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MEANING MAINTENANCE IN CLOSE RELATIONSHIPS

A dissertation submitted in partial fulfillment of the requirements for the degree of
Doctor of Philosophy at Virginia Commonwealth University

by

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Abstract

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The human motivation for meaning has been a longstanding topic of inquiry, and recent research has begun to investigate how individuals maintain a sense of meaning in life. Given the importance of social connectedness in human life, as well as the role of relationships in providing a sense of meaningfulness, the present investigation explored meaning maintenance within the domain of close relationships. Specifically, a theoretical model for *interpersonal meaning maintenance* is presented, which proposes that moral actions—particularly forgiveness—are oriented toward restoring relationship quality, and, in turn, meaning in life, in the wake of interpersonal transgressions. The tenets of this model were tested in two studies. Study 1 provided initial evidence for this model by examining dispositional characteristics that are important for one's relationship (e.g., trait empathy, self-esteem) and provided promising results that support a more specific investigation within the

domain of close relationships. Implementing a longitudinal study design, Study 2 examined interpersonal offenses committed by romantic partners over six months, as well as the degree of forgiveness offered by the hurt partner, and the subsequent effects on relationship quality and meaning in life. The results revealed that, as hypothesized, initial levels of meaning in life predicted committing fewer moral offenses against one's partner and offering more forgiveness when suffering a transgression by one's partner. Although transgressing against one's partner did not reduce meaning in life, offering forgiveness increased meaning in life and life satisfaction over time. In addition, relationship satisfaction partially mediated the effects of forgiveness on meaning in life, and self-esteem was found to moderate this mediating relationship. Support for the model of interpersonal meaning maintenance was garnered in two studies. The present investigation was the first to explore how individuals maintain meaning within the domain of close relationships. Implications for the scientific study of meaning, as well as for applications in relationships, are discussed.

Meaning Maintenance in Close Relationships

Relationships provide humans with a profound sense of meaning. As fundamentally social creatures (Baumeister and Leary, 1995), humans thrive on close relationships. In fact, some argue that a lack of social connectedness could lead to a sense of meaninglessness (Yalom, 1980) and, ultimately, suicide (Durkheim, 1973/1925; Haidt & Graham, 2009). As important as social relationships are for one's sense of meaning (see Heine, Proulx, & Vohs, 2006) and overall well-being (DeLongis, Folkman, & Lazarus, 1988), they also are often fertile ground for moral transgressions and interpersonal offenses. Individuals in close relationships often commit a variety of offenses that range in severity. Whether a partner inadvertently forgets to pick up the dry cleaning as promised, or deliberately acts disrespectfully in the midst of a disagreement, offenses can occur in various contexts and have a range of effects. As individual moral offenses occur over time, they may chip away at one's relationship quality and could erode some of the meaning provided by close relationships. Perhaps a pattern of offenses devalues a relationship and undermines its ability to provide a clear sense of meaning; alternatively, individuals who lack a strong sense of meaning might be more prone to commit interpersonal transgressions. The present research examines the associations among meaning, moral offenses, potential reactions (e.g., forgiveness), and relationship quality in an attempt to uncover the process by which relationships serve a meaning-providing role, as well as elucidate how forgiveness may improve relationship quality, which, in turn, might mediate the negative effects of interpersonal transgressions on meaning in life.

The Impetus for Meaning

Humans exhibit a strong proclivity for meaning and are naturally meaning-makers (Heine et al., 2006). Ascribing and interpreting meaning are often assumed to be central features in the human experience (Baumeister, 1991). In fact, previous theorizing has suggested that many psychological disorders could result, in part, because of an unresolved sense of meaninglessness (Yalom, 1980); accordingly, individuals must discover a sense of meaning to effectively navigate the social world. Several theoretical frameworks have underscored the importance of meaning in social cognition and behavior, though the two most prominent social psychological theories to address the motivation for meaning are Terror Management Theory (TMT: Greenberg, Pyszczynski, & Solomon, 1986) and the Meaning Maintenance Model (MMM; Heine et al., 2006; Proulx & Heine, 2006).

TMT: Meaning assuages existential anxiety. TMT is a broad social psychological theory that contends that humans share both common and noncommon characteristics with other animals: like other animals, they are destined to perish; however, unlike other animals, humans are in their unique foreknowledge of their eventual death (see Solomon, Greenberg, & Pyszczynski, 2004). That is, an increased intellect and the capacity for self-awareness make humans the only animals aware of their mortality. This awareness of impending death, according to TMT, has the potential for overwhelming anxiety (Greenberg et al., 2003), which must be managed. TMT posits that the existential anxiety resulting from the foreknowledge of death is managed by investing in meaningful cultural worldviews and the striving for self-esteem (Pyszczynski, Greenberg, Solomon, Arndt, & Schimel, 2004; Pyszczynski, Solomon, & Greenberg, 2003). Accordingly, individuals adhere to cultural worldviews—which are meaningful frameworks of interpreting the social world in a way that

imbues one's existence with permanence and significance—and strive for self-esteem, which is afforded to those who live up to the standards of their cultural worldviews. Meaning is a central component in the management of existential anxiety, insofar as individuals cling to cultural worldviews that provide a coherent, meaningful interpretation of human existence (e.g., religion, cultural values). According to TMT, humans constantly strive for meaning, though this motivation is in service of attenuating the existential anxiety resulting from the unique foreknowledge of death (see Landau, Greenberg, Solomon, Pyszczynski, & Martens, 2006).

Considerable evidence has been amassed for TMT, primarily through an experimental paradigm in which individuals are reminded of their own death (i.e., mortality salience) and subsequent changes to behavioral, emotional, and motivations outcomes are proposed to be directly aimed at mollifying the anxiety aroused by mortality salience, thus serving a direct role in terror management processes. For example, early empirical work substantiating TMT has found that mortality salience led individuals to react punitively to those who violate cultural standards (Rosenblatt, Greenberg, Solomon, Pyszczynski, & Lyon, 1989) or threaten a cultural worldview (Greenberg et al., 1990). However, when one's cultural worldview emphasizes tolerance, reminders of death can increase tolerant attitudes (Greenberg, Simon, Pyszczynski, Solomon, & Chatel, 1992; Rothschild, Abdollahi, & Pyszczynski, 2009). Thus, reminding individuals that they are going to die increases reliance on the cherished components of their cultural worldview, producing changes in subsequent attitudes and behavior. Because the motivation to manage mortality-related anxiety may motivate a substantial portion of human behavior and cognition (Pyszczynski, Greenberg, & Solomon, 1997), and because meaning is a central feature in the mitigation of existential anxiety

(Landau et al., 2006), TMT contends that the desire for meaning is a central component in human life.

MMM: Meaning is a core social motivation. The MMM (Heine et al., 2006) is a theoretical framework that posits that the desire to obtain and maintain meaning is a core motivation that subsumes other social motivations. More specifically, the MMM argues that humans are natural meaning-makers that need meaning (which they define as predicted relationships or expected associations among constructs) to effectively manage the social world. Drawing from previous work on threat-compensation literature (Proulx & Heine, 2010), the MMM argues that when confronted with a threat to meaning, individuals bolster a different, unrelated domain of meaning (Heine et al.). This process, termed *fluid compensation*, is the core mechanism through which meaning is maintained. Meaning is both (a) hydraulic (decrements to one source of meaning elicit greater meaning in another domains), and (b) substitutable (individuals can rely more heavily on unthreatened sources of meaning when one source is threatened) (Heine et al.). According to the MMM, meaning is derived from four domains: self-esteem, certainty/closure, symbolic immortality and affiliation. Thus, motivations to feel good about oneself, seek sureness in the social world, maintain close relationships, and strive for achievements that will live on after death are all presumed to be motivated by the higher-order desire for meaning.

Although the MMM is relatively young, some evidence has been accrued to support its theoretical propositions. Research has shown that threatening meaning by unexpectedly switching experimenters during a study session—which violated one’s sense of meaning—evoked affirmation of a meaningful moral schema (Proulx & Heine, 2008). Other work has demonstrated that reading or viewing absurd stimuli (i.e., violations of expectations) evoked

fluid compensation of meaning (Proulx, Heine, & Vohs, 2010). In addition, previous research has suggested that one need not be consciously aware of meaning threats in order to defend against them; in several studies, nonconsciously-processed (i.e., subliminally primed) threats to meaning evoked fluid compensation across all four domains of meaning, resulting in participants reporting more meaning (greater self-esteem, need for certainty, belonging, and symbolic immortality) and less meaning-seeking (less endorsement of religious uncertainty, lower meaning-seeking behaviors) (Van Tongeren & Green, 2010a). That is, meaning can be defended automatically.

On Meaning Maintenance

The desire to maintain meaning can be construed as an existential need manifested on a social level. Indeed, sustaining a sense of meaning, in a world largely absent of a consensually-validated and overt meaning, has been identified as an important reality that humans must address (Baumeister, 1991; Heine et al., 2006; Koole et al., 2006; Yalom et al., 1980). Previous theorizing has argued that a substantive portion of human cognition, emotion, and social behavior is motivated from the desire to address existential concerns (Pyszczynski et al., 1997). Moreover, pressure to resolve existential concerns can exert considerable influence on one's everyday actions without conscious awareness (Pyszczynski, Greenberg, & Solomon, 1999). Empirical research substantiates this theoretical claim: subliminally-processed reminders of death evoke terror management processes (e.g., cultural worldview defense; Arndt, Greenberg, Pyszczynski, & Solomon, 1997), implicit change detection elicits affirmation of a moral schema (Proulx & Heine, 2008), and non-conscious threats to meaning induce greater meaning and reduced meaning-seeking as ways to restore psychological equanimity (Van Tongeren & Green, 2010a). Taken together, this suggests two

important features of the defense of meaning. First, the impetus for meaning, and threats to meaning, need not be conscious; individuals can be motivated toward sustaining a meaningful conceptualization of themselves and the world without dedicating deliberate, conscious processes, and meaning can be threatened without conscious awareness (i.e., subliminally). Therefore, people may perceive violations to their meaning system throughout the day, which in turn shapes their cognition, emotion, and behavior. Second, meaning is restored (and maintained) through affirming alternative domains of meaning (i.e., fluid compensation), which can occur without attention or conscious effort (see Randles, Proulx, & Heine, 2011).

The process of fluid compensation is the principal mechanism by which meaning is restored following violations of predicted relationships, threats to meaning, or encounters with the absurd. Although individuals may selectively process and remember threatening information, thereby engaging in self-defensive processes when unavoidably confronted with threatening information (see Green, Sedikides, Pinter, & Van Tongeren, 2009), once a meaning threat occurs, compensatory actions are required to restore a sense of meaning. Reconciliation between one's expectation of relationships and discomfiting stimuli can evoke a variety of reactions: notably, individuals can assimilate (i.e., integrate the information into existing schemas so they are no longer inconsistent), accommodate (i.e., recognize the aberrant example and adjust existing schemas), or affirm alternative domains of meaning (i.e., engage in fluid compensation) (see Proulx & Heine, 2010). For example, most individuals might assume that dogs walk on four legs; their expected relationship among these constructs (i.e., dogs, walking) has been confirmed throughout their life. If they were to encounter a flying dog, they may attempt to assimilate (e.g., "I didn't *really* see that

dog fly; it must have been a large pigeon”) or accommodate (e.g., “this must be a special breed of dog raised by members of a traveling circus”); however, such processes require considerable mental gymnastics and conscious effort. An alternative, especially when threats go unnoticed or one is unable to effortfully reconcile violations of meaning, is for individuals to engage in compensatory affirmation (Proulx & Heine, 2010); for example, individuals might affirm their affinity toward feline companions (e.g., “I’ve always preferred cats”) after witnessing the airborne canine. Fluid compensation is a primary route to resolving threats to meaning.

According to the MMM, fluid compensation involves bolstering one source of meaning when another source is threatened (Heine et al., 2006); put differently, following a threat, individuals affirm a cherished belief or meaning system as a route to restore meaning and equanimity (Proulx & Heine, 2010). Although this does not necessarily address the violation of meaning, it is adaptive in that it focuses on the associations that are coherent and in-tact, from which an individual may draw meaning. Fluid compensation has been likened to a dissonance-reduction process: threats to meaning elicit uncomfortable arousal (i.e., a “feeling of the absurd”) that motivates individuals to act in a way that reduces this unpleasant arousal (i.e., fluid compensation; Proulx & Heine, 2008). Moreover, threats to meaning need not be consciously recognized in order to induce compensatory actions, and the effects of nonconscious threats to meaning on fluid compensation are not mediated by affect or anxiety (Van Tongeren & Green, 2010a). Instead, individuals, rather automatically, affirm meaning and avoid seeking meaning, in the wake of meaninglessness. They do so by bolstering a number of sources of meaning.

Definition and Sources of Meaning

Although they vary in their conceptual framing regarding the ultimate function of meaning (mortality-related anxiety-quelling construct or valuable social motivation in its own right), both TMT and the MMM converge on the notion that humans are motivated to maintain a sense of meaning in their life. I propose a definition of meaning that integrates both of these frameworks and posit that meaning serves both social cognitive and existential functions: *meaning consists of expected associations among valued constructs and attachment to something larger than oneself*. Such a definition incorporates both the social cognitive value of meaning, as noted by the MMM (Heine et al., 2006), and the existential security-providing function of meaning, as argued by TMT (Landau et al., 2006).

As briefly mentioned, the MMM contends that there are four primary sources from which individuals draw meaning: (1) self-esteem (individuals find meaning in considering themselves to be worthwhile, significant); (2) certainty and closure (individuals draw meaning from knowing that the social world is organized and predictable); (3) symbolic immortality (individuals acquire meaning from believing that their accomplishments and contributions will live on after their eventual death), and; (4) affiliation and belongingness (individuals gain meaning from relationship and inclusion in groups). Each source of meaning is briefly explained below.

Self-esteem. Several social psychological frameworks underscore the importance of self-esteem, particularly with relevance as a well-spring of meaning. First, and perhaps most notably, TMT argues that self-esteem imbues one's existence with purpose and significance in order to mollify the existential anxiety aroused by reminders of one's own mortality (Pyszczynski et al., 2004). Empirical work has shown that self-esteem moderates the effects

of mortality salience (Harmon-Jones et al., 1997), such that individuals high in self-esteem do not usually engage in the typical negative reactions to reminders of their own death. According to TMT, self-esteem serves as an important buffer against death-related anxiety. Furthermore, according to TMT, self-esteem is garnered by living up to cultural standards set forth by one's cultural worldview (see Solomon et al., 2004 for a review). A more recent advancement of theorizing posits that individuals may have a multifaceted defense against existential anxiety that includes cultural worldviews, self-esteem, and one's attachment (Hart, Shaver, & Goldenberg, 2005), which suggests an important interplay between one's belief system, relationships, and self-esteem.

A second social psychological theory that provides an important perspective for understanding how self-esteem provides meaning is sociometer theory (Leary, Tambor, Terdal, & Downs, 1995). Sociometer theory argues that self-esteem is an indicator of one's fit or inclusion into a group. Greater self-esteem, according to the theory, is a sign of greater inclusion. Thus, individuals feel good about themselves when they are part of a larger group. Research suggests that attachment to something larger than one's self—work, a larger purpose or calling, or even a group—is a source of meaning (Haidt, 2006; Steger & Dik, in press). The felt acceptance, in terms of a positive evaluation of one's self, confers to the individual a sense of meaningfulness. In this way, self-esteem is a source of meaning in one's life.

Certainty and closure. A second basis of meaning is certainty and closure. According to the MMM, individuals seek certainty in an otherwise uncertain world as a way to procure meaning. Because meaning is essentially “relations” (Baumeister, 1991) or “predicted associations” (Heine et al., 2006), individuals desire to know how aspects of their life relate to stimuli in the social world and in the future; that is, they want to know, with a

degree of sureness, that their actions will have the intended effects and future relationships can be predicted with some measure of confidence. If suddenly, money lost its value and the rules of a society were completely abolished, individuals would find the world a scary and unmanageable place to exist. Money has value insofar as individuals agree upon its culturally-endorsed relation to desired goods (e.g., food, clothing, transportation), and laws are consensual guidelines for regulating social (and personal) behavior. Knowing that relations will remain constant (e.g., the \$1.70 in my wallet will be worth something in 20 minutes), or change very slowly (e.g., that same amount of money will have less purchasing power in 20 years, but it will still have *some* value), is important for navigating the social world and implementing goals and arranging one's behaviors to achieve such goals. Previous research has shown that meaning threats (e.g., mortality salience) leads individuals to seek structure in their social world (Landau et al., 2004) and derogate stimuli (e.g., modern art) that lack apparent structure (Landau et al., 2006). Large-scale violations of certainty and closure, such as 9/11, can have deleterious effects on one's sense of meaning (Pyszczynski et al., 2003).

Symbolic immortality. A third domain of meaning comes from a resolution and belief that one will “live on” after death through their accomplishments, achievements, or connections to a larger entity, such as a group, nation, or collective; this belief has been termed symbolic immortality (see Greenberg et al., 1986; Pyszczynski et al., 2003; Solomon et al., 2004). Drawing heavily from TMT, the MMM contends that individuals overcome the loss of meaning accompanied by death by endorsing beliefs that suggest that death will not end their meaningful contribution to the world. Individuals extend their own life—and meaning—by striving for achievements or connections that will not end when their life does.

For example, individuals may donate money to a hospital and have the new building that is constructed from such funds bear their namesake, or write an important piece of scholarly work that will be read by future generations. In this way, an individual overcomes the powerful loss of meaning brought on by death. Recent research has tried to initially disambiguate the meaning that is associated with *this life* from the meaning that is gained or sustained *through death*; empirical work has found that meaning in life is defended following meaning threats (e.g., using a mortality salience induction), but meaning through death result in less reactions to threats of meaning (Van Tongeren & Green, 2010c). It appears that individuals draw a sense of meaning from their connection to larger entities in the face of death.

Affiliation and belonging. Finally, individuals draw sense of meaning from their relationships. Belonging to groups and connections with others offer one with a deep sense of satisfaction, give life purpose, and make daily activities more valuable and enjoyable (see Haidt, 2006; Hart et al., 2005). As fundamentally social creatures (Baumeister & Leary, 1995), humans seek relationships with others. Despite the importance of relationships and belonging, this source of meaning has not been studied directly as much as the other sources of meaning; most research on meaning conducted under the auspices of the MMM has involved threats to certainty or closure (e.g., Proulx & Heine, 2008, 2009), and much TMT work has explored threats to symbolic immortality (e.g., Pyszczynski et al., 2003; Solomon et al., 2004). Thus, this domain of meaning is understudied and has the potential to be particularly informative in terms of elucidating the process of meaning maintenance.

As mentioned before, sociometer theory suggests the importance of group inclusion (Leary et al., 2005), and some have argued that isolation from a group can be anxiety-

provoking (Koole, Greenberg, & Pyszczynski, 2006; Pinel, Long, Landau, Alexander, & Pyszczynski, 2006) or may even lead to such loss of meaning that one commits suicide (Durkheim, 1973/1925). Previous research suggested the importance of relationships as a buffer against meaning threats, such as death (Florian, Mikulincer, & Hirschberger, 2002; Hart et al., 2005; Mikulincer, Florian, & Hirschberger, 2003) or personal criticism (Hirschberger, Florian, & Mikulincer, 2003). In addition, relationships can help individuals override natural self-protective mechanisms (Green et al., 2009), suggesting that they provide a sense of meaning that buffers one from threats on various levels. More radically, many could argue that relationships form the core of most sources of meaning: individuals derive a sense of self-esteem from inclusion in a group (Leary et al., 2005); (safe and reliable) relationships provide one with a sense of constancy and predictability to help one navigate the social world and can help mollify social and existential threats (e.g., Florian et al., 2002; Green et al., 2009; Hirschberger et al., 2003; Mikulincer et al., 2003), and; connections to others, including personal relationships or collective groups, are important for procuring symbolic immortality (Pyszczynski et al., 2003; Solomon et al., 2004). Nonetheless, at a very basic level, relations have the potential to provide a substantial degree of meaning to an individual.

The Value of Social Connectedness

The desire for human connectedness has been argued to be a fundamental human need (Baumeister & Leary, 1995). This strong need to belong to social groups is valuable, as relationships provide happiness and fulfillment (Haidt, 2006), a sense of purpose (Durkheim, 1973/1925), and may be a source for a deep sense of meaningfulness (Baumeister, 1991). Relationships meet proximal needs, such as safety, comfort, and material advantages (see

Baumeister & Leary, 1995), as well as distal needs, such as mollifying existential concerns of isolation and the fear of death (see Florian et al., 2002; Mikulincer et al., 2003; Pinel et al., 2006). Social connections are of paramount importance in human life, and can be a source of meaning.

Relationships can provide meaning directly (e.g., valuing social connections more highly than other aspects of life) and indirectly (e.g., being included increases self-esteem, which makes individuals feel meaningful) (see Sociometer theory; Leary et al., 2005). Accordingly, the adaptive function of self-esteem is a gauge by which individuals can assess their belongingness in a group. Therefore, when individuals perceive their value and inclusion in a group to be high, they will subsequently report high self-esteem. Self-esteem is a source of meaning (Heine et al., 2006), suggesting that relationships can provide meaning indirectly, through increasing one's self-esteem. Moreover, self-esteem is an important buffer for existential anxiety (Harmon-Jones et al., 1997; Hart et al., 2005; Pyszczynski et al., 2004), which suggests its importance in imbuing one's life with meaning (see Solomon et al., 2004). Just as the lack of connectedness is related to lost meaning, greater connections (that are consistent and positive) can garner greater meaning.

Empirical work has validated the importance of social connections in maintaining a sense of meaning in life. Interpersonal rejection, can lead to a "deconstructed state" and lost meaning in life (Twenge, Catanese, & Baumeister, 2003). Conversely, engagement in relationships can provide a clear sense of meaning (Baumeister & Vohs, 2002). People use relationships, and positive affect, as information when reporting their meaning in life (Hicks & King, 2009). However, when individuals are primed with loneliness, they increase their reliance on positive affect when assessing their meaning in life (Hicks, Schlegel, & King,

2010). That is, when the concept of loneliness—which undermines the social connectedness, and thus, meaning—was subliminally primed, individuals shifted the source of their meaning to rely more heavily on their current feelings (i.e., positive affect). This research suggests that a reprioritization of sources of meaning takes place after one source of meaning (i.e., affiliation) is threatened, which is consistent with the compensatory bolstering process (i.e., fluid compensation) proposed by the MMM (Heine et al., 2006). Relationships are an important source of meaning, and when an individual can no longer benefit from them (either temporarily because of situational factors, or chronically, because of the dissolution of the bond), they must rely on other sources of meaning. However, when social connections are damaged, one way to regain meaning is to restore the relationship.

The Importance of Forgiveness and Relational Repair

Interpersonal offenses are common in close relationships. Whether a partner fails to remember a special occasion, accidentally reveals a partner's cherished secret, or intentionally offends the other partner, moral transgressions occur with some degree of regularity among interdependent individuals. When an offense occurs, the victim typically feels as if an injustice has taken place; accordingly, the discrepancy between how the victim prefers the injustice to be addressed and the actual state of the injustice creates what is termed an “injustice gap” (Exline, Worthington, Hill, & McCullough, 2003). There are many ways to reduce the injustice gap, such as forbearing, forgetting, holding a grudge, seeking vengeance, enacting justice, or offering forgiveness (see Worthington, 2006). However, in ongoing relationships, forgiveness may be a favored response that reduces the injustice gap while maintaining or improving the quality of the relationship (Maio, Thomas, Fincham, & Carnelley, 2008; McNulty, 2008; Rusbult, Hannon, Stocker, & Finkel, 2005).

Forgiveness is the process whereby an individual replaces negative emotions (e.g., anger, avoidance, revenge) toward an offender, with positive, other-oriented emotions (e.g., empathy) (McCullough, 2001; McCullough, Worthington & Rachal, 1997; Strelan & Covic, 2006; Worthington, 2005) that often unfolds over time (McCullough, Luna, Berry, Tabak, & Bono, 2010). A transgression elicits feelings of unforgiveness—which is a compilation of negative emotions toward the offender—within the victim, and there are many ways to eliminate unforgiveness. One may simply let time pass, hoping for unforgiveness to slowly subside, whereas another might seek justice to reduce the negative feelings. Again, these responses might be appropriate for individuals with whom the victim does not envision an ongoing relationship in the foreseeable future. However, forgiveness within close relationships involves more than simply the reduction of negative emotions (see Worthington, 2005); it also requires that the victim replace the negative emotions that he or she is harboring toward the offender with positive emotions. Along these lines, previous (longitudinal) research has suggested the importance of forgiveness in feeling connected to one's partners in ongoing relationships (Bono, McCullough, & Root, 2008). Thus, forgiveness is an important feature in maintaining relationships and procuring a sense of well-being.

Recent empirical work has emphasized the importance of forgiveness in subsequent prosocial behaviors (Karremans, Van Lange, & Holland, 2005; Strelan, Feather, & McKee, 2008), and reducing condemnation and promoting forgiveness of future offenders (Van Tongeren, Welch, Davis, Green, & Worthington, 2010). In work settings, where relationships with offenders must continue, forgiveness reduces the stress elicited by the offense, and can buffer against negative effects of the transgression, such as missed work, productivity, and

effects on the victim's mental and physical health (Toussaint et al., 2010). Although there may be some drawbacks of forgiveness in close relationships, such as being treated like a "doormat" (see Luchies, Finkel, Kumashiro, & McNulty, 2010)—which is framed as continually forgiving a partner who repeatedly offends, and can decrease self-respect and obscure the victim's self-concept—some theorizing suggests that forgiveness and reconciliation might be important in those relationships that are highly valued and non-exploitive (McCullough, 2008). That is, forgiveness may be an important way to restore—and perhaps improve—an ongoing and committed relationship damaged by an offense. Although one might be quick to seek vengeance against an inconsiderate motorist on the highway without the (virtually nonexistent) relationship quality suffering, the same responses would likely have deleterious effects in ongoing relationships. Rather, one might offer forgiveness to a committed partner who has acted rudely as a way of addressing the offense, reducing the injustice gap, and improving the relationship quality. Thus, forgiveness is integral in relational repair, especially in ongoing, interdependent relationships (Maio et al., 2008; McNulty, 2008; Rusbult et al., 2005).

A Theoretical Model of Interpersonal Meaning Maintenance

A central feature of the current investigation is exploring how forgiveness may be an integral part of maintaining a sense of meaning in the wake of moral offenses committed within the domain of close relationships. Forgiveness and meaning may be integrally related. Humans need relationships and feelings of connectedness (Baumeister & Leary, 1995). Feelings of inclusion and social relatedness produce self-esteem (Leary et al., 2005), which is an important facet of meaning; more generally, affiliative behaviors are presumed to provide meaning, and such desires have been theorized to exist primarily for the superordinate goal

of maintaining meaning (Heine et al., 2006). When offenses occur, victims often harbor negative emotions toward their offender and the relationship suffers (for a review, see Worthington, 2005), which theoretically should decrease meaning: When relationship quality suffers, closeness decreases and one may perceive less inclusion, both of which might threaten important sources of meaning (belongingness and self-esteem, respectively). Thus, offenses occurring within close relationships can potentially undermine one's sense of meaning.

Similarly, there may be a relationship between meaning and morality. Recently, a model was proposed (Van Tongeren & Green, 2010b; Van Tongeren et al., 2011) that posited that individuals with a strong sense of meaning may be motivated to act virtuously. Initial empirical evidence for this claim appears to be promising. Experimental evidence demonstrated that receiving fixed feedback regarding one's morality—being told one's morality was in the 38th percentile (low morality) compared to the average college student, or being told one's morality was in the 84th percentile (high morality) compared to the average college student—is directly associated with subjective meaning in life assessments, as long as the feedback is viewed as valid: those in the high morality condition reported greater meaning in life compared to those in the low morality condition (Van Tongeren & Green, 2011). Said differently, individuals base their subjective assessment of meaning in life (in part) on their relative moral standing, suggesting the importance of acting virtuously in providing meaning in life.

When meaning is threatened, however, one might be more likely to make harsher, or more conservative, moral judgments. When participants wrote about life's apparent lack of meaning, they were consequently more likely (than those who wrote about death or

experiencing intense physical pain) to judge actions in deontological and utilitarian moral dilemmas as immoral (Van Tongeren, Green, & Hulseley, 2010). Following a meaning threat, participants rated two common moral dilemmas: the trolley dilemma (i.e., a runaway trolley will kill five workers unless the actor flips a switch, in which case it will kill one worker) and the footbridge dilemma (i.e., a runaway trolley will kill five workers unless the actor pushes a large man onto the tracks to stop the train, but it will kill the man). When meaning was threatened, participants rated both actions as significantly less moral. Although this evidence is preliminary, it might suggest that morality may serve an integral role in providing meaning insofar as lost meaning is recovered by imposing harsher moral standards, which is a type of moral affirmation (see also Proulx & Heine, 2008). Conversely, it might suggest that following a meaning violation, individuals affirm other cherished beliefs to which they are committed (cf. Proulx & Heine, 2010). Future work is needed to further unravel this effect, but the connection between meaning and morality appears to be substantive (Proulx & Heine, 2008).

Taken together, because of the importance of social relationships for providing meaning (Baumeister, 1991; Heine et al., 2006), and the association between morality and meaning (Van Tongeren & Green, 2010b; Van Tongeren et al., 2011), it seems that moral offenses committed within the domain of close relationships might decrease meaning, and forgiveness, which restores or even improves relationships quality (Maio et al., 2008; McNulty, 2008; Rusbult et al., 2005), might be one avenue to regain a sense of meaning in the wake of a transgression. Thus, interpersonal forgiveness might be a pathway toward meaning maintenance in close relationships. In addition, because of the relation between morality and meaning (see Proulx & Heine, 2008, 2010), individuals' sense of meaning

might also affect their proclivity toward committing moral offenses, as well as their reaction to being the victim of a moral offense in an ongoing relationship. In short, forgiveness, moral offenses, and one's perceived sense of meaning appear to be integrally related.

The primary focus of the current investigation is to present and substantiate a theoretical model for meaning maintenance in close relationships. Accordingly, I present a model of *interpersonal meaning maintenance*, wherein I describe how individuals maintain a sense of meaning within and through close, cherished relationships. Building off previous research, I make four propositions and contend that (a) close relationships are a source of meaning, (b) offenses that occur within valued relationships are stressful and violate expectations, both of which constitute a threat to meaning, (c) moral actions—particularly forgiveness—initiate moral emotions (e.g., empathy) and increase self-esteem as a process to restore relationship quality and meaning in life, and (d) (recovered) relationship quality (e.g., satisfaction) provides meaning in life. I briefly describe the tenets of the model below, providing relevant research support for each tenet of the model.

Proposition 1: Close Relationships are a Source of Meaning

As described in detail earlier, relationships can be a source of meaning for individuals. The MMM suggests that motives for inclusion and affiliation are directly oriented toward providing one with a sense of meaning in life (Heine et al., 2006). When individuals feel included, their self-esteem, which is a source of meaning, increases (Leary et al., 2005); conversely, interpersonal rejection can elicit deleterious reactions, such as increased aggression (DeWall, Twenge, & Gitter, & Baumeister, 2009). Rejection can also decrease prosocial behavior (Twenge, Baumeister, DeWall, Ciarocco, & Bartels, 2007) and impair self-regulation (Baumeister, DeWall, Ciarocco, & Twenge, 2005), both of which

might be important for procuring a sense of meaning (see Van Tongeren & Green, 2010). More directly, rejection could be directly related to meaninglessness (Twenge et al., 2003) and loneliness affects subjective assessments of meaning in life (Hicks et al., 2010).

Being isolated is also a core existential fear (Pinel, Long, Landau, & Pyszczynski, 2006) that may lead to a sense of meaninglessness (see Yalom, 1980), and being overly-individuated (i.e., not having important social connections) has been proposed to lead to suicide (Durkheim, 1973/1925). Close relationships have been posited to serve existential functions of ameliorating anxiety aroused from existential reminders (Hart et al., 2005; Florian et al., 2002; Mikulincer et al., 2003), and are thusly related to a sense of meaning. Taken together, there is considerable evidence for the claim that relationships provide a sense of meaning.

Proposition 2: Interpersonal Offenses are a Threat to Meaning

In contrast, no work has been done on offenses as a threat to meaning. Offenses that are committed within a close relationship threaten meaning in three ways: they reduce relationship quality (which decreases meaning from the relationship), they could potentially violate expectations about a healthy relationship, and they are stressful events that prompt meaning-based coping responses. First, when an offense occurs—which has deleterious effects on relationship quality due to consequences of and the negative emotions evoked by the transgression (see Worthington et al., 2006)—one’s meaning subsequently suffers, because relationships are source of meaning. The interpersonal strain caused by an offense negatively affects relationships, which can eventually reduce meaning, because of the importance of relationships in providing meaning (Heine et al., 2006). In a direct way, offenses threatened meaning because they erode relationship quality.

Second, offenses may violate predicted associations within a healthy relationship, which is threatening. Meaning is largely about expected associations; that is, something is meaningful when expected relationships among constructs are confirmed (Baumeister, 1991; Heine et al., 2006). Violations to these predicted associations elicit a sense of uneasiness that prompts compensatory meaning-making efforts aimed at recovering the lost meaning (Proulx & Heine, 2008). Because valued relationships are expected to provide a sense of comfort, protection, and safety (McCullough, 2008), some interpersonal offenses (particularly egregious ones) may violate a longstanding expectation regarding the relationship. For example, when a partner makes a rude joke at the other partner's expense, the victim partner might opine "I might have expected such an off-color attempt at humor from Todd, but certainly not from you!" Or when one partner treats the other particularly poorly, it might call into question some of the assumptions held by the victim (e.g., "Can I really trust him?", "How will she act in the future?") and violates a sense of meaning. Thus, when an offense occurs within a valued and healthy relationship, it violates one's expectations and is considered a threat to meaning.

Third, moral offenses in the domain of close relationships are often stressful, and stressful events can threaten meaning and evoke a series of meaning-making processes to recover lost meaning (Park, 2010). According to Park (2010), stressful life events have the potential to reduce situational meaning, based on how the event is appraised, to whom or what it is attributed, and the implications of the event on one's life. The discrepancy between these situational assessments and one's global meaning—consisting of beliefs, goals, and subjective meaning or purpose in life—evokes a panoply of responses aimed at recovering meaning. This compensatory model presents a similar functional approach as the MMM

(Heine et al., 2006) in that it also posits that lost meaning initiates processes orientated toward its recovery. The variety of meaning-making processes that are elicited varies considerably, but includes both conscious (i.e., deliberate) and nonconscious (i.e., automatic) processes. However, stressful events are responded to by myriad meaning-making efforts.

Proposition 3: Moral Action—Particularly Forgiveness—Improves Relationship Quality and Increases Meaning in Life

In the wake of moral offenses by a committed partner that elicit stress and decreases meaning, I posit that individuals engage in moral actions (such as forgiveness, especially in the context of close relationships) to recover relationship quality, which, in turn, increases meaning in life. Building on previous theorizing suggesting the importance of moral affirmation following threats to meaning (Van Tongeren & Green, 2010b, 2011; Van Tongeren et al., 2010; Van Tongeren, Green, & Hulseley, 2010), moral actions appear to be a central feature of regaining meaning following a threat to meaning (Proulx & Heine, 2008). Early TMT evidence pointed toward the importance of affirming cherished cultural standards in order to regain psychological equanimity and attenuate anxiety following existential reminders (e.g., mortality salience) (see Greenberg et al., 1990; Rosenblatt et al., 1989). A cluster of moral actions may be initiated when meaning is disrupted as an avenue to regain meaning.¹ *Moral actions are those processes which are other-oriented actions that restrict selfishness and promote the well-being of others* (see Haidt 2007; Haidt & Kesebir, 2010). Of particular importance for the current study, and more specifically for the model of

¹ I argued for the importance of morality in maintaining meaning in my doctoral preliminary paper (DPP); readers are encouraged to consult that paper for an overview of this reasoning to avoid overlap here. The crux of the argument was that a proclivity for meaning motivates moral behaviors in the service of procuring existential security. However, this reasoning was advanced and the current model has been modified, and role of prosocial emotions, self-esteem, and relationships were expounded (see Van Tongeren & Green, 2010b). In addition, we recently contended that meaning in life may curtail evil actions (see Van Tongeren et al., 2011). Several lines of research are ongoing that provide initial empirical evidence that converge on the notion that morality may help one regain a sense of meaning.

interpersonal meaning maintenance, is that forgiveness is a moral response that may be perfectly suited to restore relationship quality and recover meaning in life through the activation of moral emotions and increases in self-esteem. Thus, forgiveness is posited to be a key feature in interpersonal meaning maintenance.

When an offense occurs and an individual suffers a loss of meaning accompanying the interpersonal transgression, he or she can engage in offering forgiveness to restore the quality of the relationship. Aligned with the definition of moral actions, forgiveness is the process by which individuals replace negative emotions toward an offender with positive, other-oriented emotions (McCullough, 2001; McCullough et al., 1997; Worthington, 2005). For example, individuals may replace feelings of anger and avoidance toward their partners, who publicly embarrassed them in front of a group of peers, with feelings of empathy and compassion. Typically, forgiveness elicits feelings of empathy toward the offender (see Worthington, 2005, 2006). Victims begin to empathize with the offender in replacement of negative emotions, which facilitates the reduction of unforgiving motivations and allows forgiveness to unfold and the relationship to be repaired; however, forgiveness usually takes time to unfold (McCullough et al, 2010). Forgiveness, then, elicits positive moral emotions such as empathy.

Moral actions, such as forgiveness, may also elicit increased self-esteem. Because morality is culturally bound (Haidt, Koller, & Dias, 1993; Shweder, 1991), morality has been defined as living up to the cultural standards of goodness (i.e., restricting selfishness for others' well-being) for a particular society (see Haidt, 2001, 2007). That is, individuals are considered "good" when they meet the culturally-prescribed expectations of restricting selfishness for the broader consideration of others. Previous research has demonstrated that

living up to such standards provides one with self-esteem (Pyszczynski et al., 2004), which is of paramount importance in maintaining a strong sense of meaning (Heine et al., 2006; Pyszczynski et al., 2003). When individuals give to charity or help a friend in need, they may feel good about themselves (i.e., increased self-esteem). Although forgiving a partner who does not value the relationship or when it is not safe to forgive will quickly make one a “doormat,” forgiving a partner who cherishes the relationship and victimized partner increases self-respect and self-concept clarity (Luchies et al., 2010). Therefore, forgiveness may increase self-esteem. Moreover, acting morally (which, according to the current model, includes forgiving) alleviates existential concerns by providing one with self-esteem and meaning (see Solomon et al., 2004), suggesting that the desire for morality may be intricately linked with the human penchant for meaning (Van Tongeren & Green, 2010b). This increase in self-esteem is posited to be associated with increased relationship quality and meaning in life. Thus, according to the proposed model of interpersonal meaning maintenance, forgiveness (as a moral action) elicits other-oriented (moral) emotions and increases self-esteem as ways to rebuild relationship quality and recover meaning in life.

Another fruitful approach to considering how forgiveness might address the meaning threat of an interpersonal offense is to incorporate Worthington’s (2006) stress-and-coping model of forgiveness. Because interpersonal offenses are stressful, and reduce meaning, forgiveness is one route to ameliorate the stress while rebuilding a sense of meaning (cf. Park, 2010). That is, the stress evoked from unforgiveness is allayed by engaging in forgiveness, which replaces the negative unforgiving motivations (e.g., avoidance) and emotions (e.g., anger) with positive, prosocial ones (e.g., harmony, empathy). This process, which is aimed at mollifying the stress caused by the transgression, evokes other-oriented

emotions, and it should increase self-esteem insofar as forgiveness is an active coping choice that one selects out of many possible options and entails the victim seeing the relationship as valuable and worth improving (see Worthington, 2005). Moreover, by offering forgiveness, victims may feel better for doing “the right thing” by forgiving instead of seeking revenge or holding a grudge, which might translate to improved self-esteem. Forgiveness, then, would elicit empathy and increase self-esteem, and in reducing the stress of an interpersonal transgression, meaning should increase (Park, 2010).

Proposition 4: Recovered Relationship Quality Provides Meaning in Life

The final assertion of the model is that improved relationship quality should be associated with meaning. In a way, the last tenet of the model is a corollary of the first—because quality relationships are a source of meaning, regaining a sense of satisfaction in one’s relationship should be related to meaning in life. Because one’s relationship is now valuable and safe (McCullough, 2008) and meeting expectations of a cherished relationship (see Luchies et al., 2010), this affiliative bond should provide a sense of meaning in life (Heine et al., 2006). In addition, forgiveness reduces the stressful burden of holding a grudge or seeking revenge, which should reinstate a sense of meaning (Park, 2010; Worthington, 2006). Although improved relationship quality is theorized to be directly related to increased meaning in life, other outcomes of forgiveness (other-oriented emotions, improved self-esteem) which enhance relationship quality may also affect how relationship satisfaction is associated with meaning in life.

Coda: Forgiveness as a Meaning-Making Mechanism

According to the newly presented model of interpersonal meaning maintenance, relationships are not only a well-spring for a profound and deep sense of meaning, but they

are also ripe for moral offenses and personal hurt. These offenses decrease relationship quality, often run counter to expectations that partners hold for each other (e.g., trust, commitment, safety), and are stressful events, each of which is sufficient to threaten one's sense of meaning. This violation to meaning can trigger the onset of moral actions that initiate other-oriented (moral) emotions and increases in self-esteem, which increase relationship quality as ways of recovering meaning in life. As the relationship is repaired and satisfaction increases, subjective assessments of life become more meaningful. In this way, forgiveness, as a mechanism to repair relationship damage, is a potent meaning-making mechanism. The complete model of interpersonal meaning maintenance is depicted in Figure 1.

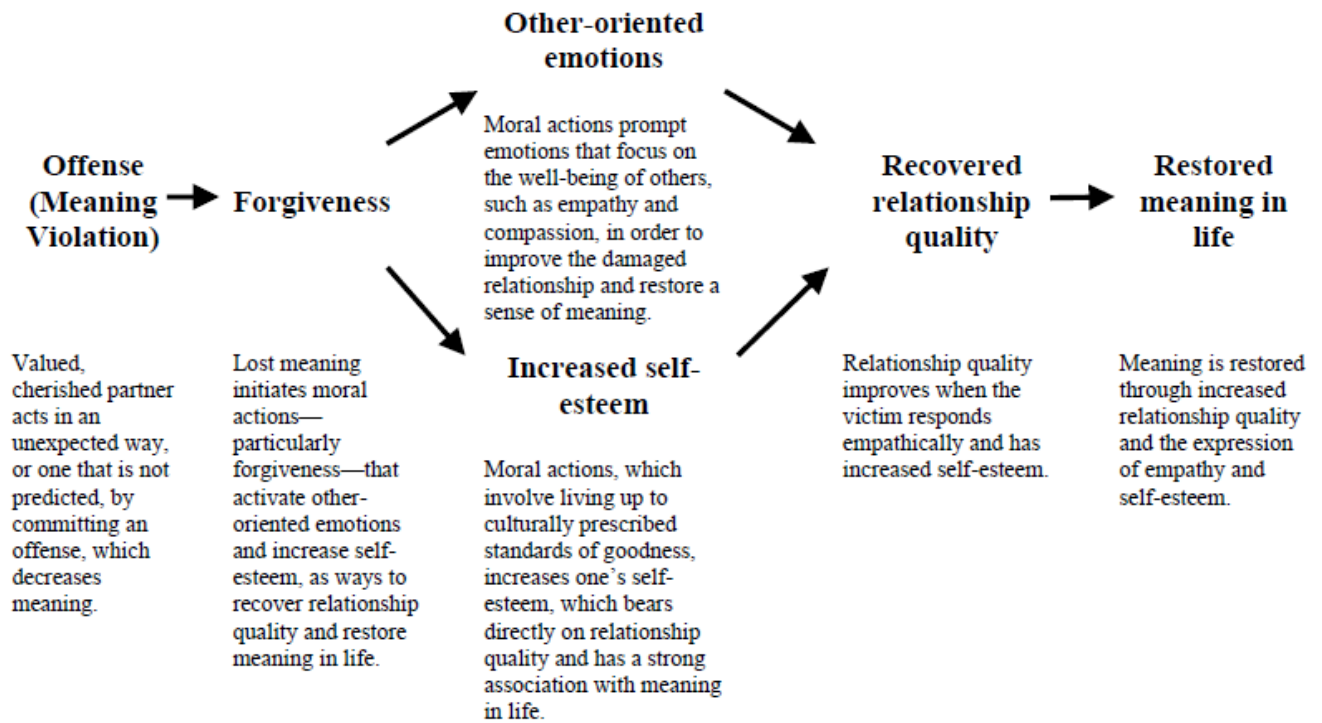


Figure 1. A theoretical model of interpersonal meaning maintenance.

Study 1: A Domain-General Study

Although this theoretical model was based on considerable previous research, direct evidence provides a more substantial test of the tenets of the model. To provide initial evidence for this theoretical model of interpersonal meaning maintenance, Study 1 was conducted. The aim of Study 1 was to confirm the general structure of the model using path analysis through an examination of general moral behavior (of which forgiveness may be one particular moral response) across situations, by using dispositional assessments. Specifically, I sought to determine if a disposition toward moral behavior in general was related to greater trait empathy and self-esteem, which, in turn, would be related to greater relationship satisfaction (with a close other) and meaning in life. Of particular interest, I predicted that dispositional empathy and self-esteem would mediate the effects of moral actions on relationship satisfaction, which, in turn, would lead to greater meaning in life. This study sought to test the theoretical model presented in Figure 1 by focusing on general moral behavior (noted as forgiveness in Figure 1) and its links to trait empathy, self-esteem, relationship quality, and meaning in life.

Method

Participants. Participants were 423 undergraduates (308 females; mean age = 19.21, $SD = 2.83$) enrolled in an introduction to psychology course at VCU, who participated for partial course credit. The participants reported a variety of ethnicities (White: 53.2%, African-American/Black: 21.3%, Asian: 13.5%, Hispanic/Latino(a): 3.8%, Native American: .7%, Other: 7.6%).

Materials and procedure. Participants completed a battery of materials through an online experiment management site (i.e., SONA-Systems®). Included in these materials

were measures of morality, trait empathy, self-esteem, relationship satisfaction, and meaning in life. Each of these measures is explained below and included in Appendix A.

Moral behavior. After giving consent online, participants completed the Self-Reported Altruism Scale (SRAS; Rushton, Chrisjohn, & Fekken, 1981), which is an 18-item measure of one's self-reported morality or altruism across a variety of scenarios (e.g., "I do volunteer work for charity", "I voluntarily look after other's plants, pets, house, or children without being paid for it"). This served as a dispositional measure of general moral behavior. Participants respond to the items on a 5-points scale (1 = *very much unlike me* to 5 = *very much like me*). There was evidence of internal consistency with the measure with the present sample ($\alpha = .84$).

Empathy. Participants also completed the empathic concern and perspective-taking subscales of the Interpersonal Reactions Inventory (IRI; Davis, 1983), which is a 14-item measure of trait empathy (e.g., "I often have tender, concerned feelings for people less fortunate than me", "When I'm upset at someone, I usually try to 'put myself in his shoes' for awhile"). This served as the measure of other-oriented moral emotions. Participants responded to the items on a 5-point scale (1 = *not at all characteristic of me* to 5 = *extremely characteristic of me*). There was evidence of internal consistency with the IRI ($\alpha = .83$).

Self-esteem. Participants then completed the Rosenberg self-esteem scale (RSES; Rosenberg, 1965), which is a widely-used 10-item measure of self-esteem (e.g., "On the whole, I am satisfied with myself", "I take a positive attitude toward myself"). Participants responded to the items on a 4-point scale (1 = *strongly disagree* to 4 = *strongly agree*). Once again, there was evidence of internal consistency with this scale ($\alpha = .88$).

Relationship satisfaction. Participants completed the satisfaction subscale from the Investment Model Scale (Rusbult et al., 1998), which consisted of five items, by rating their relationship with their closest friend on a 9-point scale (0 = *do not agree at all* to 8 = *agree completely*). This satisfaction measure served as the measure of relationship quality. There was evidence of internal consistency with this subscale ($\alpha = .90$).

Meaning in life. Finally, participants completed a measure of meaning in life by completing the presence of meaning subscale of the Meaning in Life Questionnaire (Steger, Frazier, Oishi, & Kaler, 2006). This is a 5-item subscales where participants rate the presence of meaning in their life on a 7-point scale (1 = *absolutely untrue* to 7 = *absolutely true*). The presence of meaning scale demonstrated evidence of acceptable internal consistency ($\alpha = .87$).

Results

The data were screened for missing cases, outliers, and normality. There were no missing cases and there were no multivariate outliers. To test the model, path analysis was conducted; the covariance matrix was analyzed using maximum likelihood estimation in LISREL. The final model is presented in Figure 2. To assess the model, it is important to (a) examine the specific paths of the model, and (b) assess the global fit of the model.

Path model. The paths of the model were examined. All of the path coefficients were significant at the .05 level. Morality (as measured by dispositional altruism) was significantly related to trait empathy ($\gamma = .50$) and self-esteem ($\gamma = .18$). Empathy ($\beta = .10$) and self-esteem ($\beta = .26$) were both significantly related to relationship satisfaction. Finally relationship satisfaction was significantly associated with greater meaning in life ($\beta = .09$). In

addition, the direct paths from empathy ($\beta = .09$) and self-esteem ($\beta = .50$) were significantly related to meaning in life.

A chi-square difference test indicated that adding the direct path from morality to satisfaction did not significantly improve fit, so the more parsimonious model (with fewer parameters estimated) was retained. (Put differently, removing that path did not significantly worsen fit, so the more parsimonious model was retained.) Similarly, adding the direct path from morality to meaning did not significantly improve fit, so the final model (as depicted in Figure 2) was retained as described.

Global fit indices. Second, it is helpful to examine the global fit indices. The chi-square value, which tests that the residuals of the model are 0, was significant, indicating that the model did not perfectly fit the data, $\chi^2(3) = 8.05, p = .045$. However, because this value is often inflated in large samples (and $N = 423$), other fit indices were examined. The root mean square error of approximation (RMSEA) was .06 (90% CI = .01-.12), which falls between the .05 cutoff for good fit and the .08 cutoff for reasonable fit. Thus, this suggests the model fit is reasonable. Moreover, the comparative fit index was .99, which exceeds the .95 cutoff for good model fit. Together, these indices suggest that the model fit is good.

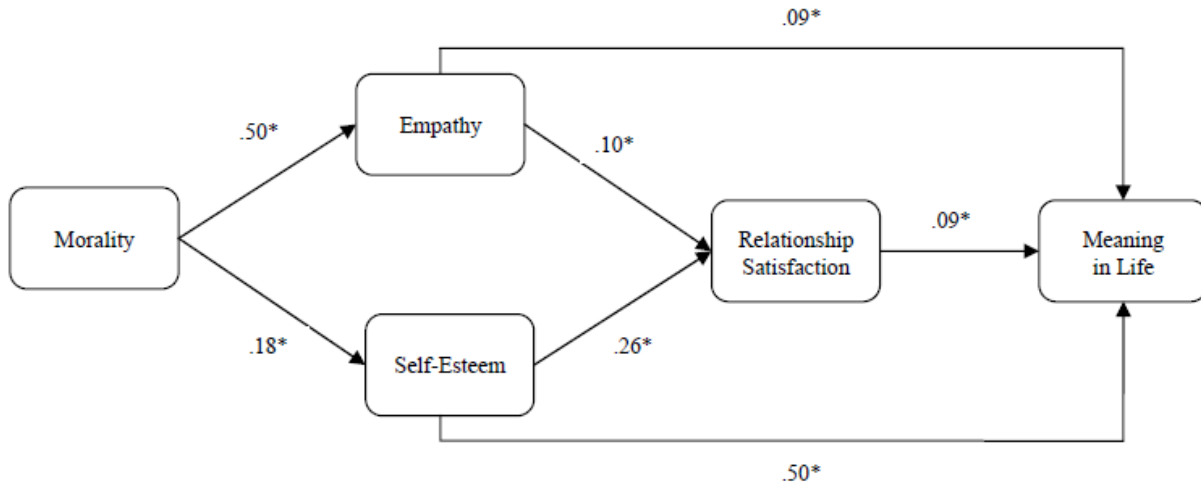


Figure 2. The final domain-general model from Study 1.

Alternative models. Alternative path models fit the data significantly worse than the current model; changing the causal ordering of the variables weakened the relationship among some variables as well as worsened the fit. For example, testing a model wherein self-esteem and empathy predicted morality, which in turn predicted relationship satisfaction, which predicted meaning in life produced a poor fitting model, $\chi^2(5) = 160.63, p < .0005$, RMSEA = .27, CFI = .55. Thus, by switching the causal ordering of the first three variables significantly worsened the fit of the model to the data.

Importantly, a partially-mediated model, wherein the direct path from morality to meaning was added to the model, slightly worsened the fit of the model, $\chi^2(5) = 7.10, p = .029$, RMSEA = .08 (90% CI = .02-.14), CFI = .99. Thus, the more parsimonious model—where the effects from morality to meaning were fully mediated by empathy and self-esteem—was retained. This provided further support for the notion that morality provides meaning in impersonal relationships by altering aspects of the self (i.e., self-esteem), other-

related emotions (i.e., empathy), and qualities of the relationship (i.e., relationship satisfaction).

Discussion

The findings from Study 1 provide initial evidence for the theoretical model of interpersonal meaning maintenance on a domain-general (or dispositional) level. Path analysis revealed the model demonstrated good fit with the data, suggesting that general moral behaviors are related to greater feelings of trait empathy (i.e., other-oriented emotion) and increased self-esteem, which in turn, lead to relationship satisfaction and meaning in life; and relationship satisfaction was related to meaning in life, as well. These data suggest that a domain-general test of the model is promising.

More generally, these data suggest an important interplay between moral actions (such as forgiveness), a proclivity toward moral emotions (such as trait empathy), and self-esteem in relationship quality and meaning in life. These data appear to support several components of the theorized model, at least on a domain-general level. First, they demonstrate the positive association between relationship quality and meaning in life. Second, they point toward the important role of self-esteem and empathy in maintaining relationship quality and procuring meaning in life. However, Study 1 had some limitations.

First, these data are correlational in nature and tested a broader set of moral behaviors; however, they suggest the model of interpersonal meaning maintenance may be a valuable way of understanding moral actions, such as forgiveness, in improving relationship satisfaction and meaning in life. Also, path analysis techniques are important for theory-testing; thus, although these data are correlational, there is substantial research to suggest the particular causal ordering of variables. The current model appears to be the best fit of the data

that has theoretical support. However, methodological improvements could provide more convincing evidence for the theoretical model (e.g., longitudinal or experimental designs).

Second, because Study 1 focused more on domain-general aspects of the model, a more specific examination of how forgiveness is important for relationship repair in the wake of interpersonal offenses (and thus, a meaning-making mechanism) is needed to provide more direct support for the model. Therefore, a longitudinal design seems appropriate to examine how meaning maintenance in close relationships is a process that unfolds over time, as well as focus more specifically on moral actions (i.e., forgiveness) rather than simply exploring the associated relationships with domain-general morality. Building off Study 1, Study 2 sought to address the relationship between moral offenses, forgiveness, relationship quality, and ultimately, meaning, by examining how moral offenses committed within the context of a close relationship, and the subsequent responses by the offended partner, affected one's ability to maintain a sense of meaning in life over time.

Study 2: A Longitudinal Study of Meaning Maintenance in Close Relationships

Research has demonstrated that forgiveness often occurs over time (McCullough et al., 2010). Similarly, meaning-maintenance strategies often take time to unfold (Park, 2010). Building off of prior research, the current investigation adopts a longitudinal approach to study meaning maintenance in individuals in close relationships (i.e., heterosexual romantic couples) across a series of months by focusing on moral offenses committed by each partner and the subsequent effects (e.g., changes in relationship satisfaction, hurtfulness) and responses (e.g., forgiveness). Primarily, I was interested in exploring how meaning was related to the number of moral offenses committed and suffered (i.e., being the perpetrator and victim of interpersonal transgressions), the role of forgiveness in restoring relationship

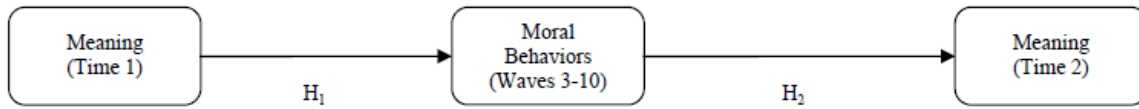
quality following an offense and eventually meaning. In addition, because Study 1 suggested the importance trait empathy and self-esteem in general moral behavior, I was interested in how such differences might affect forgiveness processes. Study 2 examined 105 heterosexual romantic couples across six months, examining the dynamics between meaning, moral offenses, and forgiveness.

Overview and Hypotheses

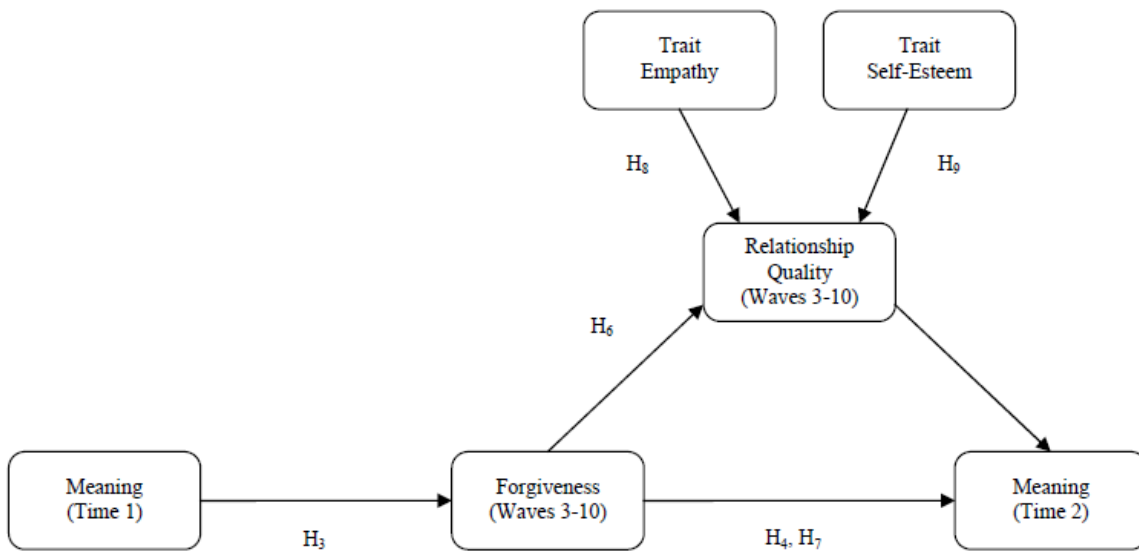
In Study 2, I explored meaning maintenance within the domain of close relationships by examining the dynamics of meaning, moral offenses, and forgiveness across time. Implementing a six-month longitudinal design, the current study examines how meaning is related to the perpetration and suffering of moral offenses, and the subsequent offering of forgiveness, within the context of an ongoing close relationship. This study is the first to (a) examine how meaning maintenance occurs within close relationships by focusing on the role of forgiveness in affecting meaning in life assessments, and (b) explore the dynamics of meaning, moral offenses, and forgiveness across time. Thus, the present research is novel and has the potential to be generative.

The proposed model of meaning-maintenance in close relationships is depicted in Figure 1. This model details a hypothesized process by which individuals engage in moral actions, such as forgiveness, to maintain a sense of meaning in life by defending the fidelity of their relationships. The hypothesized model is necessarily complex, given the nature of the variables involved (e.g., meaning, moral behaviors, relationship quality) and would likely require a series of studies using various methodologies and drawing samples from differing populations to fully capture the proposed process. The current work, which is constrained by methodological limitations, tests only a portion of this model (future research could fruitfully

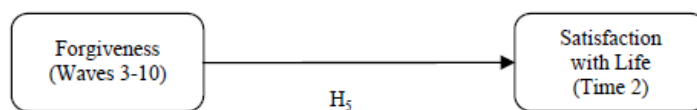
explore the remaining tenets of this model). Thus, the proposed relationships that are directly tested in the current work are depicted below (see Figure 3).



General Processes: Overall Moral Behaviors



Specific Processes: Forgiveness as a Meaning-Making Mechanism



Exploratory Analyses: Additional Outcomes of Forgiveness

Figure 3. The hypothesized relationships for Study 2.

Following previous research, several primary hypotheses are made for Study 2, and they fall into general categories of inquiry that become increasingly specific and nuanced. First, basic predictions (e.g., main effects) about the general processes of meaning and morality (Hypotheses 1-2) are made. Next, I make more specific predictions about one type of moral behavior—forgiveness—and its relation to meaning (Hypotheses 3-4) and subjective well-being (Hypothesis 5). Next, I make more specific predictions (e.g., proposed mediators and the role of consistency or invariance of forgiveness) regarding the process of meaning maintenance in close relationships (Hypotheses 6-7). Finally, I propose moderated-mediation, wherein greater dispositional empathy and self-esteem are predicted to moderate the mediational relationship of relationship satisfaction on forgiveness and meaning (Hypotheses 8-9). Each of these hypotheses is detailed below.

Meaning and moral offenses. According to previous research, morality and meaning are intricately related (Proulx & Heine, 2008; Van Tongeren & Green, 2010, 2011; Van Tongeren et al., 2011). This research suggests that individuals with a strong sense of meaning are less likely to commit moral offenses, whereas those who lack a strong sense of meaning would be more likely to commit moral offenses. Moreover, committing moral offenses (i.e., interpersonal transgressions) are likely to decrease one’s meaning in life. These hypotheses examine the basic proposed processes of the model using moral behaviors. Following this logic, the following predictions regarding the relationship between meaning and moral offenses are presented below:

Hypothesis 1: Base level meaning in life predicts committing fewer moral offenses against one’s partner over time. Following previous research and aligned with the

theoretical model interpersonal meaning maintenance, individuals with a strong sense of meaning would be motivated to maintain meaning, and would thus be less likely to commit interpersonal transgressions in the future. Although it seems plausible that the opposite might be true—individuals with less meaning would be more motivated to commit fewer moral offenses as a way to regain meaning—previous theorizing suggests that having a solid meaning system helps reduce defensive reactions (Van Tongeren et al., 2011), and certain systems of meaning may espouse tolerance and prosocial behavior (Beck, 2004). Previous empirical research supports this notion and has shown that when meaning is threatened (and thus low) via a mortality salience induction, individuals often respond aggressively (Greenberg et al., 1990; Pyszczynski et al., 2003; Rosenblatt et al., 1989; Solomon et al., 2004), whereas individuals with strong systems of meaning (especially that value tolerance) can increase tolerance toward others in the wake of threats to meaning (Greenberg et al., 1994; Rothschild et al., 2009).

Hypothesis 2: Committing moral offenses against one's partner leads to lower meaning in life across time. Because moral offenses can be construed as a meaning threat and detract from the quality of a relationship, individuals who transgress against their partner should experience lower meaning in life (measured across time). As theorized in previous research (Pyszczynski et al., 2003, 2004; Solomon et al., 2004; Van Tongeren & Green, 2010) and suggested by Study 1, moral actions are related to self-esteem and empathy, which are directly associated with meaning in life. Moral values are culturally bound (see Haidt, 2007; Haidt & Kesebir, 2010; Shweder, 1991), and living up to these social standards often confers self-esteem, which is a direct source of meaning in life (Heine et al., 2006; Pyszczynski et al., 2004; Van Tongeren & Green, 2010); thus, committing moral

offenses reduces self-esteem and meaning in life. Moreover, moral emotions, such as empathy (which is associated with meaning), are not elicited when one commits a moral transgression. Therefore, committing moral offenses should decrease meaning in life over time.

Meaning and forgiveness. Forgiveness is posited to be a crucial process in repairing relationships and maintaining a sense of meaning in the wake of interpersonal transgressions, given the importance of relationships in providing meaning (e.g., Heine et al., 2006). This specific moral behavior seems particularly well-suited to address offenses committed within a relationship as an avenue to regain a sense of meaning. A strong sense of meaning is likely related to a greater proclivity toward offering forgiveness. In addition, offering forgiveness—which is a moral action—should be related to greater meaning in life.

Hypothesis 3: Meaning in life predicts a tendency to offer forgiveness across time. Because a strong sense of meaning should elicit moral behaviors, meaning should be positively associated with a strong tendency to offer forgiveness over time to a variety of hurtful behaviors. Similar to why meaning in life should be predictive of committing fewer moral offenses (see Van Tongeren et al., 2011), individuals with a strong sense of meaning should be likely to offer forgiveness when their partner offends them. Having a sense of meaning helps buffer from threats to meaning (Hart et al., 2005; Solomon et al., 2004), suggesting that one is less likely to react negatively when an interpersonal transgression is committed against them, and more likely to respond virtuously by offering forgiveness.

Hypothesis 4: Offering forgiveness leads to greater meaning in life across time. This hypothesis directly tests the notion that forgiveness operates as a meaning-making mechanism. It is predicted that offering forgiveness in the wake of moral transgressions leads

to greater meaning in life. Insofar as forgiveness is a moral action that repairs relationship quality, granting forgiveness should be related to greater meaning in life across time. Acting morally should restore meaning in life (Proulx & Heine, 2008; Van Tongeren & Green, 2010b), and forgiveness is one moral response to an interpersonal transgression that would likely elicit an increase in meaning. Furthermore, given that forgiveness restores relationship quality (see Worthington, 2005 for a review), and relationships are a central feature of human life (Baumeister & Leary, 2005) and meaning (Baumeister, 1991; Durkheim, 1973/1925; Heine et al., 2006), granting forgiveness to one's partner should be related to greater meaning in life over a period of time.

Forgiveness and well-being. Offering forgiveness improves mental and physical health (e.g., Toussaint & Webb, 2005; Toussaint et al., 2010), suggesting that forgiveness may be associated with greater subjective well-being. Meaning-making efforts, akin to forgiveness, have been linked to well-being (Lyubormirsky, 2001; Park, 2010), and features of eudaemonic well-being (knowing one's "true-self") have been linked to meaning (Schlegel, Hicks, Arndt, & King 2009), which is posited to arise from forgiveness. Moreover, forgiveness has been related to greater well-being (see Worthington, 2005). Therefore, offering forgiveness may increase one's subjective well-being across time.

Hypothesis 5: Offering forgiveness leads to greater subjective well-being across time. It is predicted that forgiving over time should lead to greater well-being. Because of the link between forgiveness and well-being and the connections between relationships and well-being (see Worthington, 2005 for a review), granting forgiveness should improve one's subjective well-being across time. Moreover, because transgressions

are stressful events, which can decrease overall well-being (Park, 2010), forgiveness should improve relationship quality (and reduce stress), which should lead to greater well-being.

The process of interpersonal meaning maintenance. Forgiveness is proposed to increase meaning in life insofar as it directly improves one's relationship quality. Therefore, as individuals offer forgiveness, it is predicted that relationship quality should increase, as should meaning in life. Relationships are valuable (Baumeister & Leary, 2005) and provide a sense of meaning in life (Baumeister, 1991; Heine et al., 2006)—accordingly, forgiveness should increase meaning in life over time by improving relationship quality (or satisfaction).

Hypothesis 6: The effects of forgiveness on meaning in life are mediated by improvement in relationship satisfaction. Using relationship satisfaction as an indicator of relationship quality, it is predicted that forgiveness increases meaning in life by improving one's relationship. Forgiveness is a response to an interpersonal transgression whereby the individual replaces the negative emotions toward their offender with positive, prosocial emotions (McCullough, 2001; McCullough et al., 1997; Strelan & Covic, 2006; Worthington, 2005). In addition, this process often takes time to unfold (McCullough, et al., 2010). Because of the value of relationships in providing meaning (Baumeister, 1991; Hicks et al., 2010; Van Tongeren & Green, 2010b), forgiveness likely increases meaning in life by improving relationship satisfaction. Therefore, it is predicted that improved relationship quality mediates the positive effects of forgiveness on meaning in life.

Hypothesis 7: Consistent levels of forgiveness will predict greater meaning in life over time, compared to more labile or fluctuating forgiveness. The routine and consistent forgiveness of moral transgressions should lead to greater meaning in life, compared to forgiveness that is offered only sporadically or is wildly fluctuating. That is, it is

predicted that smaller variance scores (i.e., consistent forgiveness scores) will be more strongly related to meaning in life than offering forgiveness more sporadically or variably (when controlling for amount of forgiveness granted). That is, in addition to predicting that forgiveness should lead to increased meaning in life (Hypothesis 4), it is hypothesized that less variability in forgiveness scores should improve meaning in life, over and above the amount of forgiveness granted. When individuals practice forgiveness regularly, this moral action becomes integrated into their moral identity (Hulseley & Hampson, 2010), and a strong moral identity is posited to be related to greater meaning in life (Van Tongeren & Green, 2010b). On the other hand, moral actions that occur sporadically are less likely to become assimilated into one's identity, reducing the meaning-providing benefits of acting morally.

Dispositional effects of trait empathy and self-esteem. The results of Study 1 suggested that greater trait empathy and self-esteem are associated with improved relationship quality and meaning in life. Accordingly, it stands to reason that individuals with a chronic disposition toward acting empathically should report greater forgiveness, which in turn, improves relationship quality and meaning in life. The same should be true for individuals with favorable self-views: higher self-esteem should be related to greater forgiveness, improved relationship quality, and meaning in life.

Hypothesis 8: The mediating effect of improved relationship quality from forgiveness to meaning is moderated by trait levels of empathy. Based on previous research revealing the importance of empathy in forgiveness (McCullough et al., 1997, 1998; Worthington, 2006) and the results of Study 1, greater empathy should be related to greater relationship quality. As mentioned above, relationship quality is predicted to mediate the effect of forgiveness on meaning; thus, moderated-mediation is predicted, wherein this

mediation effect is stronger among individuals with high dispositional empathy compared to lower dispositional empathy.

Hypothesis 9: The mediating effect of improved relationship quality from forgiveness to meaning is moderated by self-esteem. In a similar vein, following previous work pointing toward the importance of self-esteem in granting meaning (Pyszczynski et al., 2004; Solomon et al., 2004) and the results of Study 1, it is predicted that greater self-esteem should lead to greater meaning in relationship quality and meaning in life. Relationship quality is predicted to mediate the effect of self-esteem on meaning, and this effect should be stronger for individuals with highly favorable self-views (i.e., high self-esteem). Thus, moderated-mediation is predicted, wherein this mediation effect is stronger among individuals with high self-esteem compared to lower self-esteem.

Method

Study 2 employed the VCU Couples Study data, which was a large scale longitudinal project in which data was collected from over eight months (May – December) in 2009. Participants provided data over the course of six months. I was involved in the planning of the study, running of data collection sessions (at both Lab Session I and Lab Session II), management of the data, and data analysis.

Participants. Participants were 105 heterosexual romantic couples who had been dating for at least six months. Participants were recruited from the greater Richmond, VA area through local advertisements, emails, and Craigslist postings to be part of a study that examined relationships. Data collection continued for eight months, with participants actively providing data for 24 weeks (i.e., six months). Participants first completed a two-hour laboratory session (i.e., Lab Session I) in which they completed a battery of materials. Three

weeks later, participants completed their first brief (roughly 15 minute) online assessment, which was emailed to them bi-weekly for 22 weeks (i.e., Waves 1-12). Finally, after the final online assessment, participants returned to the laboratory to complete the final two-hour session (i.e., Lab Session II). Participants were compensated \$25 for both of the laboratory sessions and \$4 for each of the 12 online surveys completed every two weeks. Participants who completed at least 10 of the 12 online surveys received a bonus of \$20. The potential total compensation available for each participant was \$126.

Participants ranged in age from 18-63 ($M = 26.99$, $SD = 7.75$) and their ethnicity varied (White/Caucasian = 82.9%, African-American = 9.0%, Asian-American = 4.8%, Hispanic/Latino(a) = 1.4%, and the rest indicated “Other”). Most of the couples were dating seriously (47.4%), married (33.5%), or engaged (17.2%), with the remainder of the couples living together (1.4%) or dating casually (0.5%). Couples that had been dating or engaged reported being together for 6 months to 8 years ($M = 2.29$ years, $SD = 1.79$), and married couples reported being married 1 month to 36.92 years ($M = 5.46$ years, $SD = 7.91$). Almost all (99%) of the couples were exclusive (i.e., only dated each other), with only one couple (1%) reporting that they were non-exclusive (i.e., both partners dated other individuals). Thirty couples (14.3%) had children. Most of the participants indicated that English was their native language (95.7%) and were born in the United States (82.9%). Non-native English-speaking participants had been speaking English for 3 to 25 years ($M = 14.33$, $SD = 7.76$), and participants born outside of the United States had lived in the country for 3 to 59 years ($M = 18.51$, $SD = 13.01$).

Materials. Study 2 was a subset of the larger VCU Couples Study, and the materials used in the present investigation were embedded in a battery of materials. Only the materials

relevant to the current research are detailed below. Measures of dispositional traits, relationship characteristics, moral offenses, forgiveness, meaning, and well-being were administered in the current study. These measures are listed in Appendix B and their time of administration is displayed in Figure 3.

Table 1. *Measures administered at each time-point.*

	T1 <i>Lab 1</i>	T2 <i>W1</i>	T3 <i>W2</i>	T4 <i>W3</i>	T5 <i>W4</i>	T6 <i>W5</i>	T7 <i>W6</i>	T8 <i>W7</i>	T9 <i>W8</i>	T10 <i>W9</i>	T11 <i>W10</i>	T12 <i>W11</i>	T13 <i>W12</i>	T14 <i>Lab 2</i>
Dispositional Characteristics														
Trait Empathy (IRI)	X													
Self-Esteem (RSES)				X										X
Relationship Characteristics														
Relationship satisfaction (1 item)		X	X	X	X	X	X	X	X	X	X			
Moral Offenses														
Offenses committed (20)		X	X	X	X	X	X	X	X	X	X			
Offenses suffered (20)		X	X	X	X	X	X	X	X	X	X			
Forgiveness														
Forgiveness of offense		X	X	X	X	X	X	X	X	X	X			
Meaning														
Meaning in Life Scale (MLS)			X											X
Well-Being														
Subjective Well-Being (SWBS)	X													X

Note. Measures administered by time-point

Trait empathy. To assess trait empathy, participants completed the empathic concern and perspective-taking subscales of the Interpersonal Reactions Inventory (IRI; Davis, 1983), which is a 14-item measure of trait empathy (e.g., “I often have tender, concerned feelings for people less fortunate than me”, “When I’m upset at someone, I usually try to ‘put myself in his shoes’ for awhile”). Participants completed this measure at Lab Session I. Participants responded to the items on a 5-point scale (1 = *not at all characteristic*

of me to 5 = *extremely characteristic of me*), and there was evidence of internal consistency with the IRI ($\alpha = .85$).

Self-esteem. To assess self-esteem, participants completed the Rosenberg self-esteem scale (RSES; Rosenberg, 1965), which is a widely-used 10-item measure of self-esteem (e.g., “On the whole, I am satisfied with myself”, “I take a positive attitude toward myself”). Participants responded to the items on a 4-point scale (1 = *strongly disagree* to 4 = *strongly agree*). Participants completed this measure at Wave 3 and Lab Session II. There was evidence of internal consistency with this scale at Wave 3 ($\alpha = .89$) and Lab Session II ($\alpha = .89$).

Relationship satisfaction. Relationship satisfaction was assessed by having participants complete a one-item measure of relationship satisfaction (“These days, how satisfied are you with your relationship?”) on a 7-point scale (1 = *not at all satisfied* to 7 = *very satisfied*) during the bi-weekly online assessments. A one-item measure was favored to reduce the burden on participants. These assessments of relationship satisfaction were gathered from 10 of the 12 bi-weekly online assessments (i.e., Waves 1-10).

Moral transgressions. To assess interpersonal transgressions, participants indicated if they had committed any transgression, in the past two weeks, from a list of 20 different commonly occurring interpersonal offenses (that were selected from a larger set of offenses based on the results of a separate pilot study). Ten of the 12 bi-weekly assessments asked participants if they had committed the offense against their partner within the previous two weeks. Also, each assessment asked if their partner had committed this offense against them in the past two weeks. Then, they reported the hurtfulness of this offense on one item

measured on a 5-point scale (1 = *not at all hurtful* to 5 = *very hurtful*). A full list of the 20 transgressions (committed against and by their partner) is listed in Appendix B.

Forgiveness. To measure forgiveness of the moral offenses, participants rated the extent to which they forgave their partner's interpersonal transgressions and betrayals (separately) on a 6-point scale (1 = *strong unforgiveness* to 6 = *strong forgiveness*) for each offense and each betrayal as reported by the participant during 10 of the 12 bi-weekly assessments. Thus, data were collected regarding the forgiveness of each moral offense and betrayal that was reported during those five months of online waves.

Meaning in life scale. Participants completed an adapted version of the meaning in life scale (MLS; Jim, Purnell, Richardson, Golden-Kreutz, & Andersen, 2006). Originally designed for use with cancer populations, the scale was modified by removing all references to cancer and health. This scale has been successfully used with non-health samples in previous work on meaning (Van Tongeren & Green, 2010a). The MLS is a 20-item measure of meaning in life, in which participants respond to statements on a 7-point scale (1 = *absolutely untrue* to 7 = *absolutely true*). Participants completed this measure at Wave 2 and Lab Session II, and there was evidence for interenal consistency at Wave 2 ($\alpha = .92$) and Lab Session II ($\alpha = .92$).

Well-being. Finally, participants reported their well-being by completing the Satisfaction With Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985). This is a five-item assessment of subjective well-being, in which participants respond to the items on a 5-point scale (1 = *strongly disagree* to 5 = *strongly agree*). Participants completed this measure at both laboratory sessions, and there was evidence for internal consistency at Lab Session I ($\alpha = .87$) and Lab Session II ($\alpha = .89$).

Procedure

The study was divided into three phases. In the first phase, participants attended a two-hour laboratory session at VCU (i.e., Lab Session I). After being informed regarding the nature of the study and confirming that (a) participants were in a romantic relationship for at least six months, and (b) English was the participants' native language, all participants completed a consent form. After this, they completed a battery of measures and indicated their email addresses, to which the link to the online assessments would be delivered. All measures were completed on SNAP, which is a secure online experiment administration system (see Appendix C for a full list of measures in the VCU Couples Study).

In the second phase, which began 3 weeks after the first laboratory session, participants received bi-weekly emails directing them to complete the online assessment using SNAP. There were 12 assessments during the second phase, which spanned five months. Participants received a monetary incentive (i.e., \$20 bonus) for completing 10 of the 12 online assessments to help assure a high response rate.

In the third phase, participants returned to VCU to complete the second laboratory session (i.e., Lab Session II). They signed another consent form and completed another battery of materials through SNAP. This session lasted between two and three hours. Upon completion, participants were debriefed regarding the nature of the study and encouraged to contact the researchers should they have any questions regarding the study or their experience in it.

Results

Data analytic strategy. To test the hypotheses, the data were analyzed with multilevel modeling (MLM), which is a form of linear modeling that is well-suited for longitudinal (Hox, 2000) and dyadic (Campbell & Kashy, 2002) data. This data analytic strategy takes into consideration not only participant effects, but can also account for partner effects. Moreover, repeated measures, as in the current longitudinal study, can be accounted for with MLM. Because the data are dyadic, MLM can take into account both sources of variance. In addition, MLM is not hampered by missing data (Hox, 2000), which is particularly helpful given the large number of observations (i.e., up to 12 time points).

The data analytic technique involves modeling the different hypotheses by taking into account the different levels of the data. On the lowest level, the participant effects were considered (i.e., unique effects of that person on the data). The second level took into consideration the individuals being nested in couples by allowing random intercepts for each couple. The dependent variables (e.g., meaning in life) were obtained by examining the effect of the independent variable on the final measurement of the dependent variable (i.e., Lab 2) while controlling for the earlier assessment of the dependent variable (i.e., Wave 2). I implemented MLM analyses and used ML estimation, and I included the couple and participant variables as grouping variables. With repeated measures variables (e.g., moral offenses), I allowed for random intercepts at the couple level and the individual level, and included time as a random covariate at the individual level, to allow individual slopes for time to account for the repeated measurement of the dependent variable.

Data preparation. The data were first screened for normality and multivariate outliers. Kolmogorov-Smirnova tests of normality indicated that many of the variables were

not normally distributed; however, these tests are sensitive and are often significant with large samples (Pallant, 2001). Thus, it is recommended to inspect the histograms for each variable (Pallant, 2001; Tabachnick & Fidell, 2007). Scores on the meaning in life scale (i.e., MLS) appeared to be slightly negatively skewed, as were scores on the SWLS, which is consistent with the idea that many individuals find meaning and satisfaction in their lives (cf. Heine et al., 2006). However, neither variable had skewness or kurtosis values above 1. The number of moral offenses committed was positively skewed (and kurtotic), indicating that most participants did not report many offenses in their relationships, which suggests that couples were in relatively high functioning relationships. Because this variable had skewness (3.07) and kurtosis (12.60) values above 1.50, it was transformed using a square root transformation (Pallant, 2001). The transformation reduced skewness (1.17) and kurtosis (.47) values below the 1.50 cutoff. Finally, there were no multivariate outliers (i.e., outliers on several variables). Continuous variables were grand-mean centered.

Potential covariates. To ensure that the effects reported below were not due to demographic variables of the participants, I sought to determine if there were any potential covariates. I examined the effects of age, relationship status, relationship duration, and sex, on forgiveness, meaning in life, moral offenses, relationship satisfaction, and satisfaction with life. Age was significantly positively related to meaning in life, relationship satisfaction, and satisfaction with life and negatively related to moral offenses (all $p < .05$). Males reported committing fewer moral offenses, greater meaning in life, and greater satisfaction with life (all $ps < .05$). Relationship status (i.e., dating, engaged, married) was related to satisfaction with the relationship and forgiveness, with more committed status (e.g., married) being positively related to relationship satisfaction and granting forgiveness to their partner

(all $ps < .05$). Relationship duration was unrelated to the variables of interest (all $ps > .05$). To account for the variance associated with these covariates, I controlled for the effects of these variables when they exerted an effect on the dependent variable (i.e., included it as a predictor in the model).

Hypotheses and analyses.

Hypothesis 1: Base level meaning in life predicts committing fewer moral offenses against one's partner over time. First, I hypothesized that higher meaning in life (measured at Wave 2) would predict fewer future moral offenses against one's partner. I examined the number of moral offenses after the measurement of meaning in life (at Wave 2); thus, I summed the number of moral offenses for Waves 3-10. Because the frequency of offenses was skewed and kurtotic, I transformed the variable using a square root transformation. I also included participants' age and sex as covariates. As predicted, MLS scores (at Wave 2) predicted significantly fewer moral offenses committed during Waves 3-10, $B = -.19$, $SE = .02$, $t = -7.54$, $p < .0005$.² Thus, Hypothesis 1 was supported: meaning in life is related to committing fewer moral offenses in the future.

Hypothesis 2: Committing moral offenses against one's partner leads to lower meaning in life across time. Second, I predicted that the number of moral offenses committed between when meaning was assessed (during Waves 3-10) would predict lower meaning in life (i.e., MLS) at and the Lab 2 assessment. I controlled for previous measurements of meaning by including Wave 2 assessments of meaning as a covariate in the model. Also, I controlled for age and sex of the participant. The (transformed) number of moral offenses committed during Waves 3-10 did not significantly predict lower meaning at

² The effect of meaning on the non-transformed variable was also significant.

Lab 2, $B = -.01$, $SE = .02$, $t = -.81$, $p = .420$.³ Thus, Hypothesis 2 was not supported; committing moral offenses did not reduce one's sense of meaning in life.

Hypothesis 3: Meaning in life predicts a tendency to offer forgiveness across time. Third, I predicted that one's meaning in life would be related to greater forgiveness across time. I focused on the forgiveness following the measurement of meaning in life (at Wave 2); thus, I examined forgiveness of offenses committed by one's partner during Waves 3-10. I calculated a *forgiveness ratio*, which consisted of the participants' degree of forgiveness (ranging from 1 = *not at all* to 6 = *complete forgiveness*) divided by the number of moral offenses they suffered, to obtain an average forgiveness of each offense suffered. I also controlled for the effect of relationship status. As predicted, MLS scores (at Wave 2) predicted greater forgiveness of offenses by one's partner during Waves 3-10, $B = .20$, $SE = .07$, $t = 2.73$, $p = .007$. Hypothesis 3 was supported: meaning in life predicted greater forgiveness of offenses by one's partner.

Hypothesis 4: Offering forgiveness leads to greater meaning in life across time. Next, I predicted that offering forgiveness, as measured by the *forgiveness ratio*, in the time between meaning assessments (Waves 3-10) would predict lower meaning in life (i.e., MLS, MLQ-P) at the Lab 2 assessment. I also controlled for previous measurements of meaning by including Wave 2 assessments of meaning as a covariate in the model, as well as age and sex of the participant. As predicted, greater forgiveness of offenses during Waves 3-10 predicted greater MLS scores at Lab 2, $B = .04$, $SE = .01$, $t = 3.07$, $p = .002$. Thus, Hypothesis 4 was supported: engaging in forgiveness is related to greater meaning in life.

Hypothesis 5: Offering forgiveness leads to greater subjective well-being across time. Next, I predicted that offering forgiveness, as measured by the *forgiveness ratio*,

³ Once again, the effect of the non-transformed variable on meaning was also not significant.

across the entire study (Waves 1-10) would predict greater satisfaction with life (i.e., SLWS) at the Lab 2 assessment. I also controlled for the previous measurement of life satisfaction by including the Lab 1 scores as a covariate in the model, as well as the age and sex of the participant. As predicted, greater forgiveness predicted greater SWBS scores at Lab 2, $B = .04$, $SE = .02$, $t = 1.79$, $p = .075$, although the effect was only marginally significant. Thus, Hypothesis 5 was only partially supported: forgiveness is associated with marginally greater satisfaction with life over time.

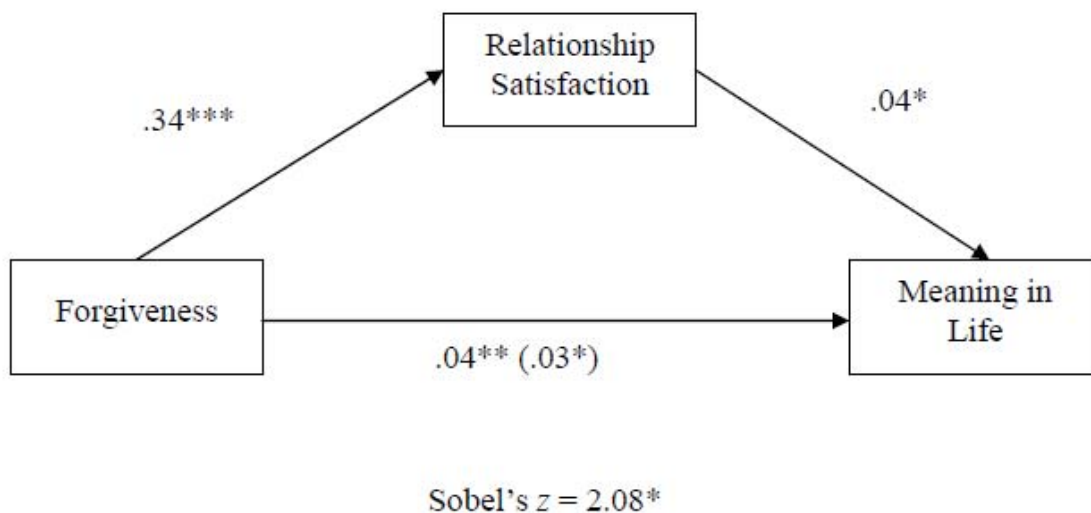
Hypothesis 6: The effects of forgiveness on meaning in life are mediated by improvement in relationship satisfaction. I predicted that the positive effect of forgiveness on meaning in life would be mediated by changes in relationship satisfaction. That is, as individuals forgave their partners, relationship satisfaction would increase, and this change would account for the effect of forgiveness on meaning in life. To test this, I followed Baron and Kenny's (1986) test for mediation and implemented MLM analyses, using ML estimation, and included the couple and participant variables as grouping variables, and allowed for random intercepts at the couple level (and the individual level when testing the effects of forgiveness on relationship satisfaction). (Including random intercepts at the individual level resulted in a failure of model convergence when testing the mediational effects on meaning in life.)

The first step of Baron and Kenny's test is to confirm that the independent variable (i.e., forgiveness) affects the dependent variable (i.e., meaning in life). This was supported when testing Hypothesis 4. Second, forgiveness should predict relationship satisfaction (i.e., mediator). As predicted, forgiveness was significantly associated with relationship satisfaction, even when controlling for participants' age and relationship status, $B = .34$, $SE =$

.03, $t = 9.83$, $p < .005$. Third, the effects of forgiveness on the meaning in life index should reduce significantly (or no longer be significant) with the inclusion of relationship satisfaction in predicting meaning.

Even when controlling for participants' age and sex, including both forgiveness and relationship satisfaction in the model predicting meaning in life (MLS) scores indicate that both relationship satisfaction, $B = .04$, $SE = .02$, $t = 2.12$, $p = .034$, and forgiveness, $B = .03$, $SE = .02$, $t = 2.12$, $p = .034$, significantly predicted MLS scores at Lab 2 (when controlling for Wave 2 scores). Although the effect of forgiveness on MLS scores remained significant, including relationship satisfaction significantly reduced the effect, Sobel $Z = 2.08$, $p = .038$.

These results provide evidence for the partial mediating effect of relationship satisfaction in the effect of forgiveness on meaning in life. Including relationship satisfaction resulted in a significant reduction in the effect of forgiveness on meaning in life, although the direct path from forgiveness to meaning in life was still significant, suggesting that forgiveness only explains a partial (though significant) portion of the effect of forgiveness on meaning in life. The mediation model is depicted below.



Note. * $p < .05$; ** $p < .01$; *** $p < .001$.

Figure 4. Relationship satisfaction partially mediates the effect of forgiveness on meaning in life.

Hypothesis 7: Consistent levels of forgiveness will predict greater meaning in life over time, compared to more labile or fluctuating forgiveness. Next, I predicted that stable forgiveness, as indicated by the variance associated with one's forgiveness scores during Waves 3-10 would predict greater meaning in life at and the Lab 2 assessment. I calculated the standard deviation of participants' forgiveness ratio scores and used them to predict meaning in life at Lab 2 (while controlling for meaning in life at Wave 2 and average levels of forgiveness). I also controlled for participants' age and sex. The standard deviation of forgiveness scores during Waves 3-10 did not significantly predicted meaning in life at Lab 2 (when controlling for meaning in life at Wave 2 and the ratio of forgiveness, as well as

participants' age and sex), $B = .02$, $SE = .05$, $t = .477$, $p = .633$. Thus, the hypothesis was not supported.

Hypothesis 8: The mediating effect of improved relationship quality from forgiveness to meaning is moderated by trait levels of empathy. Given the results of Study 1, in which empathy and self-esteem were related to relationship quality, I also hypothesized that the mediating effect of relationship quality from forgiveness to meaning would be moderated by differences in trait level empathy and self-esteem. Hypothesis 8 examined the former (i.e., trait empathy) and Hypothesis 9 examined the latter (i.e., self-esteem). Thus, I predicted moderation mediation: the mediating relationship would depend on trait levels of empathy.

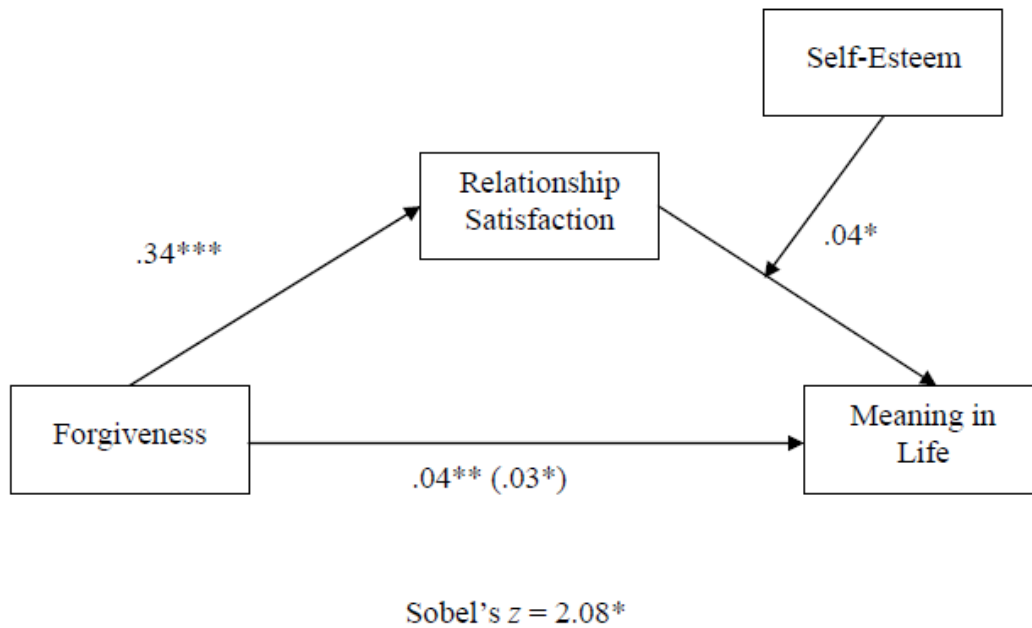
Muller, Judd, and Yzerbyt (2005) detail the necessary requirements for moderated mediation. First, as in standard mediation, the independent variable should affect the dependent variable (for which evidence was provided in Hypothesis 6). Second, the relationship between the independent variable and the mediator or the relationship between the mediator and the dependent variable is moderated (i.e., depends on the level of the moderator). In some cases, both relationships can be moderated. I also controlled for participants' age and sex in the analyses below.

I first examined whether the association between forgiveness (as measured by the forgiveness ratio) and relationship satisfaction was moderated by trait empathy. The interaction between forgiveness and empathy on relationship satisfaction was not significant, $B = -.06$, $SE = .07$, $t = -.852$, $p = .395$. Next, I examined whether the association between relationship satisfaction and meaning in life (at Lab 2) was moderated by trait empathy (while controlling for Wave 2 meaning in life scores). Again, the interaction was not

significant, $B = .00$, $SE = .02$, $t = .074$, $p = .941$. Therefore, neither condition of moderated-mediation was met for trait empathy. Dispositional empathy did not affect the mediational processes of relationship satisfaction on the effect of forgiveness on meaning in life.

Hypothesis 9: The mediating effect of improved relationship quality from forgiveness to meaning is moderated by self-esteem. Next, I tested whether the mediational of relationship satisfaction on forgiveness to meaning in life would vary based on trait levels of self-esteem. Again, I controlled for participants' age and sex in the analyses below. I first examined whether the association between forgiveness (as measured by the forgiveness ratio) and relationship satisfaction was moderated by self-esteem. The interaction between forgiveness and self-esteem on relationship satisfaction was not significant, $B = -.01$, $SE = .06$, $t = -.216$, $p = .829$. Next, I examined whether the association between relationship satisfaction and meaning in life (at Lab 2) was moderated by self-esteem (while controlling for Wave 2 meaning in life scores). This interaction was significant, $B = .14$, $SE = .02$, $t = 6.76$, $p < .005$. To unpack this interaction, I examined the simple effects by calculating one standard deviation above and below the mean of self-esteem.

Whereas for individuals who were low in self-esteem (-1 SD), relationship satisfaction did not significantly predict meaning in life, $B = .00$, $SE = .02$, $t = .42$, $p = .673$, for individuals high in self-esteem (+1SD), relationship satisfaction significantly predicted meaning in life, $B = .15$, $SE = .02$, $t = 9.73$, $p < .005$. The mediational process of relationship satisfaction on the association between forgiveness and meaning in life is qualified by trait levels of self-esteem: the beneficial effect of relationship satisfaction on meaning in life is present for those with high self-esteem but is absent for those with low levels of self-esteem.



Note. $*p < .05$; $**p < .01$; $***p < .001$.

Figure 5. Moderated-mediation model: Self-esteem moderates the relationship between relationship satisfaction (mediator) and meaning in life.

Discussion

Study 2 focused on the process of meaning maintenance within close relationships through the implementation of a longitudinal study. The model of interpersonal meaning maintenance posits that meaning should predict fewer moral offenses against one's partner, and committing moral offenses should decrease meaning. Evidence was found for the former prediction in Study 2: meaning in life predicted committing fewer offenses against one's partner. However, committing moral offenses did not lead to reduced meaning in life in Study 2. That is, meaning in life was not negatively affected by committing moral offenses. Perhaps the benefits of meaning in doing good are stronger than the negative effects of acting

badly toward one's partner on one's meaning in life. Alternatively, and perhaps more consistent with the original fluid compensation hypothesis, individuals may place more emphasis in deriving meaning from other sources when their relationships are dissatisfying (Heine et al., 2006). That is, when relationships are not providing meaning, partly due to one's own destructive behaviors, one might turn toward other domains (e.g., self-esteem, certainty, symbolic immortality) from which to gain meaning. For example, individuals might turn toward career pursuits in the midst of a rocky relationship, even if they are primarily responsible for creating the turmoil in relationship.

The model also predicted that moral responses, namely forgiveness, should be predicted by meaning in life and lead to greater meaning in life over time. These claims were both supported in Study 2. Greater meaning in life led to offering greater forgiveness to one's partner when offended, and granting forgiveness led to increases in meaning over time. This suggests that moral behaviors, such as forgiveness, can increase one's meaning in life. Moreover, this effect was partially mediated by increases in relationship satisfaction. Forgiveness increased relationship satisfaction, which accounted for some of the increase in meaning in life. That is, offering forgiveness to one's partner improves how satisfied one is with the partner, which improves meaning in life. Some of the benefits of moral actions, such as forgiveness, are evidenced by enhanced relationship quality. Forgiveness also was found to marginally improve satisfaction with life. Those who offered their partner more forgiveness subsequently reported somewhat greater satisfaction with life, which provides additional evidence for the salubrious effects of moral actions such as forgiveness. Thus, the benefits of acting virtuously—through granting forgiveness—extend to increasing one's meaning in life and slightly improving one's satisfaction with life.

In Study 2, I predicted that individual differences in the variation of forgiveness scores (Hypothesis 7) would negatively affect meaning in life across time, when controlling for average levels of forgiveness. However, no effect was found. Perhaps never forgiving (or rigidly forgiving; see Luchies et al., 2010) may be maladaptive for a relationship (McCullough, 2008). It is clear, however, that forgiveness should be an option in relationships. More work should explore how the variance in forgiveness scores is related to other relationship outcomes (e.g., satisfaction) or may interact with amount of forgiveness granted.

There was evidence that the mediation model was further moderated by trait differences in self-esteem (though not empathy). Although dispositional levels of empathy did not affect the mediation model, the mediating effect of relationship satisfaction was only present among those high in self-esteem. Individuals with positive self-views are more likely to experience the beneficial effects of improved relationship satisfaction following forgiveness. These results resonate with other research documenting the importance of self-esteem in meaning maintenance (see Heine et al., 2006; Pyszczynski et al., 2004). Moreover, those with positive self-views are likely to experience increased meaning due to their satisfying relationship with their partner.

General Discussion

Psychological science has only recently begun to turn empirical scrutiny toward the human proclivity for creating and sustaining meaning. Initial research has focused primarily on how threats to one's symbolic immortality (Pyszczynski et al., 1997; Solomon et al., 2004) or expectations (e.g., Proulx & Heine, 2008; Proulx et al., 2010), evoke processes aimed at recovering meaning. However, close relationships are well-springs of meaning, yet

heretofore have been largely unstudied as an arena in which meaning is maintained. The present research is a novel investigation of the process of meaning maintenance in close relationships: after proposing a model of interpersonal meaning maintenance, initial evidence was provided in support of this model from Study 1. In Study 1, general morality, assessed at the dispositional level, was related to trait empathy and trait self-esteem, which improved relationship satisfaction with a close other, as well as provided meaning in life. Relationship satisfaction, in turn, provided meaning in life, though it operated as a partial mediator. In Study 2, moral behaviors and forgiveness predicted meaning in life, and the effect of forgiveness was partially mediated by improvements in relationship satisfaction: forgiving one's partner increases relationship satisfaction, which produces meaning in life. Moreover, self-esteem was found to moderate this mediation. The results of two studies elucidate the process of meaning maintenance in close relationships and underscore the importance of acting virtuously towards one's partner.

Revisiting the Model of Interpersonal Meaning Maintenance

The present investigation provided initial support for the general postulates of the model of interpersonal meaning maintenance: individuals engage in moral actions—namely, forgiveness, to regain a sense of meaning following offenses committed by their romantic partner. The current research also uncovered the importance of having a solid sense of meaning in reducing moral offenses and engaging in forgiveness. That is, individuals with higher levels of meaning were less likely to commit transgressions against their partner over time and more likely to offer forgiveness when their partner transgressed. High levels of meaning appear to be important for responding virtuously (see Van Tongeren et al., 2011).

Moreover, when partners offered forgiveness, they experienced greater meaning in life, and this increase was partially due to improved relationship quality. Forgiveness is a central process to maintaining healthy ongoing relationships (McCullough, 2008; Rusbult et al., 2005; Worthington, 2005). When a relationship is damaged by an offense committed by one partner (or both partners), responding with forgiveness is a potent way to restore the relationship; the results of the present investigation demonstrate that increasing meaning is another salubrious benefit of forgiveness. Relationship satisfaction only partially mediated the beneficial effects of forgiveness on meaning in life, suggesting that additional variance in meaning in life scores is attributable to forgiveness that is unexplained by improved relationship satisfaction. Put differently, forgiveness improves meaning partially because one's relationship improves, but also partially due to other mediating mechanisms (or something qualitatively unique to forgiveness).

A moderated-mediated model, wherein self-esteem affected the mediating effect of relationship satisfaction on meaning, emerged in Study 2. Self-esteem is a central construct in meaning (e.g., Heine et al., 2006; Park, 2010; Pyszczynski et al., 2004; Van Tongeren & Green, 2010), and relationships (e.g., Leary et al., 1995), and the present research provides additional support for the relationships among these variables. The mediational processes were present among those with high self-esteem, although they were absent among those with low self-esteem. Improved relationship satisfaction accounted for the salutary effects of forgiveness on meaning in life only among those with high self-esteem.

Our lives are full of relationships. We all have relationships that vary in closeness (e.g., mail carrier vs. romantic partner) and frequency with we interact with the other individual (e.g., visiting cousins at holidays vs. chatting with our spouse nightly), yet the

relationships we share with other people and the exchanges within that relationship may be the most prevalent domain in which meaning is created and threatened. The model of interpersonal meaning maintenance provides a nuanced explanation of how meaning might be affected and sustained within the context of relationships, where frequent exchanges and routine interactions have powerful effects on our felt meaning in life.

Forgiveness is a Meaning-Making Mechanism

Although prior theorizing has suggested that morality and meaning are intertwined (Van Tongeren et al., 2011), the current work is the first known research to demonstrate that forgiveness is a meaning-making mechanism. The benefits of forgiveness have been well-documented, ranging from improvements in health (Toussaint & Webb, 2005), improved relationships (Rusbult et al., 2005), and better overall well-being (Lyubormirsky, 2001; Park, 2010), the effect of forgiveness on meaning had been heretofore unstudied. However, the results of Study 2 provide evidence that forgiveness can provide meaning in life.

Previous research has shown that consistently forgiving one's partner, to the degree that one gives his or her partner a license to transgress, can be damaging to one's self concept (Luchies et al., 2010); however, the present work suggests that forgiveness can improve meaning in life by improving the relationship with one's partner. Harboring unforgiveness against one's partner is likely stressful (Worthington, 2006) and can impede future positive interactions in a valuable relationship (McCullough, 2008). Thus, forgiveness can improve how satisfied people are with their relationships and degree of meaning provided by the relationship. Indeed, forgiveness appears to be a meaning-making mechanism.

Morality as a Source of Meaning

A core theoretical tenet of the model of interpersonal meaning maintenance is that moral actions can restore meaning in relationships. Study 2 demonstrated that although the number of offenses one committed over time did not affect subsequent meaning, having a greater sense of meaning was related to committing fewer offenses, and offering forgiveness—which is considered to be a virtue (Berry, Worthington, Wade, Witvliet, & Kiefer, 2005)—does improve meaning in life over time. Previous research has suggested that morality and meaning may be intertwined (Proulx & Heine, 2008; Van Tongeren et al., 2011), and the present research provides additional direct evidence for that claim by examining how forgiveness offered to one's partner over time increases meaning in life.

The current work makes a compelling argument that morality might be an additional source of meaning from which one might draw when meaning is threatened. Previous initial research has pointed toward this possibility (see Van Tongeren & Green, 2011; Van Tongeren, Green, & Hulsey, 2010), but the present work provides valuable substantiation of this postulate. Additional work, however, is still needed to more fully elucidate the intricate relationship between morality and meaning. For example, what are the relationships between morality and the other domains of meaning (e.g., self-esteem, affiliation, certainty, symbolic immortality)? Are all moral actions sufficient to provide meaning, or are some more effective at meaning-making (e.g., forgiveness)? As future work turns toward examining how morality and meaning are related, a more thorough understanding of meaning maintenance should emerge.

Toward a Comprehensive Understanding of Meaning Maintenance

Research on the processes involved in creating, defending, and sustaining meaning is still in its infancy. The primary theorizing frames the human desire for meaning as a primary social motivation (Heine et al., 2006), and initial research documents how threats to meaning are disruptive (Proulx & Heine, 2008) and evoke compensatory reaffirmation (Proulx et al., 2010), even when threats go unnoticed (Randles et al., 2011) or are processed nonconsciously (Van Tongeren & Green, 2010). The disequilibrium caused by threats to meaning is likened to cognitive dissonance (cf. Proulx & Heine, 2008), whereby an uneasy feeling regarding the incongruence between expected associations (i.e., a meaning threat) motivates individuals to reduce the dissonance (or eliminate the threat to meaning) as a way to regain a sense of psychological equanimity. Thus, research has focused on how social motives affect humans on an individual level; that is, research has primarily examined how superordinate motivations and intraindividual processes are related to meaning maintenance, without turning much attention to interpersonal or dyadic interactions.

The present research provides an initial step toward understanding how meaning maintenance processes operate within the context of ongoing (romantic) relationships. When one's partner, an individual with whom an ongoing relationship is likely expected and valued, commits an offense—which threatens meaning—individuals are left with various options to recover lost meaning. First, they could distance themselves from the threat by leaving the relationship, either temporarily or permanently. However, doing so precludes the victim from experiencing the positive meaning-providing benefits of a relationship; thus, this strategy may result in a further decrement to meaning. Second, they could respond negatively to the partner, by exacting revenge or holding a grudge, though these responses would also

decrease relationship quality (see Rusbult et al., 2005) and serve as an impediment to meaning. Alternatively, the victim could respond morally, through the granting of forgiveness. By offering forgiveness, one might restore the quality of the relationship, which would redress the meaning threat and serve to recapture lost meaning. By responding virtuously to offenses committed by a partner, individuals might effectively regain meaning and improve the quality of their relationships for the future.

An important step in advancing the scientific study of meaning may include broadening the domain of potential responses to threats against meaning. That is, researchers should strive to identify additional sources of meaning from which one might draw in the wake of a threat or disruption. The present research suggests moral actions, particularly forgiveness, may serve an important function in providing meaning. Future work should strive to determine the various sources of meaning and their associations with one another (e.g., self-esteem maintenance in seeking certainty, achieving symbolic immortality from affiliation).

In addition, as more research on meaning maintenance is garnered, a more complete understanding of how meaning is created and defended should be provided for how these processes operate on all levels (e.g., neurological processes, individual experiences, interpersonal relationships, group-level interactions, superordinate motivations; see Proulx & Heine, 2010). Empirical work in these domains should uncover exciting discoveries regarding the nature of meaning maintenance, as well as link to broad, established theories within the field (Proulx & Heine, 2006; Pyszczynski, Greenberg, Solomon, & Maxfield, 2006).

Finally, the present work demonstrates that having a strong sense of meaning is related to moral actions, which suggests that a solely compensatory reaction of reaffirming meaning may be a partial, but not full, account of meaning maintenance (cf. Heine et al., 2006; Proulx & Heine, 2010). That is, initial meaningfulness can affect future responses in more than just a compensatory fashion; perhaps a subjective assessment of one's sense of meaning is a requisite for moral actions (see Durkheim, 1973/1925). Similarly, viewing oneself as meaningful may be related to other domains of meaning, such as viewing oneself positively. Perhaps the relationship between felt meaning and the pursuit of meaning via reaffirmation processes (such as morality) is similar to models where circular processes are built upon previous iterations vertically (see Van Tongeren & Green, 2010 for a brief review of meaningfulness and seeking meaning). That is, rather than depicting meaning maintenance—and fluid compensation processes—as a circular model (Figure 6), including an additive layer of the model may capture the richness of the relationship among a general sense of meaning and specific domains of meaning (Figure 7). A rough draft of how this might look is depicted below.

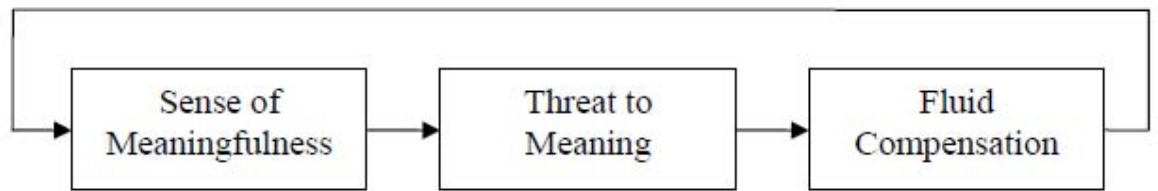


Figure 6. Current “horizontal” model of meaning maintenance processes

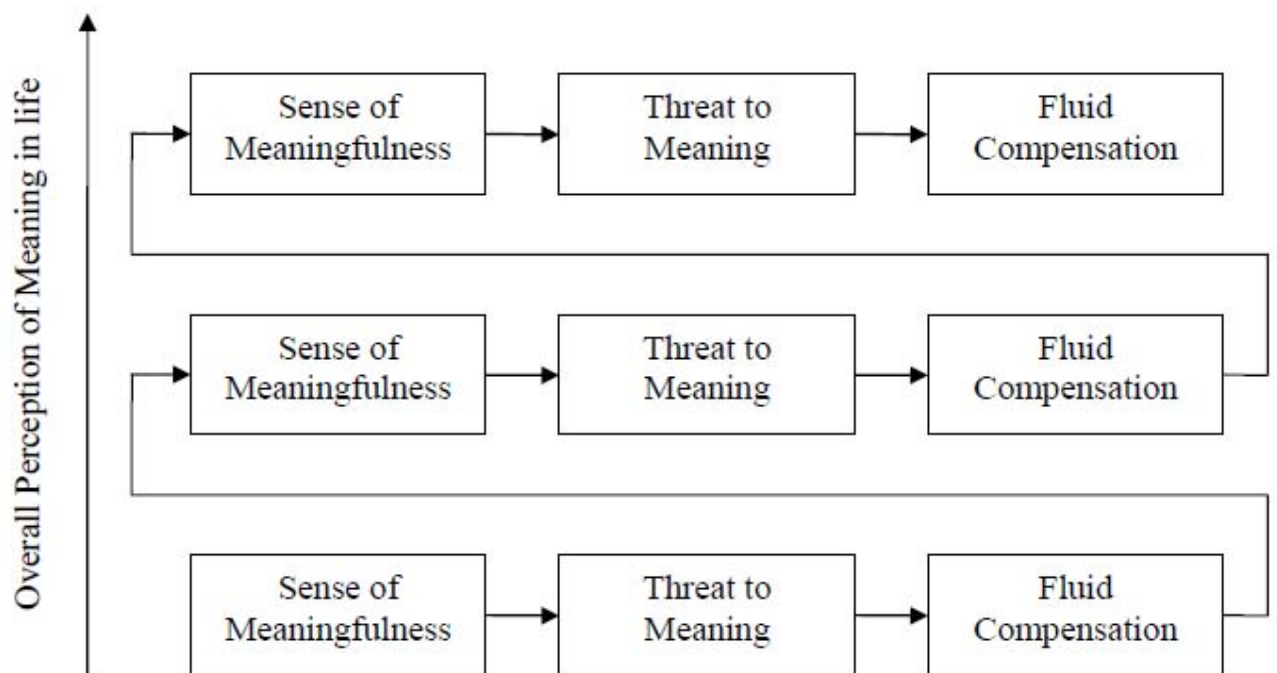


Figure 7. Hypothetical “vertical” model of meaning maintenance processes

Implications

The results of the study have the potential to be particularly generative and may have implications for theory and practice. First, the current study is the first of its kind to examine forgiveness as a meaning-making mechanism. Moreover, it is unique in its capacity to explore how forgiveness, offered over time, affects perceived sense of meaning in life, and how these changes may be mediated by improving relationship quality and satisfaction. The richness of the data set permitted rather complicated questions to be addressed in hopes of uncovering the dynamic process of interpersonal meaning maintenance.

Second, the current investigation is one of the first to provide direct evidence for the role of moral actions in garnering a sense of meaning in life. Previous theory has argued that morality is one route to obtain existential security by procuring meaning (Van Tongeren & Green, 2010b; Van Tongeren et al., 2011), and this present study directly addresses these claims. Evidence was provided for the meaning-serving function of moral actions, such as forgiveness, as well as the moral benefits of having a strong sense of meaning in life. This type of synergistic relationship between morality and meaning requires further attention. Furthermore, the current research provides additional evidence for the value of forgiveness not only for one's relationship but also for one's sense of meaning.

Third, this study advances research on how affiliation serves superordinate goals for maintaining meaning. Although belongingness is posited to be a source of meaning (Heine et al., 2006), most research addressing meaning has focused on other domains of meaning. Thus, the current work advances the extant knowledge of meaning-maintenance within the domain of close relationships.

Finally, these data may spur additional studies aimed at uncovering the complex dynamics between meaning, forgiveness, and morality by providing a theoretical model of how meaning is maintained in interpersonal relationships through the granting of forgiveness. The proposed framework has the potential to cut across different sub-disciplines in psychology (e.g., social, counseling) as it integrates existential social psychological research on meaning with positive psychological research on forgiveness to provide a more complete picture of the role of the social motivation for meaning in the domain of close relationships.

Moreover, this study also has the potential to be of practical importance. Understanding how close relationships and the process of forgiveness may be motivated, in part, by one's desire for meaning and could have direct effects on one's perceived meaning in life have substantive practical value. For example, insofar as meaninglessness is related to poorer mental health (e.g., depression) outcomes, individuals who express a diminished sense of meaning may be encouraged to seek mutually beneficial relationships wherein offering forgiveness is a common practice. More generally, these data speak to the importance of engaging in moral actions to regain a sense of meaning in life; by making amends with a sibling, forgiving an individual against whom one held a grudge, or granting forgiveness to a deceased relative may increase individuals' sense of meaning and well-being, and may allow them to improve the quality of their life. Similarly, doing volunteer work or helping a friend might similarly provide one with a sense of meaning and purpose. Thus, the current study has is of theoretical and practical importance, and may generate future research on this topic.

Limitations

The present research had some limitations. First, the data from both studies were correlational in nature. Although longitudinal designs allow researchers to predict future

behavior and examine how behaviors unfold over time, experimental research is needed to more firmly establish causality. Future research should implement experimental designs. Second, in order to reduce the burden on participants in Study 2, only dispositional measures of empathy and self-esteem were completed (at or near the beginning of the study), rather than state measures at each wave, which prevented a direct test of whether forgiveness increases self-esteem and empathy as it increases relationship satisfaction. State measures of empathy and self-esteem should be employed in the future to capture a richer, moment-by-moment understanding of how virtuous actions, such as forgiveness, can increase one's empathy and self-esteem. Such a design would also permit a stronger test of the model of interpersonal meaning maintenance (as theorized in Figure 1). Nonetheless, the present data are promising and provide initial evidence for the model of interpersonal meaning maintenance.

Future Research

The current study could be extended in several ways. First, experimental work could further substantiate the claim that forgiveness is a meaning-making mechanism. Although the current longitudinal work provides evidence for many of the claims of the model of interpersonal meaning maintenance, experimental work is the gold standard for determining causation. Thus, experimental work should be conducted. For example, individuals could be asked to recall a time in which they offered forgiveness or withheld forgiveness, and relationship quality and meaning in life could be subsequently measured. Or, individuals could be “offended” in the laboratory and given the opportunity to offer forgiveness; after this, the participant’s subjective perception of meaning in life could be assessed. The model of interpersonal meaning maintenance would predict that offering forgiveness would increase

meaning in life, and this would be mediated by improved relationship quality (in those relationships that are valuable and ongoing).

Second, the positive effect of additional moral actions, besides forgiveness, on meaning in life could be examined. For example, individuals could be given the opportunity to act morally (e.g., help a fellow participant who is in need of assistance); following this, the participant's meaning in life could be assessed. Following the model presented here, it would be predicted that acting morally should improve one's sense of meaning in life. Given the recent interest in the role of meaning in social life (Heine et al., 2006), the present research could initiate a long line of studies aimed at unraveling the dynamics between morality and meaning.

Finally, research should strive to uncover the intricate relationship between a sense of meaningfulness and acting morally. The present work suggests that unidirectional causation may be not fully accurate. When does having a strong sense of meaning predict moral actions? When do moral actions lead to greater meaning in life? Are there additive effects of acting morally on one's overall subjective assessment of meaning? That is, do these processes act like other self-regulatory features, which have been likened to a muscle that can be developed and strengthened (Muraven & Baumeister, 2000)? Given that moral actions do require self-regulatory efforts (Haidt & Kesibir, 2010), it stands to reason that moral processes may work similarly. However, this question is an empirical one that deserves future attention.

Summary and Conclusions

Some of life's best moments and most painful experiences can result from close relationships. As a social species, humans are continually in interaction with others, and the

meaning derived from these relationships is formidable. One way in which the social motivation for meaning is satisfied is through obtaining and sustaining meaningful relationships. However, when one's partner acts poorly, the relationship—and partners' subsequent meaning—suffers. One way to regain meaning, and restore relationship quality, is through offering forgiveness. The forgiving response to reduce negative feelings toward one's offender and replace them with positive emotions not only unburdens one from the negative effects of harboring a grudge, but it frees one to regain the valuable meaning derived from a cherished relationship. By responding virtuously in the wake of a partner's hurtful action, one can not only improve the quality of their interactions with their partner, but also increase their own meaning in life. As the scientific study of meaning continues to burgeon, the present work provides a framework for understanding how meaning is maintained in perhaps the most common, and powerful, feature of human existence: relationships.

List of References

List of References

- Arndt, J., Greenberg, J., Pyszczynski, T., & Solomon, S. (1997). Subliminal exposure to death-related stimuli increases defense of the cultural worldview. *Psychological Science, 8*, 379-385.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic and statistical considerations. *Journal of Personality and Social Psychology, 51*, 1173-1182.
- Baumeister, R. F. (1991). *Meanings in life*. New York: Guilford Press.
- Baumeister, R. F., DeWall, C. N., Ciaracco, N. J., & Twenge, J. M. (2005). Social exclusion impairs self-regulation. *Journal of Personality and Social Psychology, 88*, 589-604.
- Baumeister, R. F., & Leary, M. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin, 117*, 497-529.
- Baumeister, R. F., & Vohs, K. D. (2002). The pursuit of meaningfulness in life. In., C. R. Snyder & S. J. Lopez (Eds.), *Handbook of positive psychology* (pp.608-618). New York: Oxford University Press.
- Beck, R. (2004). The function of religious belief: Defensive versus existential religion. *Journal of Psychology and Christianity, 23*, 208-218.
- Berry, J. W., Worthington, E. L., Jr., Wade, N. G., Witvliet, C. V. O., & Kiefer, R. (2005). Forgiveness, moral identity, and perceived injustice in crime victims and their supporters. *Humboldt Journal of Social Relations, 29*, 136-162.
- Bono, G., McCullough, M. E., & Root, L. (2008). Forgiveness, feeling connected to others, and well-being: Two longitudinal studies. *Personality and Social Psychology Bulletin, 34*, 182-195.
- Brown, R. P. (2003). Measuring individual differences in the tendency to forgive: Construct validity and links with depression. *Personality and Social Psychology Bulletin, 29*, 759-771.

- Campbell, L., & Kashy, D. (2002). Estimating actor, partner, and interaction effects for dyadic data using PROC MIXED and HLM: A user friendly guide. *Personal Relationships, 9*, 327-342.
- Davis, M. H. (1983). Measuring individual differences in empathy: Evidence for a multidimensional approach. *Journal of Personality and Social Psychology, 44*, 113-126.
- Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction With Life Scale. *Journal of Personality Assessment, 49*, 71-75.
- DeLongis, A., Folkman, S., & Lazarus, R. S. (1988). The impact of daily stress on health and mood: Psychological and social resources as mediators. *Journal of Personality and Social Psychology, 54*, 486-495.
- DeWall, C. N., Twenge, J. M., & Gitter, S. A., & Baumeister, R. F. (2009). It's the thought that counts: The role of hostile cognitions in shaping aggression following rejection. *Journal of Personality and Social Psychology, 96*, 45-59.
- Durkheim, E. (1973/1925). *Moral education* (E. Wilson & H. Schnurer, Trans.). New York: Free Press.
- Exline, J.J., Worthington, E.L., Hill, P., McCullough, M.E. (2003). Forgiveness and justice: A research agenda for social and personality psychology. *Personality and Social Psychology Review, 7*, 337-348.
- Florian, V., Mikulincer, M., & Hirschberger, G. (2002). The anxiety-buffering function of close relationships: Evidence that relationship commitment acts as a terror management mechanism. *Journal of Personality and Social Psychology, 82*, 527-542.
- Green, J. D., Sedikides, C., Pinter, B., & Van Tongeren, D. R. (2009). Two sides to self-protection: Self-improvement strivings and feedback from close relationships eliminate mnemonic neglect. *Self and Identity, 8*, 233-250.
- Greenberg, J., Martens, A., Jonas, E., Eisenstadt, D., Pyszczynski, T., & Solomon, S. (2003). Psychological defense in anticipation of anxiety: Eliminating the potential for anxiety eliminates the effects of mortality salience on worldview defense. *Psychological Science, 14*, 516-519.
- Greenberg, J., Pyszczynski, T., & Solomon, S. (1986). The causes and consequences of a need for self-esteem: A terror management theory. In R. F. Baumeister (Ed.), *Public self and private self* (pp. 189-212). New York: Springer-Verlag.
- Greenberg, J., Pyszczynski, T., & Solomon, S., Rosenblatt, A., Veeder, M., & Kirkland, S. et al. (1990). Evidence for a terror management theory II: The effects of mortality

- saliency on reactions to those who threaten or bolster the cultural worldview. *Journal of Personality and Social Psychology*, 57, 308-318.
- Greenberg, J., Simon, L., Pyszczynski, T., Solomon, S., & Chatel, D. (1992). Terror management and tolerance: Does mortality saliency always intensify negative reactions to others who threaten one's worldview? *Journal of Personality and Social Psychology*, 63, 212-220.
- Haidt, J. (2001). The emotional dog and its rational tail: A social intuitionist approach to moral judgment. *Psychological Review*, 108, 814-834.
- Haidt, J. (2006). *The happiness hypothesis*. New York: Basic Books.
- Haidt, J. (2007). The new synthesis in moral psychology. *Science*, 316, 998-1002.
- Haidt, J., & Graham, J. (2009). Planet of the Durkheimians, where community, authority, and sacredness are foundations of morality. In J. Jost, A. C. Kay & H. Thorisdottir (Eds.), *Social and psychological bases of ideology and system justification* (pp. 371-401). New York: Oxford.
- Haidt, J., & Kesebir, S. (2010). Morality. In S. T. Fiske & D. Gilbert (Eds.) *The handbook of social psychology*, 5th edition (pp.797-832). New York: Wiley
- Haidt, J., Koller, S. H., & Dias, M. G. (1993). Affect, culture, and morality, or is it wrong to eat your dog? *Journal of Personality and Social Psychology*, 65, 613-628.
- Harmon-Jones, E., Simon, L., Greenberg, J., Pyszczynski, T., Solomon, S., & McGregor, H. (1997). Terror management theory and self-esteem: Evidence that increased self-esteem reduces mortality saliency effects. *Journal of Personality and Social Psychology*, 72, 24-36.
- Hart, J., Shaver, P. R., & Goldenberg, J. L. (2005). Attachment, self-esteem, worldviews, and terror management: Evidence for a tripartite security system. *Journal of Personality and Social Psychology*, 88, 999-1013.
- Heine, S. J., Proulx, T., & Voh, K. D. (2006). The meaning maintenance model: On the coherence of social motivations. *Personality and Social Psychology Review*, 10, 88-110.
- Hicks, J. A., & King, L. A. (2009). Positive mood and social relatedness as information about meaning in life. *Journal of Positive Psychology*, 4, 471-482.
- Hicks, J. A., Schlegel, R. J., & King, L. A. (2010). Social threats, happiness, and the dynamics of meaning in life judgments. *Personality and Social Psychology Bulletin*, 36, 1305-1317.

- Hirschberger, G., Florian, V., & Mikulincer, M. (2003). Strivings for romantic intimacy following partner complaint or partner criticism: A terror management perspective. *Journal of Social and Personal Relationships, 20*, 675-687.
- Hox, J. J. (2000). Multilevel analyses of grouped and longitudinal data. In T. D. Little, K. U., Schnabel, & J. Baumert (Eds.), *Multilevel longitudinal and multivariate data* (pp. 15-32). Hillsdale, NJ: Lawrence Erlbaum.
- Hulsey, T. L., & Hampson, P. J. (2010). *Virtuous habits: Moral psychology and environmental sustainability*. Manuscript submitted for publication.
- Jim, H. S., Purnell, J. Q., Richardson, S. A., Golden-Kreutz, D., & Andersen, B. L. (2006). Measuring meaning in life following cancer. *Quality of Life Research: An International Journal of Quality of Life Aspects of Treatment, Care, and Rehabilitation, 15*, 1355-1371.
- Karremans, J. C. Van Lange, P. A. M., Holland, R. W. (2005). Forgiveness and its associations with prosocial thinking, feeling, and doing beyond the relationship with the offender. *Personality and Social Psychology Bulletin, 31*, 1315-1326.
- Koole, S., Greenberg, J., & Pyszczynski, T. (2006). Introducing science to the psychology of the soul: Experimental existential psychology. *Current Directions in Psychological Science, 15*, 212-216.
- Landau, M. J., Greenberg, J., Solomon, S., Pyszczynski, T., & Martens, A. (2006). Windows into nothingness: Terror management, meaninglessness, and negative reactions to modern art. *Journal of Personality and Social Psychology, 90*, 879-892.
- Landau, M. J., Johns, M., Greenberg, J., Pyszczynski, T., Martens, A., & Goldenberg, J., et al. (2004). A function of form: Terror management and structuring the social world. *Journal of Personality and Social Psychology, 87*, 190-210.
- Leary, M. R., Tambor, E. S., Terdal, S. K., & Downs, D. L. (1995). Self-esteem as an interpersonal monitor: The sociometer hypothesis. *Journal of Personality and Social Psychology, 68*, 518-530.
- Luchies, L. B., Finkel, E. J., Kumashiro, M., & McNulty, J. K. (2010). The doormat effect: When forgiving erodes self-respect and self-concept clarity. *Journal of Personality and Social Psychology, 98*, 734-749.
- Lyubomirsky, S. (2001). Why are some people happier than others? The role of cognitive and motivational processes in well-being. *American Psychologist, 56*, 239-249.
- Maio, G. R., Thomas, G., Fincham, F. D., & Carnelley, K. B. (2008). Unraveling the role of forgiveness in family relationships. *Journal of Personality and Social Psychology, 94*, 307-319.

- McCullough, M.E. (2001). Forgiveness: Who does it and how do they do it? *Current Directions in Psychological Science* 10, 194-197.
- McCullough, M. E. (2008). *Beyond revenge: The evolution of the forgiveness instinct*. San Francisco: Jossey-Bass.
- McCullough, M. E., Luna, L. R., Berry, J. W., Tabak, B. A., & Bono, G. (2010). On the form and function of forgiving: Modeling the time-forgiveness relationship and testing the valuable relationships hypothesis. *Emotion*, 10, 358-376.
- McCullough, M. E., Rachal, K. C., Sandage, S. J., Worthington, E. L., Jr., Brown, S. W., & Hight, T. L. (1998). Interpersonal forgiving in close relationships: II. Theoretical elaboration and measurement. *Journal of Personality and Social Psychology*, 75, 1586-1603.
- McCullough, M. E., Worthington, E. L., Jr. & Rachal, K. C. (1997). Interpersonal forgiveness in close relationships. *Journal of Personality and Social Psychology*, 75, 321-326.
- McNulty, J. K. (2008). Forgiveness in marriage: Putting the benefits into context. *Journal of Family Psychology*, 22, 171-175.
- Mikulincer, M., Florian, V., & Hirschberger, G. (2003). The existential function of close relationships: Introducing death into the science of love. *Personality and Social Psychology Review*, 7, 20-40.
- Muller, D., Judd, C. M., & Yzerbyt, V. Y. (2005). When moderation is mediated and mediation is moderated. *Journal of Personality and Social Psychology*, 89, 852-863.
- Muraven, M., & Baumeister, R. F. (2000). Self-regulation and depletion of limited resources: Does self-control resemble a muscle? *Psychological Bulletin*, 126, 247-259.
- Pallant, J. (2001). *SPPS survival manual*. Philadelphia, PA: Open University Press.
- Park, C. L. (2010). Making sense of the meaning literature: An integrative review of meaning making and its effects on adjustment to stressful life events. *Psychological Bulletin*, 136, 257-301.
- Pinel, E. C., Long, A. E., Landau, M. J., Alexander, K., & Pyszczynski, T. (2006). Seeing I to I: A pathway to interpersonal connectedness. *Journal of Personality and Social Psychology*, 90, 243-257.
- Pinel, E. C., Long, A. E., Landau, M. J., & Pyszczynski, T. (2006). I-sharing, the problem of existential isolation, and their implications for interpersonal and intergroup phenomena. In J. Greenberg, S. Koole, & T. Pyszczynski (Eds.), *Handbook of experimental existential psychology* (pp. 352-368). New York: Guilford Press.

- Proulx, T., & Heine, S. J. (2006). Death and black diamonds: Meaning, mortality, and the meaning maintenance model. *Psychological Inquiry, 17*, 309-318.
- Proulx, T., & Heine, S. J. (2010). The frog in Kierkegaard's beer: Finding meaning in the threat-compensation literature. *Social and Personality Psychology Compass, 4*, 889-905.
- Proulx, T., & Heine, S. J. (2008). The case of the transmogrifying experimenter: Affirmation of a moral schema following implicit change detection. *Psychological Science, 19*, 1294-1300.
- Proulx, T., Heine, S. J., & Vohs, K. D. (2010). When is the unfamiliar the uncanny?: Meaning affirmation after exposure to absurdist literature, humor, and art. *Personality and Social Psychology Bulletin, 36*, 817-829.
- Pyszczynski, T., Greenberg, J., & Solomon, S. (1997). Why do we need what we need? A terror management perspective on the roots of human social motivation. *Psychological Inquiry, 8*, 1-20.
- Pyszczynski, T., Greenberg, J., & Solomon, S. (1999). A dual-process model of defense against conscious and unconscious death-related thoughts: An extension of terror management theory. *Psychological Review, 106*, 835-845.
- Pyszczynski, T., Greenberg, J., Solomon, S., Arndt, J., & Schimel, J. (2004). Why do people need self-esteem? A theoretical and empirical review. *Psychological Bulletin, 130*, 435-468.
- Pyszczynski, T., Greenberg, J., Solomon, S., & Maxfield, M. (2006). On the unique psychological import of the human awareness of mortality: Theme and variations. *Psychological Inquiry, 17*, 328-356.
- Pyszczynski, T., Solomon, S., & Greenberg, J. (2003). *In the wake of 9/11: The psychology of terror*. Washington, DC: American Psychological Association.
- Randles, D., Proulx, T., & Heine, S. J. (2011). Turn-frogs and careful-sweaters: Non-conscious perception of incongruous word pairings provokes fluid compensation. *Journal of Experimental Social Psychology, 47*, 246-249.
- Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.
- Rosenblatt, A., Greenberg, J., Solomon, S., Pyszczynski, T., & Lyon, D. (1989). Evidence for a terror management theory: I. The effects of mortality salience on reactions to those who violate or uphold cultural values. *Journal of Personality and Social Psychology, 57*, 681-690.

- Rothschild, Z. K., Abdollahi, A. & Pyszczynski, T. (2009). Does peace have a prayer? The effect of mortality salience, compassionate values, and religious fundamentalism on hostility toward outgroups. *Journal of Experimental Social Psychology, 45*, 816-827.
- Rusbult, C. E., Hannon, P. A., Stocker, S. L., & Finkel, E. J. (2005). Forgiveness and relational repair. In E. L. Worthington (Ed.), *Handbook of forgiveness* (pp. 185-205). New York: Brunner-Routledge.
- Rusbult, C. E., Martz, J. M., & Agnew, C. R. (1998). The Investment Model Scale: Measuring commitment level, satisfaction level, quality of alternatives, and investment size. *Personal Relationships, 5*, 357-391.
- Rushton, J. P., Chrisjohn, R. D., & Fekken, G. C. (1981). The altruistic personality and the Self-Report Altruism Scale. *Personality and Individual Differences, 50*, 1192-1198.
- Schlegel, R. J., Hicks, J. A., Arndt, J., & King, L. A. (2009). Thine own self: True self-concept accessibility and meaning in life. *Journal of Personality and Social Psychology, 96*, 473-490.
- Shweder, R. A. (1991). Commentary. *Human Development, 34*, 353-362.
- Solomon, S., Greenberg, J., Pyszczynski, T. (2004). The cultural animal: Twenty years of terror management theory and research. In J. Greenberg, S. Koole, & T. Pyszczynski (Eds.), *Handbook of experimental existential psychology* (pp. 13-34). New York: Guilford Press.
- Steger, M. F., & Dik, B. J. (in press). If one is searching for meaning in life, does meaning in work help? *Applied Psychology: Health and Well-Being, 1*, 303-320.
- Steger, M. F., Frazier, P., Oishi, S., & Kaler, M. (2006). The meaning in life questionnaire: Assessing the presence and search for meaning in life. *Journal of Counseling Psychology, 53*, 80-93.
- Strelan, P., & Covic, T. (2006). A review of forgiveness process models and a coping framework to guide future research. *Journal of Social and Clinical Psychology, 25*, 1059-1085.
- Strelan, P., Feather, N. T., & McKee, I. (2008). Justice and forgiveness: Experimental evidence for compatibility. *Journal of Experimental Social Psychology, 44*, 1538-1544.
- Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics*. Boston, MA: Pearson Education.

- Toussaint, L., & Webb, J. R. (2005). Theoretical and empirical connections between forgiveness, mental health, and well-being. In E. L. Worthington, Jr. (Ed.), *Handbook of forgiveness* (pp. 349-362). New York: Brunner-Routledge.
- Toussaint, L., Worthington, E. L. Jr., Van Tongeren, D. R., Berry, J. W., Brownstein, E., Warner, S., Boleen, K., Shivy, V. A., Justice, J. L. H., Miller, A. J., & Davis, D. E. (2010). *Hurt on the job: Unforgiveness and forgiveness in the workplace, mediating effects of stress, and connections to health and productivity*. Manuscript submitted for publication.
- Twenge, J. M., Baumeister, R. F., DeWall, C. N., Ciarocco, N. J., & Bartels, J. M. (2007). Social exclusion decreases prosocial behavior. *Journal of Personality and Social Psychology*, *92*, 56-66.
- Twenge, J. M., Catanese, K. R., & Baumeister, R. F. (2003). Social exclusion and the deconstructed state: Time perception, meaninglessness, lethargy, lack of emotion, and self-awareness. *Journal of Personality and Social Psychology*, *85*, 409-423.
- Van Tongeren, D. R., & Green, J. D. (2010a). Combating meaninglessness: On the automatic defense of meaning. *Personality and Social Psychology Bulletin*, *36*, 1372-1384
- Van Tongeren, D. R. & Green, J. D. (2010b). *Meaning motivates morality: The Existential Security Model of morality*. Unpublished manuscript, Virginia Commonwealth University, Richmond, VA.
- Van Tongeren, D. R., & Green, J. D. (2010c). *The paradox of meaning in terror management: Distinguishing between meaning in life and meaning through death*. Manuscript submitted for publication. Virginia Commonwealth University, Richmond, VA.
- Van Tongeren, D. R., & Green, J. D. (2011, January). *Morality gives us meaning: Perceived moral standing affects subjective meaning in life*. A poster session presented at the annual meeting of the Society for Personality and Social Psychology, San Antonio, TX.
- Van Tongeren, D. R., Green, J. D., Davis, J. L., Davis, D. E., Worthington, E. L. Jr., Hook, J. N., Jennings, D. J. II, Gartner, A. L., Greer, C. L., & Greer, T. W. (2011). Meaning as a restraint of evil. In J. H. Hellens (Ed.), *Explaining Evil: Vol 3, Approaches, Responses, Solutions* (pp. 203-216). New York: Praeger.
- Van Tongeren, D. R., Green, J. D., & Hulsey, T. L. (2010, January). *Meaning and moral dilemmas: Threats to meaning elicit harsher moral judgments*. A poster session presented at the annual meeting of the Society for Personality and Social Psychology, Las Vegas, NV.

Van Tongeren, D. R., Welch, R. D., Davis, D. E., Green, J. D., & Worthington, E. L., Jr. (2010). *Mending fences or building walls: The effects of priming forgiveness and justice on forgiveness*. Manuscript submitted for publication.

Worthington, E. L., Jr. (Ed.). (2005). *Handbook of forgiveness*. New York: Brunner-Routledge.

Worthington, E. L., Jr. (2006). *Forgiveness and reconciliation: Theory and application*. New York: Brunner-Routledge.

Yalom, I. (1980). *Existential psychotherapy*. New York: Basic Books.

Appendix A: Measures used in Study 1

Self-Reported Altruism Scale (SRAS)

Please indicate how much each item describes you by writing number in front of each item. Use the following scale:

- 1 = Very much unlike me
- 2 = Slightly unlike me
- 3 = Neither like me or unlike me
- 4 = Slightly like me
- 5 = Very much like me

- _____ 1. I assist someone experiencing car trouble (changing a tire, calling a mechanic, pushing a stalled or stuck car, etc.).
- _____ 2. I give someone directions.
- _____ 3. I make change for someone.
- _____ 4. I give money to someone who needs it (or asked for it).
- _____ 5. I do volunteer work for charity.
- _____ 6. I find it sometimes amusing to upset the dignity of teachers, judges, and "cultured" people.
- _____ 7. I donate blood.
- _____ 8. I help carry another person's belongings (books, parcels, etc.).
- _____ 9. I delay an elevator and held the door open for another person.
- _____ 10. I allow someone to go ahead of me in a line (in a supermarket, during registration, etc.).
- _____ 11. I give other people a ride in my car.
- _____ 12. I point out a clerk's error (in a bank, at the supermarket, etc.) in undercharging me for an item.
- _____ 13. I let someone borrow an item of some value to me (clothes, jewelry, stereo, etc.).
- _____ 14. I help another person with a homework assignment when my knowledge was greater than his or hers.
- _____ 15. I voluntarily look after other's plants, pets, house, or children without being paid for it.
- _____ 16. I offer my seat in a crowded room or on a train or bus to someone who is standing.

_____ 17. I help another person to move his or her possessions to another room, apartment, or house.

_____ 18. I retrieve an item dropped by another person for him or her (pencil, book, packages, etc.).

Interpersonal Reactions Index (IRI)

Below is a series of statements which describe how people act and feel in particular situations. Please indicate the number which corresponds with how characteristic the statement is of you:

- 1= Not at all characteristic of me.
- 2= Slightly characteristic of me.
- 3= Moderately characteristic of me.
- 4= Very characteristic of me.
- 5= Extremely characteristic of me.

- _____ 1. I often have tender, concerned feelings for people less fortunate than me.
- _____ 2. I sometimes find it difficult to see things from the “other guy’s” point of view.
- _____ 3. Sometimes I don’t feel very sorry for other people when they are having problems.
- _____ 4. I try to look at everybody’s side of a disagreement before I make a decision.
- _____ 5. When I see someone being taken advantage of, I feel kind of protective towards them.
- _____ 6. I sometimes try to understand my friends better by imagining how things look from their perspective.
- _____ 7. Other people’s misfortunes do not usually disturb me a great deal.
- _____ 8. If I’m sure I’m right about something, I don’t waste much time listening to other people’s arguments.
- _____ 9. When I see someone being treated unfairly, I sometimes don’t feel very much pity for them.
- _____ 10. I am often quite touched by things that I see happen.
- _____ 11. I believe that there are two sides to every question and try to look at them both.
- _____ 12. I would describe myself as a pretty soft-hearted person.
- _____ 13. When I’m upset at someone, I usually try to “put myself in his shoes” for awhile.
- _____ 14. Before criticizing somebody, I try to imagine how I would feel if I were in their place.

Rosenberg Self-Esteem Scale (RSES)

Instructions: Below is a list of statements dealing with your general feelings about yourself. Circle the response that matches how you feel about the statement. Please answer the questions honestly and quickly. Use the following scale:

- 1 Strongly Disagree
- 2 Disagree
- 3 Agree
- 4 Strongly Agree

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

Relationship Satisfaction

Describing My Friendship with my Closest Friend

To what extent does each statement describe your attitudes about your closest friend? Please use the scale below to record your answers by writing a number in each space.

Response Scale:

0	1	2	3	4	5	6	7	8
Do Not Agree At All				Agree Somewhat				Agree Completely

My feelings about my relationship with my friend...

- _____ 1. I feel satisfied with our friendship.
- _____ 2. My relationship is much better than others' friendships.
- _____ 3. My friendship is close to ideal.
- _____ 4. Our friendship makes me very happy.
- _____ 5. Our friendship does a good job of fulfilling my needs for intimacy, companionship, etc.

Meaning in Life Questionnaire: MLQ – Presence of Meaning Subscale

Please take a moment to think about what makes your life feel important to you. Please respond to the following statements as truthfully and accurately as you can, and also please remember that these are very subjective questions and that there are no right or wrong answers. Please answer according to the scale below:

Absolutely Untrue 1	Mostly Untrue 2	Somewhat Untrue 3	Can't Say Absolutely True or False 4	Somewhat True 5	Mostly True 6	True 7
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- _____ 1. I understand my life's meaning.
- _____ 2. My life has a clear sense of purpose.
- _____ 3. I have a good sense of what makes my life meaningful.
- _____ 4. I have discovered a satisfying life purpose.
- _____ 5. My life has no clear purpose.

Appendix B: Measures used in Study 2

Interpersonal Reactions Index (IRI)

Below is a series of statements which describe how people act and feel in particular situations. Please indicate the number which corresponds with how characteristic the statement is of you:

- 1= Not at all characteristic of me.
- 2= Slightly characteristic of me.
- 3= Moderately characteristic of me.
- 4= Very characteristic of me.
- 5= Extremely characteristic of me.

- _____ 1. I often have tender, concerned feelings for people less fortunate than me.
- _____ 2. I sometimes find it difficult to see things from the “other guy’s” point of view.
- _____ 3. Sometimes I don’t feel very sorry for other people when they are having problems.
- _____ 4. I try to look at everybody’s side of a disagreement before I make a decision.
- _____ 5. When I see someone being taken advantage of, I feel kind of protective towards them.
- _____ 6. I sometimes try to understand my friends better by imagining how things look from their perspective.
- _____ 7. Other people’s misfortunes do not usually disturb me a great deal.
- _____ 8. If I’m sure I’m right about something, I don’t waste much time listening to other people’s arguments.
- _____ 9. When I see someone being treated unfairly, I sometimes don’t feel very much pity for them.
- _____ 10. I am often quite touched by things that I see happen.
- _____ 11. I believe that there are two sides to every question and try to look at them both.
- _____ 12. I would describe myself as a pretty soft-hearted person.
- _____ 13. When I’m upset at someone, I usually try to “put myself in his shoes” for awhile.
- _____ 14. Before criticizing somebody, I try to imagine how I would feel if I were in their place.

Rosenberg Self-Esteem Scale (RSES)

Instructions: Below is a list of statements dealing with your general feelings about yourself. Circle the response that matches how you feel about the statement. Please answer the questions honestly and quickly. Use the following scale:

- | | |
|---|-------------------|
| 1 | Strongly Disagree |
| 2 | Disagree |
| 3 | Agree |
| 4 | Strongly Agree |

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

Relationship Satisfaction

These days, how satisfied are you with your relationship?

1 2 3 4 5 6 7
Not at all Satisfied Completely Satisfied

Moral Offenses

Committed by participant against partner:

1. I was sexually unfaithful.
2. I was emotionally unfaithful.
3. I was physically aggressive towards my partner (hit or pushed or slapped him/her, etc.).
4. I lied to my partner.
5. I made fun of my partner.
6. I flirted with someone else.
7. I was disrespectful to my partner.
8. I was rude to (or about) one of my partner's family members or friends.
9. I kept a secret from my partner.
10. I was controlling of my partner.
11. I downplayed the importance of something my partner thinks is important.
12. I engaged in behavior my partner doesn't respect.
13. I handled money poorly.
14. I did not support my partner when my partner needed it.
15. I communicated with my partner in a negative way (for example, spoke meanly or didn't listen to my partner).
16. I was emotionally distant from my partner (for example, acted coldly).
17. I forgot something that is important to my partner.
18. I was messy in a way that had a negative effect on my partner.
19. I did something that I knew my partner did not want me to do.
20. I acted excessively clingy with my partner.

Moral Offenses

Committed by partner against participant

1. My partner was sexually unfaithful.
2. My partner was emotionally unfaithful.
3. My partner was physically aggressive towards me (hit or pushed or slapped me, etc.).
4. My partner lied to me.
5. My partner made fun of me.
6. My partner flirted with someone else.
7. My partner was disrespectful to me.
8. My partner was rude to (or about) one of my family members or friends.
9. My partner kept a secret from me.
10. My partner was controlling of me.
11. My partner downplayed the importance of something I think is important.
12. My partner engaged in behavior I don't respect.
13. My partner handled money poorly.
14. My partner did not support me when I needed it.
15. My partner communicated with me in a negative way (for example, spoke meanly or didn't listen to me).
16. My partner was emotionally distant from me (for example, acted coldly).
17. My partner forgot something that is important to me.
18. My partner was messy in a way that had a negative effect on me.
19. My partner did something that he/she knew I did not want him/her to do.
20. My partner acted excessively clingy with me.

Hurtfulness:

How hurtful do you think this behavior was?

1	2	3	4	5
Not at all				Very
Hurtful				Hurtful

Forgiveness

To what extent have you forgiven your partner for this behavior?

1

2

3

4

5

6

Not at all

Complete Forgiveness

Meaning in Life Scale (MLS)

Please respond to the following items as openly and honestly as you can. Remember, that there is no right or wrong response. Please use the following scale:

Absolutely Untrue 1	Mostly Untrue 2	Somewhat Untrue 3	Can't Say Absolutely True or False 4	Somewhat True 5	Mostly True 6	True 7
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- _____ 1. I feel a sense of harmony within myself.
- _____ 2. I am able to reach deep down into myself for comfort.
- _____ 3. Life has no meaning.
- _____ 4. I find strength in my faith or spiritual beliefs.
- _____ 5. I have a sense of the direction my life is headed.
- _____ 6. I do not value life.
- _____ 7 I am settled about my future.
- _____ 8. I enjoy little in life.
- _____ 9. I find comfort in my faith or spiritual beliefs.
- _____ 10. Life is a positive experience.
- _____ 11. I get completely confused when I try to understand my life.
- _____ 12. I feel peaceful.
- _____ 13. I feel good about my future.
- _____ 14. I don't know who I am, where I came from, or where I am going.
- _____ 15. I have worthwhile goals.
- _____ 16. I have strong faith or spiritual beliefs.
- _____ 17. I have trouble feeling peace of mind.
- _____ 18. Life is full of conflict and unhappiness.
- _____ 19. I know a great deal about myself as a person.
- _____ 20. I spend most of my time doing things that are not really important.

Satisfaction With Life Scale (SWLS)

Please respond to the items below with the following scale:

Strongly

Strongly

Disagree

Agree

1

2

3

4

5

6

7

- _____ 1. In most ways, my life is close to ideal.
- _____ 2. The conditions of my life are excellent.
- _____ 3. I am satisfied with my life.
- _____ 4. So far I have gotten the important things I want in life.
- _____ 5. If I could live my life over, I would change almost everything.

Appendix C: Complete List of Measures in VCU Couples Study

Measure	Time Point
Affective forecasting about moral offenses committed against partner	Lab 1
Affective forecasting about moral offenses committed by partner	Lab 1
Brief Self-Control Scale (Tangney et al., 2004)	Lab 1
Consideration of Future Consequences (Strathman et al., 1994)	Lab 1
Experiences in Close Relationships [Attachment] (Fraley et al., 2000)	Lab 1
Hurt Feelings Scale (Leary & Springer, 2001)	Lab 1
Interpersonal Betrayal Scale (Jones & Burdette, 1994)	Lab 1
Interpersonal Reactivity Index [Empathy] (Davis, 1983)	Lab 1
Respect Toward Partner Scale (Hendrick & Hendrick, 2006)	Lab 1
Self-Concept Clarity Scale (Campbell et al., 1996)	Lab 1
Wong and Law's Emotional Intelligence Scale (Wong & Law, 2002)	Lab 1
Commitment Scale (Rusbult et al., 1998)	Lab 1/Lab 2
Dissipation-Rumination Scale (Caprara, 1986)	Lab 1/Lab 2
Dyadic Adjustment Scale (Spanier, 1976)	Lab 1/Lab 2
Inclusion of Other in Self (Aron et al., 1992)	Lab1/Lab 2
Interpersonal Respect Scale (Davis et al., 2009)	Lab 1/Lab 2
Respect for Partner Scale—Brief Version (Frei & Shaver, 2002)	Lab 1/Lab 2
Satisfaction Scale (Rusbult et al., 1998)	Lab 1/Lab 2
Satisfaction With Life Scale (Diener et al., 1985)	Lab 1/Lab 2
Self-Assessed Wisdom Scale (Webster, 2003)	Lab 1/Lab2
Self-Consciousness Scale (Fenigstein et al., 1975)	Lab 1/Lab 2
Tendency to Forgive Scale (Brown, 2003)	Lab 1/Lab 2
Three-Dimensional Wisdom Scale (Ardelt, 2003)	Lab 1/Lab 2
Trust Scale—Brief Version (Rempel & Holmes, 1986)	Lab 1/Lab 2

Open-ended betrayal reporting	Waves 1-10
Report of moral offenses committed against partner	Waves 1-10
Report of moral offenses committed by partner	Waves 1-10
Meaning in Life Questionnaire (Steger et al., 2005)	Wave 2/Lab 2
Meaning in Life Scale (Jim et al., 2006)	Wave 2/Lab 2
Self-Esteem Scale (Rosenberg, 1965)	Wave 3/Lab 2
Narcissistic Personality Inventory (Raskin & Hall, 1979)	Wave 4/Lab 2
Reporting of biggest sacrifice made for partner	Wave 5
Big Five Inventory (John et al., 1991)	Wave 8
Reporting of biggest sacrifice made for partner	Wave 9
Forecasting making a sacrifice by viewing unpleasant images for partner	Wave 11
Experiences in Close Relationships [Attachment] (Fraley et al., 2000)	Wave 12
State-Trait Anxiety Inventory (Spielberger et al., 1983)	Lab 2
Behavioral Inhibition/Activation Scales (Carver & White, 1994)	Lab 2
Disgust Sensitivity Scale (Haidt et al., 1994)	Lab 2
Rumination Reflection Scale (Trapnell & Campbell, 1999)	Lab 2
Home Base Security (Feeny, 2004)	Lab 2
Willingness to Explore [self and partner]	Lab 2
Partner-Specific Empathy—Brief Version (Davis, 1983)	Lab 2
Relationship Maintenance Strategies (Canary & Stafford, 1992)	Lab 2
Perceived Partner Responsiveness (Canavello & Crocker, in press)	Lab 2
Recalling offenses committed against my partner over course of study	Lab 2
Recalling offenses committed by my partner over course of study	Lab 2
Sacrifice Experience (viewing disturbing images)	Lab 2
Balanced Inventory of Desired Responding (Paulhus, 1984)	Lab 2

Vita

Daryl Ronald Van Tongeren was born on January 26, 1982, in Arcadia, California, and is an American citizen. He graduated from Colorado Springs Christian High School in 2000. He received his Bachelor of Arts in Psychology from Colorado Christian University, Lakewood, Colorado, in 2004, and received a Master of Arts in Experimental Psychology from the University of Colorado, Colorado Springs, in 2006.