if we hang around talking long enough," says one University of Montana sophomore.

The physical beauty of a landscape not only enriches the lives of current students, but it also helps attract prospective students to choose schools. It may be hard to get a sense of the quality of the teaching faculty at first glance, but brown grass and weeds growing through the sidewalks speak very clearly. Not surprisingly, university officials take their landscape seriously. Most students have found themselves chuckling to one another after seeing massive flower planting efforts throughout the campus during the week before a big prospective student visit or homecoming weekend. Alumni love to see their former universities looking nice, and nothing helps open their wallets more than a well-manicured campus whose physical beauty invokes nostalgia for the "good old days."

The University of Montana in Missoula is no exception. The school takes tremendous pride in its physical beauty and spends over 2.5 million dollars a year on landscaping. However, lately the school has had to rethink how it can maintain its beautiful campus in the face of significant renovation and construction. The school has been famous for its oak trees which tend to dominate the scenery with the distant mountains, but now difficult questions have surfaced about how to preserve these trees. Oak trees, with their huge shade-producing canopies, also have extensive root systems, thus making them more difficult to avoid during construction. After almost two months of debate and outside consulting, university officials have adopted a practical approach. Rather than unrealistically trying to avoid disturbing oak tree roots completely, they have instead attempted to minimize any harm caused them. While disturbing the roots of these oak trees doesn't kill them, it often does result in a diminishing in the fullness of the

canopy.  To make up for this loss, landscaping companies have been contracted by the university to begin planting new trees around construction projects, generally willow or ash, which tend to require less space for its root networks.  These new trees traditionally haven't flourished as well in the region, but with a little added attention, willows and ashes should begin to do quite well.  Stephen Hoffman, on the University Of Montana Board Of Trustees, maintains that, "the new approach to tree planting has so far been very successful and should serve as a model for other area schools looking to maintain their physical beauty."

Leslie Foster, from a Missoula based Environmental Advocacy Center, in a recent statement, agreed with Mr. Hoffman's assessment.  She says, "while we always prefer to avoid disrupting the existing vegetation in place on college campuses, this effort to encroach only slightly upon the root systems of the trees will probably increase the trees' lifespan, since the canopies won't be as full.  Furthermore, the effort to plant new trees will sustain the natural beauty of theses campuses and increase the richness of their ecosystems."

This plan has seemed to satisfy all parties involved and allowed the progression of construction and renovation to exist alongside a continuing emphasis on natural beauty.  If this is any indication, the green space at the University of Montana is in no way threatened by these improvements made to the campus buildings, and the future of vibrant quads with footballs flying, sunbathing, and secluded reading with accompanied deep thought seems safe.

Rate the extent to which you feel the following emotions RIGHT NOW:
(1-not at all, 2- a little bit but not significantly, 3- definitely feel it, but not significantly,
4- definitely feel it significantly, 5-feel it extremely strongly)

Self-Kindness_____
Self-Critical_____
Accepting_____
Perfectionistic_____
Connected_____
Empathic_____
Self-pitying_____
Isolated_____
Balanced_____
Curious_____
Obsessive_____
Ruminating_____
Love_____
Joyful_____
Giving_____
Worthy_____
Qualified_____
Failing_____
Capable_____
Proud_____
Positive_____
Satisfied_____
Confident_____
Useless_____
No Good_____
Hard-Working_____
Lazy_____
Serious_____
Humorous_____
Shy_____
Extroverted_____

REFERENCES

Aberson, C.L., Healy, M., & Romero, V. (2000). Ingroup bias and self-esteem: A meta-analysis. *Personality and Social Psychology Review, 4*, 157-173.

Adams, C.E, & Leary, M.R. (2007).  Promoting self-compassionate attitudes toward eating among restrictive and guilty eaters. *Journal of Social and Clinical Psychology*, 26, 1120-1144.

Baer, R.A., Smith, G.T., Hopkins, J., Krietemeyer, J., & Toney, L. (2006). Using self-report assessment methods to explore facets of mindfulness, *Assessment, 13,*  27-45.

Bastian, B., & Haslam, N. (2010). Excluded from humanity: The dehumanizing effects of social ostracism.  *Journal of Experimental Social Psychology, 46,* 107-113.

Baumeister, R.F., Bushman, B.J., & Campbell, W.K. (2000). Self-esteem, narcissism, and aggression: Does violence result from low self-esteem or from threatened egotism? *Current Directions in Psychological Science, 9,* 26-29.

Baumeister, R.F., Campbell, J.D., Krueger, J.I., & Vohs, K.D. (2003). Does high self-esteem cause better performance, interpersonal success, happiness, or healthier lifestyles? *Psychological Science in the Public Interest, 4,* 1-44.

Baumeister, R.F., DeWall, C.N., Ciarocco, N.J., & Twenge, J.M. (2005).  Social exclusion impairs self-regulation. *Journal of Personality and Social Psychology, 88*, 589-604.

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., Smart, L., & Boden, J.M (1996). Relation of threatened egotism to violence and aggression: The dark side of high self-esteem. *Psychological Review, 103*, 5-33.

Baumeister, R.F., Tice, D.M., & Hutton, D.G. (1989). Self-presentational motivations and personality differences in self-esteem. *Journal of Personality, 57,* 547-579.

Berglas, S. (1985). Self-handicapping and self-handicappers: A cognitive/attributional model of interpersonal self-protective behavior. In R. Hogan & W.H. Jones (Eds.), *Perspectives in Personality* (Vol. 1, pp. 235-270). Greenwich, CT: JAI Press.

Bernstein, M.J., & Claypool, M.H. (2012). Not all social exclusions are created equal. Emotional distress following social exclusion is moderated by exclusion paradigm, *Social Influence, 7*, 113-130.

Bernstein, M.J., Yong, S.G., Brown, C.M., Sacco, D.F., & Claypool, H.M. (2008). Adaptive responses to social exclusion: Social rejection improves detection of real and fake smiles. *Psychological Science*, *19,* 981- 983.

Bosson, J.K., Swann, W.B., & Pennebaker, J.W. (2000). Stalking the perfect measure of implicit self-esteem: The blind men and the elephant revisited. *Journal of Personality and Social Psychology, 79,* 631-643.

Bosson, R.P., Zeigler-Hill, V., & Swann Jr., W.B. (2003). Self-enhancement tendencies among people with high explicit self-esteem: the moderating role of implicit self-esteem.

Brockner, J., & Chen, Y. (1996). The moderating roles of self-esteem and self-construal in reaction to a threat to the self: Evidence from the People's Republic of China and the United States. *Journal of Personality and Social Psychology, 71,* 603-615.

Brown, J.D. (2010). High self-esteem buffers negative feedback: Once more with feeling. *Cognition and emotion, 24*, 1389-1404.

Brown, J.D., Collins, R.L., & Schmidt, G.W. (1988). Self-esteem and direct versus indirect forms of self-enhancement. *Journal of Personality and Social Psychology, 55,* 445-453.

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, 219-229.*

Carson, J. W., Keefe, F. J., Lynch, T. R., Carson, K. M., Goli, V., Fras, A. M., & Thorp, S. R.(2005). Loving-kindness meditation for chronic low back pain: Results from a pilot trial. *Journal of Holistic Nursing, 23*, 287–304.

Case, T. & Williams, K. (2004). Ostracism: A metaphor for death. In J. Greenberg, S. Koole, &T. Pyszczynski (Eds.), *Handbook of Experimental Existential Psychology.* (pp. 336-351).

Chartrand, T.L., Cheng, C.M., Dalton, A.N., & Tesser, A. (2010). Nonconscious goal pursuit: Isolated incidents or adaptive self-regulatory tool? *Social Cognition, 28,* 569–588.

Crocker, J. (2002). Contingencies of self-worth: Implications for self-regulation and psychological vulnerability. *Self and Identity, 1,* 143-149.

Crocker, J. (2006*a*).  Having and pursuing self-esteem: Costs and benefits. In Kernis, M. (Ed.), *Self-esteem Issues and Answers: A Sourcebook of Current Perspectives* (pp. 274-280). New York: Psychology Press.

Crocker, J. (2006*b*). What is optimal self-esteem? In Kernis, M. (Ed.), *Self-esteem Issues and Answers: A Sourcebook of Current Perspectives* (pp. 119-124). New York: Psychology Press.

Crocker, J. (2011). Presidential Address: Self-image and compassionate goals and constructions of the social self: Implications for social and personality psychology. *Personality and Social Psychology Review, 15,* 394-407.

Crocker, J., Niiya, Y., & Mischkowski, D. (2008). Why does writing about important values reduce defensiveness? Self-affirmation and the role of positive other-directed feelings. *Psychological Science, 19*, 740-747.

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 admissions to graduate school. *Personality and Social Psychology Bulletin, 28*, 1275-1286.

Davidson, R. J., Kabat-Zinn, J., Schumacher, J., Rosenkranz, M., Muller, D., Santorelli, S. F., Urbanowski, F., Harrington, A., Bonus, K., & Sheridan, J. F. (2003). Alterations in brain and immune function produced by mindfulness meditation. *Psychosomatic Medicine, 65,* 564-570.

Dechesne , M., Pyszczynski, T., Ransom, S., Arndt, J., Sheldon, K., van Knippenberg, A., & Janssen, J. (2003). Literal and symbolic immortality: The effect of evidence of literal immortality on self-esteem striving and worldview defense in response to mortality salience. *Journal of Personality and Social Psychology, 84*, 724-737.

Dunning, D., Leuenberger, A., & Sherman, D.A. (1995). A new look at motivated inference: Are self-serving theories of success a product of motivational forces? *Journal of Personality and Social Psychology, 69,* 58-68.

Eisenberger, N.I., Lieberman, M.D., & Williams, K.D. (2003). Does rejection hurt? An fMRI study of social exclusion. *Science, 302,* 290-292.

Faulkner, S., Williams, K., Sherman, B., & Williams, E. (1997). *The 'Silent Treatment': Its Incidence and Impact*. Presented at the 69th Annual Midwestern Psychological Association, Chicago, IL.

Fein, S. & Spencer, S.J. (1997). Prejudice as self-image maintenance: Affirming the self through derogating others. *Journal of Personality and Social Psychology, 73,* 31-44.

Fredrickson, B.L., Cohn, M.A., Coffey, K.A., Pek, J., & Finkel, S.M. (2008). Open hearts build lives: Positive emotions, induced through loving-kindness meditation, build consequential personal resources. *Journal of Perosnality and Social Psychology, 95,* 1045-1062.

Gilbert, P., & Proctor, S. (2006). Compassionate mind training for people with high shame and self-criticism: Overview and pilot study of a group therapy approach. *Clinical Psychology and Psychotherapy, 13*, 353-379.

Goldenberg, J.L., McCoy, S.K., Pyszczynski, T., Greenberg, J., & Solomon, S. (2000). The body as a source of self-esteem: The effect of mortality salience on identification with one's body, interest in sex, and appearance monitoring. *Journal of Personality and Social Psychology, 79,* 118-130.

Greenberg, J., Pyszczynski, T., Solomon, S., Rosenblatt, A., Veeder, M., Kirkland, S., & Lyon, D. (1990). Evidence for terror management theory II: The effects of mortality salience on reactions to those who threaten or bolster the cultural worldview. *Journal of Personality and Social Psychology, 58,* 308-318.

Greenberg, J., Solomon, S., Pyszczynski, T., Rosenblatt, A., Burling, J., Lyon, D., Simon, L., & Pinel, E. (1992). Why do people need self-esteem? Converging evidence that self-esteem serves an anxiety-buffering function. *Journal of Personality and Social Psychology, 63,* 913-922.

Greenwald, A.G., & Farnham, S.D. (2000). Using the Implicit Association Test to measure self-esteem and self-concept. *Journal of Personality and Social Psychology, 79,* 1022-1038.

Gruter, M., & Masters, R.D. (1986). Ostracism as a social and biological phenomenon: An introduction. *Ethology and Sociobiology, 7*, 149-158.

Heatherton, T., & Polivy, J. (1991). Development and validation of a scale for measuring state self-esteem. *Journal of Personality and Social Psychology, 60*, 895-910.

Heatherton, T.F., & Vohs, K.D. (2000). Interpersonal evaluations following threats to self: Role of self-esteem. *Journal of Personality and Social Psychology, 78,* 725-736.

Heppner, W.L., Kernis, M.H., Lakey, C.E., Campbell, W.K., Goldman, B.M., Davis, P.J., & Cascio, E.V. (2008). Mindfulness as a means of reducing aggressive behavior: Dispositional and situational evidence. *Aggressive Behavior, 34*, 486-496.

Hofmann, S.G., Grossman, P., & Hinton, D.E. (2011). Loving-kindness and compassion mediation: Potential for psychological interventions. *Clinical Psychology Review, 31,* 1126-1132.

Hutcherson, C.A., Seppala, E.M., & Gross, J.J. (2008) Loving-kindness meditation increases social connectedness. *Emotion, 8,* 720-724.

Jonas, E., Greenberg, J., & Frey, D. (2003). Connecting Terror Management and Dissonance Theory: Evidence that mortality salience increases the preference for supporting information after decisions. *Personality and Social Psychology Bulletin, 29*, 1181-1189.

Jones, J.T., Pelham, B.W., Mirenberg, M.C., & Hetts, J.J. (2002). Name letter preferences are not merely mere exposure: Implicit egotism as self-regulation. *Journal of Experimental Social Psychology, 38,* 170-177.

Jordan, C.H., Spencer, S.J., & Zanna, M.P. (2005). Types of high self-esteem and prejudice: How implicit self-esteem relates to ethnic discrimination among high explicit self-esteem individuals. *Personality and Social Psychology Bulletin, 31*, 693-702.

Jordan, C.H., Spencer, S.J., Zanna, M.P., Hoshino-Browne, E., & Correll, J. (2003). Secure and defensive high self-esteem. *Journal of Personality and Social Psychology, 85,* 969-978.

Kabat-Zinn, J., (2003). Mindfulness-based stress reduction (MBSR). *Constructivism in the Human Sciences, 8,* 73-107.

Kernis, M.H. (2003). High self-esteem: A differentiated perspective. In Chang, E.C. & Sanna, L.J. (Eds), *Virtue, Vice, and Personality: The Complexity of Behavior.* (pp 3-22). American Psychological Association, Washington, D.C.

Kernis, M.J., Wisenhunt, C.R., Waschull, S.B., Greenier, K.D., Berry, A.J., Herlocker, C.E., & Anderson, C.A. (1998). Multiple facets of self-esteem and their relations to depressive symptoms. *Personality and Social Psychology Bulletin, 24*, 657-668.

Koole, S.L., Govorun, O., Cheng, C.M., & Gallucci, M. (2009). Pulling yourself together: Meditation promotes congruence between implicit and explicit self-esteem. *Journal of Experimental Social Psychology, 45.* 1220-1226.

Kuyken, W., Watkins, E., Holden, E., White, K., Taylor, R.S., Byford, S., Evans, A., Radford, S., Teasedale, J.D., & Dalgleish, T. (2010). How does mindfulness-based cognitive therapy work? *Behaviour Research and Therapy, 48,* 1105-112.

Leary, M.R., Tambor, E.S., Terdal, S.K., & Downs, D.L. (1995). Self-esteem as an interpersonal monitor: The sociometer hypothesis. *Journal of Personality and Social Psychology, 68,* 518-530.

Leary, M.R., Tate, E.B., Adams, C.E., Allen, A.B., & Hancock, J. (2007). Self-compassion and reactions to unpleasant self-relevant events: The implications of treating oneself kindly. *Journal of Personality and Social Psychology, 92*, 887-904.

Magnus, C.M.R., Kowalski, K.C., & McHugh, T.F. (2010). The role of self-compassion in women's self-determined motives to exercise and exercise-related outcomes. *Self and Identity, 9*, 363-382.

Maner, J.K., DeWall, N., Baumeister, R.F., & Schaller, M. (2007). Does social exclusion motivate interpersonal reconnection? Resolving the "porcupine problem." *Journal of Personality and Social Psychology, 92*, 42-55.

Mayhew, S. L., & Gilbert, P. (2008). Compassionate mind training with people who hear malevolent voices: A case series report. *Clinical Psychology & Psychotherapy, 15,* 113–136.

Mikulincer, M., & Florian, V. (2002). The effects of mortality salience on self-serving attributions- Evidence for the function of self-esteem as a terror management mechanism. *Basic and Applied Social Psychology, 24,* 261-271.

McCrae, R. R. (2002). NEO-PI–R data from 36 cultures: Further intercultural comparisons. In R. R. McCrae & J. Allik (Eds.), *The Five-Factor Model of Personality across Cultures* (pp. 105–126). New York: Kluwer Academic/Plenum Publishers.

McDonald, M.M., & Donnellan, M.B. (2012). Is ostracism a strong situation? The influence of personality in reactions to rejection. Journal of Research in Personality, http://dx.doi.org/10.106/j.jrp.2012.05.008.

Mosewich, A.D., Kowalski, K.C., Sabiston, C.M., Sedgwick, W.A., & Tracy, J.L. (2011). Self-compassion: A potential resource for young women athletes. *Journal of Sport and Exercise Psychology, 33*, 103-123.

Neely, M.E., Schallert, D.L., Mohammed, S.S., Roberts, R.M., & Chen, Y. (2009). Self-kindness when facing stress: The role of self-compassion, goal regulation, and support in college students' well-being. *Motivation and Emotion, 33,* 88-97.

Neff, K.D. (2003). The development and validation of a scale to measure self-compassion. *Self and Identity, 2*, 223-250.

Neff, K.D. (2009). The role of self-compassion in development: A healthier way to relate to oneself. *Human Development, 52,* 211-214.

Neff, K.D., Hsieh, Y., & Dejitterat, K. (2005). Self-compassion, achievement goals, and coping with academic failure. *Self and Identity*, *4*, 263-287.

Neff, K.D., Kirkpatrick , K.L., & Rude, S.R. (2007). Self-compassion and adaptive psychological functioning. *Journal of Research in Personality*, *41*, 139-154.

Neff, K.D., & McGehee, P. (2010). Self-compassion and psychological resilience among adolescents and young adults. *Self and Identity, 9*, 225-240.

Neff, K.D., Pisitsungkagarn, K., & Hsieh, Y.P. (2008). Self-compassion and self-construal in the United States, Thailand, and Taiwan. *Journal of Cross-Cultural Psychology, 39,* 267- 285.

Neff, K.D., Rude, S.R., & Kirkpatrick, K.L. (2007). An examination of self-compassion in relation to positive psychological functioning and personality traits. *Journal of Research in Personality, 41*, 908-916.

Neff, K.D. & Vonk, R. (2009). Self-compassion versus global self-esteem: Two different ways of relating to oneself. *Journal of Personality, 77*, 23-50.

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.

Norem, J., & Cantor, N. (1986). Defensive pessimism: "Harnessing" anxiety as a motivation. *Journal of Personality and Social Psychology, 52*, 1208-1217.

Oaten, M., Williams, K.D., Jones, A., & Zadro, L. (2008). The effects of ostracism on self-regulation in the socially anxious. *Journal of Social and Clinical Psychology, 27,* 471-504.

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*, 435–468.

Random.org. 1998-2011 Mads Haahr.

Raque-Bogdan, T.L., Ericson, S.K., Jackson, J., Martin, H.M., & Bryan, N.A. (2011). Attachment and mental and physical health: Self-compassion and mattering as mediators. *Journal of Counseling Psychology, 58*, 272-278.

Rhodewalt, F. (2006). Possessing and striving for high self-esteem. In Kernis, M. (Ed) *Self-esteem Issues and Answers: A Sourcebook of Current Perspectives.* (pp. 279-287). New York: Psychology Press.

Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.

Rudman, L.A., Dohn, M.C., & Fairchild, K. (2007). Implicit self-esteem compensation: Automatic threat defense. *Journal of Personality and Social Psychology*, *93*. 798-813.

Ryan, R.M., & Brown, K.W. (2003). Why we do not need self-esteem: On fundamental needs, contingent love, and mindfulness. *Psychological Inquiry*, *14*, 71-76.

Schmitt, D.P. & Allik, J. (2005). Simultaneous administration of the Rosenberg Self-Esteem Scale in 53 nations: Exploring the universal and culture-specific features of global self-esteem. *Journal of Personality and Social Psychology, 89,* 623-642.

Schröder-Abé, M., Rudolph, A., & Schütz, A. (2007).  High implicit self-esteem is not necessarily advantageous: discrepancies between explicit and implicit self-esteem and their relationship with anger expression and psychological health. *European Journal of Personality, 27,* 319-339.

Sedikides, C. (1993). Assessment, enhancement, and verification determinants of the self-evaluation process. *Journal of Personality and Social Psychology 65,* 317-338.

Solomon, S., Greenberg, J., & Pyszczynski, T. (2004). The cultural animal: Twenty years of terror management theory and research. In J. Greenberg, S. Koole, & T. Pyszczynski (Eds.) *Handbook of Experimental Existential Psychology*. (pp. 13-34).

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,* 225-243.

Spencer, S.J., Fein, S., Wolfe, C.T., Fong, C., & Dunn, M.A. (1998). Automatic activation of stereotypes: The role of self-image threats. *Personality and Social Psychology Bulletin, 24*, 1139-1152.

Taylor, S. E., & Brown, J. D. (1988). Illusion and well-being: A social psychological perspective on mental health. *Psychological Bulletin, 103,* 193-210.

Tesser, A., Crepaz, N., Collins, J.C., Cornell, D., & Beach, S.R.H. (2000). Confluence of self-regulation mechanisms: On integrating the self-zoo. *Personality and Social Psychology Bulletin, 26,* 1476-1489.

Tice, D.M. & Baumeister, R.F. (1990). Self-esteem, self-handicapping, and self-presentation: The strategy of inadequate practice. *Journal of Personality, 58*, 443-464.

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,* 1058-1069.

Twenge, J.M., Catanese, K.R., & Baumeister, R.F. (2002). Social exclusion causes self-defeating behavior. *Journal of Personality and Social Psychology, 83,* 606-615.

Van Beest, I., & Williams, K.D. (2006). When inclusion costs and ostracism pays, ostracism still hurts. *Journal of Personality and Social Psychology*, *91,* 918-928.

Van Dam, N.T., Sheppard, S.C., Forsyth, J.P., & Earleywine, M. (2011). Self-compassion is a better predictor than mindfulness of symptom severity and quality of life in mixed anxiety and depression. *Journal of Anxiety Disorders, 25*, 123-130.

Vettese, L.C., Dyer, C.E. Li, W.L., & Wekerle, C. (2011). Does self-compassion mitigate the association between childhood maltreatment and later emotion regulation difficulties? A preliminary investigation. *International Journal of Mental Health and Addiction, 9*, 480-491.

Warburton, W.A., Williams, K.D., & Cairns, D.R. (2006). When ostracism leads to aggression: The moderating effects of control deprivation. *Journal of Experimental Social Psychology, 42*, 213-220.

Waschull, S.B., & Kernis, M.H. (1996). Level and stability of self-esteem as predictors of children's intrinsic motivation and reasons for anger. *Personality and Social Psychology Bulletin, 22,* 4-13.

Williams, K.D. (1997). Social ostracism. In R. Kowalski (Ed.), *Aversive interpersonal behaviors* (pp. 133-170). New York: Plenum.

Williams, K. D. (2001). *Ostracism: The power of silence*. New York: The Guilford Press.

Williams, K.D. (2007). Ostracism: The kiss of social death. *Social and Personality Psychology Compass, 1,* 236-247.

Williams, K.D. (2010). *Cyberball.* Retrieved from http://www1.psych.purdue.edu/~willia55/Announce/cyberball.htm

Williams, K.D., Cheung, C.K.T., & Choi, W. (2000). Cyberostracism: Effects of being ignored over the internet. *Journal of Personality and Social Psychology*, *79,* 748-762.

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

Wirth, J.H., Sacco, D.F., Hugenberg, K., & Williams, K.D. (2010). Eye gaze as relational evaluation: Averted eye gaze leads to feelings of ostracism and relational devaluation. *Personality and Social Psychology Bulletin, 36,* 869-882.

Zadro, L., Williams, K.D., & 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,* 560-567.

Zadro, L., Williams, K.D., & Richardson, R. (2005). Riding the 'O' train: Comparing the effects of ostracism and verbal dispute on targets and sources. *Group Processes & Intergroup Relations, 8*, 125-143.