Factors Predicting Interpersonal Forgiveness: The Relationship Between Forgiveness and Health

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Abstract
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A variety of factors have been hypothesized to influence both situational and dispositional forgiveness. This study investigated several of these offense-specific variables, including perceived closeness of the victim-transgressor relationship, perceived severity of the offense, presence of apology, frequency of the offense, and level of rumination post-offense. Perceived closeness of the relationship and severity of the offense were found to significantly predict state forgiveness. Only severity of the offense held predictive value for trait forgiveness, and as with the current literature, prediction was stronger for state forgiveness than trait forgiveness.

Several forgiveness interventions exist that are designed for a variety of clinical populations. The results of this study lend support to the consideration of offense-specific variables when referring clients to forgiveness interventions. The findings of this study may be strengthened by further exploration of the individual, social, and spiritual factors that may uniquely predict state and trait forgiveness.

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FACTORS PREDICTING INTERPERSONAL FORGIVENESS:
THE RELATIONSHIP BETWEEN FORGIVENESS AND HEALTH

A THESIS
SUBMITTED TO THE FACULTY
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# Table of Contents

Dedication..................................................................................................................iii

Abstract.......................................................................................................................iv

Introduction.......................................................................................................................1

  Defining Physical Health Symptoms.................................................................2
  Defining Forgiveness..........................................................................................2
  Factors Influencing Forgiveness........................................................................6
  Forgiveness Research Antecedents..................................................................8
  Forgiveness and Physical Health...............................................................13
  Forgiveness and Psychosocial Health.........................................................21
  Forgiveness in a Clinical Population:
    Breast Cancer and Chronic Pain..........................................................28

Hypotheses....................................................................................................................31

Methods......................................................................................................................33

Results..........................................................................................................................40

Discussion.....................................................................................................................50

References.....................................................................................................................69

Appendices....................................................................................................................79

  Appendix A: List of Tables................................................................................79
  Appendix B: Measures.........................................................................................80
  Appendix C: Recruitment Flyer...........................................................................87
Dedication

To my parents, Dennis and Jan, for working hard so I could pursue my dreams.

This is for all of us.
Abstract

Forgiveness is often defined in the literature as being comprised of two processes. The first involves the release of negative affect or resentment toward the transgressor and the second involves the presence of or an increase in prosocial behavior/feelings toward the transgressor (Lawler-Row & Karremas, Scott, Edlis-Matityahou, & Edwards, 2008). Forgiveness has been demonstrated within the literature to relate to positive physical and psychological health outcomes. This study used a measure of psychological distress to further test the association between forgiveness and health within a community sample, finding a strong negative relationship between levels of psychological distress and state and trait forgiveness.

A variety of factors have been hypothesized to influence both situational and dispositional forgiveness. This study investigated several of these offense-specific variables, including perceived closeness of the victim-transgressor relationship, perceived severity of the offense, presence of apology, frequency of the offense, and level of rumination post-offense. Perceived closeness of the relationship and severity of the offense were found to significantly predict state forgiveness. Only severity of the offense held predictive value for trait forgiveness, and as with the current literature, prediction was stronger for state forgiveness than trait forgiveness.

Several forgiveness interventions exist that are designed for a variety of clinical populations. The results of this study lend support to the consideration of offense-specific variables when referring clients to forgiveness interventions. The findings of this study may be strengthened by further exploration of the individual, social, and spiritual factors that may uniquely predict state and trait forgiveness.
Keywords/subject terms: forgiveness, physical health, psychological health, interpersonal functioning, forgiveness intervention
Introduction

Much of the extant literature has investigated the relationship between forgiveness and physical health, commonly focusing on the role of forgiveness of others and physical symptoms of the cardiovascular system. The most current research in this area has begun to evaluate the effects of forgiveness of self as well as others on physiological reactivity and symptoms of general physical and mental health and will thus be reviewed within this paper. Furthermore, personality traits, levels of religiousness and spirituality, characteristics of interpersonal relationships, and victim perception of the transgressor have all been shown to relate to one’s tendency to forgive situationally and across time (McCullough, 2001). Worthington Jr., Witvliet, Lerner and Scherer (2005) suggest forgiveness holds great relevance to the medical setting because of its physiological mechanisms in addition to its psychological correlates. In support of this claim, Tibbits, Ellis, Piramelli, Luskin, & Lukman (2006) found that both hypertension and frequency of anger expression was reduced through the implementation of an 8-week forgiveness training program in a clinical population. Therefore, the relationship between the presence of self and other forgiveness and physical and psychological health symptoms is highly relevant for the development of forgiveness interventions. An empirical examination of the interpersonal variables which are closely related to forgiveness as well as the relationship between forgiveness and health was conducted within a general community population.
Defining Physical Health Symptoms

According to Pennebaker (1982), “a physical symptom or sensation is a perception, feeling, or even belief about the state of our body. The sensation is often, but not always, based on physiological activity. Above all, a physical symptom or sensation represents information about internal state” (p.1). He further states that physical symptoms are often a function of perception and attention; because of the psychological processes involved in symptom reporting, perceptual distortions and biases often result. When attempting to measure a physical or mental health symptom, instruments often ask responders to assess for the frequency, duration, and intensity of a symptom.

Defining Forgiveness

One impetus for the investigation into the construct of forgiveness occurred within the chronic illness literature. Namely, the occurrence of blame in patients with cancer spawned interest in which protective factors were able to buffer one from developing such blame responses (Janoff-Bulman, 1979; Romero, Kalidas, Elledge, Chang, Liscum, & Friedman, 2006). One factor thought to protect against blame was that of forgiveness, and definitions of this concept vary throughout the literature (Brown, 2003; McCullough, Pargament & Thoresen, 2000; Worthington Jr., Witvliet, Pietrini, & Miller, 2007). In fact, it is often easier to outline what forgiveness is not. According to Worthington, Jr., Witvliet, Lerner, & Sherer, “forgiveness is not excusing, exonerating, justifying, condoning, pardoning, or reconciling” (2007, p. 292). They further described several aspects of the definition of forgiveness that were common in the literature. First, negative or damaging ruminations can occur
with unforgiveness and the level of injustice experienced frequently mirrors the level of unforgiveness one experiences regarding that event. Second, forgiveness often occurs when one reduces unforgiveness, but the reduction of unforgiveness does not wholly define forgiveness. Third, forgiving a loved or close one is different from forgiving a stranger or an acquaintance and there are different types of forgiveness. Lastly, forgiveness appears to be a process involving thoughts, motivations, and the reduction of negative affect (toward a transgressor or oneself).

A recent review of articles involving therapeutic use of forgiveness interventions in family therapy and in counseling and clinical settings was published by Legaree, Turner, and Lollis (2007). They identified three common themes of forgiveness including essentiality, intentionality, and benevolence, each of which occurs on a continuum. Essentiality involves the strength of the relationship between forgiveness and health while intentionality focuses on forgiveness as either an intentional decision or an unfolding intrapersonal process. Finally, benevolence encompasses research investigating who the beneficiaries of forgiveness truly are, the individual who is forgiving or those whom the individual chooses to forgive. It is the opinion of this author that the themes identified by Legaree and colleagues (2007) are representative of the current research on forgiveness and aspects of these domains are present within the studies that were included for discussion in this study.

Worthington, Jr., Witvliet, Lerner, and Scherer (2005) posit that forgiveness can be studied at three levels. The first is intrapersonally, where changes occur within an individual such that negative emotions are reduced in the effort to promote positive emotions. Much of the psychophysiological research addresses forgiveness at
this level; it is when these changes are directed at the self that self-forgiveness can be hypothesized as occurring. Second, forgiveness can occur interpersonally at the level of relationship. This is commonly referred to as forgiveness of a transgressor and is currently the most frequently researched level of forgiveness researched. Finally, the impact of a forgiving interaction or personal change as the result of choosing to forgive can have wide reaching implications on the societal level. This thesis will focus mainly on the intrapersonal and interpersonal levels of forgiveness.

A distinction also exists in the literature between two general types of forgiveness: emotional and decisional. Worthington, Jr., Witvliet, Pietrini and Miller (2007) posit that emotional forgiveness may have more positive effects on health because it involves a shift away from negative affect toward positive affect. What follows as a result of this emotional forgiveness process, then, is a reduction in stress processes on the body and mind. As further research will demonstrate in more detail, forgiveness has been examined on the physiological level for its link to reductions in stress and anger responses. Decisional forgiveness, on the other hand, relates specifically to the choice to forgive another individual. Worthington, Jr. and colleagues hypothesize that improvements in interpersonal functioning may result from decisional forgiveness rather than the reduced stress responses which are thought to occur in emotional forgiveness. As a result, the interpersonal benefits of decisional forgiveness may contribute indirectly to health. Finally, Lawler-Row, Karremas, Scott, Edlis-Matityahou, and Edwards (2008) summarized the process of forgiving as comprised of two primary processes. The first involves an individual’s release of resentment and negative judgment while the second occurs through the
demonstration of compassion and generosity to the transgressor. According to McCullough (2001), this latter process occurs through the intentional increase in prosocial motivation by the victim to act toward or conceptualize differently a transgressor and his or her actions.

*Defining Forgiveness of Self*

It is clear from the preceding literature review that forgiveness of others most quickly comes to mind when thinking about this broad concept. However, the definition of forgiveness offered by Worthington Jr., Witvliet, Lerner, and Scherer (2005) seeks to address the mechanisms occurring *within* an individual as they are seeking to forgive. They propose that “most forgiveness involves the intrapersonal process of reducing negative emotions, motivations, thoughts and behaviors through the cultivation of positive and prosocial emotions” (p. 170).

Toussaint, Williams, Musick, and Everson (2001) also spoke of the release of self-blame that comes from past mistakes or offenses as an important component of self-forgiveness. Others have specifically noted that this intrapersonal phenomenon is affected by concepts such as trust, benevolence, and anger; in the case of self-forgiveness, discussion of these concepts is done within the context of the individual (Newberg, d’Aquili, Newberg, & deMarici, 2000). Hall and Fincham (2005) propose a model of self-forgiveness which encompasses many of the aforementioned components. They posit that self-forgiveness includes emotional, social-cognitive, and offense-related determinants. Hall and Fincham describe a decrease in the avoidance of offense-related stimuli and emotions such as guilt and shame and a tendency to act more benevolently to the self. The research on the exact mechanisms
underlying self-forgiveness is limited, especially because developing adequate assessments to measure such a construct can be difficult. With their work, Hall and Fincham attempted to solidify the conceptualization of self-forgiveness and at the time of their publication, no measures for assessing self-forgiveness were available. This speaks to the dearth of empirical support in the literature for self-forgiveness as well as its role in physical and psychological health.

Factors Influencing Forgiving

McCullough, Rachal, Sandage, Worthington, Jr., Brown and Hight (1998) provided an excellent review for the mechanisms underlying forgiveness in interpersonal situations. Victim, situation, and transgressor characteristics all appear to play a role in the decision to forgive within a relationship context. The ability for the victim to take an empathic stance toward the transgressor likely increases the frequency of forgiveness (McCullough, 2000). In addition, the level of rumination an individual endorses following a transgression is an important consideration. Rumination is often a component of psychological distress (Brown, 2003) and victims who ruminate more may be more likely to seek revenge or to avoid their transgressor (McCullough et al., 1998). The degree of offense felt by the victim in a transgression was also included in McCullough and others’ (1998) summary of factors related to interpersonal forgiveness, such that more severe offenses are more difficult to forgive. In addition, the strength and degree of closeness within the relationship influences the level of forgiveness. Within close relationships, forgiveness is also increased when the transgressor apologizes and makes amends for the offense (Bono, McCullough, & Root, 2008). Finally, McCullough and colleagues (1998) identified
personality-level determinants of forgiving. They summarized work from several studies to demonstrate that individuals who are more accepting and agreeable are often more emotionally stable and not as easily distressed by transgressions. These individuals also demonstrate more flexible coping strategies and appear to have less conflict in their relationships.

In addition, those who identify themselves as more religious or spiritual often also endorse higher scores of forgiveness (McCullough, 1998; McCullough, 2000; Romero, Kalidas, Elledge, Chang, Liscum, & Friedman, 2006). Such individuals may see that forgiving is a more normal part of experience and may also demonstrate higher levels of reasoning (McCullough, 2000; McCullough & Worthington, Jr., 1999). Much of the literature on forgiveness has philosophical underpinnings (Hall & Fincham, 2005); it is therefore relevant to consider the role of forgiveness by a higher power when examining individual and group differences in the tendency to forgive. Pargament and Rye (1998) proposed that religion and its figures often serve as models for how to forgive and that religion often leans a person toward forgiveness when he or she is unsure of what to do after being wronged. In addition, a study conducted by these authors found that the most common strategy for actually carrying out the act of forgiveness was to ask God for help. With regard to forgiveness, religion likely holds a pervasive influence on individual decision-making and it is therefore indicated for clinical work that practitioners are sensitive to differences in religiosity among a variety of populations.

McCullough and colleagues (1998) administered the Transgression-related Interpersonal Motivations Inventory (TRIM) to measure offense-specific state
forgiveness in four separate studies; they were attempting to validate the TRIM as well as to further explore the forgiveness factors discussed in the preceding paragraph. The TRIM is a 12-item self-report measure with two subscales, Revenge and Avoidance, that assess the motivations underlying forgiving a transgressor. Responses to the TRIM are based on a 5-point Likert scale and it demonstrated adequate reliability (test-retest: $r = .64$ to $.86$) and internal consistency (alpha = $.86$ to $.93$). In general, the researchers found support for the theoretical links between forgiveness and empathy, rumination, and restoration of interpersonal closeness. Offenders that were in close relationships were more likely to apologize and victims in closer relationships were better able to develop empathy for the transgressor. In addition, rumination was found to increase psychological distress after an offense and that those more likely to endorse items on the Revenge scale of the TRIM were also ruminating to a greater degree. McCullough (2000) also noted that increased rumination resulted in increased difficulty with forgiving others. Finally, McCullough and colleagues (1998) found that forgiveness within a close interpersonal relationship also serves to strengthen the feelings of closeness, reducing avoidant or vengeful tendencies and facilitating conciliatory behaviors.

*Forgiveness Research Antecedents*

While the focus of this paper is to evaluate the effects of forgiveness on health, it is important to include a discussion of the major forerunners to this research. In the interest of accomplishing this task while remaining concise, a brief review of the literature regarding the relationship of health to such constructs as “Type A and B personality,” hostility, and anger are further discussed. Friedman and Rosenman
were the first to introduce the concept of the *Type-A Behavior Pattern* (TABP). They described TABP as being manifested in individuals through “an action-emotion complex that can be observed in any person who is aggressively involved in a chronic, incessant struggle to achieve more and more in less and less time” (p. 84). The authors noted that TABP, like other behaviors, can be observed along a continuum. TABP additionally carries with it other attributes such as competitiveness and hostility that were thought to contribute to its detrimental effects on health (Johnson, 1990).

Friedman and Rosenman tested their conception of TABP for its effects on coronary heart disease (CHD) with several other investigators (Rosenman, Brand, Scholtz & Friedman, 1976). This Western Collaborative Group Study (WCGS) studied CHD in over 3,000 men in California. Over the 8 ½ year study, data was collected including Type-A behavior, medical history for CHD and diabetes, total cholesterol, fasting triglycerides, beta/alpha lipoprotein ratio, blood pressure, smoking habits, exercise habits, education level, and annual income level. Overall, the findings were that men with TABP were twice as likely to develop CHD than were men with Type-B behavior pattern.

Several studies seeking to test the association between TABP and physical health began soon after the pivotal results of the WCGS study (Rosenman, Brand, Scholtz & Friedman, 1976) were published. As a result of several of those studies drawing similar conclusions, TABP was recognized as a risk factor for CHD (Johnson, 1990). It soon became apparent, however, that other attempts to replicate the WCGS findings were failing. Deeper investigation into the construct of TABP
was therefore necessary; a key outcome of this further inquiry was a better understanding of the role played by the anger and hostility components of TABP. Re-analysis of the WCGS data as well as additional studies provided substantial evidence of the predictive power of hostility in CHD events (Chesney, 1985; Debroski, MacDougall, Williams, Haney, & Blumenthal, 1985; Matthews, Glass, Rosenman, & Raymond, 1977). More specifically, Debroski, MacDougall, Williams, Haney, & Blumenthal (1985) found it was the internalization of anger, known within the literature as “anger-in emotionality,” that combined with hostility to have the greatest effects on physical health.

Smith (1992) states that hostility can be thought of holistically as a set of negative attitudes, cognitions, and appraisals that views “others as frequent and likely sources of mistreatment, frustration, and provocation and…generally unworthy and not to be trusted” (p. 139). Furthermore, Smith provides an excellent review of the research supporting the relationship between hostility and heightened physiological reactivity. In general, support has been found for increased blood pressure, increased presence of CHD, and increased severity of disease in patients who report higher levels of hostility. Additionally, some support exists for a positive relationship between hostility and unhealthy daily habits. Finally, Smith reported on the interpersonal consequences of hostility; those with increased hostility endorsed more interpersonal conflicts and less support than their less hostile counterparts.

To summarize, substantive literature provides evidence for physiological correlates to feelings of hostility that often affect health negatively; most of the research investigating this relationship points to increased prevalence of
cardiovascular illness and general mortality rates (VanderVoort, 2006). VanderVoort (2006) based her work upon the transactional model of the relationship between hostility and disease, hypothesizing maladaptive coping styles and irrational beliefs mediate the relationship between hostility and physical health. In her sample of undergraduate students (n = 355), VanderVoort found support for this hypothesis. Individuals higher in hostility reported more health problems than those with lower hostility ($F(5, 349) = 4.371; p < .001$), even after removing the effects of poor health behaviors (i.e. smoking, alcohol consumption, body mass index, etc.). In addition, those who employed avoidant coping strategies in response to anger evidenced higher hostility scores and decreased physical health. Her results support the general consensus within the field that hostility is predictive of long-term and enduring increases in physiological reactivity.

Hostility is often assumed to be concomitant with aggression and anger (Smith, 1992; Spielberger, Johnson, Russell, Crane, Jacobs, & Worden, 1985). The role of anger as a mediator in the relationship between physical health and forgiveness is one of the most commonly studied aspects within this literature (Lawler-Row et al., 2008; Worthington, 2005). According to Johnson (1990), anger is generally considered to be an emotional state consisting of feelings of irritation, annoyance, fury, and rage along with heightened activation of the autonomic nervous system and endocrine system, tension in the skeletal musculature, antagonistic thought patterns, and at the same time aggressive behaviors (p. 8).

Therefore, anger is an emotional state which is accompanied by physiological arousal and often aggressive behaviors. Hostility, on the other hand, is a more cognitive or evaluative process which involves interpreting situations and other individuals as
sources of negative or frustrating experiences. Howland and Seigman (1982) reviewed the literature regarding anger and cardiovascular reactivity; he described the empirical evidence linking expression or inhibition of anger to CHD and coronary artery disease as mixed. It was interesting to find that overall, the experience of anger did not result in detriments to physical health. Rather, Howland and Seigman found it was the expression or lack thereof of anger which resulted in detrimental effects on cardiovascular health.

Most of these effects were identified as manifested by increased heart rates and blood pressure, two factors known to be related to coronary artery disease (CAD) and CHD. As a result of these findings, studies were conducted to more specifically investigate the physical correlates of the expression variables of anger. Several studies demonstrated that individuals who were more vocal with their expression of anger (i.e. louder volume and increased rate of speech) had greater cardiovascular reactivity than did their slower speaking, decreased volume, counterparts (Howland & Seigman, 1982). A study which specifically investigated gender differences in anger and CAD had similar findings: women who outwardly expressed anger experienced higher rates of CAD and those who were more hostile experienced increased cardiac symptoms (i.e. nonanginal chest pain) in women not currently diagnosed with CAD (Krantz et al., 2006). In addition, Tibbits and colleagues (2006) noted that those patients who benefited most greatly from a forgiveness training program were those which demonstrated the most elevated levels of anger at baseline measures.

Before moving on to the most current research in forgiveness, it is important to note that the majority of forgiveness research focuses on interpersonal processes,
where an offense was committed against an individual by another individual(s). In this case, physical, psychological, and social benefits have been demonstrated when the individual is able to forgive the offender. In contrast, the research examining an individual’s decision to forgive her or himself is limited. When self-forgiveness is included in a study, it usually is not delineated as an area for assessment distinct from forgiveness of others. Furthermore, this author is unaware of any questionnaires or other research instruments which specifically measure forgiveness of self. Instead, researchers have tended to make the distinction between state forgiveness (involving a specific offense) from trait forgiveness (tendency to forgive across situation). Although an attempt was made in the following sections to parse out the research findings regarding forgiveness of self from findings regarding forgiveness of others, several articles include a discussion of both types of forgiveness. This alludes to the complexity of investigating both the context-dependent and dispositional aspects of forgiveness of self and others in light of physical and mental health symptoms.

**Forgiveness and Physical Health**

The first study specifically investigating the physiological correlates of forgiveness was conducted by Witvliet, Ludwig, and Vander Laan (2001). The authors hypothesized those individuals who continue to relive a hurt or choose to harbor a grudge experience sustained hormone and cardiovascular activity. They based this supposition on the work of McEwen (1998), who described that sustained stress can increase an individual’s allostatic load and eventually result in physical breakdown. In addition, Witvliet and colleagues (2001) utilized Lang’s (1979) bioinformational theory to inform their methodology. This theory states that
emotional reactions stimulate physiological responses within the body; experiencing a transgression is one example of an emotionally laden stimulus which can result in negative stress responses from the body.

Witvliet, Ludwig, and Vander Laan (2001) asked participants to identify a time they felt hurt by another and to describe it in on a questionnaire. Next, individuals were asked to imagine themselves in both unforgiving (i.e. rehearsing the hurt, harboring a grudge) and unforgiving (i.e. empathy and imagined forgiveness of the transgressor) situations; physiological measures such as heart rate, facial tension, blood pressure were taken in conjunction with this imagery phase of the project. The researchers found that during the imagery scenarios that guided participants through forgiving responses, heart rate, blood pressure, and facial tension rates were significantly decreased. Psychologically, participants felt sad, aroused, and angry when they were imagining unforgiving situations. Conversely and expectedly, participants reported feeling significantly greater empathy and forgiveness to the offender during the forgiving imagery exercises. The authors concluded by stating that while the study participants demonstrated greater physiological reactivity during times of unforgiveness, it may be chronic behaviors such as harboring grudges or rumination that contribute to increased allostatic load and increased physical symptoms (i.e. physiological reactivity). Witvliet and colleagues were among the first to provide empirical support for continuing the line of research regarding forgiveness interventions, hypothesizing that such programs might change individuals’ emotions and physiological responses in ways that would positively benefit their health.
On a related note, Lawler and colleagues (2003) further examined the role that interpersonal conflict plays in cardiovascular reactivity (CR). College students were asked to recall a time of interpersonal betrayal by their parents and by a friend or loved one; the accompanying physiological reactivity (i.e. heart rate, mean arterial pressure, skin conductance) to recalling the offense was measured. Psychological measures were also administered to participants to assess their chronic levels of stress and hostility, perceived health status, and state and trait forgiveness. The Acts of Forgiveness scale (AF; Drinnon & Jones, 1999) and the TRIM (McCullough, et al., 1998) were used to measure offense-specific state forgiveness. The AF consists of 45 self-report items with responses on a 5-point Likert scale from Strongly disagree to Strongly agree. It has good psychometric qualities (alpha = .96, interitem: $r = .37$, test-retest: $r = .90$). Trait forgiveness was assessed with the Forgiving Personality Inventory (FPI; Enright & Coyle, 1998). It is a 33-item measure also constructed on a 5-point Likert scale which asks participants to rate their forgiveness behavior in general (i.e. “I tend to be a forgiving person.”). Internal and test-retest reliabilities are good for the FPI (alpha = .93; test-retest: $r = .66$). The AF, TRIM, and FPI are common assessment inventories within the forgiveness and health literature and were therefore considered for this research study.

Physical health was assessed by the Cohen-Hoberman Inventory of Physical Symptoms Checklist (CHIPS; Cohen & Hoberman, 1983). This assessment contains 40 physical symptoms that the participant may have experienced within the past four weeks and asks them to identify how frequently the symptoms occur. The symptoms included on the questionnaire are often the ones that cause patients to access medical
services. The responses occur on a 4-point Likert scale from *Not at all* to *Very much a part of my life*. The scale consists of three scales to assess fatigue, sleep quality and somatic complaints and demonstrates good reliability, with an alpha coefficient of 0.88 (Lawler, Younger, Piferi, Jobe, Edmondson, & Jones, 2005). In general, the authors found that as trait forgiveness was increasingly endorsed by participants, levels of diastolic and systolic blood pressure and mean arterial pressure decreased (Lawler et al., 2003). Regarding state forgiveness, blood pressure, heart rate and rate pressure product were decreased in those who had forgiven a specific offender in a greater capacity. Taken altogether the physiological and psychological data suggest that the process of forgiveness during times of interpersonal conflict involves letting go at both levels. Physiological reactivity and the desire for revenge or avoidance both decrease as the propensity to forgive increases.

The physical effects of forgiveness were investigated in a population of healthy undergraduate students (n = 266) by Wilson, Milosevic, Carroll, Hart, and Hibbard (2008). They tested the hypothesis that the act of forgiving both self and others is accompanied by a shift toward positive affect; physical benefits are thought to result indirectly from such improvement in mood and attitude. Regression analyses were performed on the self-report data and support for the preceding hypotheses was found for both dimensions of forgiveness. Among this population of healthy students, those who endorsed forgiveness of self \( r = .31, p < .01 \) and others \( r = .20, p < .01 \) also rated themselves as having better physical health. Further analysis of the data revealed an interesting finding. For this sample, the predictive power of self-forgiveness was greater than that of forgiveness of others with regard to perceived
health scores; self-forgiveness predicted 6.7% of the variance in perceived health scores whereas forgiveness of others explained only 1.0% of the variance. Further investigation of the relationship between self-forgiveness and health is thus warranted and may prove to be rich with implications for clinical psychology within the medical setting.

Age differences in levels of forgiveness and spirituality and religiosity were investigated by Toussaint, Williams, Musick, and Everson (2001). A large US representative sample were assessed by items created by the researchers on the variables of forgiveness of self, forgiveness of others, perceived forgiveness by God, proactive forgiveness, religiosity, and health status. Internal consistency estimates for each of the scales was acceptable ($a = .64 - .72$). Age of participants was grouped into three categories: young: 18-44 years; middle: 45-64 years; old: 65 and older. Findings were significant for the relationship between age and forgiveness of others and God, with middle ($B = -.48, p < 0.001$) and older aged adults ($B = -.37, p < 0.001$) endorsing higher levels of both. Similarly, a positive relationship between mental health (i.e. life satisfaction and distress) and forgiveness of others was noted for the same age groups. Regarding physical health, forgiveness of self was related to better health in both young ($B = .19, p < .001$) and middle aged adults ($B = .13, p < .01$); interestingly, forgiveness of others was more strongly related to health in older adults ($B = .24, p < .05$). In general, forgiveness accounted for more variance in psychological distress and physical health scores than did religiosity or spirituality. Furthermore, the work of Toussaint and colleagues demonstrates the importance of
acknowledging age-related differences in forgiveness when studying health correlates and designing forgiveness interventions.

Lawler, Younger, Piferi, Jobe, Edmondson, and Jones (2005) conducted an exploratory study on the relationship between forgiveness and health, assessing physiological reactivity to recollections of transgressions as well as self-reported physical and psychological health. Their community sample (n = 81) was primarily composed of middle-aged adults, noted by the authors as differential because most studies within the forgiveness literature involve undergraduate participants. The study involved self-report questionnaires for health and psychological variables (i.e. TRIM, AF, FPI, CHIPS). Physical health symptoms, medications used, sleep quality, fatigue, and somatic complaints were the health variables investigated in their work. The researchers found that physical health was associated with both state and trait anxiety on all five measures; associations with the former were stronger (AF: r = -.40 to -.52, p < .0001; TRIM avoidance scale: r = -.29 to -.32, p < .0001; TRIM Revenge scale: r = -.40 to -.43, p < .0001). Trait forgiveness demonstrated associations of r = -.29 to -.44 (p < .0001) for the self-report health measures. Physiological arousal was decreased for those who demonstrated higher levels of trait forgiveness when measured while they watched a video of tropical fish (to establish baseline reactivity) prior to being interviewed about the recalled transgression. Contrary to previous findings, however, increased physiological reactivity was not significantly related to scores on the state (i.e. AF) or trait (i.e. FPI) measures of forgiveness nor was blood pressure related to the FPI scale. The authors hypothesized that this may be due to the sample of community members rather than undergraduate
students and recruitment methods which described the study in detail prior to participation. Also, it may be that physiological reactivity may decrease with age (Lawler et al., 2005; Seybold, Hill, Neumann, & Chi, 2001).

Lawler-Row and colleagues (2008) recently conducted a study specifically designed to examine the role of anger in mediating the relationship between forgiveness, physiological reactivity, and health. Once again, the methodology involved asking participants to recall a past hurt, offense, or betrayal. Psychological (i.e. health symptoms self-report and anger self-report) and physiological measures (i.e. heart rate and blood pressure) were also gathered from the participants. The researchers found that 15% of the variance in physical health symptom variance was explained by state forgiveness and anger out behavior ($R = .38, p < .001$). Trait forgiveness was also related to the health measures, anger behaviors, and decreased systolic blood pressure. Contrary to much of the literature, Lawler-Row and colleagues did not find a relationship between forgiveness and rumination. Overall, the researchers found that anger-out mediated the relationship between trait forgiveness and mean heart rate. Additionally, state forgiveness, trait forgiveness, and anger-out were all found to be related to blood pressure and heart rate in the expected directions. After controlling for anger, Lawler-Row and colleagues found that state forgiveness accounted for a significant amount of variance in heart rate and trait forgiveness a significant amount of variance in blood pressure. Trait forgiveness was also found to be related to assertiveness, hypothesized to result in decreased levels of angry expression and improved interpersonal functioning.
Taken altogether, these studies provide evidence for the claim that both state and trait forgiveness relate to better health behaviors and decreased physiological reactivity.

Worthington, Jr., Witvliet, Lerner, and Scherer (2005) suggest that forgiveness can contribute to greater well-being by mitigating the effects of stress and negative emotion and by supporting a more adaptive response set for an individual. They reviewed several articles which investigated various aspects of the effects of forgiveness on both physical and mental health: brain scans, hormones, peripheral psychology, and self-reports of health status were among the aspects measured. To briefly summarize their conclusions regarding forgiveness and physical health, they found that

chronic unforgiving responses could contribute to adverse health by perpetuating stress beyond the duration of the original stressor, heightening cardiovascular reactivity during recall, imagery, and conversations about the hurt, and impairing cardiovascular recovery…by contrast, forgiving responses may buffer health by quelling these responses and by nurturing positive emotional responses in their place (p. 171).

On the neurochemical level, hormone secretion during times of unforgiveness was found to closely resemble hormone levels during times of stress. In addition, the benefits of forgiveness may be demonstrated by improvements in sleep patterns (Newberg, d’Aquili, Newberg, & deMarici, 2000). Worthington Jr., Witvliet, Pietrini, and Miller (2007) reviewed several articles which provided support for the positive effects of forgiveness on health in several settings, including medical family therapy, cardiovascular health, chronic pain, substance use, traumatic brain injury, cancer, and cases involving medical errors. Within these settings and several others, Pembroke
(2008) reviewed literature on the positive health effects of forgiveness. Overall, Pembroke found that forgiving responses resulted in decreased cardiac reactivity and blood pressure, decreased facial tension during imagery of forgiving scenarios, decreased levels of depression and anxiety, and decreased perceptions of pain in chronic pain patients following a forgiveness intervention.

Forgiveness and Psychosocial Health

Thoresen, Harris, and Luskin (2000) hypothesized several ways in which forgiveness can affect psychosocial aspects of medical patients’ lives. They were specifically referencing forgiveness of others and referred to this phenomenon as a context-dependent process which can be affected by a multitude of factors (i.e. severity, situation of the offense, etc). Thoresen and colleagues significantly contributed to the investigation of forgiveness of others as a stable trait. First, they proposed that dispositional forgiveness might help to buffer a person from feeling offended because they have a more optimistic outlook of self and other. An important extension of this optimism is the possibility of a reduction in ruminative thoughts which may adversely affect psychological health. Second and perhaps more intuitively relevant to medical illness, “forgiveness may foster stronger perceived competence or self-efficacy to take needed steps to reduce disease-enhancing or pathogenic “agents” (e.g., take action to alter chronic hostile feelings, helpless beliefs, stable and global attributions), which, in turn, may increase positive stimulus-outcome expectations” (p. 259). Thirdly, being a forgiving person may result in an increased social network and perceptions of support by the patient. The final proposition by these authors suggested that forgiveness may have its roots in
identification with a higher power, or a sense of moving beyond one’s worldly concerns.

Several of Thoresen and colleagues’ (2000) claims were tested empirically by Lawler and colleagues (2005). The physical aspects of this study by Lawler and colleagues were reviewed in the previous section of this literature review, but a brief review of study methodology is warranted. Participants were asked to recall a past experience where they felt hurt or victimized by a friend or significant other; sympathetic nervous system arousal was measured while the participant relayed the experience to the researchers and measured again during imagery scenarios portraying either forgiveness or unforgiveness. Spirituality, social skills, reduction in negative affect, and reduction in stress were investigated for their indirect benefit of forgiveness to health through self-report measures (i.e. Interpersonal Competence Questionnaire (Buhrmester, Furman, Wittenberg, & Reis, 1988); Spiritual Well-being scale (SPWB; Ellison, 1983); Profile of Mood States (POMS; McNair, Lorr, & Droppleman, 1992); Perceived Stress scale (PSS; Cohen, Kamarck, & Mermelstein, 1983)). All factors were found to either partially or fully mediate the forgiveness-health relationship.

Lawler and colleagues (2005) found that reductions in negative affect most strongly mediated the relationship between state forgiveness and health (AF: $r = -.61$, $p < .0001$). Reduction in stress showed the second strongest mediating effects for the state forgiveness-health relationship (AF: $r = -.59$, $p < .0001$). When reductions in both negative affect and stress were combined, the statistically significant relationship between forgiveness and health became non-significant. This means that the
relationship between health and forgiveness was fully mediated by the reductions in negative affect and stress, leading the authors to conclude that offense-specific forgiveness may result in reductions in negative affect and stress within an individual, thereby improving his or her health outcomes and reducing feelings of anger, depression, and tension. The authors found similar results for dispositional forgiveness: negative affect (FPI: \( r = -.43, p < .001 \)) and stress (FPI: \( r = .37, p < .0001 \)) demonstrated the strongest mediating effects. Spirituality and social skills partially mediated the relationship between both self and other forgiveness and health. Lawler and colleagues concluded that “having a forgiving personality may impact the body by reducing negative affect, by maintaining social harmony in the face of interpersonal conflict and by reducing the experience and impact of stress” (p. 165). The authors acknowledged that their community sample (n = 81) was comprised mainly of middle-aged Caucasian women and that perhaps the mediating variables may have different effects for different populations. One goal of this study is to address this limitation by studying the effects of forgiveness on reported physical and mental health in a more representative general community sample.

Maltby, Macaskill, and Day (2001) investigated the relationship between forgiveness of self and others, personality, and general health in a sample of undergraduate students (n = 324). They assessed forgiveness using a scale developed by Mauger, Perry, Freeman, Grove, McBride, and McKinney (1992); this scale was normed on outpatient populations from Christian counseling centers. While
developing and testing this scale, Mauger and colleagues (1992) correlated responses to their scale with the Minnesota Multiphasic Personality Inventory (MMPI; Hathaway & McKinley, 1989) and peer-rating of respondents. They summarized that those who were unable to forgive others demonstrated extra-punitive behaviors; these included endorsing higher levels of schizophrenic behaviors and feelings of social alienation. Conversely, those who were unable to forgive themselves engaged in intro-punitive behaviors which manifested as higher scores on scales of the MMPI assessing depression, anxiety, distrust and social introversion.

In 2001, Maltby and colleagues were the first to utilize the scales developed by Mauger and colleagues (1992); they tested the theoretical distinction made by Mauger and colleagues between extra and intro-punitive behaviors resulting from scores on self and other forgiveness ratings. Overall, Maltby and colleagues found that both males and females who were unable to self-forgive were significantly more likely to experience depression, anxiety, and symptoms of neuroticism. Differences were noted between the genders, however, on ratings of forgiveness of others. Extraversion and forgiveness of others was positively correlated for men; psychoticism, anxiety, and social dysfunction were positively correlated with failure to forgive others by women. The authors suggested further investigation into the gender differences of forgiveness.

Toussaint and Webb (2005) reviewed 18 studies which examined the mental health benefits of forgiveness. In general, the findings demonstrated that decreased anxiety, depression, and anger were evidenced when forgiveness was present. Additionally, Worthington, Jr. and colleagues (2005) suggest that rumination and
feelings of stress might be decreased by forgiveness. They state that “forgiveness is likely to affect mental health because it can reduce rumination, thus reducing emotions of resentment, bitterness, hatred, hostility, residual anger, and fear” (p.172). Such rumination has been well-demonstrated with in the literature as contributing to prolonged psychological distress (McCullough, Bono, & Root, 2008).

The relationship between rumination and forgiveness was longitudinally investigated in three studies by McCullough, Bono, and Root (2007). These authors presented evidence supporting a causal relationship between rumination and forgiveness; individuals endorsed more revenge and avoidance behaviors during times when they ruminated more about a transgression. It is important to note, however, that evidence supporting the role of forgiveness in reducing rumination was less reliable. Interestingly, McCullough and colleagues also found that anger mediated the relationship between rumination and the avoidance and revenge motivations of unforgiveness in all three studies. Further investigation into the role of anger as a precursor to unforgiveness in addition to the effects of other emotions on forgiveness was therefore suggested by the researchers.

Dispositional forgiveness was assessed by Lawler-Row and Piferi (2006) in their research on the effects of forgiveness on general health in older adults (range: 50-95). In addition to assessing potential mediating factors of this relationship, the researchers investigated personality correlates of forgiveness. While a comprehensive review of the literature regarding personality and forgiveness is outside the scope of this paper, Lawler-Row and Piferi provide an excellent and brief review of this topic. This includes the negative relationship between anger,
narcissism, self-esteem, and spirituality to trait forgiveness. It is generally accepted that rumination is prevalent within both anxiety and mood disorders (i.e. depression); interventions that promote forgiveness may help to decrease this cognitive tendency to ruminate.

Brown & Phillips (2005) found that depressive symptoms were reduced when an individual endorsed a tendency to forgive. Worthington, Jr. and colleagues (2005) hypothesize that this may because forgiveness promotes mental health indirectly by increasing social support and positive health behaviors. Lawler-Row and Piferi (2006) found that highly forgiving individuals experienced decreased levels of depression and stress. The same individuals endorsed higher levels of subjective, psychological, existential, and religious well-being. Interestingly, the forgiving and unforgiving groups did not differ on measures of physical symptoms. Given the older age of Lawler-Row and Piferi’s sample, the role of social support as a mediator between the forgiveness and health relationship was highlighted. The authors conclude that “dispositional forgiveness may represent an interpersonal stance and set of skills that have clear benefits for developing and maintaining critical relationships” (p. 1017). One implication for future research suggested by the Lawler-Row and Piferi therefore includes the longitudinal study of the effects of forgiveness training on aging.

Bono, McCullough, and Root (2008) longitudinally studied this aspect of forgiveness (i.e. its functionality in interpersonal relationships) within romantic relationships. These authors hypothesized that forgiving within relationship contexts might result in an ability to access the emotional and material resources offered by
that relationship prior to the transgression. Furthermore, Bono and colleagues posit that those relationships with the most committed and close partners have the greatest stakes in the relationship and would therefore experience greater improvements in well-being through forgiveness.

The role of apology was also discussed in relation to the impact of forgiveness on well-being; results indicated that less improvement in psychological well-being was noted when transgressors were less apologetic. The authors conducted a time-lapsed study to investigate forgiveness within-persons instead of between-persons in an effort to better understand how temporary changes in forgiveness are related to overall well-being. This longitudinal research design was innovative because the majority of the literature included research on group differences in the tendency to forgive instead of individual differences. Additionally, Bono and colleagues sought to assess the possible mediating role of perception of closeness with the transgressor on the relationship between forgiveness and well-being. Overall, the researchers found that forgiveness was associated with well-being and perceptions of closeness and commitment were likely restored after forgiveness of a transgression. In addition, using the time-lagged methodology, Bono and others were able to demonstrate that forgiveness at any point in time is associated with greater levels of well-being at a later time. This was true even after controlling for prior levels of well-being; as a result, the authors concluded that evidence exists for a causal relationship between the two constructs and that further research of this relationship is therefore warranted.
Forgiveness in Clinical Populations: Breast Cancer and Chronic Pain

Research on the effects of forgiveness has also been conducted within clinical populations; for the purposes of this paper, discussion of these other populations will be limited to the breast cancer and chronic pain patient populations. Romero, Kalidas, Elledge, Chang, Liscum, and Friedman (2006) suggested that self-forgiveness be studied experimentally for its possible protective effects against distress from a breast cancer diagnosis. In addition to examining self-forgiveness in women receiving follow-up care for their breast cancer, these authors examined the relationship between spirituality and psychological adjustment. Romero and colleagues predicted similar improvements in the latter with increased endorsement of spiritual beliefs and practices. Evidence for both postulations was supported by Romero and colleagues’ findings that a positive relationship exists between self-forgiveness, spirituality and improved quality of life. Interestingly, self-forgiveness and spirituality were not significantly related to one another. It is reasonable to conclude, then, that self-forgiveness and spirituality each contribute in important ways to better psychological adjustment and overall quality of life in patients with breast cancer.

Friedman and colleagues (2007) have further investigated the concepts of attribution, self-blame and self-forgiveness in relation to mood disturbance and quality of life of breast cancer patients. Essentially, these authors sought to examine what intrapersonal factors are present when patients create attributions of self-blame and hypothesized that self-forgiveness might be one protective factor against developing such attributions. The authors conceptualized a self-forgiving attitude as the “ability to accept responsibility without assuming undue guilt” (p. 352). Such
individuals would then be able to cope more effectively with their cancer diagnosis and treatment if not so emotionally burdened with feelings of self-blame and guilt. Friedman and colleagues supported this supposition as well as the conclusions of other researchers (e.g. Bennett, Compas, Beckjord & Glinder, 2005; Romero et al., 2006) in finding a positive relationship between self-blame and mood disturbance. A negative relationship between self-blame and quality of life was also supported by the data, with the authors characterizing “those [participants] who were more self-forgiving in general were less likely to blame themselves specifically for breast cancer and, subsequently, more likely to be well-adjusted to their illness” (p. 356). The authors concluded by suggesting interventions to reduce self-blame and encourage self-forgiveness as efforts to improve psychological adjustment to the diagnosis and treatment of breast cancer. They also encouraged the discussion of attributional processes early in the treatment process as a means for opening up communication to doubt and fear that may be surrounding the “why me?” question that patients often ask themselves (Taylor, Lichtman, & Wood, 1984).

Carson and colleagues (2005) explored the relationship between forgiveness, anger, and pain in individuals experiencing chronic lower back pain. The authors concluded that both forgiveness of self and forgiveness of others are constructs which are able to be assessed within this clinical subset of patients. Anger has been demonstrated to be a complicating factor in the treatment of chronic pain and contributes to increases in greater disability and psychological distress (Greenwood, Thurston, Rumble, Waters, & Keefe, 2003). In this study, patients who were more forgiving of self and others endorsed decreased scores on measures of state and trait
anger (Carson et al., 2005). The authors conclude that forgiveness interventions may help aid the treatment process of individuals with chronic pain and also result in improvements in other life domains.

Taken altogether, the research reviewed in this introduction provides solid support for the role that both state and trait forgiveness play with regard to improved physical and psychological health. Individuals who are more likely to forgive demonstrate an increased frequency of healthy behaviors, decreased physiological reactivity, increased feelings of interpersonal closeness, and increased psychological health (e.g. depression, anxiety) compared to their less-forgiving counterparts. In addition, research may be mounting that demonstrates a bi-directional relationship between forgiveness and well-being (Bono, McCullough, & Root, 2008).

Several intrapersonal and interpersonal variables have been related to forgiveness, including the closeness of the relationship between victim and offender, the presence of apology, the severity of the offense, degree of rumination, and prevalence of the event. Recent literature has also demonstrated that negative affect, stress, spirituality, and social skills all serve mediating roles in the forgiveness-health relationship. In addition, substantive research has demonstrated that the relationship between forgiveness and health is stronger when considering situational events rather than the tendency to forgive dispositionally. Therefore, questionnaires assessing both state and trait forgiveness were included in this study to further compare these two aspects of forgiveness. The aims of this study were to better understand how specific characteristics of an interpersonal offense and the offender-victim relationship might predict forgiveness and to further explore the forgiveness-health relationship.
Hypotheses

Hypothesis 1: Individuals who endorse greater levels of forgiveness as measured by the Tendency to Forgive (TTF) and Acts of Forgiveness (AF) scales will demonstrate significant differences in physical and psychological health outcomes as measured by the Outcome Questionnaire 45.2 (OQ-45.2).

Hypothesis 1a: Individuals endorsing greater scores on the TTF will endorse fewer items on the OQ-45.2.

Hypothesis 1b: Individuals endorsing higher scores on the AF will endorse fewer items on the OQ-45.2.

Hypothesis 2: Individuals who endorse stronger spiritual or religious beliefs as measured by the Functional Assessment of Chronic Illness Therapy – Spirituality – Non-Ilness 12 (FACIT-SP-NI-12) will demonstrate higher levels of forgiveness.

Hypothesis 2a: Individuals endorsing higher scores on the FACIT-SP-NI-12 will endorse higher scores on the TTF.

Hypothesis 2b: Individuals endorsing higher scores on the FACIT-SP-NI-12 will endorse higher scores on the AF.

Hypothesis 3: Specific offense-related variables will predict both state and trait forgiveness, as measured by the AF and TTF.

Hypothesis 3a: Individuals who endorse closer relationships with their offenders (scale 1-10), describe a less severe offense (scale 1-10), and describe the presence of apology (categorical yes/no) will demonstrate higher levels of forgiveness as measured by the AF scale.
Hypothesis 3b: Individuals who endorse closer relationships with their offenders (scale 1-10), describe a less severe offense (scale 1-10), and describe the presence of apology (categorical yes/no) will demonstrate higher levels of forgiveness as measured by the TTF scale.

Hypothesis 3c: Individuals who endorse closer relationships with their offenders (scale 1-10), describe a less severe offense (scale 1-10), describe the presence of apology (categorical yes/no), do not ruminate (categorical yes/no), and who have not been previously offended in the same manner (scale 1-3) will demonstrate higher levels of forgiveness as measured by the AF scale.

Hypothesis 3d: Individuals who endorse closer relationships with their offenders (scale 1-10), describe a less severe offense (scale 1-10), describe the presence of apology (categorical yes/no), do not ruminate (categorical yes/no), and who have not been previously offended in the same manner (scale 1-3) will demonstrate higher levels of forgiveness as measured by the TTF scale.
Methods

Participant Recruitment

According to a power analysis conducted by the primary investigator using G power software, a total of 132 participants were needed in order to find statistically significant results across all types of data analyses. Therefore, 200 participants were recruited for this study in an effort to provide for attrition or other extraneous circumstances which could reduce the total sample size. Approval for this research project was acquired from the Pacific University Institutional Review Board.

Participants were recruited from the Portland, Oregon metro and surrounding areas by placing flyers at various community locations and by placing an advertisement in Willamette Weekly and Portland Craigslist online (see Appendix C). The flyers informed participants that the survey was anonymous and the investigators of the study would not be collecting information regarding the computer being used, or any identifying information that may be available on the computer. Further, participants were informed that completion of the study was completely voluntary and investigators would not have any access to names or other identifying information connected to any of the participants’ responses. All advertisements provided the study's website address so participants could read more about the study and decide if they would be interested in participating. Additionally, participants were recruited via online social network sites. Participants were required to be 18 years of age and individuals endorsing perceptual distortions that would preclude an understanding of questionnaire items were excluded from the study.
Participants

Participants in the present study were 186 individuals who were recruited in the Portland, Oregon metro area with flyers and online regional and national social network sites. The mean age of participants was 26 years with a range of 18-63. The gender identification of participants was predominately female (n = 148), with 38 male identified participants. The majority of participants were Caucasian (n = 165, 85%); 6 participants were Asian American, 1 participant was African American, 1 participant was Hispanic/Latino American, 1 participant was Native American and 11 participants identified as having different racial or ethnic membership. Table 1 includes additional descriptive information about this participant sample.

Table 1
Descriptive Statistics of Participant Sample

<table>
<thead>
<tr>
<th>Variable</th>
<th>Total in sample (n)</th>
<th>Percentage in sample (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Sexual orientation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heterosexual</td>
<td>146</td>
<td>84</td>
</tr>
<tr>
<td>Homosexual</td>
<td>10</td>
<td>6</td>
</tr>
<tr>
<td>Bisexual</td>
<td>11</td>
<td>6</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>2. Relationship status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>83</td>
<td>48</td>
</tr>
<tr>
<td>Married</td>
<td>42</td>
<td>24</td>
</tr>
<tr>
<td>Cohabitating</td>
<td>33</td>
<td>19</td>
</tr>
<tr>
<td>Separated</td>
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<td>1</td>
</tr>
<tr>
<td>Divorced</td>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td>Widowed</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>3. Health Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical condition</td>
<td>47</td>
<td>27</td>
</tr>
<tr>
<td>No medical condition</td>
<td>122</td>
<td>71</td>
</tr>
</tbody>
</table>
Research Design & Procedure

Each participant was asked to complete a 118-item self-administered questionnaire. The questionnaire included questions about 1) basic demographic information, 2) self-reported physical and psychological health symptoms, 3) questions about a specific offense which required the participant’s consideration of forgiveness, and 4) state and trait forgiveness tendencies (see Appendix B for complete assessment measure).

Upon visiting the Survey Monkey website which contained the questionnaire items, participants read briefly about the purpose of the study and the recommendation that the survey be completed in a private and quiet place of their choosing. Participants were informed the survey would take approximately 25 minutes to complete. Participants then read the informed consent and had the option of selecting “Yes, I agree” before proceeding to the survey or “No, I do not agree” and exiting out of the study. After agreeing to participate in the study, participants were sent to a link containing the items of the questionnaire. At the end of the survey, participants were sent to a separate survey where they were able to indicate interest in receiving the results of the study. Addresses provided to receive study results were collected on a separate survey and there was no way to connect the addresses with the completed questionnaires.

Measures

Outcome Questionnaire - 45.2 (OQ-45.2). The OQ-45.2 is a 45-item instrument that is used as a self report outcome/tracking instrument designed for repeated measurement of client progress through the course of therapy (Lampert &
Burlingame, 1996). It contains items to measure both psychological distress and physical ailments and is comprised of 3 subscales: Symptoms Distress, Interpersonal Relationships, and Social role. Participants respond to items on a 5-point Likert scale ranging from 0 = “never” to 5 = “almost always.” Overall, there is good reliability for this measure, with internal consistencies for the three subscales ranging from .74 - .93 (test-retest) and alpha coefficients ranging from .76 - .94.

Functional Assessment of Chronic Illness Therapy – Spirituality – Non-Illness (FACIT-SP-NI-12). The FACIT-SP-NI-12 will be used to assess the spiritual lives of the participants (Brady, Peterman, Fitchett, & Cella, 1999). This scale was derived from a chronic illness version and participants respond on a 5-point Likert scale (ranging from 0 = “not at all” to 4 = “very much”). The FACIT-SP-NI-12 is comprised of 2 subscales: Meaning/Peace and Faith and demonstrates good reliability (alpha coefficients = .81 - .88).

Tendency to Forgive Scale (TTF). The TTF is a brief scale (i.e. 4 items) which assesses dispositional forgiveness (Brown, 2003). Responses are on a 7-point Likert scale ranging from strongly disagree to strongly agree. Internal consistency for the TTF is adequate, (alpha coefficient = 0.82, test-retest r = 0.71).

Acts of Forgiveness Scale (AF). This scale will be used to assess the participants’ thoughts, attitudes, and behaviors regarding state forgiveness (Drinnon & Jones, 1999). It consists of 45 items asking participants to answer them in reference to an experienced transgression. This scale has strong psychometric properties (alpha coefficient of 0.96, mean interitem r = 0.30, and test-retest r = 0.91).
It is important to note that the original construction of the AF scale asked participants to provide a qualitative paragraph description of an offense which may or may not have elicited forgiveness of a transgressor. This paragraph description was included in this survey in addition to items assessing the specific interpersonal components demonstrated in the literature to affect forgiveness. For severity of offense, participants were asked to rate on a scale of 1-10 “how badly this offense hurt you.” For frequency of offense, participants were asked to indicate one of the following: 1) Yes, this has happened frequently before 2) Yes, this has happened once or twice before or 3) No, this has never happened before. To measure the perceived closeness of the participant with the offender, participants were asked to rate on scale of 1-10 “how close you feel to this person.” Participants were also asked to indicate whether an apology was made by the transgressor for the specific offense and how much time they spent thinking about the offense.

Data Coding and Analysis

When data collection was complete, the data was downloaded into a Microsoft Excel document on the primary investigator’s computer. Data was coded in Excel to condense single item responses to make one variable to be used for data analysis. Data was analyzed using the SPSS program and was checked for missing data points. Individuals who did not complete a significant proportion of questionnaire items (i.e. less than 50% completion) were excluded from data analysis. Upon inspection of the remaining data, there was a significant trend in missing data for only one questionnaire. Approximately 19 participants did not complete the Acts of Forgiveness (AF) scale and its subsequent items. As this did not interfere with data
analysis for the hypotheses investigating trait forgiveness (i.e. Tendency to Forgive Scale (TTF)), data for these participants were included for data analysis. For data analysis regarding the AF scale, individual cases with missing data points were excluded listwise from the analysis. Data was also checked for the presence of outliers; no outliers were found to exist in the data set and the data was determined to adequately represent the sample population. Data for the dependent variables (i.e. AF, TTF) are graphically and statistically indicative of a normally distribution; therefore, multiple regression analysis was an appropriate analysis technique.

Two independent variables, presence of apology and presence of rumination, were measured as categorical variables (yes/no). In order to be included for analysis in the multiple regression, these two variables were dummy coded. For presence of apology, a score of 1 indicated *yes apology* and a score of 0 indicated *no apology*. For presence of rumination, those participants who indicated thoughts of the offense occurring frequently (i.e. several times per day) or consistently for periods of six months or longer were coded with a 1 for *yes rumination*; those who did not meet the aforementioned criteria were coded 0 for *no rumination*.

To test the hypotheses regarding the relationships between health and forgiveness and spirituality and forgiveness (i.e. hypotheses 1, 1a, 1b, 2, 2a, and 2b), bivariate one-tailed correlations were conducted to investigate the hypothetical relationships between the following variables: physical and psychological distress (OQ-45.2 total score, Symptom Distress subscale, Interpersonal Relations subscale, and Social Roles subscale), state forgiveness (AF), trait forgiveness (TTF), and spirituality (FACIT-SP-NI-12 total score, Faith subscale, Meaning subscale).
To test the predictive role of three empirically supported offense-related variables on forgiveness (i.e. hypotheses 3, 3a, and 3b) a multiple regression was conducted using the enter method (Tabachnick & Fidell, 1996). Variables were entered based on their theoretical support in the literature in the following order: perceived severity of the offense, perceived closeness to the offender, and presence of apology. Separate multiple regressions were run for state (AF) and trait (TTF) forgiveness.

To test the effects of adding presence of rumination and frequency of the offense to find the best fitting predictive model of forgiveness (i.e. hypotheses 3, 3c, and 3d), a multiple regression was conducted using the stepwise method (Aron & Aron, 1999). Variables entered include: perceived severity of the offense, perceived closeness to the offender, presence of apology, presence of rumination, and frequency of transgression. Separate multiple regressions were run for state (AF) and trait (TTF) forgiveness.
Results

Forgiveness and Health

State forgiveness was measured using the AF scale and trait forgiveness was measured with the TTF scale. Higher scores on each measure reflect higher levels of forgiveness. Health was measured with the OQ-45.2, which includes items measuring physical and psychological symptoms as well as items measuring social relationships. The OQ-45.2 has three subscales, including Interpersonal Relations (IR), Social Roles (SR) and Symptom Distress (SD). Higher scores on the OQ-45.2 indicate higher levels of overall distress for each of the subscales and the total score. Bivariate correlations were conducted to investigate the relationships between each of the variables and are listed in Table 2. Means and standard deviations are also included for each variable in Table 2. For both state and trait forgiveness, higher levels of forgiveness were significantly negatively associated with higher levels of physical and psychological distress.
Table 2

*Bivariate Correlations, Means & Standard Deviations for Forgiveness & Health Variables*

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. OQ-45.2 total</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. OQ-45.2 IR</td>
<td>.87**</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. OQ-45.2 SD</td>
<td>.97**</td>
<td>.74**</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. OQ-45.2 SR</td>
<td>.83**</td>
<td>.65**</td>
<td>.73**</td>
<td>--</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. TTF total</td>
<td>-.42**</td>
<td>-.44**</td>
<td>-.41**</td>
<td>-.40**</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>6. AF total</td>
<td>-.24**</td>
<td>-.25**</td>
<td>-.21**</td>
<td>-.26**</td>
<td>.32**</td>
<td>--</td>
</tr>
</tbody>
</table>

M      51.96  14.03  29.19  9.20  15.96  133.58
SD     23.41  6.57   14.90  4.30  5.30   7.34

*p < .05, ** p < .01

Spirituality and Forgiveness

State forgiveness was measured using the AF scale and trait forgiveness was measured with the TTF scale. Higher scores on each measure reflect higher levels of forgiveness. Spirituality was measured with the FACIT-SP-NI-12, which includes two subscales: Faith and Meaning. Higher scores on these scales indicate higher levels of spirituality. Significant and positive relationships were found for all correlations between both forgiveness measures and the FACIT-SP-NI-12 total and subscale scores; these correlations are listed in Table 3 along with the means and standard deviations for the FACIT-SP-NI-12 total and subscale scores. The means and standard deviations for the forgiveness variables are included in Table 2.
Table 3

*Bivariate Correlations for Forgiveness and Spirituality Variables*

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Spirituality total</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Spirit.-Faith</td>
<td>.82**</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Spirit.-Meaning</td>
<td>.92**</td>
<td>.54**</td>
<td>--</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. TTF total</td>
<td>.48**</td>
<td>.33**</td>
<td>.47**</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>5. AF total</td>
<td>.26**</td>
<td>.22*</td>
<td>.22*</td>
<td>.32**</td>
<td>--</td>
</tr>
</tbody>
</table>

M: 40.51  12.47  28.19  
SD: 10.71  4.95  7.18  

*p < .05, ** p < .01

**Offense-Related Statistics**

The majority (86%) of participants in this sample reported an offense involving a relationship partner or close family member or friend as the transgressor.

Table 4 includes descriptive for the types of relationships reported by participants.

Table 4

*Offender Relationships to Study Participants*

<table>
<thead>
<tr>
<th>Relationship</th>
<th>Total in sample (n)</th>
<th>Percentage in sample (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Parent</td>
<td>31</td>
<td>18</td>
</tr>
<tr>
<td>2. Significant other</td>
<td>51</td>
<td>30</td>
</tr>
<tr>
<td>3. Sibling</td>
<td>13</td>
<td>8</td>
</tr>
<tr>
<td>4. Friend</td>
<td>38</td>
<td>22</td>
</tr>
<tr>
<td>5. Co-worker</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>6. Boss</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>7. Extended relative</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>8. Stranger</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>9. Other</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>
State Forgiveness and Offense-Related Variables

State forgiveness was measured using the AF scale and trait forgiveness was measured with the TTF scale. The specific offense-related variables were measured in several ways. Severity of offense was measured on a 1-10 scale by the participants, answering the question “Rate how much this person hurt or offended you.” To measure the perceived closeness of the participant with the offender, participants were asked to rate on scale of 1-10 “how close you feel to this person.” Frequency of offense was measured by participant indication of one of three conditions: 1) Yes, this has happened frequently before 2) Yes, this has happened once or twice before or 3) No, this has never happened before. Presence of apology and presence of rumination were coded for “yes” or “no” responses and were dummy coded for data analysis.

A multiple regression using the enter method was conducted to determine the predictive power of severity of the offense, perceived closeness of the relationship, and presence of apology on state forgiveness (Tabachnick & Fidell, 1996). The linear combination of offense-related variables was significantly related to state forgiveness $F (3, 129) = 11.18, p < .01$. The sample multiple correlation coefficient was .46, indicating that approximately 21% of the variance of state forgiveness can be accounted for by the linear combination of severity of the offense, perceived closeness of the relationship, and presence of apology. Table 5 contains the means, standard deviations, and bivariate correlations for the predictors and state forgiveness variables.
Table 5

Means and Standard Deviations and Bivariate Correlations for State Forgiveness and Offense-Related Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Bivariate r</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. AF total</td>
<td>133.64</td>
<td>7.36</td>
<td>--</td>
</tr>
<tr>
<td>2. Severity</td>
<td>8.37</td>
<td>1.76</td>
<td>*-.38</td>
</tr>
<tr>
<td>3. Perceived Closeness</td>
<td>7.79</td>
<td>2.20</td>
<td>*.21</td>
</tr>
<tr>
<td>4. Presence of apology</td>
<td>.44</td>
<td>.50</td>
<td>.11</td>
</tr>
<tr>
<td>5. Frequency of offense</td>
<td>2.31</td>
<td>.74</td>
<td>.13</td>
</tr>
<tr>
<td>6. Rumination</td>
<td>.47</td>
<td>.50</td>
<td>*-.17</td>
</tr>
</tbody>
</table>

$p < .05$

Squared part correlations were examined as a means for understanding the proportion of total variance in state forgiveness explained uniquely by an individual predictor variable after other independent variables in the model have been controlled for. Severity of the offense uniquely accounted for 20% of the state forgiveness variance. Perceived closeness of relationship uniquely accounts for 5% of the state forgiveness variance. Presence of apology accounted uniquely for only 1% of the variance in state forgiveness.

Review of the Beta weights for the individual predictor coefficients demonstrate that only two predictors contributed significantly to the prediction model for state forgiveness. Severity of the offense ($B = -.39$, $t (129) = -4.94$, $p < .01$) demonstrated a significant and negative predictive relationship to state forgiveness. Perceived closeness of the relationship between victim and offender
$B = .21, t(129) = 2.55, p < .01$ demonstrated a positive and significant predictive relationship to state forgiveness. The regression equation for the standardized variables is as follows: $y' = 141.42 - .39 B_{\text{severity of offense}} + .21 B_{\text{perceived closeness}} + .08 B_{\text{presence of apology}}$. The optimal regression equation for the standardized variables is as follows: $y' = -141.55 - .38 B_{\text{severity of offense}} + .21 B_{\text{perceived closeness}}$. Overall, it can be concluded that severity of the offense and perceived closeness of the victim-offender relationship contribute significantly to the prediction of state forgiveness. To further clarify, decreased severity of the offense and increased perceived closeness significantly contribute to state forgiveness for this sample.

A multiple regression using the *stepwise method* was conducted to determine the strongest predictors of state and trait forgiveness when considering the following variables: severity of the offense, perceived closeness of the relationship, presence of apology, frequency of the offense, and presence of rumination (Aron & Aron, 1999). The analysis resulted in two models that were significant in the prediction of state forgiveness. The first model involved one predictor, severity of offense $(F(1, 127) = 21.37, p < .05)$. The sample multiple correlation coefficient was .38, indicating that approximately 14% of the variance in state forgiveness can be accounted for by the perceived severity of the offense. The second model involved two predictors, severity of the offense and perceived closeness of the relationship $(F(1, 126) = 7.79, p < .05)$. The sample multiple coefficient for this second model is .44, indicating that approximately 19% of the variance in state forgiveness can be accounted for by the linear combination of severity of the offense and perceived
closeness between the victim and offender. As this second model explained a greater percentage of the variance in state forgiveness, it is the model of best fit.

Squared part correlations were examined as a means for understanding the proportion of total variance in state forgiveness explained uniquely by an individual predictor variable after other independent variables in the model have been controlled for. Severity of the offense uniquely accounted for 15% of the state forgiveness variance. Perceived closeness of relationship uniquely accounts for 6% of the trait forgiveness variance.

Review of the Beta weights for the individual predictor coefficients demonstrate that both predictors contributed significantly to the model for state forgiveness. Severity of the offense \( (B = -0.38, t(126) = -4.81, p < .05) \) demonstrated a significant and negative predictive relationship to state forgiveness. The perceived closeness of the relationship \( (B = 0.22, t(126) = 2.79, p < .05) \) demonstrated a significant and positive relationship to state forgiveness. The regression equation for the standardized variables is as follows: \( y' = 141.29 - 0.38 \text{ severity of offense} + 0.22 \text{ perceived closeness}. \)

Overall, it can be concluded that severity of the offense and perceived closeness of the relationship contributed significantly to the prediction of trait forgiveness in the expected directions. To further clarify, decreased severity of the offense and increased perceptions of closeness to the transgressor significantly contributed to state forgiveness for this sample.

**Trait Forgiveness and Offense-Related Variables**

A multiple regression using the *enter method* was conducted to determine the predictive power of severity of the offense, perceived closeness of the relationship,
and presence of apology on trait forgiveness (Tabachnick & Fidell, 1996). The linear combination of offense-related variables was not significantly predictive of trait forgiveness $F (3, 147) = 2.52, p = .06$. The sample multiple correlation coefficient was .22, indicating that approximately 5% of the variance in trait forgiveness can be accounted for by the linear combination of severity of the offense, perceived closeness of the relationship, and presence of apology. Table 6 contains the means, standard deviations, and bivariate correlations for the predictors and trait forgiveness variables.

Table 6

*Means and Standard Deviations and Bivariate Correlations for Trait Forgiveness and Offense-Related Variables*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Bivariate r</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. TTF total</td>
<td>15.99</td>
<td>5.21</td>
<td>--</td>
</tr>
<tr>
<td>2. Severity</td>
<td>8.40</td>
<td>1.72</td>
<td>*-.17</td>
</tr>
<tr>
<td>3. Perceived Closeness</td>
<td>7.71</td>
<td>2.27</td>
<td>.05</td>
</tr>
<tr>
<td>4. Presence of apology</td>
<td>.45</td>
<td>.50</td>
<td>.12</td>
</tr>
<tr>
<td>5. Frequency of offense</td>
<td>2.31</td>
<td>.75</td>
<td>-.03</td>
</tr>
<tr>
<td>6. Rumination</td>
<td>.49</td>
<td>.50</td>
<td>-.08</td>
</tr>
</tbody>
</table>

$p < .05$

Squared part correlations were examined as a means for understanding the proportion of total variance in trait forgiveness explained uniquely by an individual predictor variable after other independent variables in the model have been controlled for. Severity of the offense uniquely accounted for 3% of the trait forgiveness variance. Perceived closeness of relationship uniquely accounts for 0% of the trait
forgiveness variance. Presence of apology accounted uniquely for 1% of the variance in trait forgiveness.

Review of the Beta weights for the individual predictor coefficients demonstrate that only one predictor contributed significantly to the prediction model for trait forgiveness. Severity of the offense ($B = -.19, t (147) = -2.29, p < .05$) demonstrated a significant and negative predictive relationship to state forgiveness. The regression equation for the standardized variables is as follows: $y' = 19.82 - .19 B_{\text{severity of offense}} + .02 B_{\text{perceived closeness}} + .13 B_{\text{presence of apology}}$. The optimal regression equation for the standardized variables is as follows: $y' = 19.82 - .19 B_{\text{severity of offense}}$. Overall, it can be concluded that severity of the offense contributed significantly to the prediction of trait forgiveness. To further clarify, decreased severity of the offense significantly contributed to state forgiveness for this sample.

A multiple regression using the stepwise method was conducted to determine the strongest predictors of trait forgiveness when considering the following variables: severity of the offense, perceived closeness of the relationship, presence of apology, frequency of the offense, and presence of rumination (Aron & Aron, 1999). The analysis resulted in one model that was significant in the prediction of trait forgiveness. This model involved one predictor, severity of offense ($F (1, 147) = 4.48, p < .05$). The sample multiple correlation coefficient was .17, indicating that approximately 0% of the variance in trait forgiveness can be accounted for by the perceived severity of the offense.

The squared part correlation for severity of offense was examined as a means for understanding the proportion of total variance in trait forgiveness explained uniquely
by an individual predictor variable after other independent variables in the model have been controlled for. Severity of the offense uniquely accounted for 3% of the trait forgiveness variance. Review of the Beta weights for the severity of the offense demonstrates this variable contributed significantly to the model for state forgiveness. Severity of the offense ($B = -.17, t(147) = -2.12, p < .05$) demonstrated a significant and negative predictive relationship to trait forgiveness. The regression equation for the standardized variables is as follows: $y' = 20.39 - .17 B_{\text{severity of offense}}$. Overall, it can be concluded that severity of the offense contributed significantly to the prediction of trait forgiveness in the expected direction. To further clarify, decreased severity of the offense significantly contributed to trait forgiveness for this sample.
Discussion

This study was based upon extant literature supporting positive physical and psychological health outcomes during times of increased forgiveness. Forgiveness has been defined in the literature as being comprised of two processes. The first involves the release of negative affect or resentment toward the transgressor and the second involves the presence of or an increase in prosocial behavior/feelings toward the transgressor (Lawler-Row et al., 2008). This definition was used to guide the investigation into forgiveness for this study, although in the measurement tools given to participants, a definition of forgiveness was not given. This is a possible limitation of the study, because each participant likely defines forgiveness in a somewhat different way. The measurement tools administered did not include a definition. In order to use these tools in a manner consistent with their psychometric properties, no definitions were added. Asking participants to define forgiveness or providing a standard definition of forgiveness could be one way to address this limitation in the current study.

The physical and psychological health effects of forgiveness have been investigated within several clinical and undergraduate populations (Lawler et al, 2005; Pembroke, 2008). The research in general community samples is more limited regarding this topic. As less is known about the relationship between forgiveness and health in non-clinical populations, this study sought to understand the correlates of forgiveness as they exist in the normal (i.e. non-clinical) population. A more clear understanding of forgiveness and its effects on physical and psychological health in non-clinical populations can enhance understanding of this relationship within
clinical populations. For example, does the relationship between forgiveness and health may differ according to strength, direction, and predictive factors for clinical versus non-clinical populations? How will we know when a forgiveness intervention is appropriate for clinical populations? This study contributes to the literature regarding forgiveness within a normal population so that such questions may be answered by future studies.

It is important to note, however, that the sample of participants for this study is not representative of the general population, especially in terms of race and ethnicity. Within the literature on forgiveness of self or others, findings have differed according to this demographic variable. For example, one study by Romero and colleagues (2006) found that spirituality and forgiveness were more strongly correlated for African American women with breast cancer than their racial or ethnic counterparts. It could be hypothesized that differences may also exist along measures of physical and psychological health measures as well as in offense-specific characteristics throughout the general population. In addition, current treatment for a psychological disorder did not preclude participants from completing the questionnaire. It is possible that individuals completing the survey could be better categorized as belonging to a clinical population, which could confound the ability to generalize the study results broadly to a non-clinical population. A future direction for research would be the replication of this study in a population which is more diverse in terms of race, ethnicity and sexual orientation, excluding those who are currently seeking mental health treatment.
Forgiveness and Health

Typically, physical and psychological health is assessed by measures which assess the frequency, intensity and duration of symptoms. Therefore, forgiveness and its effects may be studied within one or more of these aspects of symptoms. Legaree, Turner, and Lollis (2007) posit that forgiveness can also be studied according to the strength of its relationship to health, the intrapersonal decision making process of forgiveness, and in light of who truly benefits from the act of forgiveness (e.g. the victim or the transgressor). Regardless of the specific aspect of forgiveness and health studied, a consistent finding within the literature has been that the relationships between forgiveness and health have been stronger for state forgiveness rather than trait forgiveness. In general, cardiovascular reactivity and feelings of hostility have been demonstrated to be at decreased levels during times of forgiveness (Lawler et al., 2003; McCullough, 2000; Pembroke, 2008; Witvliet, Ludwig, & Vander Lann, 2001). Overall, it appears that one’s tendency to forgive situationally is more strongly correlated to health than is one’s tendency to be a generally forgiving person (Lawler et al., 2005; Pembroke, 2008). This study included measures of both state and trait forgiveness to further test this association within a non-clinical population.

The first hypothesis in this study evaluated the physical and psychological health effects of forgiveness and predicted that increased forgiveness would result in decreased endorsement of health symptoms. The Outcome Questionnaire-45.2 (OQ-45.2; Lambert & Burlingame, 1996) is a measure which asks participants to rate their symptom distress, interpersonal functioning, and fulfillment of social roles over the past week. Items of both physical and psychological distress are included on this
measure and this measure is often used in treatment settings as a way to assess current patient functioning. As such, the OQ-45.2 is a measure best-suited for evaluating general levels of patient distress at time of administration.

It was hypothesized that scores on the OQ-45.2 would be negatively correlated with scores on measures of both state (AF) and trait (TTF) scales of forgiveness. This hypothesis was supported, as a significant relationship between health and forgiveness existed in the expected directions for both state 

\( r = -0.24, p < 0.01 \) and trait forgiveness \( r = -0.42, p < 0.01 \). All bivariate correlations for health-forgiveness study variables are provided in Table 1. Thus, physical and psychological distress tends to be decreased with increased levels of forgiveness. This is consistent with previous literature which demonstrates a similar relationship for patients receiving treatment for physical or psychological conditions and for undergraduate populations (Pembroke, 2008; Touissant & Webb, 2005; Witvliet et al., 2001). It also supports literature which has demonstrated increased physical and psychological health for members of the general population during times of state forgiveness (Lawler et al., 2005; Wilson, et al., 2008).

The use of the OQ-45.2 as a measurement tool provides for the unique assessment of forgiveness in relation to psychological distress. Both state and trait forgiveness demonstrate a significant and negative relationship to psychological distress. Although this study was conducted with a community sample, the nature of the offenses varied from low to high severity (i.e. roommate disagreement to sexual assault and infidelity) and it appears that forgiveness in general relates to better psychological functioning. As the OQ-45.2 measures functioning within the past
seven days, this study is not purporting that forgiveness relates to better psychological health overall; however, research is beginning to mount to support such claims (Pembroke, 2008). Given these caveats, the results of this study demonstrate that participants experience less psychological distress when they forgive both situationally and across time. Furthermore, the OQ-45.2 contains items which can be useful in assessing or screening for issues with substance use, symptoms of general anxiety, phobias, suicidal and homicidal ideation, and depression. The negative relationship between such symptoms and both state and trait forgiveness found in this study lends further support to extant literature demonstrating relationships between forgiveness and decreased levels of anxiety, stress, negative affect, anger, and depression (Brown & Phillips, 2005; Lawler et al., 2005; Maltby et al., 2001; Toussaint & Webb, 2005; Pembroke, 2008).

Further examination of the individual correlation coefficients for the forgiveness-health relationship yielded interesting and unexpected results. It appears that the relationship between symptom distress and trait forgiveness was larger ($r = -.419$) than that for state forgiveness ($r = -.24$). A stronger relationship for trait forgiveness and psychological health than that of state forgiveness is contrary to much of the literature. In considering the assessment of symptom distress, interpersonal functioning, and social roles contained within the OQ-45.2, it may be that increased levels of forgiveness result in better interpersonal functioning and enhanced social skills (Thoresen et al., 2000). Therefore, forgiveness may be indirectly affecting OQ-45.2 scores by increasing participant levels of interpersonal functions.
This may be because forgiveness can lead to the restoration of supportive relationships and increased positive feelings toward the transgressor (McCullough, 2000). It could be that this sense of social harmony involves an increased perception of self-efficacy over the situation, leading to decreases in psychological distress for the victim. It may be that those who are more forgiving in general experience greater interpersonal and social harmony, as they are less likely to hold grudges and respond with negative affect toward the transgressor. This in turn may result in more positive responses from others (both transgressors and non-transgressors) and better overall interpersonal functioning for the individual. Literature provides some support for the claim that social functioning is improved when one forgives (Bono et al., 2008). Personality variables may also explain decreased psychological distress in the presence of forgiveness: Those who forgive are often more accepting, agreeable, emotionally stable, less easily distressed (McCullough et al., 1998). An individual’s tendency to forgive, his or her personality variables regarding agreeableness and hostility, and his or her social functioning may all interact to produce decreased levels of psychological distress.

To further investigate the discrepant findings of this study, a discussion of the measures used to assess both types of forgiveness is merited. The Tendency to Forgive Scale (TTF) which was used to assess the construct of trait forgiveness consists of only 4 items and is used less frequently in the literature than other measures. The TTF was selected because of its brevity in administration and accessibility to the primary investigator of this study. It may be that the items included in the TTF are assessing different aspects of the trait forgiveness construct
than are other measures more commonly used in the literature. While adequate reliability was reported by its author (alpha coefficient = 0.82, test-retest $r = 0.71$; Brown, 2003), it is important to note possible limitations in reliability and construct validity with such few questionnaire items. In contrast, the Acts of Forgiveness Scale (AF) consists of 45 items and has been well-validated within the literature. It has stronger psychometric properties (alpha coefficient = 0.96, mean interitem $r = 0.30$, and test-retest $r = 0.91$; Drinnon & Jones, 1999). As a result, the more common use of the AF measure within the literature makes comparisons of the findings in this study (i.e. non-clinical population) to the findings of others within clinical populations more amenable.

The use of the OQ-45.2 as an outcome measure for physical and psychological health presents several strengths and limitations. This measure does not contain specific scales for physical health, and many items (e.g. “I have headaches” or “I tire easily”) are often associated with psychological distress. This tool is much better suited for measuring psychological symptoms, specifically purporting to measure psychological distress (Lambert & Burlingame, 1996). Therefore, the results of this study may more aptly be described as finding a strong negative relationship between state and trait forgiveness and psychological distress/health. A possible future implication, then, would be to administer questionnaires which specifically function as measures of physical health as well. Additionally, it may be possible to distinguish items of physical health from the OQ-45.2 to create a subscale for physical health. Correlations between physical health and forgiveness could then be investigated more fully.
Forgiveness and Spirituality

The second hypothesis of this study sought to further examine the relationship between state and trait forgiveness and spirituality. The extant literature is mixed with regards to the relationship between spirituality and forgiveness. It was predicted that increased spirituality would result in increased levels of both state and trait forgiveness. This hypothesis was supported, demonstrating that a link between spirituality and forgiveness exists for this sample. Additionally, the relationship between trait forgiveness and spirituality ($r = .48$, $p < .01$) was stronger than that of state forgiveness and spirituality ($r = .26$, $p < .01$). This directly supports existing literature which has found that spirituality and religiosity are more strongly related to dispositional forgiveness than state forgiveness (Gorsuch & Hao, 1993). Therefore, individuals in this study who were more spiritual also tended to be more forgiving.

The research findings regarding the relationship of state forgiveness to religion/spirituality are mixed (McCullough & Worthington, Jr., 1999). McCullough and Worthington, Jr. (1999) offer four potential reasons for the discrepancy between the trait and state forgiveness and spirituality/religion. First, the social desirability of being a forgiving person may be a stronger motivator to forgive than are religious convictions. Second, definitional and measurement problems may preclude accurate assessment of religion or spirituality and forgiveness. Third, given all of the offense-specific variables that are known to affect forgiveness, spirituality and religion may factor in less significantly to in-the-moment forgiveness of a transgression. Lastly, measurement tools based on retrospective responding may lead to biases in participant recall. Questionnaire items were not included in this study to assess these
possible interactions between spirituality/religion and forgiveness; however, the results of this study support a positive relationship between spirituality and state forgiveness for members of the general community.

Romero and colleagues (2006) also posit that individuals with less access to secular coping resources may rely more heavily upon religious or spiritual activities. Therefore, socioeconomic considerations could affect one’s level of spirituality when considering forgiveness. Although this relationship was not investigated in this study, it may be a consideration for future studies. Spirituality should also be considered in light of culture, as the relationship between forgiveness and spirituality/religion can be strongly affected by cultural context (Lavric & Flere, 2008). Additionally, one could attempt to control for the effects of spirituality to see how strongly it mediates the forgiveness-health relationship, similarly to Lawler and colleagues’ (2005) work. Items assessing spirituality could be included in the regression analysis to determine if level of spirituality predicts state or trait forgiveness.

It is important to note, however, that most of this literature involves the investigation of religion and forgiveness, assessing such items as attendance at religious service, self-rated importance of religion, church attendance, and monitoring of prayer (McCullough, 2000; Poloma & Gallup, 1991). An attempt was made in this study to be more inclusive of individuals who do not subscribe to organized religious practices by assessing overall levels of spirituality. Future studies might seek to include questionnaire items assessing both religion and spirituality to further tease apart the religiosity-forgiveness and spirituality-forgiveness relationships.
Forgiveness and Offense-related Variables

Literature exists which demonstrates that forgiveness has been correlated to decreased pain in chronic pain patients and decreased hypertension in cardiac patients following a forgiveness intervention (Carson, et al., 2005; Tibbits et al., 2006). One application of the results of this study could be the enhancement of practitioner ability to appropriately refer patients for such intervention programs.

Several factors have been found to be correlated to increased state and trait forgiveness; characteristics of the individual (victim), the interpersonal relationship between victim-offender, and the nature of the transgression are all included in this realm (McCullough, 2001). For example, Lawler and colleagues (2005) found that negative affect, stress, spirituality and social skills all mediated the relationship between forgiveness and health. In addition, the victim’s ability to express empathy toward the offender (McCullough, 2000), decreased levels of rumination about the offense, and level of spiritual beliefs were correlated with increased forgiveness. As a caveat on these findings, literature regarding the role of rumination about the offense and spirituality has been mixed. Lastly, the perceived closeness and strength of the relationship between victim-transgressor, severity of the offense, and presence of apology by the offender have all been found to be interpersonal correlates of forgiveness.

There has not been investigation into the frequency of the offense as a predictor of forgiveness, and because the evidence for rumination and spirituality is mixed, these components were also included for examination in this study. In effect, this study built upon the correlational data in each of these areas by computing a
prediction model for forgiveness through inclusion of the following variables: perceived closeness of the victim-offender relationship, perceived severity of the offense, presence of apology, rumination by the victim, and frequency of the offense.

*State Forgiveness and Offense-Related Variables*

Two multiple regressions were conducted to investigate the prediction of state forgiveness. The first regression investigated the offense-related variables most consistently cited in the literature as being correlated with state forgiveness: perceived closeness of the victim-offender relationship, perceived severity of the offense, presence of apology. The results of this model were significant \( F(3, 129) = 11.18, p < .01 \). However, only two variables were found to be significant within the model. The perceived severity of the offense and perceived closeness of the relationship together accounted for 21% of the variance in state forgiveness. Presence of apology alone did not account for any of the variance in state forgiveness scores.

It is interesting and important to note that there were similar findings in the exploratory forgiveness model. This second multiple regression model investigated perceived closeness of the victim-offender relationship, perceived severity of the offense, presence of apology, rumination by the victim, and frequency of the offense in relation to state forgiveness. Presence of apology, rumination, and frequency of the offense were not significant predictors of state forgiveness for this sample. Therefore, perceived severity of the offense and perceived closeness of the relationship were the only significant predictors for state forgiveness. Together, they explained nearly one fourth of the variance in state forgiveness.
For this sample, it appears that less severe offenses by individuals who were perceived as being close to the participant were more likely to be forgiven. This supports literature which frequently identifies decreased severity of offense and increased closeness of victim-offender relationship as factors closely related to situational forgiveness (Bono et al., 2008; McCullough et al., 1998). The participants in this study were more likely to forgive when they felt that they had been offended in a less severe manner by someone close to them. Considerable attention has been spent discussing the interpersonal value in these findings; it may be that those who are in closer relationships have more resources invested in the relationship and therefore have more to gain from forgiving their transgressor (Bono et al., 2008).

Whereas the literature supported the inclusion of additional variables in the regression analysis, the findings of this study did not find significant effects for presence of apology, rumination, or frequency of offense on prediction of state forgiveness. Examining the types of offenses reported by participants may help to explain this lack of significant findings. The majority of participants (70%) described being offended by individuals with whom they are in close relationships: parents, significant others, and friends. It may be that individuals who are in close relationships with their offenders find an apology less necessary in order to continue their interactions with the offender. They may be in a position where ongoing interactions will continue by the nature of the relationship (i.e. family member) and so the need for an apology to continue with the relationship may be decreased.

A similar argument can be made for the frequency of the offense. Assuming those in close relationships have more frequent contact with one another, the potential
for offense frequency increases. Participants may recognize or expect this, and so the frequency of how often the event occurs may not affect the presence of forgiveness; having interpersonal transgressions more frequently with those they spend the most time in contact with may seem reasonable to individuals. Finding no relationship between rumination and forgiveness is not surprising, given the mixed results for rumination and forgiveness in the literature. The prevailing psychological definition of forgiveness states that the individual releases negative affect about the event and increases prosocial behavior toward the offender (Lawler-Row et al., 2008). Much thought (i.e. rumination) can be involved in this process for individuals, whether or not they choose to forgive their offender. Therefore, the presence or absence of rumination alone cannot be relied upon to predict forgiveness; this theory is supported by the findings of this study.

Rumination was coded and considered to be present if the participant indicated thinking about the event for at least one month post-offense, or endorsed great distress in thinking about the offense. This time period was given arbitrarily, as a standard definition of time related to rumination does not exist in the literature (McCullough, Bono, & Root, 2007). It is possible, therefore, that different time period cutoffs (e.g. shorter time requirement) may have resulted in significant results for this variable. Another important limitation of this study exists because only the principal investigator coded rumination; greater accuracy of coding could be insured by having multiple raters and determining inter-rater reliability. In addition, future versions of the questionnaire items included before the AF scale could require quantitative (i.e. provide participants with check boxes of specific times post-offense).
rather than qualitative responses which could help eliminate coding errors that may have occurred in this study.

It appears that for both community and clinical populations, severity of the offense and closeness of the relationship are related to forgiveness. State forgiveness involves a specific offense, and may therefore be more salient within the context of treatment. Trait, or dispositional, forgiveness is more likely to be characterological in nature and may therefore be a less likely focus of treatment. Research has provided considerable evidence that both trait and state forgiveness relate to better physical and psychological health outcomes. Although the influence of forgiveness tends to be indirect (i.e. release in negative affect results in decreased cardiac reactivity and increased interpersonal functioning), the health benefits of increased forgiveness cannot be ignored. Therefore, practitioners can apply the findings of this study to assessment of patient referral for forgiveness intervention.

The associations between state forgiveness and physical health have generally been found to be stronger than those of trait forgiveness, so understanding what aspects of a transgression are more likely to predict forgiveness could be useful in this referral process. In the case of client presentation, individuals who are experiencing distress about an interpersonal transgression may be most likely to benefit from a forgiveness intervention when 1) the offense is perceived as less severe in nature and 2) the individual is in a close relationship with the offender. This is because these factors are demonstrated as more often leading to situational forgiveness, which is related to improved health (Pembroke, 2008). It would be important for future studies to monitor the physical and psychological health outcomes for patients who meet
these criteria and are referred for forgiveness intervention to determine their value in predicting positive outcomes. Further, this study explored offense-related variables in a non-clinical population for their predictive effects on forgiveness. As a result, individuals in this study are likely not experiencing clinical levels of distress and may not seek or follow through with referral to forgiveness intervention programs. Future studies could examine these same variables within several clinical populations to improve referral accuracy and success rates in forgiveness interventions for those individuals.

An important limitation for both state and trait forgiveness prediction is the demonstrated meditational effects of negative affect, stress, social skills, and spirituality in the literature (Lawler et al., 2005). This data analysis did not control for those effects and did not include measures specific to negative affect and stress or social skills. Therefore, it is important to understand that these factors may also be affecting the prediction of both state and trait forgiveness in this study. Furthermore, only one measure was used to assess state forgiveness in this study. In much of the literature an additional measure, the Transgression-Related Interpersonal Motivations Inventory (TRIM; McCullough et al., 1998), is used to assess state forgiveness as well. The construct of state forgiveness assessed by this study might be enhanced by the inclusion of TRIM items in future studies. This may aid in the strength of comparison of the findings of this study to the findings of others; this is especially important in light of this paper, as one purpose of this study was to investigate forgiveness in a non-clinical population so that differences between clinical and non-clinical populations might be examined.
Lastly and perhaps most importantly, the assessment of state forgiveness was based upon retrospective recall by the individual of a prior offense. A questionnaire item asking participants how long ago the offense occurred would be useful in assessing whether state measures are appropriate or not. For example, a great period of time may have passed between the offense and completion of the survey, and measures assessing the beliefs, thoughts, and feelings about the offender post-offense may not be accurate several months or years later.

**Trait Forgiveness and Offense-related Variables**

Two multiple regressions were conducted to investigate the prediction of trait forgiveness. The first regression investigated the offense-related variables most consistently cited in the literature as being correlated with forgiveness: perceived closeness of the victim-offender relationship, perceived severity of the offense, and presence of apology. The results of this model were not significant \( F(3, 147) = 2.52, p = .06 \). Therefore, dispositional forgiveness was not best predicted by the combination of closeness of the victim-offender relationship, perceived severity of the offense, and presence of apology. None of these variables accounted for a significant portion of variance in trait forgiveness.

Significant findings for the prediction of trait forgiveness did exist, however, for the exploratory model \( F(1, 147) = 4.48, p < .05 \). This second multiple regression model investigated perceived closeness of the victim-offender relationship, perceived severity of the offense, presence of apology, rumination by the victim, and frequency of the offense in relation to trait forgiveness. With the additional variables included in the second regression analysis, only severity of the offense was found to significantly
account for any of the variance in trait forgiveness scores. Although this model was significant, severity of the offense accounted for only 3% of the variance in trait forgiveness scores. Those who are more forgiving dispositionally are more likely to do so when the severity of the offense is decreased. It is likely that those who forgive in general may forgive transgressions, especially those that are of decreased severity, more easily. It would be interesting to ask individuals who are high in trait forgiveness and individuals who are low in trait forgiveness to rank the severity of the same offenses. Perhaps those who generally forgive also perceive offenses to be less severe because of an established pattern of forgiveness and are therefore more willing to forgive in general.

The large amount of variance in trait forgiveness unaccounted for by the variables in this second model begs further research. Understanding that the severity of the offense is one factor that predicts trait forgiveness can guide future research. It may be that individuals gauge their willingness to forgive a specific transgression based upon the severity of the offense and upon previous experience of dealing with similar transgressions. Presence of apology, rumination, frequency of the offense, and perceived closeness to the transgressor were not significant predictors of trait forgiveness for this sample. The aforementioned variables are all related to specific aspects of an offense. From this, it can be concluded that one’s tendency to forgive across situation may not be determined from examination of the factors that might cause one to forgive a particular offense. Including the same variables as those investigated in the prediction model of state forgiveness allows for a more equal comparison between the two types of forgiveness. Future studies may benefit from
conducting additional regression analyses on variables purported to correlate specifically with trait forgiveness such as personality and individual (i.e. ability to take empathic stance) factors. Perhaps those who are high in trait forgiveness pay less attention to specific details of the offense when deciding to forgive. More comprehensive assessment of personality and individual characteristics as well as other possible factors such as religion or spirituality may be useful in examining tendencies toward forgiveness.

A similar limitation in measuring trait forgiveness occurs as it did for state forgiveness in this study. Within the literature, the most commonly used assessment of trait forgiveness is the Forgiving Personality Inventory (FPI; Enright, 1998). The TTF scale was chosen because of its use in research regarding rumination and depression (Brown, 2003) and because it was brief and cost effective. As with state forgiveness, the inclusion of a more well-validated measure could improve the ability for comparing the results of this study with results of others.

Conclusions and Future Directions

This study contributed uniquely to literature in the area of forgiveness and health by considering psychological distress and forgiveness within a non-clinical population. Both situational and dispositional forgiveness were related to decreased levels of psychological distress for study participants. Spirituality was also positively correlated with state and trait forgiveness. For all but one of the study variables, greater significance in terms of correlation and prediction was found for state forgiveness than for trait forgiveness; this was consistent with the literature. The relationship between spirituality and trait forgiveness was stronger than the
relationship between spirituality and state forgiveness. In addition, several offense-specific variables were investigated for possible predictive effects on state and trait forgiveness. Perceived closeness of the relationship and severity of the offense were found to significantly predict state forgiveness. Only severity of the offense held predictive value for trait forgiveness, explaining just 3% of the variance in trait forgiveness scores.

Much of the variance in state and trait forgiveness remains to be accounted for. Given the strong relationship between spirituality and trait forgiveness for this sample, variables assessing spirituality could be included in future regression analyses. Qualitative research may be useful in understanding the individual process and experience of forgiveness; participants could be asked to describe a specific offense and then to relate their process of forgiveness in a narrative form.

One purpose of this study was to evaluate what factors predict state and trait forgiveness; it is hoped that this research can be elaborated on upon within different clinical populations. Understanding the specific intrapersonal and interpersonal variables that tend to predict forgiveness will better enable clinicians to identify when a forgiveness intervention may be appropriate. Given the strong support for the physical and psychological health benefits of forgiveness and the mounting support for forgiveness interventions, continued research in this area could prove highly beneficial for patients.
References


Appendices

Appendix A. List of Tables

Table 1. Descriptive Statistics of Participant Sample

Table 2. Bivariate Correlations, Means & Standard Deviations for Forgiveness & Health Variables

Table 3. Bivariate Correlations for Forgiveness and Spirituality Variables

Table 4. Offender Relationships to Study Participants

Table 5. Means and Standard Deviations and Bivariate Correlations for State Forgiveness and Offense-Related Variables

Table 6. Means and Standard Deviations and Bivariate Correlations for Trait Forgiveness and Offense-Related Variables
Appendix B. Measures

**Demographics Items**

**DIRECTIONS:** Please read each question carefully and respond

1) Which gender do you identify with? Male/Female

2) Please specify your current age?

3) What is your occupational status?

<table>
<thead>
<tr>
<th>Full-time Student</th>
<th>Full-time employed</th>
<th>Part-time employed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unemployed</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4) What is your ethnicity?

<table>
<thead>
<tr>
<th>Euro-American/White</th>
<th>Asian</th>
<th>Native American/Alaskan</th>
</tr>
</thead>
<tbody>
<tr>
<td>African American</td>
<td>Hispanic/Latin American</td>
<td>Other</td>
</tr>
</tbody>
</table>

5) What is your sexual orientation?

<table>
<thead>
<tr>
<th>Heterosexual</th>
<th>Homosexual</th>
<th>Bisexual</th>
<th>Other</th>
</tr>
</thead>
</table>

6) What is your relationship status?

<table>
<thead>
<tr>
<th>Single</th>
<th>Married</th>
<th>Divorce</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cohabitating</td>
<td>Separated</td>
<td>Widowed</td>
</tr>
</tbody>
</table>

7) What is your educational level?

<table>
<thead>
<tr>
<th>Some high school</th>
<th>Some college</th>
<th>Some post-graduate course work</th>
</tr>
</thead>
<tbody>
<tr>
<td>High school graduate</td>
<td>College graduate</td>
<td>Completed post graduate degree</td>
</tr>
</tbody>
</table>

8) What is your family's annual income in the past year:

<table>
<thead>
<tr>
<th>$0 - $10,000</th>
<th>$10,000 - $19,000</th>
<th>$20,000 - $29,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>$20,000 - $29,000</td>
<td>$30,000 - $39,000</td>
<td>$40,000 - $49,000</td>
</tr>
<tr>
<td>$40,000 - $49,000</td>
<td>$50,000 - $59,000</td>
<td>I don't know</td>
</tr>
<tr>
<td>$50,000 - $59,000</td>
<td>$60,000 - $69,000</td>
<td>$70,000 or more</td>
</tr>
<tr>
<td>$70,000 or more</td>
<td>I don't know</td>
<td>$70,000 or more</td>
</tr>
</tbody>
</table>

9) Are you currently diagnosed with or receiving treatment for any of the following conditions? If yes, please list.
10) Do you currently own a pet? If yes, please list.
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Appendix C: Recruitment Flyer

To forgive or not to forgive?

We are conducting an anonymous survey to assess the relationship between forgiveness and health and **NEED** your help!

The anonymous survey will take approximately 25 minutes to complete. The investigators of this study will not collect information regarding the computer being used, or any identifying information that may be available on the computer.

Please go to the website below to complete the survey:

http://bmedresearch.net

Research Study Approved by the Pacific University Institutional Review Board