UNIVERSITY OF OKLAHOMA

GRADUATE COLLEGE

ATTACHMENT AND SELF-ESTEEM:

IMPLICATIONS FOR PROSOCIALITY AND THE SELF

A DISSERTATION

SUBMITTED TO THE GRADUATE FACULTY

in partial fulfillment of the requirements for the

Degree of

DOCTOR OF PHILOSOPHY

By

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Norman, Oklahoma
2014

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ATTACHMENT AND SELF-ESTEEM:
IMPLICATIONS FOR PROSOCIALITY AND THE SELF

A DISSERTATION APPROVED FOR THE
DEPARTMENT OF PSYCHOLOGY

BY

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Acknowledgements

First and foremost, I would like to thank my advisor, Dr. Carolin Showers for her valued guidance and support throughout this process. Her patience and knowledge have made me a better researcher. I would also like to thank my committee members, Dr. Mauricio Carvallo, Dr. Robert Terry, Dr. Hairong Song, and Dr. Paula McWhirter for their helpful suggestions throughout the preparation of this dissertation. Finally, I thank my family and friends for their unwavering support.

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Abstract

Two experimental studies test a model of prosociality (including prosocial actions and emotions) that integrates research from the areas of attachment theory and self-esteem. The model suggests that primed relationship quality and trait self-esteem interact to predict meaningful differences in prosocial responses across a variety of contexts. Study 1 tests the proposed model and finds support for four paths to prosociality: 1. *Transcendent:* High self-esteem individuals primed with relationship security (secure-HSE) become less focused on egoistic concerns and focus on the welfare of others, but only if the target is worthy*;* 2. *Self-Affirmed*: Low self-esteem individuals primed with relationship security (secure-LSE) become especially responsive towards less deserving others; 3. *Defensive:* High self-esteem individuals primed with relationship insecurity (insecure-HSE) ignore threatening situations, thus becoming unresponsive to prosocial situations; and 4. *Self-Protective:* Low self-esteem individuals primed with relationship insecurity (insecure-LSE) experience self-focused negative emotions, but are not motivated to behave prosocially. Study 2 aims to link defensive responses to victims with an individual's cognitive structure of negative self-beliefs. Although Study 2 fails to find a significant relationship between organization of self-beliefs and prosociality, the data support the transcendent path, such that secure-HSE participants are most willing to donate money and are least distressed following a disagreement with a friend. Study 3 provides supplementary analyses of the relationship descriptions for HSE and LSE individuals. Results suggest that HSE and LSE individuals provide different responses to relationship primes, such that HSE individuals write about more long

lasting secure relationships and less emotionally distressing insecure relationships compared to individuals with LSE.

Attachment And Self-Esteem: Implications For Prosociality and the Self

Given the societal importance of prosocial behavior, a better understanding of intrapersonal as well as interpersonal factors that influence prosociality is fundamental. Researchers have examined the possibility that increasing either self-esteem or secure attachment could potentially increase prosocial behaviors (Rigby & Slee, 1993; Salmivalli et al., 1999; Mikulincer et al., 2005; Gillath et al., 2005). Although secure attachment and high self-esteem have similar outcomes for positive self-evaluations and positive mood (Brown & Dutton, 1995; Brennan, Clark & Shaver, 1998), there are also important differences between them. Specifically, relationship security is associated with feeling safe within one's environment, with non-defensiveness (i.e., willingness to acknowledge threatening information), and with other-focused motivations such that when given a choice to behave self-servingly or altruistically, secure individuals will choose to behave altruistically (Gillath et al., 2005; Mikulincer et al., 2005). Individuals with high self-esteem tend to be self-focused, and are motivated to maintain their overly positive views of the self by self-enhancing or defensively downplaying or ignoring negative feedback (Brown, 1986; Tice, 1994).

With regard to prosocial outcomes, it may appear as though both secure individuals and individuals with high self-esteem should behave prosocially. However, the previously reviewed studies indicate that the experience of high self-esteem and security are quite different. With regard to prosociality, security is associated with increases in altruistic helping and volunteering (Mikulincer et al., 2005; Gillath et al., 2005). High self-esteem positively predicts prosocial behaviors such as helping a partner (Williamson & Clark, 1989), and yet at other times it appears unrelated to

helping (Salmivalli et al., 1999; Rigby & Slee, 1993). Additionally, particularly high self-esteem also appears to be related to increases in aggressive behaviors (Bushman & Baumeister, 1998).

Given that these two states appear to diverge on many psychological outcomes, one might expect them to interact to predict differences in prosociality. For instance, one might expect that a high self-esteem, self-focused individual who is made to feel secure and other-focused might react to a prosocial situation differently than would an individual with high self-esteem who is made to feel insecure and thus even more self-focused. The secure-HSE individual might be willing to part with some resources in order to help another, whereas the insecure-HSE other would remain unwilling to help, even though he had the resources to do so. Furthermore, tests of these interactions may help to clarify possible boundary conditions within a single individual. Recall the high self-esteem individual made to feel secure in their environment. This person may display prosocial behaviors towards an innocent person but may ignore a person with a criminal past.

Many of the classic studies in social psychology researched the situational factors that influence prosociality, such as the presence of others (Darley & Latane, 1968), characteristics of the victim (Piliavin, Piliavin & Rodin, 1975) and time constraints (Darley & Batson, 1973). These variables may play an important role in determining the limits of an individual's prosociality. For instance, someone who is particularly self-focused may be unwilling to help an unknown stranger, but may be willing to help a close other. Conversely, someone who is other-focused may be

responsive to both known others and strangers alike, even if the others are not deserving of help.

In order to gain a more complete understanding of how self-esteem and primed relationship quality affect prosociality, the present research includes multiple prosocial outcomes. Modern research on prosociality typically focuses on only one type of prosocial outcome, such as forgiveness (McCullough, Worthington & Rachal, 1997; Luchies, Finkel & McNulty, 2010; Exline et al., 2008), helping (Batson et al., 1988; Mikulincer et al., 2005), or honesty (Kern & Chugh, 2009; Shu, Gino & Bazerman, 2011; Gino & Ariely, 2012). This makes comparing prosocial behaviors across contexts difficult. For instance, an individual with low self-esteem who is made to feel insecure may be particularly forgiving of a close other as a way to maintain access to resources and support provided by that relationship. However, the same insecure, low self-esteem individual may not help a stranger in need because they feel as though they are ill-equipped to provide assistance. The current studies include a battery of prosocial scenarios in order to gain a better understanding of how the social contexts, and participants' reactions to these contexts, influence prosocial outcomes.

Attachment Theory: Traditional to Contemporary

Bowlby's (1969) theory of attachment was influenced by observations of mother-infant interactions as well as observations of orphanages. Bowlby asserted that infants typically become attached to their mother (or primary caregiver) as a way to ensure survival. Attachment occurs when the attachment behavioral system becomes activated. When activated, this system permits individuals to engage in a series of support-seeking behaviors, especially when faced with environmental stressors. For

instance, an infant might engage in both crying and clinging behaviors as a way to keep their secure base (the source of their safety and important resources) near. However, attachment bonds may not properly form under certain circumstances. Failures to form attachment bonds were typically thought of as a mother's failure to provide enough attention to the infant, particularly when the infant was in distress. Failure to form appropriate attachment bonds may result in an infant displaying behaviors such as the inability to be soothed or ignoring a caregiver altogether.

Initially, infants were evaluated as either having an attachment to their mother or not. The nuanced differences between secure and insecure patterns of responding would arise following the development of the strange situation and subsequent research by Ainsworth and colleagues (Ainsworth, Bell & Stayton, 1971; Ainsworth, Blehar, Waters & Wall, 1978). This line of research concluded that infants possess individual differences with respect to their styles of attachment (e.g., secure, anxious/resistant, anxious-avoidant, disorganized).

Again, Ainsworth concluded that the formation of these attachment styles is due largely to a mother's responses to an infant (Ainsworth & Bell, 1970; Ainsworth, 1979). For instance, attachment security occurs if a child's caregiver is caring and attentive. Anxious/resistant and avoidant patterns of responding arise when a mother's responses to distress are unpredictable or nonexistent. However, other researchers presented evidence that infant disposition may also play an important role in the attachment process. For instance, researchers found that anxious/resistant infants tended to be more "constitutionally difficult" than secure infants. Mothers of these difficult infants may in

turn become overwhelmed, thus attending only to particularly distressing cries (Connell, 1976; Vaughn, Egeland, Sroufe & Waters, 1979).

Both Bowlby (1988) and Ainsworth (1989) thought of these early childhood interactions as blueprints that influence an individual's future patterns of behavior. Over time, a child will expand the attachment to a wide variety of individuals. As stated earlier, an individual's style of support seeking within these new relationships is rooted in their interactions with their caregivers. However, individuals have the ability to develop either secure or insecure attachment bonds within any relationship (Cook, 2000). Put simply, an individual can experience secure attachment within one relationship while activating anxious or avoidant patterns of responding in another.

Research by Hazan and Shaver (1987) applied this theory of attachment to romantic relationships. Although numerous studies supported Bowlby's initial conceptualization of attachment (Bretherton, 1987; Maccoby, 1980), they all stayed within the realm of infant-caregiver relationships. Hazan and Shaver (1987) asserted that the attachment bonds formed during infancy function as mental models that guide the way adults interact with romantic partners. Specifically, Hazan and Shaver (1987) concluded that the constellations of attachment behaviors seen in their romantic couples mapped onto the patterns seen in infant attachment research. Adults experiencing attachment anxiety within their romantic relationships exhibited behaviors similar to infants with attachment anxiety. Additional research, based in the knowledge that attachment bonds can form long after infancy, suggests that adolescents experience attachment towards close friends (Zimmermann, 2004). Put succinctly, people can

experience attachment bonds to a variety of relationship others, not just mothers or infant caregivers.

Working models of childhood caregivers are not the only determinant of whether one will experience attachment security in adulthood. Cook (2000) contributed to the understanding of attachment security by researching interactions within families. His research concludes that although internalized mental representations of important relationships play an important role in the development of attachment security, current interpersonal experiences are also important. For example, characteristics such as dependability of current partners and reciprocity of behaviors influence the presence of security within specific relationships. Davila and colleagues further added to adult attachment literature with their work on the instability of attachment styles over time. Longitudinal research examining changes in attachment security discovered that, although most couples become more secure over time (Davila, Karney & Bradbury, 1999), individuals who are vulnerable (i.e., have experienced parental divorce or parental psychopathology) become less secure even if their partners are loving and supportive. Researchers identified additional individual differences (such as personal history of psychopathology, work, school, and health stressors) that contribute to changes in attachment security (Davila et al., 1997). In summary, research on attachment stability showcases the complexity and malleability of attachment within relationships.

Another important contribution to the study of attachment occurred when Mikulincer and colleagues successfully demonstrated that attachment security could be primed in a laboratory setting (e.g., Mikulincer & Shaver, 2001)**.** By introducing

participants to a variety of priming techniques (i.e., supraliminal guided imagery or subliminal presentations of attachment other names; see Mikulincer & Shaver, 2007 for a review), researchers successfully activated secure attachment behaviors. Increased accessibility to secure attachment representations has been shown to increase an individual's self-efficacy, engagement in effective coping strategies and emotional stability (Mikulincer & Florian, 1998; Mikulincer, Shaver & Pereg, 2003; Pierce & Lydon, 1998). Although the activation of attachment security is associated with increased positive mood (Mikulincer, Gillath et al., 2001; Mikulincer, Hirschberger, et al., 2001) it is important to note that primed relationship security is not simply the same thing as priming positive mood. For instance, attachment security was associated with increased caregiving and empathy, whereas positive mood was not (Mikulincer, Hirschberger, et al., 2001; Mikulincer et al., 2005**)**.

Historically, attachment has been viewed as a stable trait shaped by early childhood interactions with caregivers. Many programs of research have conceptualized attachment as a trait and have found support for these stable attachment styles (Brennan, Clarke & Shaver, 1998; Hazan & Shaver, 1987). That is not to say that attachment styles cannot be altered via priming tasks. As Mikulincer and colleagues have shown numerous times (Mikulincer & Florian, 1998; Mikulincer, Shaver & Pereg, 2003; Mikulincer & Shaver, 2001; Mikulincer et al., 2005), secure attachment can be primed in a laboratory setting successfully. However, to avoid confusion with the traditional view of attachment as a stable trait, I will be using the terms 'relationship prime', 'relationship security' and 'relationship insecurity' when referring to the attachment style primes administered in the following studies.

Secure Attachment Versus High Self-Esteem

Secure attachment is associated with both positive mood and positive views of the self (Brennan, Clark & Shaver, 1998); high self-esteem is also associated with these correlates (Brown & Dutton, 1995; Diener & Diener, 1995). However, these two phenomena are characterized by important differences. Both primed secure and trait secure attachment are associated with other-focused motivations. When given a choice to behave self-servingly or altruistically, individuals primed with relationship security will choose to behave relatively altruistically (Gillath et al., 2005; Mikulincer et al., 2005). Individuals with trait secure attachment also possess relatively higher levels of concern for others compared to their insecure counterparts (Collins & Read, 1990; Feeney & Collins, 2001). High self-esteem, on the other hand, does not predict these same other-focused outcomes. Individuals with high self-esteem tend to evaluate others negatively in comparison to themselves and tend to be more self-serving in romantic relationships (Vasta & Brockner, 1979; Jonason, Li & Teicher, 2010).

Some individuals with particularly high self-esteem are said to possess fragile, unstable views of the self (Jordan et al., 2003). This extremely high esteem may be associated with contingencies of self-worth (Crocker & Park, 2004), especially if it is based on external forces such as approval from others or social comparisons. Failures in important domains may make individuals with fragile, high self-esteem susceptible to sudden downward shifts in self-worth (Crocker & Wolfe, 2001). For instance, if individuals place their worth in the academic domain, and they then experience failure they experience sudden loss to their self-worth. In order to protect against loss of

esteem, they engage in self-enhancing behaviors, and tend to either downplay or ignore negative feedback (Taylor & Brown, 1988; Tice, 1994).

Possessing high self-esteem is not always associated with negative outcomes. Individuals with high self-esteem also tend to possess a high degree of self-efficacy (Judge & Bono, 2001). This belief in one's abilities can have important consequences, such as increased persistence at difficult tasks (Shrauger & Rosenberg, 1970) and increased prosociality (Caprara & Steca, 2007). However, when fragile, high self-esteem individuals are threatened, their perceived self-efficacy may decrease (Gist & Mitchell, 1992).

With regard to low self-esteem, some individuals are motivated to protect (but not necessarily enhance) their self-esteem. This protection may take the form of avoiding certain social interactions that lead to embarrassment or other negative feedback or not over-inflating the value of positive qualities to avoid future disappointment (Tice, 1994; Baumeister, Hutton and Tice, 1989).

Linking Attachment and Self-Esteem

Bozeman (2012) explored the combined effects of both primed relationship states and trait self-esteem on self-knowledge organization. Based upon previous research on how individuals with high self-esteem respond to threats (Jordan et al., 2003; Paradize & Kernis, 2002; Baumeister, Smart & Boden, 1996), I hypothesized that high self-esteem individuals primed with relationship insecurity would compartmentalize their self-structures as a way to mitigate (or ignore) the effect of their negative attributes. The hypothesis was supported. An interaction revealed that high self-esteem participants who experienced the insecure prime (insecure-HSE) were the

most compartmentalized. Insecure-HSE participants experienced a defensive shift in self-structure. Specifically, they separated their negative self-attributes from their positives, possibly as a way to maintain a positive view of the self. This result illuminated two important points: first, the experience of secure attachment is not the same as the experience of high self-esteem, and second, under certain circumstances, trait self-esteem and attachment states may interact leading an individual to become either more or less willing to acknowledge negative self-attributes.

What remained unclear was whether this interplay between self-esteem and primed attachment predicts interpersonal outcomes. As suggested by Bozeman (2012), high self-esteem individuals primed with insecure relationships may employ self-organizational techniques that cordon off their negative attributes. It is possible that this pattern of results (insecure-HSE participants being relatively more likely to cordon off negative attributes) relates to interpersonal interactions as well. For instance, an insecure-HSE participant, who keeps negative aspects of her life separate from her positives, may also fail to acknowledge the negative aspects that occur in prosocial situations (such as homelessness or distress). The specific goal of the current project is to build upon the previous research by exploring the effects of primed relationship states and trait self-esteem on prosocial behavior.

Prosocial Research Overview

Prosocial contexts and motivations play important roles in predicting when and why people behave prosocially. Factors ranging from an individual's personality (Caprara, Alesandri & Eisenberg, 2011) to genes (Knafo & Plomin, 2006) have been shown to influence prosocial outcomes. Of particular importance to the current project

are the following factors: relationship to prosocial target (stranger or close other), deservingness of prosocial target, and motivation for behaving prosocially (altruism versus egoism).

Close Other Versus Stranger

Research exploring possible evolutionary explanations for prosocial behaviors suggests that humans are more likely to help close others than strangers due to the norm of reciprocity and survival of similar genetic material (Ross, 2011). However, individuals who are particularly sensitive to rejection may actually be more willing to help a stranger than a close other, as being rejected by a close other is more hurtful than being rejected by a stranger (Tesser, Millar & Moore, 1988). In terms of prosociality, this may indicate that certain types of prosociality, such as forgiveness, may be easier to enact if the forgiveness is towards a stranger, particularly if the person doing the forgiving is highly sensitive to rejection within close relationships.

With regard to self-efficacy, helping strangers is often seen as a more difficult task than is helping close others. This perceived difficulty might stem from the ambiguity of the situation or the unknown reaction of the stranger. Additionally, in order to help strangers, people must feel like they have enough resources available and that they are fit to provide help (Amato, 1990; Caprara & Steca, 2005). Furthermore, helping an unknown person can lead to unintended costs to the self. In a classic study of prosociality, Piliavin and colleagues (Piliavin, Piliavin & Rodin, 1975) found that people often do not help strangers if they feel like they will be embarrassed or will lose time as a result of helping.

Deserving Versus Less Deserving Other

Not surprisingly, people tend to help those who appear as though they deserve help (Horowitz, 1968; Berkowitz, 1969; Miller & Smith, 1977). Deserving others are those deemed not responsible for their current state or those who possess desirable personality traits, such as kindness and humility (Miller & Smith, 1977). Helping particularly deserving others may affirm an individual's important core values, such as compassion and caregiving (Steele & Liu, 1983).

Research linking cost-benefit analyses to prosociality also suggests that helping "costly" others (i.e., those who appear blameworthy for their circumstance or those who appear to possess undesirable characteristics) occurs less frequently than "low-cost", non-threatening others (Piliavin, Piliavin & Rodin, 1975). Additionally, these researchers suggest that people conduct a cost-benefit analysis for not helping. For instance, it could be socially costly not to help a kind man who recently lost his job; costs incurred could be self-blame and judgment from others. This is not to say that deserving others will always be assisted; the likelihood of helping a deserving other is lessened dramatically when an individual feels pressured or as though they are required to give assistance (Horowitz, 1971).

Altruism Versus Egoism

As suggested by Piliavin and colleagues (Piliavin, Rodin & Piliavin, 1969; Piliavin, Piliavin & Rodin, 1975) people do possess self-serving, egoistic motives for behaving prosocially; people help in order to avoid judgments from others and as a way to avoid self-blame. Additional research also supports this claim; humans seem to help

in order to boost their own self-views or simply as a way to increase mood (Cialdini et al., 1987; Schroeder et al., 1988).

However a series of studies conducted by Batson and colleagues (Batson et al., 1981; Batson et al, 1986; Batson et al., 1988**)** provided evidence that not all prosocial behaviors are egoistically motivated. Batson concluded that altruistic helping (specifically, volunteering to receive a painful shock so that a stranger does not) occurs when empathy towards the stranger is present. Empathy was successfully induced with a relatively simple perceived similarity manipulation; if participants felt as though they were similar to the victim, then they were more likely to help altruistically.

Prosocial Behavior and Attachment

Secure attachment and prosociality appear to be positively correlated. Bowlby (1969) theorized that humans possess a caregiving behavioral system in addition to their attachment behavioral system, and this caregiving system operates in conjunction with the attachment behavioral system. The caregiving system activates in response to others' need. So, when an infant cries in response to distress, the caregiver's attachment system is activated. When caregivers respond to those cries, their caregiving systems are activated. Laboratory studies indicate that priming relationship security also activates the caregiving system, such that primed security (but not insecurity) is associated with increased concern and empathy for deserving others (Mikulincer et al., 2005; Kogut & Kogut, 2013). Due to this caregiving-security link, it is not surprising that previous research has shown that relationship security is associated with engaging in certain prosocial behaviors, such as altruistic helping and honesty (Gillath et al., 2010). Carlo et al. (2012) has shown that trait attachment security is associated with

higher levels of prosocial behavior in adolescents. This effect is mediated by empathy; securely attached individuals feel greater levels of empathy towards those in need, and in turn, engage in greater levels of helping behaviors than those who are anxiously or avoidantly attached. Additionally, trait security is correlated with willingness to give unconditional support to close others (Simpson, Rholes & Nelligan, 1992).

Primed relationship security in a laboratory setting has also been shown to increase prosocial behaviors, and these behaviors were motivated by altruistic concern for others (Mikulincer et al. 2003; 2005). The overall conclusion drawn from this line of research is that primed relationship security reduces individuals' concern about the self and increases altruistic motivations.

Although relationship security appears to increase prosociality, research on attachment insecurity and prosociality suggests that primed relationship anxiety may also lead to increases in helping behaviors. For those primed with relationship anxiety, the motivation behind these prosocial acts is egoistic; they help as a way to ensure future resources and support (Kogut & Kogut, 2013). So, although researchers should expect increases in prosocial behaviors following security induction, simply assuming that primed insecurity should always lead to decreases in prosociality is inaccurate.

Prosocial Behavior and Self-Esteem

Self-esteem has also been studied with regard to prosocial behaviors. High self-esteem individuals indicate that they are typically more prosocial than low self-esteem individuals (Brown, Dutton & Cook, 2001; Baumeister et al., 2003). However, these self-reports are often inaccurate predictors of behavior. When analyzing behavioral outcomes, correlations between self-esteem and prosociality are typically low or

nonexistent (Baumeister et al., 2003). In laboratory settings, when high self-esteem individuals were threatened with negative intelligence feedback, they were more likely than low self-esteem participants to behave prosocially (Brown & Smart, 1991). The authors took this as evidence that in order to cope with negative, self-relevant feedback, high self-esteem individuals were egoistically motivated to enhance the self via prosocial behaviors. Further evidence of self-serving motivations behind high self-esteem people's prosocial behavior can be found in Tesser's (1988) theory of self-evaluation maintenance. High self-esteem individuals were more likely to help a close other when the task was not central to their own self image. However, if the task was central to their self-image, high self-esteem individuals were less likely to help as a way to ensure that the close other did not surpass their own ability. This is not to say that high self-esteem individuals are always self-serving in their reasons for acting prosocially. Individuals with 'genuine' high self-esteem -- specifically individuals who possess high self-esteem while acknowledging and accepting their own weaknesses -- may be altruistically motivated to behave prosocially (Salmivalli, 2001).

Research has also linked low self-esteem to prosocial outcomes. People with low self-esteem may help others as a way to boost their own esteem, but if esteem can be boosted in an easier way, helping may not occur (Fisher et al., 1981). Additionally, low self-esteem individuals tend to expect failure when faced with risky situations (Tice, 1994). With regard to prosociality, this may mean that when situational factors such as high cost or unknown target are present, low self-esteem individuals may be particularly unresponsive as a way to avoid embarrassment and loss of esteem. Evidence of this lack of response can be seen in the research of Rigby & Slee (1993).

Low self-esteem participants who witnessed the bullying of a classmate were less likely than their high self-esteem counterparts to intervene.

Although research suggests that high and low self-esteem individuals may consciously seek to engage in prosocial behaviors as a way either to maintain or to bolster their own positive view of the self (Tesser, 1988; Depaulo, Nadler & Fisher, 1993), engagement in prosocial behaviors has not been shown to increase an individual's self-esteem consistently. In a review of the literature on prosocial behavior, Penner and colleagues (2004) found conflicting evidence: college-aged students enrolled in courses with service components showed higher end-of-semester self-esteem when compared to their self-esteem at the beginning of the semester (Giles & Eyler 1994, Yates & Youniss 1996). When looking at adult populations, it seems as though only elderly volunteers consistently experience boosts in self-esteem following prosocial engagement (Musick & Wilson, 2003). Three possible explanations for this are that volunteering allows the elderly (who typically experience relatively low self-esteem compared to younger individuals, Robins et al., 2002) to become distracted from their own problems, to maintain social connections, or to feel a sense of purpose (Midlarsky, 1991).

Just as prosocial engagement may increase self-esteem, failure to engage in prosocial behaviors may lead to decreases in self-esteem. Helping those in need is a social norm and violation of this norm may lead to negative self-evaluations, such as increased feelings of worthlessness or embarrassment (Schwartz & Howard, 1981). Individuals who are particularly sensitive to decreases in self-esteem and who are motivated to maintain self-esteem (i.e., low self-esteem individuals), may be

particularly motivated to avoid these negative outcomes associated with failure to engage in prosocial behaviors.

The relationship between self-esteem and prosociality is complex. Both high and low self-esteem individuals may seek out situations in which they can engage in prosocial behaviors; those with high self-esteem may be motivated to elevate their already positive self-views whereas low self-esteem individuals may be looking for a way to repair their negative views of themselves or to avoid negative outcomes associated with failure to help. However, when people do engage in prosocial behaviors, boosts to self-esteem are not guaranteed; individuals who are experiencing relatively low self-esteem (such as the elderly) may be the ones who benefit the most from behaving prosocially.

Proposed Model of Prosociality and Predictions

The previous sections outline the possible situational and motivational factors that may predict prosocial behaviors among individuals with varying levels of self-esteem and relationship security. However, these two psychological states do not exist independently of each other. Humans all have varying levels of self-esteem and attachment security; how these various patterns of high and low self-esteem interact with secure and insecure attachment states to predict prosocial behaviors has yet to be studied. To clarify, this proposed model does not assume that any one combination of self-esteem and primed relationship quality will always yield the highest degree of prosociality. Nor does it predict that any particular combination will always exhibit non-prosocial responses. Instead, this model outlines four distinct paths to prosociality for each combination of self-esteem (high versus low) and relationship quality (secure

versus insecure). For detailed predictions, see below. For a visual representation of the proposed model, see Figure 1.

High Self-Esteem and Security: The Self-Transcendent Path

Self-transcendence refers to the act of turning away from one's own concerns about self-image and focusing on the concerns of others (Crocker et al., 2008). One way to achieve a state of self-transcendence is to reflect upon safe, secure relationships (Mikulincer et al., 2003). Participants asked to reflect upon a secure relationship became more likely to endorse self-transcendent value of enhancing the welfare of others. Previous research on self-transcendent values and prosociality suggests that individuals who endorse the self-transcendent values (such as benevolence and equality) are more prosocial than those who do not endorse these values, but only when they also have high self-efficacy (Caprara & Steca, 2005).

Based on the previously cited research, I hypothesize that high self-esteem individuals primed to reflect upon a secure relationship (secure-HSE) should be particularly prone to experience self-transcendent motivations for behaving prosocially. Compared to individuals with low self-esteem, high self-esteem people tend to show greater initiative, confidence and persistence (see Baumeister et al., 2003 for review). Typically, HSE individuals utilize these characteristics as a way to confirm positive self-beliefs. For example, HSE individuals may be overconfident in their assessments of their athletic ability as a way to self-enhance. However, transcending the self to allow for greater other-focus may motivate these highly confident HSE participants to use their resources and abilities to benefit others instead of themselves. As stated previously, research by Mikulincer and colleagues (Mikulincer et al., 2003) found that

allowing HSE participants to affirm secure relationships led to feelings of self-transcendence (i.e., altruism, benevolence and universalism). This increased altruistic concern for others coupled with HSE individuals' high self-efficacy should culminate in secure-HSE participants behaving prosocially to a variety of targets. The motivation for their prosocial behaviors should be altruistic; secure-HSE participants should be less focused on confirming positive views of the self and more concerned with helping those in need.

However, HSE participants may still possess many of the self-enhancing biases that help to maintain their high self-esteem. For instance, secure-HSE participants may still view undeserving others particularly negatively (Brown, 1986), and thus may be unwilling to help these unworthy others. Research by Batson and colleagues (Batson et al., 1981) highlights the importance of perceived similarity to those in need as a motivation for altruistic helping. Therefore, secure-HSE individuals may be unwilling to transcend their own self-focus to help someone with noticeable flaws. Although secure-HSE participants may only be motivated to help deserving others, the prosocial behaviors in which they do engage should be altruistically motivated.

High Self-Esteem and Insecurity: The Defensive Path

Defensiveness is characterized by avoiding threats to the self (Schneider & Turkat, 1975; Kernis, 2003); this avoidance may allow individuals to maintain relatively positive, albeit possibly inaccurate views of themselves. Some behaviors that are conceptualized as defensive include self-serving biases and self-enhancement (Blaine & Crocker, 1994; Robins & Beer, 2001). Research on defensiveness and prosociality suggests people are likely to engage in defensive denial (i.e., downplaying

the importance of providing assistance) when the behavior has high personal cost (either monetary or social) to themselves (Tyler, Orwin & Schurer, 1982).

Consider a group of HSE individuals primed to reflect upon an insecure relationship (insecure-HSE). Although high self-esteem is associated with positive outcomes such as increased happiness (Baumeister, 1998) and persistence (Shrauger & Rosenberg, 1970), it is also associated with defensive outcomes such as an inability take responsibility for failure (Fitch, 1970). Terror management theory has shown that high self-esteem acts as a defensive buffer that reduces feelings of anxiety associated with acknowledging one's death (Greenberg et al., 1992). The authors suggest that HSE individuals defensively downplay the importance of threatening stimuli as a way to maintain positive mood and views of the self. An insecure relationship prime should function as a threatening stimulus for HSE participants. In order to cope with this threat and the negative emotions associated with it, insecure-HSE individuals may become defensive. This defensive response may be associated with attempts to minimize the importance of the insecure relationship or lessen the intensity of the negative emotions or cognitions associated with it.

This increased defensive avoidance of threats should be associated with a reduction in prosocial responding. Previous research on threatened HSE individuals suggests that threatened HSE participants (but not threatened LSE) become less likely to intervene when a schoolmate is being bullied (Salmivalli, 2001). The reason for this lack of intervention was due to the threatened HSE participants' defensive downplaying of the severity of the bullying. Additional research suggest that threatened HSE individuals are particularly dismissive of unknown others; they respond to threats by

derogating these strangers (Crocker, Thompson, McGraw & Ingerman, 1987). One might expect that insecure-HSE participants in the present studies may avoid acknowledging the targets in need. This avoidance of prosocial situations (or failure to acknowledge the severity of the scenario) may be particularly noticeable if the targets are not close to the insecure-HSE participant. However, it is possible that insecure-HSE participants may sometimes be egoistically motivated to behave prosocially. According to Cialdini's negative-state relief model (Cialdini, Darby & Vincent, 1973), people who are in a bad mood or feel badly about themselves are motivated to behave prosocially as a way to reinstate their positive mood. It follows that the insecure-HSE participants may help others if the behavior is relatively low-cost, but this help is only motivated by their egoistic desire to bolster their own positive mood or view of themselves.

Low Self-Esteem and Security: The Self-Affirmed Path

Self-affirmation, or the reflection upon an important value, helps people overcome the avoidance of threats (McQueen & Klein, 2006; Steele, 1988). When smokers are allowed to affirm an important value, they become more willing to accept the negative heath consequences associated with smoking (Crocker et al., 2008). Similarly, self-affirmed female alcohol drinkers are more likely to acknowledge negative health effects related to drinking alcohol than those who are not affirmed (Klein, Harris, Ferrer & Zajac, 2011).

These positive outcomes (e.g., reduction in desire to avoid threats) related to self-affirmation may be particularly strong in individuals with low self-esteem. Classic research on the effect of positive feedback and low self-esteem suggests that LSE individuals, who are typically unaccustomed to positive feedback, respond very strongly

to positive evaluations. This response is even stronger than that for those with high self-esteem who receive the same positive feedback (Dittes, 1959; Jones, 1973). Shrauger (1975) suggests that the reason for this discrepancy is due to the fact that the feedback is unexpected, which makes it more satisfying for LSE individuals than for HSE individuals. Therefore, affirming secure relationships may lead to increases in certain prosocial behaviors for LSE participants; secure-LSE individuals may behave more prosocially than secure-HSE participants in certain situations. Specifically, secure-LSE may be more willing to provide assistance to less deserving others because, unlike their HSE counterparts, LSE participants may view the undeserving target as being relatively similar to themselves. This perceived similarity towards the undeserving other would then lead to feelings of empathy and an increased willingness to behave prosocially towards them (Batson et al., 1983). Taken together, secure-LSE may be more willing than secure-HSE to forgive someone who has wronged them or to look past someone's flaws and donate money.

Low Self-Esteem and Insecurity: The Preservation Path

Threatened LSE people do not appear to employ the same types of self-enhancement strategies as their HSE counterparts (Roth et al., 1988). HSE individuals are concerned with enhancing their self-esteem, whereas LSE participants are concerned with self-esteem preservation. When in the presence of threats, LSE individuals cope by utilizing self-protection strategies such as avoiding competition and avoiding future failures (Arkin, 1981; Tice, 1991; Tice, 1994).

These self-protective strategies are also employed when LSE individuals are faced with threats to their relationships. Inducing relationship insecurity in LSE

individuals may activate their motivation to reinstate themselves with their in-group, much like the sociometer theory of self-esteem would predict (Leary, Tambor, Terdal & Downs, 1995). Examples of behaviors that may facilitate reinstatement to the group are being helpful and friendly. This affiliation is self-protective in that it ensures social support as well as physical protection from harm. This desire to protect or repair relationships may appear prosocial, but may be motivated egoistically. For instance insecure-LSE participants may be especially likely to forgive someone who has wronged them. However, this forgiveness may not be altruistically motivated; the forgiveness is a means to ensure inclusion in the social group.

Summary of Possible Paths

The current model predicts that HSE and LSE individuals will differ in their reactions to secure and insecure relationship primes. Thus, four distinct paths toward prosociality may arise:

1. Secure-HSE participants may turn away from self-concerns and be focused on helping others because they have the confidence to let go of their self-focus and attend to the needs of others. However, HSE's inability to view non-deserving targets as similar to themselves may lead to an absence of empathy and thus impede altruistic prosocial responding; secure-HSE participants may be responsive only to deserving others.
2. Secure-LSE participants, who are typically unaccustomed to feelings associated with security, may react to the secure prime extremely positively. This novel feeling of security, coupled with their ability to feel empathy toward undeserving

others (due to feelings of similarity), will allow them to behave prosocially to a wide array of targets, especially those who may not be particularly deserving.

3. Insecure-HSE participants may respond to the insecure prime by becoming defensive or concerned with downplaying threats in the environment. This increased self-focus may be associated with a disengagement from all forms prosocial actions, but they may be especially nonresponsive to unknown others.
4. Insecure-LSE participants may experience a heightened motivation to self-protect. This self-protection may take the form of prosocial behaviors that are directed primarily toward close others. The ultimate goal of these behaviors may be to protect participants from further threats (such as losing an important relationship).

Overview of Present Research

The aim of the present studies is to link these various paths to prosocial behavior in distinct contexts. Both Studies 1 and 2 test this model by priming relationship security and insecurity within individuals either high or low in trait self-esteem. Both self-esteem and attachment research suggest that the experience of high self-esteem is quite different than the experience of security, and that these differences appear to affect prosocial outcomes. For instance, individuals with high self-esteem may behave prosocially, but only towards those with whom they are not competing (Tesser, 1988), whereas individuals high in security behave prosocially towards close others as well as strangers (Mikulincer et al., 2005; Gillath et al., 2010). Studying the interaction of primed security or insecurity and self-esteem should enhance our understanding of when and why individuals react prosocially.

Another important goal of the present research is to explore how individuals will respond to a variety of prosocial scenarios, such as forgiveness. Forgiveness is a complex prosocial behavior that includes the absence of vengeful feeling along with increased kindness and a desire to reconcile with the offender (McCullough, Worthington & Rachal, 1997; Lin et al., 2004). With regard to the four paths to prosociality, the hypothesis is that some participants may be responsive to certain tenets of forgiveness while remaining unresponsive to other tenets. For example, insecure-LSE participants might be particularly responsive to behaviors associated with the desire to reconcile (in keeping with the preservation path), while not necessarily experiencing increased kindness. In addition, Study 2 will look at self-knowledge organization as a possible mediator of prosocial behavior, and Study 3 will examine the possibility of self-esteem differences in responses to the writing task primes.

STUDY 1

Overview

Study 1 examines the relationships between trait self-esteem, primed relationship quality and prosocial behaviors and emotions in an online setting. The proposed model outlines four distinct paths to prosocial responding, and it predicts that situational and interpersonal factors (such as deservingness of target or whether the target is known or unknown) may play important roles in differentiating how HSE and LSE individuals will respond to both the secure and insecure primes.

To review, previous research on the contrast effect and low self-esteem suggests that LSE individuals may respond especially positively to the secure relationship prime; this unexpected reflection may be self-affirming (Shrauger, 1975). Additionally,

research on perceived similarity and empathy toward people in need suggests that LSE individuals may be most empathic towards others with visible character flaws (Batson et al., 1981). With respect to the current study, this suggests that secure-LSE participants may behave prosocially, especially when the target is undeserving. Secure-HSE individuals, whose self-views are particularly positive (i.e., efficacious and competent), should feel confident in their abilities and should be able to transcend their own concerns and be particularly responsive to situations that may require participants to relinquish their own gains in order to help someone else. However, the secure-HSE participants may be willing to help only deserving others and lack empathy for dissimilar (undeserving) others. Primed insecurity may inhibit prosocial responses in both HSE and LSE individuals. Insecure-HSE may be unhelpful toward or unconcerned with unknown and known others, whereas insecure-LSE may respond prosocially towards known others as a way to protect their relationship. An assortment of prosocial scenarios is included to examine these proposed boundary conditions.

Method

Participants

Participants were 309 undergraduates (233 women) enrolled in introductory psychology courses at the University of Oklahoma. They volunteered to participate in an online study in exchange for research exposure credit. The mean age of participants was 18.72 years (*SD* = 1.55). The sample was 70% White, 6% Black, 5% Hispanic, 10% Asian, 4% American Indian or Native American and 5% other or mixed ethnicities.

Design

This study tests whether self-esteem moderates the effects of relationship prime on prosocial outcomes. Prosocial behaviors and emotions were assessed with five prosocial scenarios. Placement of scenarios refers to the order of presentation of these scenarios. The basic design of this study can be conceptualized as a 2 (secure versus insecure relationship prime) X 2 (high versus low trait self-esteem) X 2 (early versus late placement of scenario) model. As self-esteem is a continuous variable, ANOVAs are not the featured analysis. Instead, analyses use hierarchical multiple regression.

Measures

Relationship Primes: Modified WHO-TO Task and Writing Prompt

This study had two relationship prime conditions: secure and insecure. Participants identified a relationship other through a modified WHO-TO task (see Mikulincer et al., 2005 and Appendix C for task). Depending on condition (either secure or insecure), participants answered questions to elicit their appropriate relationship other. For example, a participant in the secure condition would answer questions like "Who do you turn to when you're feeling down?" whereas those in the insecure condition would answer questions like "Who do you dislike spending time with?" Participants could indicate different people for each question. Then they identified the person indicated most often in the WHO-TO task as their relationship other, and read the following instructions:

"This begins the 4 minute writing task. Write about how this person makes you feel about yourself either when you are around them or when you think about them. Focus on the *positive feelings/negative feelings* you experience. Try to write for the entire time using as much detail as possible. When the 4 minutes are up, you will be automatically advanced to the next screen."

Prosocial Measures

Five prosocial scenarios captured different dimensions of prosociality. These dimensions are: closeness to victim (friend or stranger), deservingness of victim (deserving or not deserving) and motivation (egoistic or altruistic).

Forgiveness scenario. Participants read a forgiveness scenario designed to assess reactions to betrayal by a close friend. After reading the scenario, participants completed a questionnaire assessing 8 emotional and 7 behavioral reactions. Items were rated on a 5-point scale, ranging from (1) not at all to (5) very much. For full text, see Appendix D.

Bozeman (2012) found that these items load onto three distinct factors: distress (i.e., angry, ashamed, wronged, blame, insecure, rejected, want friend to take responsibility, want friend to apologize); revenge (i.e., revenge, forgive and forget [reverse-scored], want to maintain friendship [reverse scored]); and personal responsibility (i.e., guilty, responsible, sympathetic). For the current study, Cronbach's alpha coefficients for each of the three factors were acceptable (α_{DIS} = .88, α_{VENG} = .71, and α_{RESP} = .79).

Kase scenario. This scenario used a vignette cited in Mikulincer et al. (2005) as a model and assessed participants' engagement in prosocial behaviors and their emotional reactions toward a deserving stranger. Participants read the story of Ms. Kase; her local food bank has shut down, and she is negatively affected by its closing. After reading the scenario, participants reported their emotional reactions towards Ms. Kase with a 4-item compassion questionnaire (items: sympathetic, warm, compassionate and tender; α = .84), and 6-item distress questionnaire (items:

uncomfortable, troubled, distressed, disturbed, worried, afraid; α = .83). All items were rated on 7-point scales ranging from (1) not at all to (7) very much. For the full scenario and items, see Appendix E.

Participants also completed a 5-item willingness-to-help questionnaire. The scale assessed three types of helping behaviors: monetary donation (e.g., "How willing would you be to make a one-time monetary donation to Ms. Kase?"), food donation (e.g., "How willing would you be to donate a food item once a month to Ms. Kase?") and helping Ms. Kase find a job (e.g., "How willing would you be to help Ms. Kase search for a job by going through the newspaper help wanted ads with her"). [1] Items were rated on 7-point scales with responses ranging from (1) very unwilling to (7) very willing.

Donation scenario. The donation scenario assessed the likelihood of engaging in prosocial behaviors that benefit an undeserving stranger. In this donation scenario, participants read about a homeless woman with a known criminal record who asks for monetary donations. After reading, participants indicated how likely they would be to donate (1 = very unlikely to 7 = very likely) as well as how much money (out of $5) they would be willing to donate.

Loss scenarios (stereo & business). Both loss scenarios assessed honesty. They were modeled on scenarios created by Kern & Chugh (2009) to test the effects of gain and loss framing on decision-making. In the stereo scenario, participants envision being in the market to sell some stereo equipment. Upon being told that they had received an offer, participants indicated how likely they would be to say that they had another offer, even though such an offer did not exist (1 = very unlikely to 7 = very likely). Previous

research indicates that participants recognize that implying that a second, fictional offer exists is unethical (Kern & Chugh, 2009).

In the business scenario, participants were asked how likely (1 = very unlikely to 7 = very likely) they would be to hire a consultant to gain insider knowledge about a competing company. The stereo scenario always came first followed by the business scenario. For full text of both loss scenarios, see Appendix F.

Mood and Defensiveness

The Affect Valuation Index (AVI; Tsai, Knutson & Fung, 2006) assessed mood. The items represent two dimensions of mood: arousal (high versus low) and valence (positive versus negative). Thus, there are four subscales: (1) high arousal-negative (HAN: tense, hostile, fearful and nervous; $\alpha = .78$), (2) high arousal-positive (HAP: joyful, elated, enthusiastic, excited; $\alpha = .86$), (3) low arousal-negative (LAN: sluggish, sleepy, dull, passive; $\alpha = .69$) and (4) low arousal-positive (LAP: serene, calm, content, relaxed; $\alpha = .83$). The AVI assesses mood differences with respect to the relationship primes. Previous research (Mikulincer et al., 2001) reported effects of security prime on mood, such that those primed with security reported higher positive mood. In the current study, participants in the insecure condition should have higher levels of negative mood and lower levels of positive mood than participants in the secure condition due to the negative feelings reflected upon during the priming task.

Both the impression management and self-deceptive enhancement subscales (IM, $\alpha = .73$; SDE, $\alpha = .77$) of the Balanced Inventory of Desired Responding (BIDR; Paulhus, 1994) assess defensiveness.[2] SDE assesses the degree to which individuals believe false, overly positive reports of the self, whereas IM assesses the degree to

which participants actively deceive others. Participants in the insecure relationship condition could potentially become more defensive, and thus, engage in greater levels of self-deceptive enhancement or impression management.

Order of Measures

Five conditions using different orders of presentation for the prosocial scenarios, AVI, and BIDR measures gave each measure a chance to be presented immediately following the priming task. The donation scenario is the exception, as it always followed the forgiveness scenario. Table 1 shows the order of measures for each condition. For example after completing the writing task, participants randomly assigned to Order I, would complete the forgiveness scenario, followed by the donation, Kase and loss scenarios, and then they would complete the AVI and BIDR.

Potential Moderators

Along with the Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965), the Moral Identity Instrument (MII; Aquino & Reed, 2002), Guilt and Shame Proneness scale (GASP; Cohen, Wolf, Panter & Insko, 2011), Personal Need for Structure scale (NFS; Neuberg & Newsom, 1993), Threat Orientation Scale (TOS; Thompson & Schlehofer, 2008), Experiences in Close Relationships scale (ECR; Brennan, Clark & Shaver, 1998), and Beck Depression Inventory (BDI-II; Beck, Steer, Ball & Ranieri, 1996) were included as potential moderators of the relationship prime.

Procedure

Participants volunteered for this one-session, online study. Upon accessing the online survey and giving consent, participants filled out both the RSES and NFS. Following these scales, the online survey randomly assigned participants to one of two

prime conditions: secure or insecure. Participants then completed either the secure or insecure WHO-TO task, depending on their randomly assigned condition. After identifying their relationship other, participants completed the 4-minute writing task. Next, the online survey program randomly assigned participants to one of the five order conditions described earlier. Upon completing this block of measures, all participants completed the MII, GASP, ECR, and BDI (in that order). The session ended with a demographic questionnaire including items pertaining to current romantic relationship status and commitment.

Results

Data from fourteen participants were excluded because these participants indicated that they could not think of an appropriate relationship other in response to the insecure prompts, bringing the total number of participants to 295 (n_{secure} = 157, $n_{insecure}$ = 138). The following analyses will be reported according to these probability value criteria: significance requires p-values ≤ .05; marginal significance occurs when p-values fall between .06 and .09; non-significant trends have p-values between .09 and .14.

Manipulation Checks

Hierarchical linear regressions tested relationship prime and trait self-esteem's effects on the number of words written during the priming task, the SDE and IM subscales of the BIDR and the 4 subscales of the AVI (HAP, LAP, HAN and LAN). Main effects of prime and self-esteem (SE) were entered on Step 1. The Prime x SE interaction was entered on Step 2. Both the BIDR and AVI were presented early in only one condition. Due to the possibility of the prime wearing off, only participants who

received the BIDR or AVI early are included; Order V was included for BIDR analysis (n = 57) and Order IV was included for AVI analysis (n = 58). All Step 1 variables were mean-centered in order to test any possible interactions (Aiken & West, 1991).

There were no reportable effects of prime, self-esteem or the interaction for the number of words written during the priming task or for IM. Self-esteem significantly predicted SDE scores, $\beta = .30$, t (55) = 2.33, $p < .03$, such that individuals with higher self-esteem had higher SDE scores. This suggests that unconscious, defensive processes may be related to an individual's trait self-esteem, but they are unrelated to primed relationship quality.

Regarding the AVI, prime significantly predicted HAP and LAP moods, $|\beta|$s > .24, $|t|$s > 2.10, $ps < .05$, such that participants in the secure condition had higher levels of positive mood than participants in the insecure condition. There was also a main effect of prime for HAN mood, $\beta = .32$, t (56) = 2.66, $p < .05$; secure participants had lower levels of high arousal, negative mood than did participants in the insecure condition. For means and standard deviations, see Table 2. There was a main effect of self-esteem for HAP, LAP and HAN moods, $|\beta|$s > .27, $|t|$s (56) > 2.30, $ps < .05$, such that high self-esteem was associated with greater positive mood and less negative mood.

Order of Presentation

A one-way ANOVA was conducted to test whether the means of prosocial outcomes differed significantly across the 5 order conditions. Table 3 gives one-way ANOVA results for prosocial variables using all 5 order conditions. Results indicate that responses to all prosocial scenarios did not differ across order presentations, all Fs (4, 290) < 2.60, *ns,* with the exception of the Kase scenario; the Kase compassion

factor, *F (*4, 290) = 2.77, $p < .05$, $\eta^2 = .04$ and the 'worry' item, *F* (4, 290) = 2.90, $p < .05$, $\eta^2 = .04$. Tukey post hoc tests indicate that participants in Order III (those who read the Kase scenario first) were significantly less compassionate and less worried than participants in Order I (Kase scenario immediately follows the forgiveness and donation scenarios) and Order V (Kase scenario appears late in the order block). These analyses suggest that the Kase results are sensitive to the order in which they were presented; perhaps participants who read the Kase scenario relatively late evaluated Ms. Kase as more empathetic or deserving compared to targets in the earlier scenarios. Those who read the Kase scenario early did not engage in the same comparison, which resulted in lower levels of prosocial responding for those in the early order condition. For this reason, only data from participants in Order III will be analyzed for the Kase scenario.

Prosocial Scenarios

Detailed results appear below. A summary and interpretation follows the detailed results. The hierarchical regression analysis of the prosocial measures is as follows: Step 1. Relationship prime (secure = 1, insecure = 2), SE and order condition (coded to depict placement within order; early = 0, late = 1); Step 2. All 2-way interactions; Step 3. Prime x SE x Order. All Step 1 variables were mean-centered prior to conducting regressions for the purpose of testing interactions (Aiken & West, 1991).

Forgiveness Scenario

Table 4 presents regression results for all factors from the forgiveness scenario.

Distress factor. The Prime x SE interaction was significant, $\beta = -.15$, $p = .03$, $f^2 = .02$. Simple slopes tests indicated that LSE participants were particularly sensitive to the primes, $\beta = .26$, $p < .01$. Insecure-LSE participants had the greatest level of distress

emotions following the forgiveness scenario whereas secure-LSE participants experienced the lowest level of distress. HSE participants appeared unaffected by relationship prime, β = -.05, *ns*. See Figure 2, Panel A for predicted values.

Revenge factor. There was a significant Prime x Order interaction, β = -.16, p < .02, f^2 = .02, such that the effects of relationship prime are seen only when the forgiveness scenario was presented early, simple slope, β = .48, p < .01.Those in the secure condition were least vengeful and those in the insecure condition were most vengeful. The relationship prime appeared to have no influence on revenge for those who received the forgiveness scenario late, β = -.07, *ns*. See Figure 2, Panel B for predicted values.

Responsibility factor. Unlike the revenge result, which had a main effect of prime, there was only a significant main effect of SE, β = -.15, p < .02, f^2 = .04, such that participants with higher self-esteem felt less responsible.

Kase Scenario

The regression analyses include mean-centered prime and SE as predictors entered on Step 1, and the two-way interaction entered on Step 2. Only data from participants in Order III (n = 58) were included for these analyses. See Table 5 for regression results for all outcomes related to the Kase scenario.

Compassion factor. There was a significant main effect of self-esteem, β =.32, p < .02, f^2 = .10, such that individuals with higher self-esteem felt more compassion.

Distress factor. There was a significant Prime x SE interaction, β = -.29, p < .04, f^2 = .09. Simples slopes tests indicated that the insecure prime had the largest differences in distress, β = .33, p < .10. Insecure-LSE participants were the most

distressed, whereas insecure-HSE were the least distressed. There were no significant differences in distress for participants in the secure condition, β = .23, *ns.* See Figure 3, Panel A for predicted values**.**

Helping subscales. With regard to the behavioral items, there was a significant main effect of prime, β = -.28, $p < .05$, $f^2 = .08$, for likelihood of donating money; participants in the secure condition were more likely to donate money than those in the insecure condition. There were no reportable effects for helping Ms. Kase find a job or food donation.

Donation Scenario

The initial 3-step Prime x SE x Order regression analysis was performed and there were no reportable effects. Analysis of data from participants in all early conditions (Order I and Order II) also yielded non-reportable effects. For that reason, only data from participants in Order I (n = 62) were included in the analyses. Regression analyses with mean-centered prime and mean-centered SE as predictors entered on Step 1, and Prime x SE interaction entered on Step 2 were conducted. See Table 5 for regression results for both likelihood and amount of donation.

For amount of money, there was a significant Prime x SE interaction, β = .30, $p < .03$, $f^2 = .03$. Simple slopes analyses revealed that the secure prime had the largest differences in the amount of donation, β = -.45, $p < .01$. Secure-LSE indicated they would donate the most money. There were no differences for participants in the insecure condition, β = .05, *ns*. See Figure 3, Panel B for predicted values.

Loss Scenarios

The initial 3-step Prime x SE x Order regression analysis revealed a significant 3-way interaction, $\beta = -.13$, $p < .03$. Examination of this interaction indicated that there were no significant effects of prime or self-esteem within the late conditions. For ease of interpretation of the Prime x SE interaction, late presentation orders of the loss scenarios were dropped, and the regression analysis was re-run to include only participants in Orders II and IV ($n = 118$). See Table 5 for regression coefficients. With regard to likelihood of lying, there was a significant Prime x SE interaction, $\beta = .32$, $p < .01$, $f^2 = .10$. Simple slopes tests indicated that HSE individuals were most sensitive to the primes, $\beta = .25$, $p < .01$. Secure-HSE participants were the least likely to lie, whereas secure-LSE participants were most likely to lie. There were no differences in likelihood of lying for participants with low self-esteem, $\beta = -.09$, *ns*. See Figure 4 for predicted values.

Mood Covariates

In order to test whether the previous results were due to mood, HAP, HAN and LAP scores from the AVI were included in the first step of the regression analyses. Step 2 included relationship prime (secure = 1, insecure = 2), SE and order condition (coded to depict placement within order; early = 0, late = 1); Step 3. All 2-way interactions of the Step 2 predictors; Step 4. Prime x SE x Order. As expected, the inclusion of these mood indices did not alter the effects of relationship prime, self-esteem or their interaction.

With regard to the forgiveness distress result, the Prime x SE interaction remained marginally significant, $\beta = -.12$, $p = .06$, when the mood subscales were added

to Step 1 of the regression. The Prime x Order interaction also remained significant, β = -.14, $p < .03$. The main effect of self-esteem remained significant for responsibility. β = -.15, $p < .02$. For donation to the homeless woman, the Prime x SE interaction was marginally significant, $\beta = .21$, $p = .10$, when controlling for mood.

The results for the Kase outcomes also remained significant with the addition of mood items. The main effect of self-esteem for compassion remained significant, β = -.32, $p < .03$. The Prime x SE interaction for distress also remained significant, β = -.31, $p = .03$. For lying (loss scenario), the Prime x SE x Order interaction remained significant, $\beta = .32$, $p < .01$.

Main Effects of Mood

LAP mood significantly predicted personal distress within the forgiveness scenario, $\beta = .18$, $p < .03$, such that greater levels of low-arousal positive mood were associated with greater levels of personal distress. This may suggest that people who are calm are more comfortable admitting that they are distressed. Both HAN and HAP predicted an individual's willingness to accept personal responsibility within the forgiveness scenario; $\beta s > .18$, $ps < .01$, suggesting that highly emotional individuals may be more willing to take personal responsibility. Finally, both LAP and HAN predicted willingness to donate to the homeless criminal, $\beta s > .25$, $ps < .10$.

Summary and Interpretation of Results

Interaction of Relationship Prime and Self-Esteem: Support for Prosocial Paths

There were four significant interactions of prime and self-esteem that illustrate four of the proposed paths of prosociality. First, it appears as though the secure prime creates self-transcendent motivation for those with high self-esteem when they have

deserving targets. Recall that the securely primed high self-esteem participants respond most honestly to the stranger in the stereo scenario. In order to choose to respond honestly and forego a higher profit, these same individuals must transcend their own self-interest and behave prosocially solely for the benefit of the unknown stranger. There was no evidence of securely primed high self-esteem individuals responding particularly prosocially towards undeserving targets, suggesting that the act of transcending the self and increasing concern for others may only be evident when the target is deemed deserving. Second, the results suggest that the secure prime can self-affirm low self-esteem individuals (possibly via a contrast effect). This affirmation results in prosocial behaviors directed towards even those who are not particularly worthy.

Third, it appears as though the insecure prime makes low self-esteem participants self-protective. There is evidence that insecurely primed low self-esteem individuals do not ignore the distress of others; recall that they experience distress in the forgiveness and Kase scenarios. However, these relatively high levels of distress appear to be focused inward; these participants do not become motivated to behave prosocially toward Ms. Kase or forgive the friend even though they are distressed by the situation.

Finally, the results suggest that the insecure prime may make high self-esteem participants defensive; they appear to ignore threatening information that may otherwise motivate them to act prosocially. Recall that the insecurely primed high self-esteem participants were least distressed by Ms. Kase's unfortunate situation. This lack of distress may illustrate a defensive downplaying (or ignoring) of Ms. Kase's situation, which may serve to decrease these participants' negative mood or feelings about the

self. Alternatively, this Kase result may indicate that the insecurely primed high self-esteem participants are not worried because they intend to help Ms. Kase. However, due to these participants' unwillingness to help her (or to behave prosocially in any of the scenarios), it seems unlikely that their lack of distress is due to their intention to help in the future.

Prime Effects

Priming insecurity increased both desire for revenge (forgiveness scenario) and willingness to donate money (Kase scenario). Additionally, the insecure prime is associated with greater negative mood for participants, which can be seen in the AVI results. The insecure prime was associated with greater levels of high-arousal, negative mood. This increase in negative mood may help explain the prime effects on both revenge and willingness to donate money. These negative moods might motivate those in the insecure prime to turn inward, such that they become more focused on their own negative states. In order to lessen the negative feelings associated with the forgiveness scenario, the insecure participants become more vengeful. In order to lessen the negative feelings associated with the Kase scenario, the insecure participants ignore it, resulting in decreased willingness to donate money.

Self-Esteem Effects

High self-esteem appears to give participants distance from their friend's betrayal. This distance results in high self-esteem participants experiencing decreased feelings of personal responsibility, compared to low self-esteem participants. However, high self-esteem is not associated with distancing the self away from all prosocial targets; high self-esteem individuals appear particularly responsive towards deserving

targets. Recall that high self-esteem was associated with increased compassion towards Ms. Kase. Taken together, it appears as though high self-esteem may allow individuals to disengage from those who are undeserving of their prosociality while increasing their concern towards those who are deserving.

These self-esteem results do not perfectly align with the proposed model of prosociality, but they may provide partial support. Regardless of relationship prime, low trait self-esteem predicts increases in willingness to take responsibility. Perhaps insecurely primed low self-esteem participants take responsibility because they are made to feel worthless (or that they need to repair the relationship by taking personal responsibility), whereas securely primed low self-esteem participants take responsibility because they feel comfortable acknowledging their own faults. Regardless of relationship prime, high self-esteem predicts increases in compassionate responding toward a deserving stranger. Secure, high self-esteem participants' compassion may indicate their self-transcendence and increased concern for others, whereas insecure, low self-esteem indicated feeling compassion as a way to sustain their own positive view of themself.

One possible explanation for these differences in effects for prime and esteem is that it is easier to maintain or boost one's positive view of self by reporting emotional responses. Reporting increases in compassion may be an easy way for high self-esteem participants to maintain a positive view of the self. However, committing oneself to perform an actual prosocial behavior is costly in both time and resources. This suggests that behavioral results associated with the relationship primes are not simply the result of participants wanting to present themselves positively to others. The secure prime

appears to encourage participants (both low and high self-esteem) to empathize with and gather resources for others. The insecure prime appears to have the opposite effect -- it turns participants inward and encourages them to behave selfishly, even at the expense of others.

Discussion

The interplay between relationship prime and trait self-esteem reveal important consequences for prosociality. Results from Study 1 suggest two important findings. First, secure primes do appear to increase an individual's overall prosociality; no results indicate that insecure primes leads to higher levels of prosociality. Second, context remains an important element in predicting whether high or low self-esteem participants will be the most prosocial.

Self-Esteem and Reaction to Others

Trait self-esteem may predict the scenarios to which participants are most reactive. For example, high self-esteem participants were particularly responsive to targets that exhibited no observable character flaws (i.e., Ms. Kase and the stranger in the loss scenario), whereas low self-esteem individuals appeared most responsive to targets with negative attributes (i.e., the untrustworthy friend and the homeless criminal). Perceived similarity to the target may help explain these findings. High self-esteem individuals may not acknowledge their own negative characteristics, which may explain why their attention becomes focused on targets who do not have any identifiable negative qualities. Low self-esteem individuals are relatively comfortable acknowledging their own negative aspects, so they may have an easier time empathizing with others who also have visible flaws.

It should be noted that these targets were confounded by type of prosocial behavior. The undeserving targets were coupled with prosocial behaviors that may be seen as relatively easy to perform: ignoring the friend and donating money. The more deserving targets were paired with arguably more difficult tasks: forgoing personal gains in order to be honest and donating time and personal resources to a stranger. The low self-esteem participants may have responded more strongly to the easy behaviors simply because low self-esteem participants, when compared to high self-esteem participants, do not view themselves as particularly confident in their abilities. High self-esteem participants may have responded most strongly to the more difficult behaviors simply because these participants felt as though they were more capable of enacting the more difficult behaviors.

Relationship Primes and Prosociality

Relationship prime appeared to influence whether prosocial responses were withheld from or administered to a particular target. As summarized earlier, security increases one's likelihood of responding prosocially (secure-HSE individuals most honest; secure-LSE individuals least distressed by friend and most willing to donate money), whereas insecurity is linked to patterns of responding that are less prosocial (insecure-HSE individuals least distressed by Kase and most likely to lie). This is consistent with the literature; primed relationship security has been shown to increase a variety of socially desirable traits such as altruism (Mikulincer, Shaver, Gillath & Nitzberg, 2005), authenticity (Gillath, Sesko, Shaver & Chun, 2010) and non-prejudicial judgments (Mikulincer & Shaver, 2007). What is novel about the current

study are the data suggesting that securely primed high and low self-esteem individuals may direct their prosociality toward different targets following the security-induction.

With regard to vengeance, it appears as though an individual's desire to seek revenge is driven primarily by primed insecurity. This effect showcases a surprising fact about the possible motivations that underlie vengeance seeking. Recall that the insecurely primed low self-esteem participants were most distressed by their friend's betrayal, therefore it makes sense that these participants may be motivated to seek revenge as a way to mitigate their own suffering. High self-esteem individuals, although still prone to revenge, did not indicate any emotional distress following the scenario. Perhaps their motivation to seek revenge is more functional; they do not view revenge as a way to feel better, but simply a way to ensure that the untrustworthy behavior does not happen in the future.

Additional Findings and Future Directions

The mood results illuminated a few important points. First, unlike previous research (see Mikulincer et al., 2003), relationship prime did not influence mood. The reason for these disparate results may be due to differences in how mood was measured in these studies. For the current study, mood was assessed using multiple items that tap very specific affective states within participants. For Mikulincer et al., (2003), mood was assessed broadly; participants were asked how good or bad they felt. This simplistic assessment of mood may not capture the subtle differences that occur following the relationship prime.

Second, there were no significant interactions of prime and trait self-esteem for any of the mood or word count results. This suggests that both high and low self-esteem

individuals wrote about similarly arousing relationships during the priming task. There was the possibility that insecurely primed high self-esteem participants could write less, or be motivated to choose less emotionally arousing relationships to write about as a way to maintain their overall high self-esteem and mood, but this does not appear to be the case. Additional analysis of participant writing samples will be conducted in Study 3.

A follow-up of interest involves examining and clarifying self-structure's role in the proposed model of prosocial behavior. Previous research suggests that a compartmentalized self-structure may be a defensive response to threats (Thomas, Ditzfeld & Showers, 2012; Bozeman, 2012). If this is the case, then defensive compartmentalization, particularly within the threatening insecure condition, may help to explain defensive responses for insecure, high self-esteem participants. For this reason, Study 2 included a self-descriptive card-sorting task to assess self-structure.

STUDY 2

Overview

In fact, Study 2 was conducted before Study 1. Study 2 included a measure of self-concept organization that may have unintentional consequences. For instance, HSE individuals may find reflecting upon the self to be more self-enhancing than do those with LSE. Additionally, LSE individuals may neutralize the effect of the secure prime by reflecting upon negative self-attributes during the self-concept task. Due to the inclusion of this measure in Study 2 as well as Study 1's inclusion of the order blocks that allowed the researchers to examine the immediate effects of the relationship primes

on all prosocial scenarios, results from Study 1 are a more accurate test of the path model. For that reason, results from Study 1 were presented first.

There were four goals of Study 2:

1. The first goal of Study 2 was to find prosocial results consistent with both the proposed model of prosociality and results from Study 1, namely the results supporting the self-affirmation path (secure-LSE individuals were least distressed following friend's betrayal and donated the most amount of money to a homeless criminal), the self-transcendent path (secure-HSE individuals were most least likely to lie to the stranger in the stereo scenario) and the defensive path (insecure-HSE individuals were least distressed by Ms. Kase's misfortune and most likely to lie to the stranger in the stereo scenario) paths to prosociality.
2. The second goal of Study 2 was to replicate the Prime x Self-Esteem effects on self-knowledge compartmentalization found in Bozeman (2012). Bozeman's (2012) study found that insecure-HSE participants displayed the most compartmentalized self-structures. One important procedural difference between Bozeman (2012) and the current study is that the current study administers the self-esteem measure prior to priming relationship quality. Bozeman (2012) administered the self-esteem scale at the end of the session; effects of the prime may have influenced participant self-esteem unintentionally. Additionally, Bozeman (2012) included a relationship prime boosting task that was administered after the self-descriptive card sorting task but prior to completing the prosocial scenarios. The inclusion of these boost questions, which were initially included to reinstate the effects of the relationship prime, may have altered the effects of the prime altogether. For example, some participants in

the insecure condition may have used the boost task as a way to cope with their insecurity instead of reinstate it. The current study includes neither boost questions nor manipulation checks, which may alter the initial effect of the prime; participants go directly from the card sort to the prosocial scenarios.

3. The third goal was to test whether this compartmentalization is correctly described as defensive. Previous research on self-knowledge organization suggests that compartmentalizing negative attributes following a threat to the self is a defensive strategy aimed at reducing the salience of one's negative self-attributes (Thomas, Ditzfeld & Showers, 2013; Boyce, 2008). Study 2 includes mediational analyses in order to test whether compartmentalization seen in threatened individuals (i.e., insecure-HSE participants) is defensive. Specifically, these analyses will test whether the hypothesized compartmentalization of insecure-HSE individuals is associated with an increased desire to ignore or lessen the importance of negative self-aspects. The defensiveness measures of interest are the Behavioral Inventory of Desired Responding (both the impression management and self-deceptive enhancement subscales) and the Threat Orientation Scale (both the optimistic denial and avoidance denial subscales).
4. The final goal of Study 2 was to link Showers' (1992) model of compartmentalization to prosocial responding. Individuals who are preoccupied with mitigating the influence of their own negative self-attributes (i.e., those who are compartmentalized) may possess fewer cognitive resources. Previous research suggests that reductions in cognitive resources make it more difficult to make decisions regarding others, also make it more difficult to experience empathy

(DeWall, Baumeister et al. 2008; Xu, Begue & Bushman, 2012). Study 2 aimed to test the hypothesis that compartmentalization mediates effects on prosociality; insecure-HSE should become more compartmentalized, which in turn, should lead to a reduction in their prosocial responses to the four prosocial scenarios.

Method

Participants

Participants were 101 undergraduates (99 women) enrolled in introductory psychology courses at the University of Oklahoma. They volunteered to participate in exchange for research exposure credit. The mean age of participants was 18.27 years (*SD*=1.81). The sample was 77% White, 8% Black, 3% Hispanic, 10% Asian and 1% as American Indian or Native American.

Design

Similar to Study 1, the basic design of this study can be conceptualized as a 2 (secure versus insecure relationship prime) x 2 (high versus low trait self-esteem) model. As in Study 1, self-esteem is a continuous variable. For that reason, ANOVAs are not the featured analysis. Analyses use hierarchical multiple regressions.

Measures

Relationship Primes: Materials

Similar to Study 1, relationship security and insecurity was primed utilizing the modified WHO-TO identification task (Hazan & Zeifman, 1994) and 4-minute writing task. The written instructions reflect the in-lab setting of this study:

"Write about how this person makes you feel about yourself either when you are around them or when you think about them. Focus on the *positive feelings / negative feelings* you experience. Be as detailed as possible. If you finish before you are instructed to move on, please sit quietly and reflect upon what you have written."

Self-Descriptive Card Sorting Task: Procedure

In order to assess both the structure and content of the self-concept, participants completed the self-descriptive card-sorting task used by Showers (1992a). This specific card sort is based on the task developed by Zajonc (1960) and built upon by Linville (1985).

After participants received verbal card sort instructions, they were given a recording sheet and a deck of 40 cards. Each card contained either a positive or negative adjective (there are 20 positive and 20 negative adjectives in each deck). The verbal instructions were as follows:

> "Your task is to think of the different aspects of yourself or your life and then form groups of traits that go together, such that each group of traits describes an aspect of yourself or your life. In other words, you will think about the different aspects of yourself, and sort the cards into groups so that each group represents a different aspect of yourself or your life. Use whatever groups best describe the way you think about yourself and the different aspects of your life."

Participants could create as many groups as they wanted, and they could use the same card in many different groups.

Immediately after completing the card sort, participants evaluated each of their groups for their positivity, negativity and importance on a 7-point scale. These ratings capture the index of differential importance (see below).

Self-Descriptive Card Sorting Task: Measures

Three distinctive measures are taken from the sorting task: phi, proportion of negative attributes and differential importance.

Evaluative organization (phi). A phi coefficient assesses evaluative organization (Cramer, 1974). Phi is based on a chi-square statistic that compares the frequency of positive and negative attributes in each of the participant's groups to that

which would be expected due to chance. Phi is a continuous measure of compartmentalization bounded by 0 (perfect integration; proportion of negative attributes is the same in all groups) and 1 (perfect compartmentalization; each group contains solely positive or negative attributes).

Proportion of negative attributes (neg). The proportion of negative attributes found in the card sort is calculated by dividing the number of negative attributes used by the total number of attributes in an individual's card sort.

Differential importance (DI). Differential importance measures the relative positivity and negativity of an individual's self-aspects (Pelham & Swann, 1989). DI scores are bounded by -1 (negative groups are relatively more important than positive groups) and +1 (positive groups are relatively more important than negative groups).

Prosocial Scenarios

The loss (stereo), forgiveness, donation and Kase scenarios appeared in the same form and with the same items as they did in Study 1. The loss (business) scenario was not included.

Measuring Defensiveness: Social Desirability and Threat Orientation

As in Study 1, impression management (IM; $\alpha = .76$) and self-deceptive enhancement (SDE; $\alpha = .62$,) subscales of the Balanced Inventory of Desired Responding (BIDR; Paulhus, 1994) assessed participant defensiveness. Additionally, the avoidance and optimistic denial subscales of Threat Orientation Scale (TOS; Thompson, Schlehofer, & Bovin, 2006) served as measures of defensiveness. Avoidance denial assesses an individual's desire to avoid threats to the self (e.g., "I would rather not hear about health or safety risks that affect me"). Optimistic denial

assesses an individual's tendency to be unrealistically optimistic about encountering threats (e.g., "I rarely think about bad things happening to me"). All items were scored (1) not at all like me to (7) very much like me. Cronbach's alpha coefficients for the two subscales were acceptable (α_{AVOID} = .82, and $\alpha_{OPTIMISTIC}$ = .81).

Additional Measures

Participants completed questionnaires relating to self-esteem (RSES; Rosenberg, 1965), moral identity (MII; Aquino & Reed, 2002), guilt and shame proneness (GASP; Cohen, Wolf, Panter & Insko, 2011), mood (BDI-II; Beck, Steer, Ball & Ranieri, 1996), personal need for structure (NFS; Neuberg & Newsom, 1993) and attachment style (ECR; Brennan, Clark & Shaver, 1998). Along with self-esteem, these measures are included as potential moderators of the relationship prime. Individual differences on these measures might influence how participants react to the relationship primes, and thus how they respond to the prosocial outcomes of interest.

Procedure

Participants volunteered for this one-session laboratory study via online registration. Upon arrival, participants completed the RSES and NFS questionnaires. Then participants completed the WHO-TO task, followed by the 4-minute writing task. Then they completed the self-descriptive card-sorting task and DI measure. Immediately following the DI packet, participants completed a packet containing the loss (stereo), forgiveness, donation and Kase scenarios (in that order). Upon finishing the prosocial packet, participants completed a questionnaire packet containing BIDR, MII, GASP, TOS, ECR, and BDI. The session ended with participants completing a demographic questionnaire.

Results

The analyses will be reported according to the following probability value criteria: significance requires p-values ≤ .05; marginal significance occurs when p-values fall between .06 and .09; non-significant trends have p-values between .09 and .14. Due to the small number of males that volunteered for this study, the reported analyses include only females (n_{secure} = 50, $n_{insecure}$ = 49). Excluding the 1 male and 1 unidentified participant did not alter results. Table 6 presents the means and standard deviations for phi, DI, neg and all prosocial outcomes.

Results: Prosocial Scenarios

The hierarchical regression strategy for analyzing the prosocial results is as follows: Step 1. Relationship prime (secure = 1, insecure = 2), self-esteem (SE); Step 2. Prime x SE. All Step 1 variables were mean-centered in order to test interactions (Aiken & West, 1991).

Loss Scenario (Stereo)

There were no reportable effects for the likelihood of lying to a stranger in the stereo scenario.

Forgiveness Scenario

Table 7 contains regression coefficients for all outcomes from the forgiveness scenario.

Distress factor. There was a significant Prime x SE interaction, β = .19, p = .05, f^2 = .02. Simple slope analyses indicate that HSE individuals were most reactive to the relationship primes, β = .25, p < .08; secure-HSE participants had the lowest level of distress emotions following the forgiveness scenario (supporting the self-transcendent

path), whereas insecure-HSE participants had the highest level of distress (supporting the defensive path). See Figure 5, Panel A for predicted values.

Revenge and responsibility factors. There was a significant effect of self-esteem, $\beta = -.23$, $p < .03$, $f^2 = .06$, such that individuals with lower self-esteem were more vengeful. There were no reportable findings for the responsibility factor.

Kase Scenario

For this scenario, the five outcome variables of interest are: distress, compassion, food donation, monetary donation and help finding a job. For regression coefficients for Kase, donation and loss scenarios, see Table 8.

Distress factor. There was a marginally significant main effect of prime, $\beta = .18$, $p = .08$, $f^2 = .03$, such that participants in the insecure condition felt marginally more distressed for Mrs. Kase.

Compassion factor and helping behaviors. There were no reportable effects for the compassion factor, monetary donation, food donation or help finding a job.

Donation Scenario

One participant failed to provide responses to the two donation items, bringing the total number of participants included for this analysis to 98. The Prime x SE interaction for donation likelihood was a nonsignificant trend, $\beta = -.18$, $p < .13$, $f^2 = .02$. As with the forgiveness distress results, simple slopes analyses indicate that HSE were most reactive to the relationship primes, $\beta = -.25$, $p < .08$; secure-HSE participants indicated they would be most likely to donate (supporting the self-transcendent path). Relationship primes did not appear to influence donation likelihood for LSE, $\beta = .07$,

ns. See Figure 5 Panel B for predicted values. There were no reportable effects for amount of donation.

Discussion: Prosocial Scenarios

In comparison to results from Study 1, which found support for all four paths, Study 2 found support for only the self-transcendent path. Recall that for Study 2, the secure, high self-esteem participants were least distressed in the forgiveness scenario and donated the most amount of money in the homeless scenario. Secure, high self-esteem participants' non-distress in the forgiveness scenario may indicate their ability to transcend their own negative feelings and forgive their undeserving friend. Alternatively, this lack of distress could indicate that these participants are ignoring their friend and are thus unbothered by their friend's actions. However, this seems unlikely when one takes the donation scenario into consideration. If simply ignoring others were the appropriate explanation, then it would be reasonable to expect the secure high self-esteem participants would also ignore the homeless person. However, the data indicate that these participants are also most willing to donate to the homeless person.

Additionally, results from Study 2 highlight the fragility of high self-esteem. When threatened with insecurity, high self-esteem individuals respond very similarly to LSE participants. This may indicate that, when faced with threat (i.e., the insecure prime), HSE individuals turn inward, focusing only on their own negative feelings (as in the forgiveness result) or by ignoring the needs of others (as in the donation scenario).

Failure to Replicate Study 1 Results

Study 2 failed to replicate many of the prosocial findings from Study 1. Failure to replicate these findings may be due to a number of issues. For instance, the sample size in Study 2 is noticeably smaller than Study 1, so there may be issues of power. Power analyses suggest that in order to detect a significant result for the loss scenario, the sample in Study 2 would have to be increased to 114 participants; a sample of 168 would have been needed to detect a significant result for the amount of money being donated to Ms. Kase.[4] Unfortunately, Study 2 was conducted before Study 1, so the researchers were initially unaware of the need for a larger sample. Additionally, Study 2 did not employ the same order blocks as Study 1, making it possible for the effects of the primes to wear off before participants completed the later measures, which might explain why there are no significant effects for the Kase scenario results in Study 2. Furthermore, participants in Study 2 may have had a more difficult time recognizing the loss scenario as assessing prosociality due to its early presentation. Perhaps Study 1 participants had an easier time identifying the act of saying there was another offer as being dishonest because they previously experienced other prosocial scenarios.

It is also possible that the inclusion of the self-descriptive card-sorting task in Study 2 may have influenced the prosocial outcomes. Recall that the card-sorting task asks participants to identify and define important aspects of their lives. This act of reflection may be inherently self-affirming, particularly for high self-esteem participants who tend to evaluate themselves very positively and focus on their positive qualities as a way to maintain their esteem. This affirmation, coupled with the secure prime's other-focus motives, may boost high self-esteem participants' confidence and explain why the

securely primed high self-esteem participants in Study 2 were able to behave prosocially toward less deserving targets. Low self-esteem participants, who are typically more likely to acknowledge negative self-aspects relative to individuals with high self-esteem, may create less positive card sorts. Due to the reflection on negative self-aspects, the positive effects associated with the secure prime may be dampened for low self-esteem participants in Study 2. However, there is an alternative explanation of the possible effects of the card sort; perhaps the card sort makes the high self-esteem participants particularly self-aware. This increased self-awareness may motivate securely primed high self-esteem participants to answer questions as though they are very prosocial, but only in order to look good to themselves and others.

Additionally, Study 2 results showed a main effect of self-esteem for revenge; HSE individuals with were less inclined to seek vengeance. In Study 1, there was a main effect of prime, such that securely primed individuals were less vengeful. Again, perhaps the card sort in Study 2 makes high self-esteem participants particularly self-aware and they are motivated to appear less vengeful; this self-awareness may have overridden any effects of the relationship prime.

Results: Self-Structure

Of the 99 women who completed the card-sorting task, 7 were excluded from the current analysis (7.1% of total participants) because they used fewer than 2 negatives in their card-sorts, bringing the sample size to 92.

Self-Knowledge Organization: Phi, DI and Neg

The hierarchical regression strategy for analyzing the card-sort data (phi, DI and neg) is as follows: Step 1. Relationship prime variable (secure = 0, insecure = 1), self-

esteem (SE)**;** Step 2. Prime x SE. Prior to conducting each regression, both relationship prime and SE were mean-centered. Neg was entered prior to Step 1 for phi analyses in order to control for any variance in the data due to it. Table 9 presents regression coefficients for all self-structure analyses.

There was a significant Prime x SE interaction for phi, $\beta = .19$, $p = .03$, $f^2 = .04$. The simple slope test revealed a significant spread of compartmentalization scores within insecure condition, $\beta = .27$, $p < .03$; insecure-LSE individuals were the most integrative, whereas insecure-HSE were most compartmentalized. See Figure 6, Panel A for predicted values.

An additional 3 participants were excluded from the DI analysis (3% of participants) because they did not have any variation in the ratings of their positive and negative groups ($n = 89$). There was a marginal main effect of prime for DI, $\beta = .19$, $p < .08$, $f^2 = .05$; participants in the insecure condition identified their positive self-aspects as more important than those in the secure condition. There were no reportable effects for neg.

Phi and Defensiveness: Regression and Mediation Analyses

Hierarchical linear regressions tested relationship prime and trait self-esteem's effects on the SDE and IM subscales of the BIDR and the avoidance denial and optimistic denial subscales of the TOS. The hierarchical regression strategy for analyzing the prosocial results is as follows: Step 1. Relationship prime (secure = 1, insecure = 2), self-esteem (SE); Step 2. Prime x SE. All Step 1 variables were mean-centered for the purpose of testing interactions (Aiken & West, 1991)**.** For regression coefficients, see Table 10.

There were either marginal or significant main effects of SE for IM and SDE, *β*s > .17, *ts* (98) > 1.65, *ps* ≤ .10; higher self-esteem was associated with higher levels of IM and SDE. There were no additional reportable effects for any of the defensiveness outcomes.

Mediational analyses were conducted in order to test whether the compartmentalization experienced by insecurely primed participants with high self-esteem was related to increased defensiveness. Analyses tested whether compartmentalization (phi) mediated Prime x SE effects on four measures of defensiveness. These measures were the SDE and IM subscales of the BIDR and the avoidance and optimistic denial subscales of the TOS. Mediation was assessed using bootstrapping procedures (Preacher & Hayes, 2004; Preacher, Rucker & Hayes, 2007). Due to the exploratory nature of these analyses, 90% confidence intervals will be used to assess the significance of the indirect paths.

Mediational analysis examining whether phi (controlling for neg) mediated the effect of Prime x SE on SDE, IM and optimistic denial were nonsignificant. The indirect effect of Prime x SE on avoidance denial through phi was significantly different than zero, but only for participants with high self-esteem, point estimate = .05, 90% CI [.01, .21]. This mediation suggests that for insecure-HSE individuals, compartmentalization is associated with increased defensiveness, as measured by increased desire to avoid negative information about the self. For unstandardized regression coefficients, see Figure 7.

Phi and Prosocial Outcomes: Mediation Analyses

Due to compartmentalization's association with increased defensiveness (which

supports the insecure-HSE defensive path), additional mediation analyses testing whether increases in phi were associated with decreases in prosocial behaviors were conducted. Specifically, mediational analysis using bootstrapping procedures examined whether phi (controlling for neg) mediated the effect of Prime x SE on distress (forgiveness scenario) and donation likelihood. Significant mediation did not occur for the distress factor or donation likelihood, point estimates ≤ .01, 95% CIs [-.05, .03] and [-.07, .06], respectively. See Figure 8 for unstandardized regression coefficients for the distress and donation outcomes.

Discussion: Self-Structure

Results from Study 2 clarify a few important points regarding self-structure. First, insecurely primed high self-esteem participants display especially compartmentalized self-structures, replicating findings from Bozeman (2012). For a side-by-side comparison of the Bozeman (2012) self-structure result and the Study 2 result, see Figure 6. Interestingly, insecure low self-esteem participants displayed the most integrative self-structures. The differences in compartmentalization scores within the insecure prime hint at opposing strategies for coping with the threatening insecure prime. In order to deal with the threat of insecurity, insecurely primed high self-esteem individuals cling to their (overly) positive views of the self. Low self-esteem individuals, who are more comfortable acknowledging negative self-beliefs than their secure counterparts, may cope with the insecure relationship prime by linking their negative aspects with their positive ones.

The marginal effect of relationship prime on differential importance suggests that the insecure prime elicits an additional defensive response in participants.

Specifically, insecurely primed participants indicated that their positive self-aspects were relatively more important than their negative ones. Taken with the previous compartmentalization result, this differential importance result suggests that insecurely primed high self-esteem downplay the importance of negative self-aspects. What may be unexpected is the fact that insecure low self-esteem participants, who seemed relatively more willing to acknowledge their negative aspects compared to the insecurely primed high self-esteem participants, also downplay the importance of their negative self-aspects. This may indicate that the integration seen in the insecurely primed low self-esteem participants is not actual acceptance of or comfort with negative qualities. These insecurely primed low self-esteem participants are still unwilling to believe that their negative aspects hold importance.

Compartmentalization and Prosocial Outcomes

Results failed to support the hypothesis that compartmentalization of the self mediates effects of prime and self-esteem on the prosocial outcomes of distress (forgiveness scenario) and donation likelihood. Firstly, as suggested by the power analysis, Study 2 may suffer from lack of participants. This lack of power may be the reason for the nonsignificant findings. However, a lack of power may not be the only reason why we fail to see compartmentalization mediate the effects of prime and self-esteem on prosocial outcomes. When looking at the results from the mediational analyses, it becomes apparent that compartmentalizing negative self-attributes is uncorrelated to prosocial outcomes (see Figure 8 for nonsignificant path from phi to forgiveness distress and donation outcomes). An explanation for these results may be that the strategies individuals use to organize self-relevant information does not predict

responses to people in need. Taken together with the large body of research on prosocial results, it may indicate that additional factors (such as mood and motivation) play larger roles in determining prosociality.

Defensive Compartmentalization

Information about the nature of the compartmentalization seen in the insecurely primed high self-esteem participants was clarified in the analyses. The compartmentalization may be accurately described as defensive, meaning that the cordoning off of negative self-attributes was done as a way to avoid them. Other measures of defensiveness, such as optimistically denying negatives (as assessed by SDE and optimistic denial) or actively trying to deceive others (as measured by IM) did not appear related to self-structure compartmentalization. This suggests that the defensiveness experienced by the insecurely primed high self-esteem participants is internalized; their separation of negative attributes is not simply a way to make others think that they are without flaws; they cordon of their negative attributes as a way to avoid thinking about them and the implications that acknowledging them might have for their own self-image.

Interestingly, the self-structure result also indicates that securely primed low self-esteem participants are relatively compartmentalized. However, this compartmentalization appears unrelated to defensive ways of processing information. This gives support to the idea that not all compartmentalization is defensive (Thomas, Ditzfeld & Showers, 2012); for securely primed individuals, both with high and low self-esteem, compartmentalization was not associated with self or other-deceptions. So, instead of a defensive motive for compartmentalizing their self-structure, these secure

individuals may possess a genuinely compartmentalized self-structure; this type of compartmentalization arises when an individual has relatively separate positive and negative self-attributes, but this separation is not born out of a desire to minimize or ignore the negatives. To borrow language from Thomas et al. (2012), secure-LSE individuals possess *genuine compartmentalization* (p. 727); their separation of positive and negative attributes is simply a byproduct of their relatively few unimportant negative self-attributes.

Study 1 and Study 2: Summary and Concluding Remarks

Taken together, Studies 1 and 2 illustrate that both high and low self-esteem can foster acts of prosociality when certain conditions are present. Individuals with high self-esteem who are primed with relationship security appear most prosocial when the target of the prosocial behavior is deserving of help. Additionally, the type of behavior in which these secure, high self-esteem participants are most likely to engage is self-transcendent. That is, these behaviors are completely other-focused and are not self-serving. A specific example of this self-transcendent behavior can be seen in Study 1; the secure, high self-esteem participants were most honest to the stranger. The inclusion of the self-descriptive card-sorting task in Study 2 allowed for these secure, high self-esteem participants to reflect upon important, positive self-aspects. This task may have affirmed compassionate, other-focused qualities for high self-esteem participants, resulting in their engagement in acts of prosociality toward undeserving others, such as a homeless criminal and betraying friend.

Although there are important advantages to having high self-esteem, there are noteworthy disadvantages to possessing high self-esteem as well. Possessing high self-

esteem and being primed with relationship security does not increase the likelihood of prosocial engagement across all situations. Under normal conditions, securely primed high self-esteem individuals appear to ignore individuals who are less deserving. High self-esteem individuals react defensively to the insecure relationship prime by ignoring the needs of others. For example, the high self-esteem participants primed with relationship insecurity were least likely to be distressed by Ms. Kase in Study 1.

Individuals with low self-esteem are also likely to behave prosocially when certain conditions are present. In order to behave prosocially, individuals with low self-esteem must first reflect upon a secure relationship. This reflection allows individuals with low self-esteem to become affirmed via a contrast effect. The resulting increased positive view of the self translates into the participants being particularly generous towards those who are less deserving of help. Evidence of this can be found in Study 1; secure, low self-esteem participants were most prosocial toward the homeless criminal and undeserving friend. Results from Study 2 reveal that this contrast effect (and accompanying prosociality) can be diminished if securely primed low self-esteem participants are asked to reflect upon negative self-aspects (such as completing the self-descriptive card sorting task) prior to behaving prosocially. As shown in Study 2, secure, low self-esteem participants did not enact any prosocial behaviors following the card-sorting task.

Finally, there are important disadvantages to low self-esteem. Low self-esteem individuals are particularly vulnerable to the insecure relationship prime, and this vulnerability often translates into a lack of prosocial engagement. Specifically, the insecure prime leads low self-esteem individuals to increase self-focus on their own

personal distress, which can be seen in the forgiveness and Kase finding in Study1. Unfortunately, this increased distress does not appear to (egoistically) motivate these participants to become more prosocial as a way to diminish their own discomfort. For instance, distress at another's suffering (as in the Kase scenario) did not translate into greater levels of helping.

To summarize, Study 1 and Study 2 illustrate the potential benefits and disadvantages of high and low self-esteem for prosocial behavior. As expected, priming relationship security has important prosocial benefits, but high and low self-esteem participants respond differently to the secure primes. When primed with relationship security, high self-esteem individuals appear to transcend the self and help deserving others altruistically (although they tend to ignore the needs of those less deserving), whereas low self-esteem individuals, affirmed via a contrast effect, become particularly sensitive to the needs of the less deserving. Low self-esteem participants experience increased personal distress following the insecure relationship prime. However, this distress does not motivate them to prosocial action. Individuals with high self-esteem become defensive when primed with relationship insecurity. This defensive avoidance can be seen in both their responses to prosocial situations as well as the card-sorting task. Insecurely primed, high self-esteem participants become motivated to downplay their negative self-attributes by compartmentalizing them away from positive attributes, and the main reason for this compartmentalization is to avoid confronting these negative attributes.

STUDY 3

Overview

The purpose of Study 3 was to analyze the writing task protocols collected during Study 1. The underlying assumption regarding these protocols was that content of the secure and insecure primes (and the actual secure and insecure relationships) would be equivalent for both HSE and LSE participants. However, it is possible that trait self-esteem may be linked to the reported content of the protocols, such as the type of relationship other identified as well as the emotional and behavioral content of the paragraphs. If such differences emerge, then we need to consider whether the primes were equivalent for HSE and LSE participants.

There are three possible explanations for why these writing protocols may be different. Firstly, the relationships may truly be different. For example, LSE individuals may have experienced more impactful insecure relationships in their past than HSE participants, and the intensity of this insecurity may be seen when evaluating the emotional content of the writing samples. Similarly, HSE participants may have experienced more supportive and positive relationships in their past when compared to the LSE participants. This could also lead to differences in the emotions primed in the secure task.

It is also possible that although the protocols may differ, the actual relationships for HSE and LSE participants are truly similar. One reason for the observed differences may be that HSE participants coped with the relationship differently than LSE participants. For instance, the insecure relationship prime may lead HSE and LSE participants to recall similarly negative relationships, but the HSE participants may be

more effective at utilizing healthy coping strategies which minimize negative emotion. Put simply, even though both HSE and LSE participants may have equally bad insecure relationship others, if the HSE participants write less negative protocols, they may be experiencing a less negative prime.

A third reason for the observed differences may be defensive processes. For instance, a HSE individual in the insecure condition may report feeling less distressed when reflecting upon an insecure relationship, but the reason for this lack of distress may not be a byproduct of successfully coping with the insecure relationship. Instead, these insecure-HSE participants may be engaging in self-deception or impression management techniques as a way to make themselves (and their relationships) appear healthier and happier to either themselves or the researcher.

Method

Participants and Procedure

This study uses the writing task protocols from Study 1. For that reason, all participant demographic information and procedures are the same as those in Study 1.

Measures

For a full list of measures administered during the session, see Study 1. The measures important to the current study are reviewed below.

Identification of Relationship Other

Following the demographic questionnaire, participants categorized their relationship other for the writing task prime at the end of the session. Category options were: mother, father, stepmother, stepfather, sibling, same-sex peer, opposite-sex peer, romantic partner, mentor, and other. Participants could select only one category. The

most frequently identified secure relationship others were mother (34%), romantic partner (24%) and same-sex peer (14%). The most frequent insecure relationship others were same-sex peer (34%), other (18%) and opposite-sex peer (15%). For frequency of type of relationship other within condition, see Table 11.

Coding: Secure Paragraphs

After reading participants' writing samples, the author determined that eight emotional and behavioral dimensions represented their secure relationships. The coding dimensions for the secure paragraphs were the following: joy, shared activities, warmth, contentment, motivation, role model, care and emotional support. For full description of both secure and insecure categories, see Appendix G. Paragraphs received either a 'yes' (category present) or 'no' (category absent) rating for each of the eight categories, making it possible for multiple categories to be present within a single paragraph. Three raters scored a subsample (n_{Rater1} = 18; n_{Rater2} = 18; n_{Rater3} = 18) of the paragraphs, and inter-rater reliabilities for the three raters were calculated**.** See Table 12 for both secure and insecure category inter-rater reliabilities. Due to the low interrater reliabilities obtained for the secure coding, the researchers focus most of the analysis on the insecure paragraphs. The author's ratings are used in the analyses presented below.

Coding: Insecure Paragraphs

The coding dimensions for the insecure paragraphs were the following: anger, sadness, shame and anxiety. These initial dimensions were created as a way to capture both high and low arousal negative emotions. Two raters discussed the content of twenty writing samples and used the content to operationalize each of the four categories. As with the secure paragraph, each insecure paragraph received either a

'yes' (category present) or 'no' (category absent) for all four categories. After finalizing the coding scheme, the two raters scored an additional set of paragraphs (n_{Rater1} = 40; n_{Rater2} = 40; n_{Rater3} = 17), and interrater reliabilities were calculated. The author's ratings are used in the following analyses. Table 13 contains response frequencies for both secure and insecure paragraph categories.

Results

The following analyses were conducted within prime condition. Due to the exploratory nature of this study, the analyses are reported according to the following probability value criteria: significance requires p-values ≤ .05; marginal significance occurs when p-values fall between .06 and .09; non-significant trends have p-values between .09 and .14.

Relationship other categories were created to examine whether HSE individuals chose different types of others than LSE individuals. The four categories were: 1) close other versus not close other (secure: n_{close}= 132, n_{not} = 25; insecure: n_{close}= 88, n_{not} = 50); 2) family versus non-family (secure: n_{family}= 74, $n_{notfamily}$ = 73; insecure: n_{family}= 35, $n_{notfamily}$ = 76); 3) parent versus non-parent (secure: n_{parent}= 61, $n_{nonparent}$ = 96; insecure: n_{parent}= 22, $n_{nonparent}$ = 116); 4) close peer versus not close peer (secure: $n_{closepeer}$= 56, $n_{notclose}$ = 12; insecure: $n_{closepper}$= 56, $n_{notclose}$ = 20) and 5) close in age versus not close in age (secure: n_{age}= 83, n_{notage} = 61; insecure: n_{age}= 86, n_{notage} = 25)[3] Due to the unequal cell sizes, Mann-Whitney tests were conducted in place of t-tests. In these analyses, relationship other categories are the grouping variable and self-esteem is the outcome.

Secure Condition

Results pertaining to relationship others showed that there were significant self-esteem differences between secure participants who chose a parent versus secure participants who wrote about a non-parent. Participants who wrote about parent had significantly higher self-esteem (*Mdn* = 4.20) than those who wrote about a non-parent (*Mdn* = 3.90), *U* = 2387.50, *p* = .05, *r* = -.16. Additionally, there was a nonsignificant trend regarding age of relationship other. Participants who wrote about someone older had higher self-esteem (*Mdn* = 4.20) than those who wrote about someone younger (*Mdn* = 3.90), *U* = 2106.00, *p* = .13, *r* = -.13. There were no reportable differences in paragraph content within the secure condition.

Insecure Condition

Self-esteem scores of insecure participants who chose a parent versus insecure participants who wrote about a non-parent were marginally different. Unlike the secure condition results, participants in the insecure condition who wrote about a parent had marginally lower self-esteem (*Mdn* = 3.80) than those who wrote about a non-parent (*Mdn* = 4.20), *U* = 958.50, *p* < .07, *r* = -.16. Participants who wrote about someone younger had marginally higher self-esteem (*Mdn* = 4.15) than those who wrote about someone older (*Mdn* = 3.80), *U* = 725.50, *p* = .06, *r* = -.18.

Regarding emotional content of the paragraphs, insecure participants whose paragraphs contained guilt or shame content had significantly lower self-esteem (*Mdn* = 4.00) than those whose paragraphs did not contain guilt or shame content (*Mdn* = 4.30), *U* = 1786.50, *p* < .02, *r* = -.21. Participants whose paragraphs contained anxious content

had marginally lower self-esteem (*Mdn* = 4.10) than those whose paragraphs did not contain anxious content (*Mdn* = 4.50), $U = 973.50$, $p < .08$, $r = -.15$.

Discussion

The current findings suggest that securely primed low self-esteem participants do write about different types of relationships than their high self-esteem counterparts. Specifically, secure high self-esteem participants write about a parent or older relationship other whereas secure low self-esteem are more likely to write about a non-parent or someone younger. This may suggest that high self-esteem participants have more secure, positive relationships with their parents than low self-esteem participants. This parent (or older relationship other) / non-parent (or younger relationship other) distinction is important because it may indicate that the security being primed for the securely primed high self-esteem participants is due to reflecting upon a more formative or long-term relationship, whereas the state being primed in the secure low self-esteem participants may be rooted in positive mood, but not necessarily security.

Another important point to be made about this parent / non-parent distinction is that that the secure low self-esteem participants may be inadvertently boosting their social confidence when reflecting upon positive peer relationships. This same feeling of social confidence is less likely to be associated with reflecting upon parental relationships. The possible boost in social confidence may help to explain why the secure low self-esteem participants are most willing to go out of their way to help less deserving others. It would be interesting to test whether requiring all participants to write about a peer would result in secure high self-esteem participants exhibiting behaviors similar to those of the secure low self-esteem participants in Study 1.

Additionally, requiring all participants to write about a parental figure may also result in low self-esteem participants no longer benefitting from a boost in social confidence. This failure to feel socially capable may result in fewer acts of prosociality toward non-deserving others.

The paragraphs written by insecure low self-esteem participants contained more shame and anxiety content than those written by the insecure high self-esteem participants. This may indicate that insecure high self-esteem participants have either successfully coped with their insecure relationships and thus feel less shame and anxiety when asked to reflect upon their relationship, or it may indicate that they are defensive and unwilling to acknowledge or feelings of guilt, shame and anxiety. With regard to the previous results, the relatively low amount of shame and anxiety appears consistent with the defensive explanation; there are may additional findings from Study 1 and Study 2 that support the claim that insecure high self-esteem participants engage in defensive strategies in order to lessen the salience of negative stimuli.

Finally, there were actually very few significant differences between high and low self-esteem participants with respect to the content of their relationships. There were no differences with regard to emotional and behavioral content within the secure relationships. High and low self-esteem participants mention joy, warmth, emotional support and the other five dimensions at roughly similar rates. Although high self-esteem participants in the insecure condition marginally differed from low self-esteem participants with respect to anxiety and shame, there were no differences in anger or sadness. These nonsignificant results suggest that the experience of security or insecurity is not completely different for high and low self-esteem individuals.

The findings from this study indicate that the high and low self-esteem participants differed on a few qualities with respect to their important relationships. When asked to reflect upon a secure relationship, high self-esteem participants may be priming chronically secure, parental relationships while low self-esteem participants may be priming peer relationships and social confidence simultaneously. However, these different secure relationships do not appear to influence the types of emotions that participants experience. With respect to the insecure prime, low self-esteem participants indicate higher levels of guilt and anxiety compared to their high self-esteem counterparts. Due to the relatively few differences, it is probably best to conceptualize these findings as additional outcomes that support the proposed paths. They should not be interpreted as underlying motivation. For example, it is not necessarily true that the insecurely primed low self-esteem participants respond with personal distress to the prosocial scenarios in direct response to the anxiety and shame experienced during the insecure writing task.

General Discussion

The results outlined in the previous studies suggest that priming high and low self-esteem individuals with either relationship security or insecurity predicts meaningful differences in the types of prosocial emotions and behaviors in which they engage. As suggested in the introduction, the possible reasons for these different patterns of responses may be both motivational differences and distinctive characteristics of the target. Broadly speaking, high self-esteem individuals appear to be most other-focused and prosocial when targets are seen as normal or deserving after experiencing the secure relationship prime. Low self-esteem individuals respond to the

same secure prime by behaving prosocially, especially towards undeserving targets. This willingness to help even those who are less deserving may be a byproduct of a possible self-affirming contrast effect created by the novel positive feelings associated with the secure prime. Put simply, these secure low self-esteem participants feel such an increase in security that they become especially responsive towards those who are less deserving of their help.

Low self-esteem participants respond to the insecure prime with increased levels of personal distress. However, this distress, which may otherwise motivate individuals to behave prosocially (Eisenberg et al, 1989; Batson et al., 1991; Cialdini et al., 1987), is not associated with increased prosocial behavior in these participants. Their prosocial inaction may be a consequence of increased self-focus, which is often associated with attachment insecurity (Fraley & Shaver, 1997; Kobak & Sceery, 1988). Insecurely primed high self-esteem participants also experience relatively low levels of prosociality. However, unlike their low self-esteem counterparts, they do not appear to experience personal distress. This lack of distress may indicate a defensive disengagement from the prosocial scenario, possibly as a way to regain positive mood.

With regard to self-structure, high self-esteem and low self-esteem individuals react to the insecure prime very differently. Insecurely primed high self-esteem participants become relatively more compartmentalized whereas insecure low self-esteem participants become relatively more integrative. These strategies for organizing negative self-beliefs hint at the different coping mechanisms in which both high and low self-esteem individuals engage when threatened. As expected, high self-esteem participants appear to cordon off negative self-beliefs. This separation of negative

beliefs from positive beliefs may allow high self-esteem individuals to maintain their overly positive view of the self, even when faced with threats such as relationship insecurity. Low self-esteem participants are not as likely to employ this type of strategy. Instead, insecure low self-esteem participants are more likely to couple their negative attributes with their positive self-attributes. This coupling, although not inherently beneficial for maintaining an overly positive view of the self, may serve as a way to maintain an accurate self-view. Pairing the negative self-aspects with positives may be a way to keep positive aspects salient and buffer LSE individuals from viewing the self as entirely negative.

Additionally, the type of secure and insecure relationships primed for high and low self-esteem participants differ in a few important ways. First, secure high self-esteem participants appear to write about more long lasting relationships, such as a parental relationship, whereas secure low self-esteem participants write about newer relationships, such as a same-sex peer. Second, insecure high self-esteem individuals recall less anxiety and shame within their insecure relationship compared to insecure low self-esteem participants. Although the precise reason for these differences remains unknown, it is most likely a byproduct of the relationship prime task; high self-esteem participants respond to the task by defensively downplaying the amount of shame and anxiety. Similarly, low self-esteem participants may be more honest in their depictions of their insecure relationships. An alternative explanation for these findings is that the insecure high self-esteem individuals are not really put into a defensive state following the insecure prime; these high self-esteem participants simply have less negative relationships compared to their low self-esteem counterparts. However, if this

explanation were true, then the researchers would not expect to see both prosocial and self-structure results that are defensive.

More broadly, the present results differentiate between the effects of high self-esteem and the effects of relationship security on prosociality. As stated in the introduction, the experience of high self-esteem and relationship security, although similar in positive mood and views of the self, differ on very important outcomes. Namely, security is associated with feelings of safety in one's environment and a concern for others. High self-esteem is typically associated with maintaining an (sometimes) overly positive view of the self, even if that means engaging in behaviors and cognitive processes that distort one's actual abilities. The current studies provide additional evidence to support the claim that high self-esteem does not lead to the same outcomes as primed relationship security, as evidenced by the interaction of relationship quality and trait self-esteem on many prosocial outcomes. High self-esteem individuals are not buffered against negative outcomes associated with primed insecurity; they do not appear prosocial when faced with insecurity. Insecurely primed high self-esteem individuals do not react selflessly when asked to help those in need. Instead, they become defensive and tend to ignore negative information related to both the self and others in need.

Implications and Contributions

Insecurity and Integration of Negative Beliefs

Both high and low self-esteem participants experienced changes in self-structure following the insecure prime. Insecurely primed high self-esteem individuals showcase defensively compartmentalized structures that were associated with avoiding negative

information about the self. At first glance, ignoring negative beliefs during stress may seem productive. Some research indicates that optimistic views of the self may help maintain motivation and goal-striving (Schwarzer, 1999). However, denying the existence of negative self-beliefs has negative implications. For instance, research suggests that individuals who tend to deny the existence of negative attributes have lower scores on psychological and physical wellbeing scales (Reed & Aspinwall, 1998).

Low self-esteem individuals did not defensively compartmentalize their self-structures in response to the insecure prime. These results suggest that low self-esteem individuals may be particularly open to confronting their negative attributes during times of distress. Initially, this ability to acknowledge negative beliefs may seem productive; these insecurely primed low self-esteem participants are not denying the existence of their negative qualities, and previous research indicates that acknowledging negative attributes in conjunction with positive beliefs may lead to many positive psychological outcomes (Showers et al., 2005). However, this acknowledgement of negative qualities may also encourage low self-esteem individuals to ruminate on these negative beliefs. This rumination and overgeneralization may also lead to negative psychological outcomes and mood (Epstein, 1992).

Taken together, it appears as though momentary experiences of relationship insecurity may be detrimental to both high self-esteem and low self-esteem individuals. In order to cope with the threatening situation, high self-esteem individuals may utilize defensive downplaying of negatives, whereas low self-esteem individuals may be prone to acknowledge negative self-beliefs and possibly to ruminate on them. Understanding people's trait self-esteem may help practitioners design customized treatments for

patients going through acute periods of stress. Perhaps low self-esteem individuals require training on ignoring some of their negative beliefs whereas high self-esteem individuals may need training in non-defensively acknowledging them.

Boosting Self-Esteem versus Boosting Security

Much research and attention has been given to programs aimed at boosting self-esteem (Mecca, Smelser & Vasconcellos, 1989). The underlying assumption of this line of research is that increasing an individual's self-esteem should also improve many other areas, such as self-efficacy, academic achievement and career success. However, research on the fragility of high self-esteem and the self-enhancing biases possessed by those with high self-esteem suggest that being in possession of high self-esteem does not necessarily lead to these positive outcomes (Jordan et al., 2003; Bachman and O'Malley, 1977). In fact, some research suggests that heightened self-esteem is associated with unwanted outcomes such as aggression (Bushman & Baumeister, 1998) and increased narcissism (Rhodewalt & Morf, 1995). The current studies suggest that boosting security may be an alternative solution. The current studies provide evidence suggesting that boosting security increases mood, decreases defensive views of negative self-beliefs and increases prosociality. Also, the current data suggests that boosting security in low self-esteem individuals may be particularly efficacious. Securely primed low self-esteem participants were arguably the most prosocial; they were the only group that appeared to show concern for less deserving others. Secure low self-esteem participants also appeared to be the most genuinely compartmentalized, suggesting that these participants become focused on their positive self-aspects, but not as a way to ignore their negatives.

Limitations and Future Studies

Role of Relationship Other

Study 3 examined both secure and insecure relationship differences among high and low self-esteem participants and found that high self-esteem individuals appear to reflect upon long-lasting secure relationships with older individuals whereas low self-esteem participants reflected upon secure relationships with younger others that may be shorter in duration. Regarding insecure relationships, high self-esteem individuals indicated fewer feelings of shame and anxiety than those with low self-esteem.

These differences also have important research implications. Many social psychological studies of attachment rely on participants providing their own relationship other (Hazan & Zeifman, 1994; Mikulincer et al., 2005; Gillath et al., 2010), with the underlying assumption being that secure relationships (and thus the primed emotional state associated with them) should be the same for all individuals. As discussed earlier, this is not the case. With respect to the secure priming task, individuals with low self-esteem may be priming social confidence when they reflect upon their secure peer relationship. This social confidence may then boost their ability to respond to less deserving others. In order to gain better control over the type of relationship (and accompanying emotions) being primed, researchers should design a study that requires all participants to write about similar relationships (be it peer or parental). If the results are consistent with findings from Study 1, even when controlling for relationship type, then it is unlikely that increased confidence or social competence within the low self-esteem sample explains why these secure, low self-esteem participants are most willing to behave prosocially toward an undeserving other.

Avoidant versus Anxious Relationships

The current studies examined differences between primed relationship security and insecurity. However, the two distinct types of insecure relationships were not taken into account during the priming task. Attachment theory outlines two broad categories of insecurity: anxiety and avoidance. In anxious relationship attachments, individuals are typically preoccupied with worrisome thoughts about a relationship other leaving during times of stress. Avoidant relationship attachments are associated with withdrawing from relationships, especially during times of distress.

With regard to the present studies, it is possible that low self-esteem individuals may be more likely to prime anxious relationships than may high self-esteem participants. Based on the supplementary analysis of the writing protocols, it appears as though insecurely primed low self-esteem participants were more likely to write about relationships that evoke feelings of anxiety and shame. These feelings align with relationship anxiety. Primed anxiety in these low self-esteem participants may help to explain some of the current results. Specifically, the current prosocial findings support a preservation path for the insecure low self-esteem participants; they appear emotionally distraught following a scenario, but appear unmotivated to help. Unlike their avoidant counterparts, these insecure low self-esteem participants appear to be affected by the scenario, but are not drawn to action, perhaps due to feelings of being incapable of providing adequate help.

The type of insecurity primed in those with high self-esteem may best be classified as avoidant. Compared to their low self-esteem counterparts, insecurely primed high self-esteem individuals displayed lower levels of anxiety and shame, which

suggests that their insecure relationships are more avoidant than anxious. This primed avoidance also fits with the defensive responses seen in the previous studies. Specifically, the insecure high self-esteem participants appear particularly unaffected by the prosocial scenarios, and are also least concerned with providing assistance. Finally, primed avoidance also fits with the defensive compartmentalization seen in Study 2. The insecurely primed, high self-esteem participants are not dwelling on or ruminating on their negative aspects (which may be expected if anxious relationships were primed); they are engaging in defensive compartmentalization as a way to avoid their negative attributes.

Behavioral and Implicit Measures

The present studies assess prosociality via self-report. Although this type of protocol is not uncommon in the assessment of prosociality (Exline et al., 2008; Tyler, Orwin & Schurer, 1982; Hirschberger, Ein-Dor & Almakias, 2008; Carlo, McGinley, Hayes & Martinez, 2011), it is important to note that future studies of both behavioral and implicit measures would strengthen the proposed model. As stated before, high self-esteem individuals may be keenly aware of how they present themselves to others; a byproduct of this awareness may be to inflate their own prosocial responses as a way to appear in a way they believe is more favorable to the researcher. By observing actual prosocial behaviors in a more naturalistic setting, researchers may be able to remove these self-presentational biases. For instance, confederates might observe whether secure-HSE participants will respond most honestly. If inconsistencies between the behavioral and self-report data exist, then the initial assumption that securely primed

high self-esteem participants transcend self-focused concerns to help others altruistically may be incorrect.

Additionally, utilizing implicit measures of prosociality may decrease issues associated with response biases. Implicit assessments of prosociality, such as word-stem and TAT-style story completions, are currently in use (Aydinli et al., 2014), but whether these measures would produce similar conclusions to those reported in the current studies remains unknown. Future studies that include implicit measures of prosociality may be able to test participant motives better. Specifically, securely primed high self-esteem participants should remain prosocial towards deserving peers; if these participants appear no more prosocial than other esteem/relationship prime groups, then it may suggest that the secure high self-esteem participants in the current studies were affected by response biases designed to make themselves appear more favorable to either themselves of the researcher.

Conclusion

Initially, the researchers were interested in how priming relationship security would influence an array of prosocial outcomes. One might expect that the secure prime and the other-focused motivations associated with it would motivate high self-esteem individuals to behave particularly prosocially across a wide array of situations, perhaps as a way to affirm their highly positive self-views. However, this was not the case; secure high self-esteem participants, although prosocial, reserved help only for those who appeared without flaws. This reservation to helping all people in need suggests that the secure high self-esteem participants did not benefit the most from the secure primes, and that they were not the most prosocial group of participants. Given that arguably the

most prosocial acts are those that require people to provide help even to those who may seem undeserving (for instance, forgiving someone who has caused you great pain or donating money to someone who previously wronged you), it appears as though the secure low self-esteem participants acted the most prosocially. These securely primed low self-esteem participants were most willing to overlook the faults of those in need and provide assistance. It is this ability to extend help, even to those who are less deserving, that makes the secure low self-esteem the most unconditionally prosocial.

Taking what we now know about low self-esteem individuals' abilities to behave prosocially, it appears as though investing time and other resources into trying to increase an individual's baseline self-esteem (which researchers already know lacks efficacy, see Baumeister et al., 2003) seems like an ineffective way to boost prosocial responding. Simply reminding low self-esteem individuals of secure, positive relationships (even rather new, peer-based ones), may be enough to increase prosocial engagement. However, this does not mean that high self-esteem individuals are incapable of performing selfless, prosocial acts. As shown in Study 2, priming secure relationships along with reflecting upon positive self-attributes (as seen in the card-sort) may be particularly self-enhancing for high self-esteem participants, as they are typically motivated to affirm positive qualities. This affirmation of their own positive traits appears to increase prosociality, even towards those who are less deserving. Regardless of level of self-esteem, taking the time to think about reliable, safe relationships can greatly increase an individual's prosocial concern for others.

The most important take-away point from this series of studies is not that priming relationship security increases prosociality or that priming relationship

insecurity inhibits prosociality. Instead, what is fascinating is how individuals with high self-esteem differ in their response to these primes compared to individuals with low self-esteem. Relationship security prompts individuals with high self-esteem to transcend their own self-concern and focus prosocial behaviors toward deserving others. Low self-esteem participants affirm positive self-attributes following the secure prime, and thus become particularly responsive toward those who are less worthy of help. Individuals with high self-esteem react to the insecure relationship prime by defensively avoiding engaging in prosocial behaviors, perhaps as a way to avoid any negative feelings associated with acknowledging those in need. Low self-esteem individuals increase their own self-focus following the insecure prime; they experience relatively high levels of anxiety and distress, but do not behave prosocially as a way to mitigate these feelings. By studying the meaningful ways high and low self-esteem individuals respond to their important relationships, researchers may be better able to understand the different ways these individuals interpret and engage their environments.

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Appendix A

Footnotes

[1] Likelihood of donating money was assessed by taking the highest value from two items ("How willing would you be to make a one-time monetary donation to Ms. Kase?" or "How willing would you be to provide a monthly monetary donation to Ms. Kase?"). Likelihood of food donation was assessed with a single item ("How willing would you be to donate a food item once a month to Ms. Kase?"). In order to assess participants' willingness to help Ms. Kase acquire a job, scores of 2 items were averaged ("How willing would you be to help Ms. Kase search for a job by going through the newspaper help wanted ads with her" and "How willing would you be to accompany Ms. Kase to job interviews", $\alpha = .81$).

[2] Subscale scores were calculated two ways. The subscales were first scored by adding the number of extreme responses (either a 6 or 7 on the Likert scale). The second scoring method added 0.5 to the count followed by a square root transformation of the new total. Results did not differ depending on scoring strategy. For simplicity, only results for the square-root transformed data are reported.

[3] 1) Close other = mother, father, sibling, same-sex peer, romantic other; Not close other = stepmother, stepfather, opposite-sex peer, mentor, other. 2) Family member = mother, father, stepmother, stepfather, sibling; Non-family = same-sex peer, romantic partner, opposite-sex peer, mentor. 3) Parent =mother, father; Not parent = stepmother, stepfather, same-sex peer, opposite-sex peer, sibling, romantic partner, mentor, other. 4) Close peer = same-sex peer, romantic partner; Not close peer =

opposite-sex peer. 5) Close in age = same-sex peer, opposite-sex peer, romantic partner and sibling; Not close in age = mother, father, stepmother, stepfather.

[4] A priori power analyses were conducted using the g*power program (Faul, Erdfelderl Lang & Buchner, 2007)**.** F statistics from Study 1 were used (f^2_{loss} = .10; f^2_{donate} = .09). Alpha was set to α = .05 and power was set to β = .80.

Appendix B

Tables and Figures

Table 1
Study 1. Placement of Prosocial Scenarios in Each Order Condition

Order Condition				
I	II	III	IV	V
n = 62	*n* = 60	*n* = 58	*n* = 58	*n* = 57
Forgiveness	Loss	Kase	AVI	BIDR
Donation	Kase	Forgiveness	Loss	Forgiveness
Kase	Forgiveness	Donation	Forgiveness	Donation
Loss	Donation	Loss	Donation	Loss
AVI	AVI	AVI	Kase	Kase
BIDR	BIDR	BIDR	BIDR	AVI

Note. AVI = Affect Valuation Index, BIDR = Balanced Inventory of Desired Responding. Loss order includes stereo scenario followed by business scenario.

Table 2
Study 1. Means, Standard Deviations and T-Statistics for Mood Outcomes

	Secure	Insecure	
AVI Subscales	Means (SDs)	Means (SDs)	*t* (56)
HAP	2.90 (1.03)	2.24 (1.11)	2.27*
LAP	3.80 (.98)	2.92 (1.02)	3.43**
HAN	1.70 (.75)	2.43 (1.10)	-2.81**
LAN	2.55 (.83)	2.93 (.83)	-1.68

Note. * ≤.05, ** ≤.01; n_{Secure} = 35, $n_{Insecure}$ = 23; AVI = Affect Valuation Index; HAP = High arousal, positive LAP = Low arousal, Low arousal, positive; HAN = high arousal, negative; LAN = Low arousal, negative emotions

Table 3
Study 1. Means, Standard Deviations, and F-Ratios for Prosocial Outcomes Across All Order Presentations

	Order Condition					
	I	II	III	IV	V	
	(*n* = 62)	(*n* = 60)	(*n* = 58)	(*n* = 58)	(*n* = 57)	
Prosocial Outcomes			Means (SDs)			*F* (4, 290)
Forgiveness Scenario: Placement	1^{E}	3^{L}	2^{E}	3^{L}	2	
Distress Factor	3.73 (.92)	3.89 (.88)	3.65 (.88)	3.67 (.81)	3.72 (.82)	.73
Revenge Factor	2.79 (.97)	2.83 (.77)	3.09 (.84)	2.82 (.90)	2.75 (.82)	1.40
Responsibility Factor	1.90 (.74)	1.78 (.75)	1.72 (.67)	1.80 (.75)	1.71 (.81)	.67
Kase Scenario: Placement	3^{E}	2^{E}	1^{E}	5^{L}	5^{L}	
Monetary Donation	5.29 (1.62)	5.48 (1.59)	4.90 (1.70)	5.40 (1.52)	5.63 (1.52)	1.70
Help find Job	4.46 (1.66)	5.00 (1.58)	4.44 (1.37)	4.55 (1.62)	4.93 (1.46)	1.80
Food Donation	5.45 (1.50)	5.88 (1.35)	5.44 (1.27)	5.60 (1.62)	5.67 (1.54)	.91
Compassion Factor	3.98 (.82)[a]	3.70 (.96)	3.55 (.80)[a]	3.76 (.79)	3.97 (.91)[a]	2.77*
Compassion Item	4.11 (.87)	3.88 (.95)	3.71 (.94)	3.98 (.81)	4.12 (.91)	2.19
Distress Factor	2.64 (.90)	2.24 (.89)	2.26 (.93)	2.41 (.82)	2.49 (.90)	2.12
Worried Item	3.45 (1.28)[a]	2.78 (1.23)	2.76 (1.30)[a]	3.14 (1.37)	3.14 (1.39)	2.90*
Donation Scenario: Placement	2^{E}	4^{L}	3^{E}	4^{L}	3	
Donation Likelihood	4.63 (1.93)	4.32 (1.70)	4.00 (1.63)	4.24 (2.08)	4.65 (2.01)	1.25
Donation Amount	3.39 (1.66)	3.57 (1.69)	2.89 (1.70)	3.10 (1.95)	3.47 (1.62)	1.58
Loss Scenario: Placement	4^{L}	1^{E}	4^{L}	2^{E}	4^{L}	
Lying about Stereo	4.47 (2.03)	4.58 (2.06)	4.10 (2.12)	4.58 (2.03)	4.25 (2.08)	.62
Lying about Business	3.18 (1.67)	3.10 (1.62)	3.46 (1.80)	3.40 (2.18)	3.32 (1.89)	.40

Note. * ≤.05, ** ≤.01 Means with superscripts differ at $p \leq .05$ based on Tukey post-hoc tests.; E = early order presentation, L =late order presentation for each scenario.

Table 4
Study 1. Hierarchical Multiple Regression Analyses Predicting Participant Distress, Revenge and Responsibility Following the Forgiveness Scenario

	Distress		Revenge		Responsibility	
	ΔR^2	β	ΔR^2	β	ΔR^2	β
Step 1	.01		.02		.04*	
Prime		.07		.11		-.04
RSE		-.02		-.03		-.20*
Order		.04		-.08		-.03
Step 2	.02†		.02†		.01	
Prime x RSE		-.12*		-.03		.22
Prime x Order		-.03		-.13*		.06
RSE x Order		.15		-.05		-.05
Step 3	.00		.00		.00	
Prime x RSE X Order		-.44		-.59		-.04
Cumulative R^2	.03		.04		.05	

Note. †≤.10, *≤.05, **≤.01; n = 295; RSE = Rosenberg Self-Esteem Scale. Step 1 variables were mean-centered before conducting regression analysis; priming conditions coded as: 1=secure, 2=insecure, order conditions coded as: 0 = early, 1 = late

Table 5
Study 1. Hierarchical Multiple Regression Analyses Predicting Participant Responses to the Donation, Loss and Kase Scenarios

	Donate: Amount		Donate: Likelihood		Loss: Stereo		Loss: Business	
	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β
Step 1	.06		.04		.01		.01	
Prime		-.06		-.18		-.003		.02
RSE		-.23		-.07		.08		-.09
Step 2	.09*		.02		.10*		.00	
Prime x RSE		.30*		.15		.32**		.06
Cumulative R^2	.15*		.06		.11*		.01	

	Kase: Distress		Kase: Compassion		Kase: Job		Kase: Money		Kase: Food	
	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β
Step 1	.00		.10*		.01		.07†		.01	
Prime		-.06		-.08		-.08		-.28*		-.09
RSE		-.22		.32*		-.00		.07		-.05
Step 2	.09*		.01		.02		.02		.04	
Prime x RSE		-.29*		-.07		.14		-.14		-.19
Cumulative R^2	.09*		.11*		.03		.09		.05	

Note. †≤.10, *≤.05, **≤.01. RSE = Rosenberg Self-Esteem Scale. Donation and Kase analyses only include participants who received earliest presentation order (n_{DONATE} = 61, n_{KASE} = 58). Loss analyses include participants who received all early order presentations (n_{LOSS} = 118). Step 1 variables were mean-centered before conducting regression analysis and priming conditions coded as: 1=secure, 2=insecure

Table 6
Study 2. Self-Structure and Prosocial Means and Standard Deviations for Primed Secure and Insecure Relationship Conditions

	Condition		
	Secure $n = 50$	Insecure $n = 49$	t
Loss Scenario			
Lying about Stereo	4.12 (2.07)	4.47 (2.11)	-.83
Forgiveness Scenario			
Distress Factor	3.77 (.78)	4.00 (.56)	-1.68 †
Revenge Factor	2.42 (.83)	2.52 (.75)	-.61
Personal Respon. Factor	1.57 (.63)	1.72 (.61)	-.50
Donation Scenario			
Likelihood	4.80 (1.86)	4.48 (1.48)	.51
Donation Amount	3.41 (1.65)	3.57 (1.52)	.94
Kase Scenario			
Monetary Donation	5.58 (1.34)	5.83 (1.14)	-1.02
Help find Job	4.60 (1.61)	4.67 (1.73)	-.22
Food Donation	6.28 (.92)	6.16 (1.34)	.50
Compassion Factor	5.34 (1.29)	5.46 (1.18)	-.50
Distress Factor	2.61 (1.21)	3.08 (1.14)	-1.77†
Self-Structure Variables			
Phi (Compartmentalization)	.68 (.26)	.67 (.26)	.10
DI	.39 (.46)	.55 (.39)	-1.87†
Neg	.26 (.17)	.28 (.15)	-0.49

Note. †≤.10, *≤.05. $n_{Secure} = 50$, $n_{Insecure} = 49$. DI = Differential Importance; Neg = arcsine transformation of proportion of negative attribution; $n = 98$ for Donation Scenario analysis, $n = 92$ for Phi analyses and $n = 89$ for DI analysis; standard deviations in parentheses.

Table 7
Study 2. Hierarchical Multiple Regression Analyses Predicting Participant Distress, Revenge and Responsibility Following the Forgiveness Scenario

	Distress		Revenge		*Responsibility*	
	ΔR^2	β	ΔR^2	β	ΔR^2	β
Step 1						
Prime	.04	.17	.06*	.06	.03	.05
RSE		-.17		-.24*		-.16
Step 2						
Prime x RSE	.06*	.19*	.01	.12	.00	.04
Cumulative R^2	.10*		.07†		.03	

Note. $^{\dagger}\leq.10$, $*\leq.05$. $n = 99$; RSE = Rosenberg Self-Esteem Scale. Step 1 variables were mean-centered before conducting regression analysis and priming conditions coded as: 1=secure, 2=insecure.

Table 8
Study 2. Hierarchical Multiple Regression Analyses Predicting Participant Responses to the Donation, Loss and Kase Scenarios

	Donate: Amount		Donate: Likelihood		Loss: Stereo Likely		Kase: Distress	
	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β
Step 1								
Prime	.01	.05	.02	-.10	.01	.08	.03	.18 †
RSE		.09		.11		-.03		.04
Step 2								
Prime x RSE	.00	.05	.02	-.16 †	.00	-.05	.02	-.15
Cumulative R^2	.01		.04		.01		.05	

	Kase: Compassion		Kase: Job		Kase: Money		Kase: Food	
	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β
Step 1								
Prime	.02	.05	.01	.02	.26	.10	.02	-.05
RSE		.15		-.09	.18	.09		.00
Step 2								
Prime x RSE	.00	.00	.00	-.01	-.08	-.02	.00	-.06
Cumulative R^2	.02		.01		.02		.02	

Note. †≤.10, *≤.05. n = 99 for all variables except Donate: Amount and Donate: Likelihood (n = 98). RSE = Rosenberg Self-Esteem Scale. Step 1 variables were mean-centered before conducting regression analysis and priming conditions coded as: 1=secure, 2=insecure.

Table 9
Study 2. Hierarchical Multiple Regression Analyses Predicting Self-Structure Variables: Compartmentalization, Proportion of Negative Attributes and Differential Importance

	Phi		Neg		DI	
	ΔR^2	β	ΔR^2	β	ΔR^2	β
Step 1						
Neg	.32*	.57**				
Step 2						
Prime	.00	-.01	.01	.02	.05	.19†
RSE		.08		-.09		.09
Step 3						
Prime x RSE	.04*	.19*	.00	-.03	.00	.10
Cumulative R^2	.36*		.01		.05	

Note. †≤.10, *≤.05. RSE = Rosenberg Self-Esteem Scale; Phi = measure of compartmentalization; Neg = arcsin transformation of proportion of negatives included in card-sort; DI = differential importance of positive aspects. *n* = 92 for Phi and Neg; *n* = 89 for DI. Step 1 is only included in the Phi analysis; Neg and DI do not have this first step. All Step 2 variables were mean-centered before conducting regression analysis. Priming conditions coded as: 1=secure, 2=insecure

Table 10
Study 2. Hierarchical Multiple Regression Analyses Predicting Scores to the BIDR and Threat Avoidance

	SDE		IM		AVOID		OPTIMIST	
	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β
Step 1								
Prime	.04†	.05	.07*	.06	0.02	-.11	.02	-.01
RSE		.19†		.26**		-.06		.15
Step 2								
Prime x RSE	.00	-.08	.01	-.02	.00	.04	.01	.07
Cumulative R^2	.04		.07		.02		.03	

Note. $^{\dagger} \leq .10$, * $\leq .05$, ** $\leq .01$. $n = 99$; BIDR = Balanced Inventory of Desired Responding; SDE = Self-Deceptive Enhancement subscale of BIDR; IM = Impression Management subscale of BIDR; AVOID = Avoidance Denial subscale of the Threat Orientation Scale; OPTIMIST = Optimistic Denial of Threat Orientation Subscale; RSE = Rosenberg Self-Esteem Scale. All variables were mean-centered before conducting regression analysis. Priming conditions coded as: 1=secure, 2=insecure.

Table 11
Study 3. Frequency of Relationship Categories and Self-Esteem Descriptive Statistics for Priming Conditions

	Secure		Insecure	
	Frequency	RSE *M (SD)*	Frequency	RSE *M (SD)*
Mother	35%	4.08 (.70)	8%	3.95 (.77)
Romantic Partner	24%	3.81 (.86)	8%	4.05 (.54)
Same-sex Peer	14%	3.89 (.59)	34%	4.04 (.73)
Sibling	8%	3.85 (.79)	7%	4.20 (.62)
Opposite-sex Peer	8%	4.11 (.69)	15%	4.16 (.70)
Other	5%	3.93 (.74)	18%	4.14 (.85)
Father	4%	4.09 (.50)	8%	3.70 (.63)
Mentor	2%	4.50 (.14)	0%	*na*
Stepmother	0%	*na*	.10%	4.30 (*na*)
Stepfather	0%	*na*	1%	3.45 (.07)

Note. n_{secure} = 157; $n_{insecure}$ = 138; RSE = Rosenberg Self-Esteem Scale.

Table 12
Study 3. Inter-Rater Reliabilities for Paragraph Content

	Kappa		
	Rater 1 - Rater 2	Rater 1 - Rater 3	Rater 2- Rater 3
Secure			
Joy	.44	.44	**.77**
Activities	.42	.31	**.61**
Warmth	.24	.51	.26
Contentment	.37	.11	.33
Motivation	**.61**	**.64**	.51
Role Model	n/a	.27	n/a
Care	n/a	.46	n/a
Emotional Support	n/a	.06	n/a
Insecure			
Anger	**.63**	.32	n/a
Sad	.36	**.82**	n/a
Shame	.41	.49	n/a
Anxiety	.38	**.63**	n/a

Note. For Rater 1: n_{insec} = 40; n_{sec} = 18. For Rater 2: n_{insec} = 40; n_{sec} = 18. For Rater 3 n_{insec} = 18; n_{sec} = 18. Rater 2 only coded joy, activities, warmth, contentment and motivation for secure paragraphs. Raters 2 & 3 coded different subsamples of the insecure paragraphs, so no inter-rater agreement can be calculated. Bold numbers indicate acceptable kappa values.

Table 13
Study 3. Frequency of Paragraph Content Categories and Self-Esteem Descriptive Statistics for Priming Conditions

Category	Content Present			
	Yes		No	
	n	*M* (*SD*)	*n*	*M* (*SD*)
Secure				
Joy	72	3.98 (.79)	85	3.89 (.69)
Activities	52	3.94 (.72)	105	3.92 (.75)
Warmth	58	3.88 (.78)	99	3.96 (.71)
Contentment	55	3.95 (.83)	102	3.92 (.68)
Motivation	61	4.02 (.65)	96	3.86 (.78)
Role Model	42	4.06 (.64)	115	3.88 (.77)
Care	12	3.85 (.82)	145	3.94 (.73)
Emotional Support	140	3.95 (.73)	17	3.72 (.79)
Insecure				
Anger	84	4.09 (.71)	54	3.98 (.71)
Sad	45	4.15 (.63)	93	4.00 (.77)
Shame	66	3.90 (.72)*	72	4.18 (.72)*
Anxiety	22	3.99 (.74)†	116	4.31 (.59)†

Note. Means with (†) superscript differ at $p \leq .10$. Means with (*) superscript differ at $p \leq .05$. Means (*M*) and Standard Deviations (*SD*) are for scores on the Rosenberg Self-Esteem Scale.

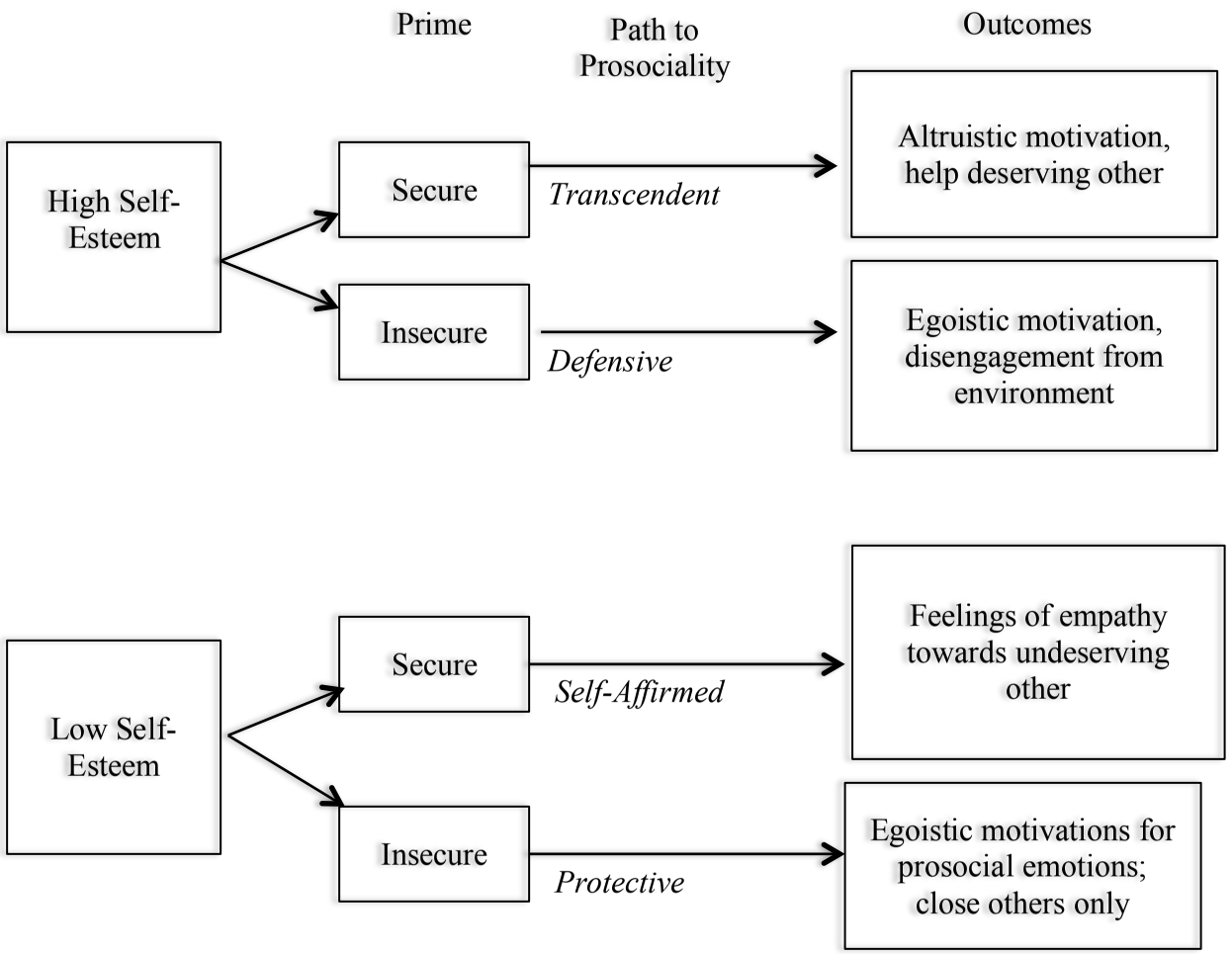
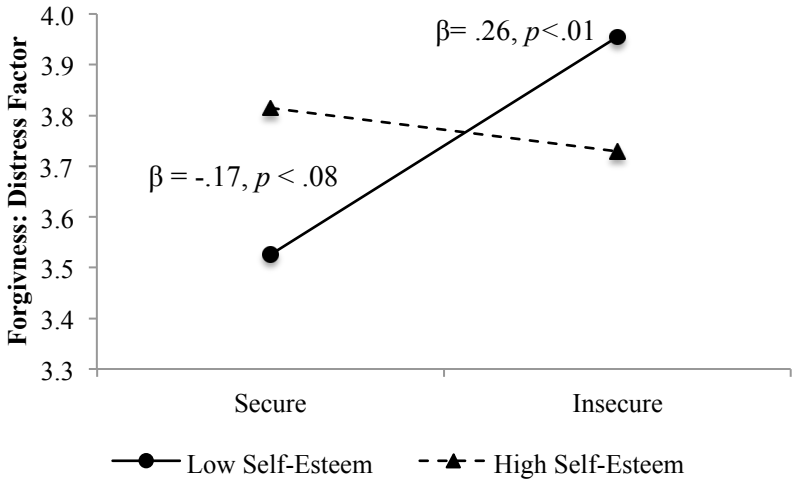
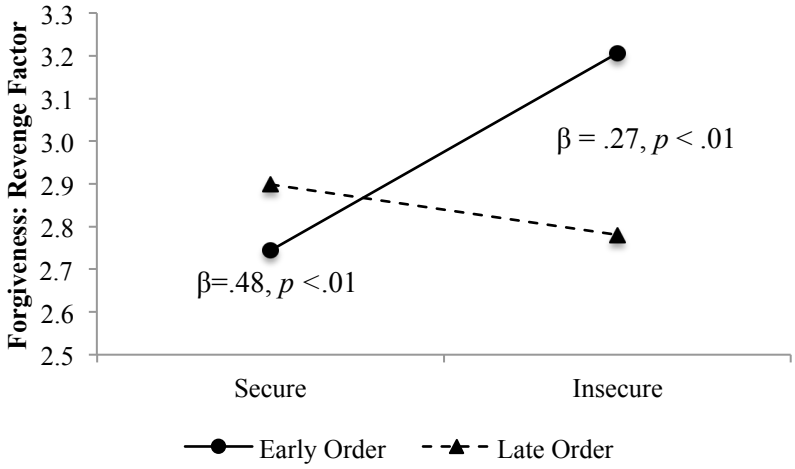


Figure 1. Process model outlining predicted response patterns for individuals with either high or low self-esteem following relationship prime induction.

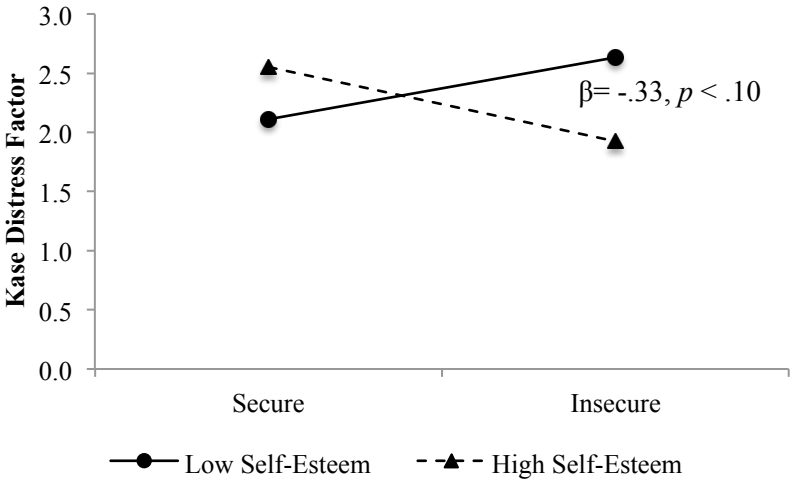


Panel A.

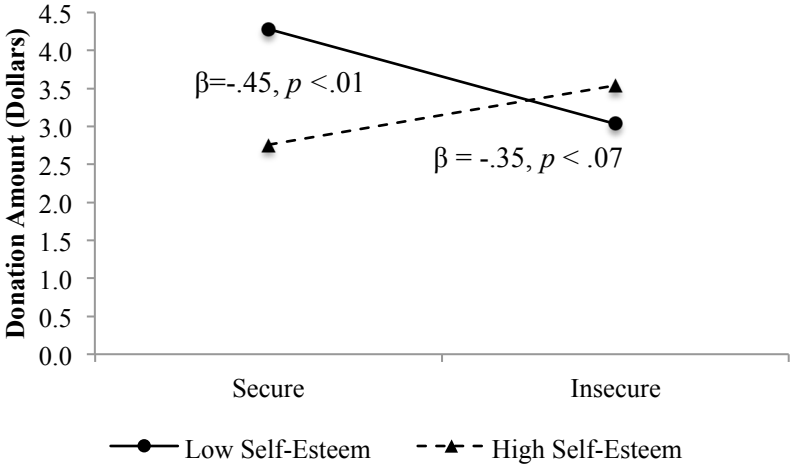


Panel B.

Figure 2. Study 1: Predicted values for the distress and revenge factors for forgiveness scenario. *Panel A* shows predicted values for the distress factor, illustrating the interaction of relationship prime and trait self-esteem at values +/- 1 SD from the mean. *Panel B* shows predicted values for the revenge factor, illustrating the interaction of relationship prime and order at values +/- 1 SD from the mean.



Panel A.



Panel B.

Figure 3. Study 1: Various prosocial scenario results showcasing the Prime x SE interaction. *Panel A* shows predicted values for the Kase Distress factor, illustrating the interaction of relationship prime and self-esteem at values +/- 1 SD from the mean. *Panel B* shows predicted values for Donation Amount ($), illustrating the interaction of relationship prime and self-esteem at values +/- 1 SD from the mean.

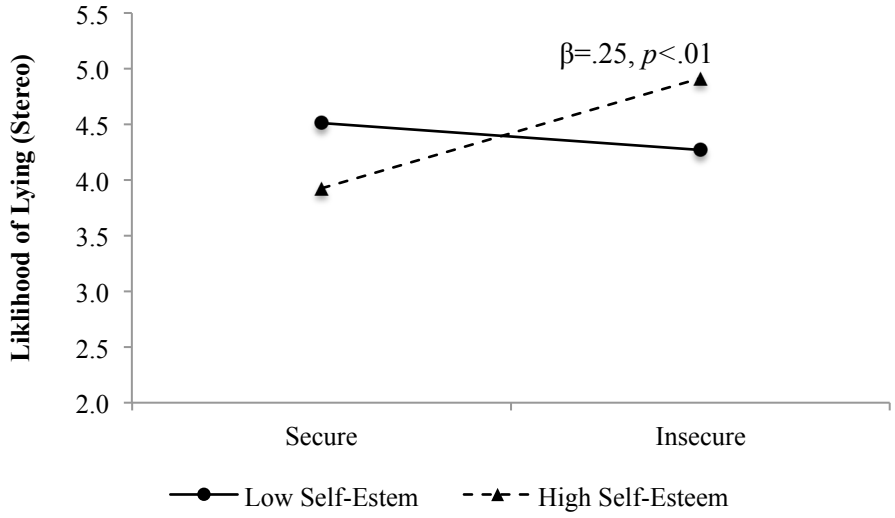
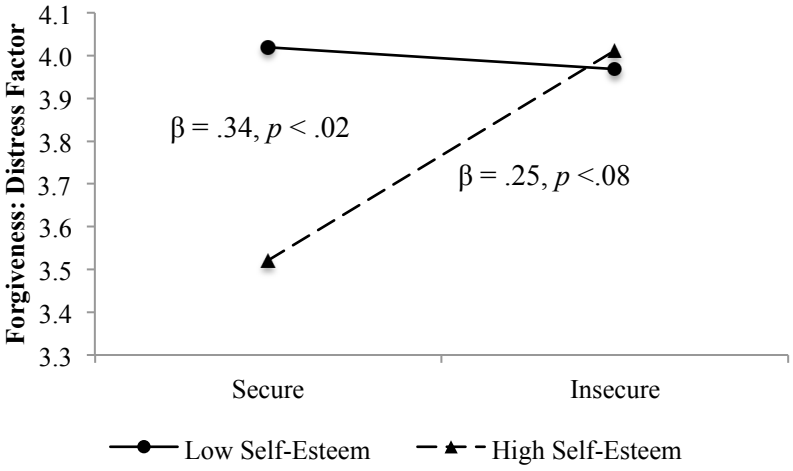
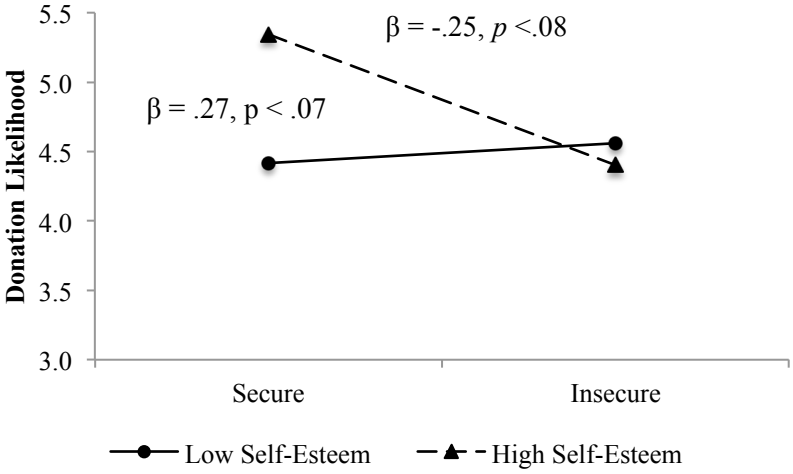


Figure 4. Study 1: Predicted values for the likelihood of lying (stereo), illustrating the interaction of relationship prime and self-esteem at values +/- 1 SD from the mean. Lower values indicate more honesty.



Panel A.



Panel B.

Figure 5. Study 2: Various prosocial scenario results showcasing the Prime x SE interaction. *Panel A* shows predicted values for the personal distress factor for the forgiveness scenario, illustrating the interaction of relationship prime and trait self-esteem at values +/- 1 SD from the mean. *Panel B* shows predicted values for the donation likelihood, illustrating the interaction of relationship prime and trait self-esteem at values +/- 1 SD from the mean.

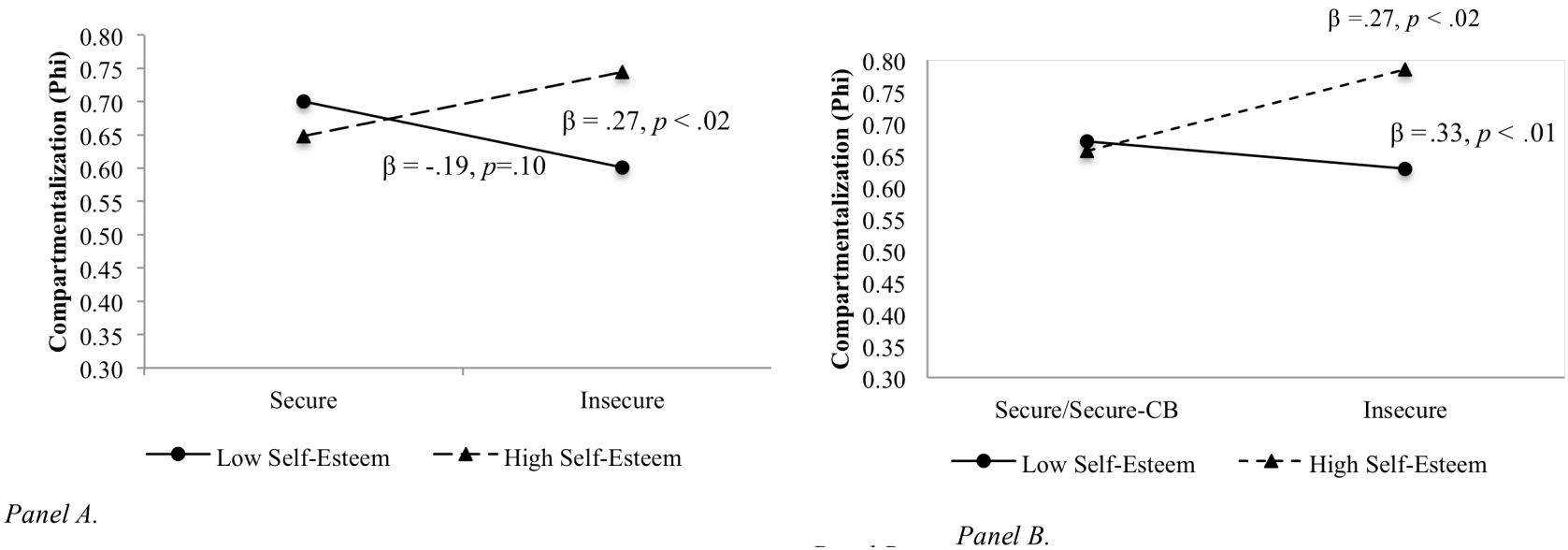


Figure 6. Study 2: Prime x Self-Esteem interaction effect for compartmentalization (phi). *Panel A* shows predicted values for phi scores (higher score indicates relatively higher compartmentalization) illustrating the interaction of relationship prime and trait self-esteem at values +/- 1 SD from the mean. *Panel B* shows predicted phi values reprinted from Bozeman (2012). Secure-CB indicated a counterbalanced condition in which the card-sort followed the prosocial scenarios.

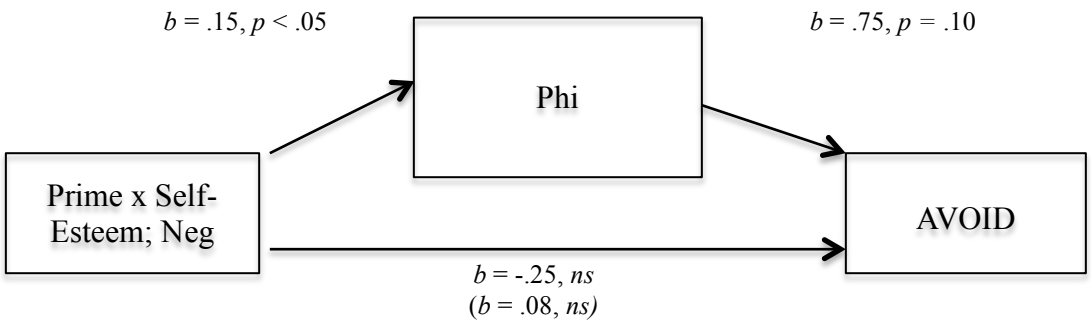
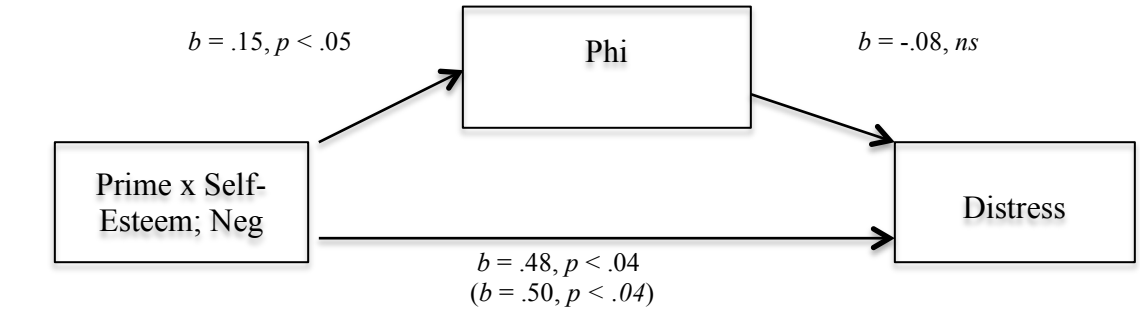
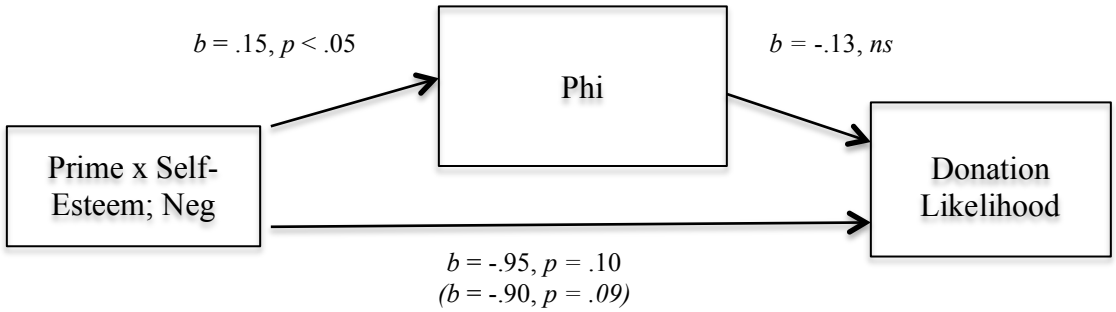


Figure 7. Study 2: Unstandardized regression coefficients for the relationship between relationship Prime X Self-Esteem and avoidance denial (AVOID) as mediated by compartmentalization (phi). Unstandardized regression coefficient controlling for phi and proportion of negatives (Neg) is in parentheses.



Panel A.



Panel B.

Figure 8. Study 2: Unstandardized regression coefficients for the relationship between relationship Prime X Self-Esteem and distress-forgiveness scenario (*Panel A*) and donation likelihood (*Panel B*) following forgiveness scenario as mediated by compartmentalization (phi). Unstandardized regression coefficient controlling for phi and proportion of negatives (Neg) is in parentheses.

Appendix C

Modified WHO-TO Task

Instructions: Write the initials or a descriptor of one preferred person for each situation in the spaces provided, it is possible to indicate the same individual for many situations. Please think of someone who you have known for a long time (preferably since childhood), has possibly made an impact on your life, and with whom you have frequent or semi-frequent interactions.

Secure Items:

1. To whom do you like to be close?
2. With whom do you like to spend time?
3. Who do you turn to for comfort when you're upset?
4. Who do you turn to when you're feeling down?
5. From whom do you not like to be away?
6. Who do you miss the most during separations?
7. On whom do you feel you can always count?
8. Who will always be available when you need them?

Insecure Items:

1. Who do you feel uncomfortable being near?
2. Who do you dislike spending time with?
3. Who do you actively avoid when you're feeling upset?
4. Who do you stay away from when you're feeling down?
5. Who makes you feel relief when you are away from them?
6. Who are you relieved to be separated from?
7. Who has let you down numerous times?
8. Who is never available when you need them the most?

Appendix D

Forgiveness Scenario: Full Text

You and your best friend have a crush on the same person. You soon find out that your friend and this person have gone on a date, but are not officially dating. While on the date, you happen to know that your friend told this person some embarrassing facts about you.

Please rate how you would feel, using the scales below from 1 (not at all) to 5 (very much):

1. Angry
2. Ashamed
3. Blame your friend
4. Forgive and forget
5. Forgive but not forget
6. Guilty
7. Rejected
8. Insecure
9. Responsible
10. Wronged
11. Sympathetic
12. Want revenge
13. Want friend to apologize and accept responsibility
14. Want friend to apologize for hurting your friendship
15. Want to maintain the friendship

Factors: Distress (items: 1, 2, 3, 7, 8, 10, 13, 14); Revenge (items: 4*, 12, 15*); Responsibility (items: 6, 9, 11); * = reverse-scored item.

Appendix E

Kase Scenario: Full Text

It's lunchtime at the Mission Soup Kitchen and, as usual, finding a seat is difficult. The soup kitchen serves free lunches and dinners local residents.

The soup kitchen helps Diane Kase, an Oklahoma City widowed mother of three, not only stretch her small income a bit further, but provide nutritious meals for her children- all under the age of 6.

``I can't survive with what I have. If it weren't for this place, I think my children would starve." Kase said. She has been going to the soup kitchen for about a year.

Kase goes on to explain that she was laid off last year and has had trouble finding work. "I wish I could provide everything my children need, but right now I'm really struggling to find work."

Stories like Kase's are not uncommon amongst those who attend the soup kitchen. As more and more residents are hit with financial hardships, it's no surprise that the Mission Soup Kitchen is getting busier.

Please indicate your willingness to perform the following behaviors by choosing the appropriate number:

1……..2……..3……..4……..5……..6……..7

Very Unwilling Very Willing

1. Help Ms. Kase search for a job by going through the newspaper want ads with her.

2. Accompany Ms. Kase to job interviews.

3. Donate a food item once a month to Ms. Kase.

4. Make a one-time monetary donation to Ms. Kase.

5. Provide a monthly monetary donation to Ms. Kase.

Please rate how much you experienced each emotion as you read the previous story.

1……..2……..3……..4……..5……..6……..7

Not at All Very Much

Sympathetic	Distressed
Warm	Disturbed
Compassionate	Worried
Tender	
Afraid	
Uncomfortable	
Troubled	

Appendix F

Loss Scenarios (Stereo): Full Text (Modified from Kern & Chugh, 2009)

You are trying to sell your stereo to raise money for an upcoming trip overseas. The stereo works great, and an audiophile friend tells you that if he were in the market for stereo equipment (which he isn't), he'd give you $500 for it.

You don't have a lot of time before you leave for your trip. Your friend advises that you have a 75% chance of losing out on a sale before you leave for your trip. A few days later, the first potential buyer comes to see the stereo, and seems interested. The potential buyer asks if you have any other offers. How likely are you to respond by saying that you do have another offer?

1……..2……..3……..4……..5……..6……..7

Very Unlikely Very Likely

Loss Scenarios (Business): Full Text (Modified from Kern & Chugh, 2009)

You are an entrepreneur interested in acquiring a business that is currently owned by a competitor. The competitor, however, has not shown any interest in either selling his business or merging with your company. To gain inside knowledge of his firm, you consider hiring a consultant you know to call contacts in your competitor's business and ask if the company is having any serious problems that might threaten its viability. If there are such problems, you might be able to use the information to either hire away the company's employees or get the competitors to sell.

As of now, your analysis suggests that you have a 75% chance of losing the acquisition. How likely are you to hire this consultant?

1……..2……..3……..4……..5……..6……..7

Very Unlikely Very Likely

Appendix G

Coding Manual For Writing Task Protocols

Secure Condition:

1. Joy/happiness: Ps mention feelings of happiness, excitement, joy.

2. Shared activities: Ps mention engaging in specific activities (going to movies, talking on the phone). Can also mention missing spending time together.

3. Warmth: Ps mention feelings of love (romantic or familial), warmth

4. Contentment: Ps mention feeling at peace, secure, relaxed (not feeling judged, or like they can be themselves around their relationship other). Mention general low-arousal, positive emotions.

5. Motivational: Relationship other pushes participant to be their best, or participant mentions wanting to make their relationship partner proud. Relationship other acts as a coach/source of encouragement.

6. Role Model: Ps seek advice from their relationship other or mention that their relationship other gives good advice/serves as a great role model. Ps mention looking up to their relationship other.

7. Food/Care: Relationship other provides physical resources like food or money. Participant mentions feelings of being taken care of.

8. Reassurance/Emotional Support: Relationship other makes ps feel important/worthy. They feel emotionally supported; like their relationship other is proud of them.

Insecure Condition:

1. Anger/Revenge: Ps mention that they feel (or have felt) angry, upset, annoyed etc. Should be other-focused (ex: “Mad at myself” is more of a guilt/shame emotion).

2. Sad/Helpless: Ps mentions feeling generally negative emotions regarding the relationship, but not nervous or anger emotions. Can include feelings associated with missing the relationship other or the ‘old times’.

3. Guilt/Shame: Ps mention negative, self-focused emotions (feelings of worthlessness, feeling stupid, ‘not myself when I’m around them [as in peer-pressure]’ etc.). Not other-focused (ex: “They should feel guilty/bad” is more anger/revenge).

4. Anxiety/Distress/Worry: Ps mention general, nervous emotions, or feelings of being judged / criticized by other; self-focused (i.e., focus should be on the emotions that they participant feels).