

MINDFULNESS AND RELIGIOSITY AS PREDICTORS OF FORGIVENESS

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DEDICATION

This thesis is dedicated to my son Kai, for granting me with limitless motivation and within the tenacity of his sweet laughter, the certainty of success. To my husband Caleb, for without his unconditional love, support, and tolerance I would have surely lost my sanity. To my parents and grandparents for fostering my erudition within the comfort of love and understanding. Specifically, my mother for gracing me with her will-power and my father for his wit. To my siblings for teaching me the necessity of responsibility and compassion. And to my friends for blessing me with a grand perspective when trivialities prevail. My family is my greatest victory, and for this, words cannot describe my ever mounting gratitude.

ABSTRACT

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In recent years' forgiveness and mindfulness have received increasing empirical attention. Historically, both were primarily associated with religiosity/spirituality. It was not until forgiveness and mindfulness were studied as psychological constructs that their wide variety of positive health and behavior outcomes were empirically recognized.

Although mindfulness and forgiveness have each been linked to a range of psychological and physiological health benefits, little research has been conducted on their relation to one another—especially in the context of religiosity. Further, little is known about the degree to which mindfulness and religiosity predict forgiveness. In the current study, forgiveness was found to be positively related to both mindfulness and intrinsic religiosity, with mindfulness being a stronger predictor of forgiveness than religiosity.

keywords: forgiveness, mindfulness, religiosity

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PREFACE

My interest in meditation and its effect on the brain first began after being introduced to the concept of neuroplasticity, that ability of the brain to form and reorganize synaptic connections, particularly in response to behavior environmental stimuli, thought, and emotions. Confronted with a novel understanding of development, I was soon absorbed in the research of contemplative studies and the potential of which to strengthen positive cognitions and behaviors. I happened upon SHSU's Laboratory for Mindfulness and Contemplative Studies by Dr. John de Castro and further his personal Contemplative Studies blog. I was certain that the study of mindfulness, gaining in empirical status, was to the greater benefit of the field of psychology.

I knew that I wanted to conduct research on the subject but had not yet found a sponsor for my thesis. Fortunately, I attended a graduate informational where I first spoke with Dr. James Crosby who had recently sponsored a dissertation on mindfulness and was eager to meet. In our first session, our discussion was directed to mindfulness in comparison to other such positive attributes. When a search revealed the scarcity of research on mindfulness and forgiveness, a valuable psychological construct, thus began our investigation, eventually leading to an interest in the relation of their theological backgrounds.

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CHAPTER I

Literature Review

In recent years, forgiveness and mindfulness have received increasing empirical attention. Historically, both were primarily associated with religiosity; therefore, they were studied mostly within philosophical or theological contexts. Early empirical inquiries began, in part, when forgiveness and mindfulness were studied as *psychological* constructs (Didonna, 2009; Worthington 2005a; Mccullough et al., 2009). As the extant literature has expanded, they have been associated with a wide variety of positive health and behavior outcomes (Greeson 2009; Keng et al., 2011; Webb et al., 2012). Forgiveness is understood as a reduction of negative responses to offense (i.e., the absence of ill will, irrespective of the offender) (Worthington, 2005a), while mindfulness is the meditative practice of actively directing awareness to the present moment without judgment. Mindfulness may be achieved both formally (through meditation) and informally (during everyday tasks) (Kabat-Zinn, 2012).

Although mindfulness and forgiveness have each been linked to a range of psychological and physiological health benefits, little research has been conducted on their relation to one another— especially in the context of religiosity. While forgiveness has been observed to mediate religion-health relationships (Lawler-Row, 2010) and mindfulness has been observed to improve spirituality and health (Carmody et al., 2008), little is known about the degree to which mindfulness and religiosity predict forgiveness. The current study intends to address the value of mindfulness and religiosity as each relate to forgiveness to provide further research examining the mechanisms through which the benefits of forgiveness and mindfulness are achieved.

Forgiveness

Forgiveness is a well-established concept within most religious traditions (Webb et al., 2012). Perhaps most simply, it is understood as a reduction of negative responses to offense (Gassin & Enright, 1995). Negative responses may include resentment-based emotions, motivations, and cognitions (Worthington, 2005b) also regarded as ruminations and figuratively disputed as unforgiveness (Worthington, 2006). Forgiveness is an intrapsychic process enacted by the victim irrespective of the offender's responsibility and does not require restitution, retribution, or reconciliation. In sum, forgiveness is a neutralizing coping response to offense (i.e., the absence of ill will) (Toussaint & Webb 2005; Webb et al., 2012). Forgiveness has also been associated with an increase in positive responses, although there is no consensus on it as a requisite (Worthington et al., 2001).

Forgiveness is multifaceted, conceptualized as state (situational), trait (dispositional), and self (personal) forgiveness (Davis et al., 2013) and has been observed to apply to a variety of targets (e.g., self, others, family, society, deity, situations) and methods (e.g., offering, seeking, and feeling) (Toussaint & Webb 2005; Webb et al., 2012). Experts propose that dispositional forgiveness has more effect than situational forgiveness on health (Worthington et al., 2001). This is linked to the distinction between decisional forgiveness, the behavioral intention to resist an unforgiving stance and to respond differently toward a transgressor, and emotional forgiveness, the replacement of negative unforgiving emotions with positive other-oriented emotions. Emotional forgiveness involves psycho-physiological changes; thus, it seems to have

more direct health and well-being benefits, particularly when it becomes a pattern in dispositional forgiveness (Worthington et al., n.d).

As previously mentioned, forgiveness has been consistently associated with positive health and behavior outcomes, including physical and mental health, spiritual well-being, and decreased substance abuse (Webb et al., 2012). More specifically, forgiveness has been found to have salutary associations with the following physical health outcomes: self-reported general physical health, pain and symptom severity, cardiovascular outcomes, and mortality. Further, it has been associated with better mental health functioning generally, as well as symptomatically, such as with depression, diagnosed psychiatric conditions, suicidal behavior, and substance use (Toussaint, 2015; Webb et al., 2012). Forgiveness improves emotional functioning (Webb et al., 2012), interpersonal functioning (Burnette, Davis, Green, Worthington, & Bradfield, 2009), life satisfaction and psychological well-being (Bono, McCullough, & Root, 2008; Friedman et al., 2007) by reducing anger, hostility, and aggression (Carson et al., 2005), negative affect (Lawler et al., 2005), mood disturbance (Friedman et al., 2007), and rumination (McCullough et al., 2007). In this capacity forgiveness has been applied to empirically substantiated and standardized models such as REACH: *recalling* an offense, developing *empathy* for the offender, choosing to give the *altruistic* gift of forgiveness, making a public, formal *commitment* to forgive, and *holding* on to progress made (Worthington, 2006; Worthington et al., 2011).

Forgiveness-Religiosity

Taking into consideration the theological underpinnings of forgiveness, there is ample empirical investigation of its association with religiosity. Individuals who are more

forgiving have been observed to be more religious and have greater spiritual well-being (Lawler-Row 2010; Lawler et al., 2005). Religiosity is a greater determinant of forgiveness than religious affiliation; however, religious groups score higher on attitudinal and projective forgiveness than secular groups (Fox & Thomas, 2008). Dispositional forgiveness has been positively correlated with intrinsic religious motivation, loving God concepts, and religious problem-solving style involving either a partnership with God or deference to God. Conversely, dispositional forgiveness was negatively correlated with controlling God concepts and problem-solving styles not incorporating faith (Webb et al., 2005). It has also been shown that religiosity is a predictor of forgiveness and positively related to the avoidance of revenge in marital relationships (Sheldon, 2014). Further, forgiveness has been found to mediate religion-health relationships (Lawler-Row, 2010). However, theoretical models of the forgiveness-health association suggest that the central mechanism of forgiveness' impact on health is a corresponding increase in positive health related behaviors (Webb et al. 2013).

Mindfulness

Sujato (2012) summarizes the development of contemporary mindfulness as a derivative of ancient healing techniques founded in Eastern religion and philosophy, the resulting expansion of Hindu yoga and Vedic meditation to Buddhist Sati. The word Sati is translated to mindfulness but means memory (of texts) in regards to Brahman memorization of Vedic scripture. Siddhartha Gautama (Buddha) expanded this usage to include 'presence of mind' in meditation. It is conceptualized within Buddhist practice alongside the Noble Eightfold Path as a means to the cessation of suffering and

achievement of enlightenment (Buddhahood). Contemporary teachings of mindfulness are derived from the Satipatthana Sutta; Satipatthana is 'contemplation' (anupassana) of sensation, emotions, thoughts, and principles (dhammas) whereas 'Anupassana' is 'sustained watching', a consistent awareness. Both aspects combine to form the concept of Sati, the central practice of which is breath meditation (anapanasati), 'remembering' the breath as the body becomes tranquil and thoughts move from sensation to awareness of the mind and eventually objective reflection. Later additions include Sati in daily activities (Sujato, 2012).

As mindfulness transitioned from East to West it began to take root in science (Schmidt, 2011). Jon Kabat-Zinn was the first to study the effects of mindfulness meditation on various facets of mental and physical well-being in a clinical setting, empirically validating its efficacy in health and behavior outcomes. He developed the Mindfulness-Based Stress Reduction program (MBSR; Kabat-Zinn, 1982, 1990) at the University of Massachusetts Medical Center in 1979. MBSR is a non-religious non-esoteric program designed to alleviate mental and physical ailments, now utilized in over 200 various medical facilities (What Is Mindfulness Based Stress Reduction, 2015).

Research has consistently indicated that structured applications of mindfulness practice have been associated with the advancement of overall health and well-being (Gotink et al., 2015). This has led to an ever-growing field of contemplative studies and confirmed research, including the development of three additional empirically substantiated and standardized Mindfulness Based Therapies (MBT) addressing both physiological and psychological symptoms. Dialectical Behavior Therapy (DBT; Linehan, 1993a, 1993b) is used specifically in the treatment of borderline personality

disorder, suicidal ideation, and self harm. Acceptance and Commitment Therapy (ACT; S. C. Hayes, Strosahl, & Wilson, 1999) is used in the treatment of chronic pain, psychosis, and cancer. More recently, a variation of MBSR, Mindfulness Based Cognitive Therapy (MBCT; Segal, Williams, & Teasdale, 2002), has been used in the treatment of psychosis, bipolar disorder, Attention-Deficit/Hyperactivity Disorder, and Posttraumatic Stress Disorder. The aforementioned MBTs are also each applicable to anxiety, depression, substance abuse, addiction, and more (Chiesa & Malinowski, 2011).

Mindfulness as a contemporary construct has been studied among a multitude of disciplines and as such within various theoretical and methodological approaches. Definitions of mindfulness are often diverse and subjective (Nilson & Kazemi, 2016). According to Dryden and Still (2006) Sati is one of the most difficult words in the Buddhist system to translate into a psychological construct. However, the most established understanding of mindfulness can be derived from the founder of the first standardized secular practices, Jon-Kabat Zinn. In this context, mindfulness can be achieved both formally through meditation -- silence, stillness, and attentive objects such as breath or sensation, as well as informally from moment-to-moment through awareness and balance of mind during everyday tasks. Mindfulness not only involves being consciously attentive to present experience but the objective acceptance of external forces and internal reactions (Kabat-Zinn, 2012). Accordingly, an operational definition of mindfulness as a mental state is “the awareness that emerges through paying attention on purpose, in the present moment, and non-judgmentally to the unfolding of experience moment by moment” (Kabat-Zinn, 2003, p. 145).

Mindfulness, like forgiveness, is multidimensional. Five distinct facets of mindfulness were determined through explanatory factor analysis of the combined items of existing mindfulness questionnaires (Baer et al., 2006). The five facets are (a) observing, defined in terms of noticing or attending to internal and external experiences; (b) describing, defined in terms of labeling internal experiences with words; (c) acting with awareness, defined in terms of attending to one's activities of the moment (opposite of acting on automatic pilot); (d) nonjudging of inner experience, defined in terms of taking a nonevaluative stance toward thoughts and feelings; and (e) nonreactivity to inner experience, defined in terms of allowing thoughts and feelings to come and go, without getting caught up in or carried away by them.

Further, Mindfulness can be both situational (in the moment) and dispositional (consistent over time) (Bishop et al., 2004; Brown & Ryan, 2003). It is an intrinsic human characteristic (Kabat-Zinn, 2003), a component of consciousness that can vary between and within individuals (Brown & Ryan, 2003). It has been found that regardless of inexperience with state mindfulness, high natural trait mindfulness is associated with “greater emotional stability, better self-rated control of emotions and behaviors and lower pre-sleep arousal (a measurement of cognitive and physical symptoms of anxiety)” (Better Living through Mindfulness, 2015). However, a recent study also confirmed that actively practicing state mindfulness increases and sustains trait mindfulness (Kiken, Garland, Bluth, Palsson, & Gaylord, 2015). In conclusion, although formal practice is effective, it is not imperative to the benefits of mindfulness.

The mindfulness-health association has been increasingly validated; however, the specific mechanisms of association remain uncertain. Theoretical models suggest that

mechanisms of the impact of mindfulness on health include relaxation, cognitive, emotive, biological, and behavioral processes (Greeson, 2009). Mindfulness has also been observed to predict health behaviors (Gilbert & Waltz, 2010) and has been proposed to meet the criteria of a health behavior itself. (Black, 2010; Webb et al., 2013). While little research has been conducted on indirect variables of association, numerous studies have investigated the direct effects of mindfulness on health. A comprehensive meta-analysis of neuroimaging data on the effects of meditation on brain structure and function found that “meditation leads to activation in brain areas involved in processing self-relevant information, self-regulation, focused problem-solving, adaptive behavior, and introspection.” These results have been shown to increase with expertise. (Boccia, Piccardi, & Guariglia, 2015, p.3) More specifically, a recent systematic review concluded that mindfulness-based interventions effectively reduce chronic pain, improve quality of life, and encourage self-management strategies that aid recovery of substance use disorders as well as insomnia (Khusid & Vythilingam, 2016). An 8-week mindfulness training yielded evidence of increased activation in a region of the brain correlated with positive affect, as well as evidence that the immune system would react more robustly in antibody production after meditation training (Davidson et al., 2003). And after only a 5-day training there was an observed decrease in stress hormone cortisol (Tang et al., 2007). In sum, meditation can be a powerful tool in developing self-regulation, critical thinking, and decision making skills and when combined with mindfulness can result in positive health and behavior outcomes.

Mindfulness-Religiosity

Mindfulness is primarily associated with spirituality rather than religiosity and, as such, empirical evidence of the mindfulness-religiosity association is generally lacking. However, Greeson et al. (2015) found that MBSR is associated with improved depressive symptoms regardless of affiliation with a religion or sense of spirituality. Further, increases in both mindfulness and daily spiritual experiences uniquely explained improvement in depressive symptoms (Greeson et al., 2015). Mindfulness has also been observed to improve spirituality and health (Carmody et al., 2008).

Forgiveness-Mindfulness

The first notions of a forgiveness-mindfulness association were conceptually introduced as mindfulness' potential impact on the process of forgiveness (Orcutt, 2006) and as a pathway to forgiveness (Sesan, 2009). Only a few empirical studies have assessed the relationship between mindfulness and forgiveness, beginning with Oman et al (2008) and Shapiro et al. (2008). While Oman et al. found meditation to be associated with forgiveness of others as well as stress and rumination (8-week meditation based stress reduction program), Shapiro et al. only found mindfulness mediated stress and rumination (Mindful Attention Awareness Scale; Brown & Ryan 2003), although it was suggested that this may have been due to the scale of measurement.

One recent study investigated the role of forgiveness and mindfulness in relation to health (Webb et al., 2013). It was found that mindfulness was involved in the association of forgiveness of self, forgiveness of others, and forgiveness of situations with physical health status, somatic symptoms, mental health status, and psychological distress. Mindfulness as a health behavior was determined a mediator of the forgiveness-

health association (Webb et al., 2013). An even more recent study analyzed the relationship between mindfulness and forgiveness of infidelity. It was found that higher levels of acting awareness mindfulness and being nonjudgmental of inner experience mindfulness were related to lower levels of current nonforgiveness of the partner. Non-reactive mindfulness was positively related to higher levels of current forgiveness (Johns et al., 2015). With such limited research, further inquiry is necessary to expand the empirical understanding of the forgiveness-mindfulness association.

CHAPTER II

Current Study

Both forgiveness and mindfulness were founded as constructs of religion or spirituality. However, contemporarily, they are also understood as psychological constructs with empirically-validated salutary health and behavior outcomes. There has been little empirical investigation of their relationship to one another, none of which includes the analysis of religiosity. The current study seeks to expound on the relatively limited research on the relations among forgiveness, mindfulness, and religiosity, with particular attention to how religiosity and mindfulness predict forgiveness. Other possible predictors of forgiveness and mindfulness (e.g., demographic variables) were also investigated. It was posited that forgiveness would be positively related to mindfulness and religiosity, with mindfulness being the strongest predictor of forgiveness. These relationships were to be examined within a human research survey in which participants were to be required to self-report demographic information and attitudes on forgiveness, mindfulness, and religiosity. The primary analyses included a correlation analysis among the primary study variable (forgiveness, mindfulness, and religiosity [intrinsic and extrinsic]) and a regression analysis to determine to degree to which mindfulness and religiosity predict forgiveness.

Study Hypotheses

Hypothesis 1: Forgiveness will be positively related to mindfulness and religiosity.

Hypothesis 2: Within an aggregate regression model, mindfulness (FFMQ) will be the strongest predictor of forgiveness (HFS).

CHAPTER III

Methods

Participants

Participants consisted of 262 students from Sam Houston State University. Students were recruited through an online university system called the Psychology Research Participation System (PeRP) and received research credit in fulfillment of their course. Consent was given prior to participation and all participants were informed that their participation was voluntary. The final sample consisted of 262 participants, 209 Females (79.8%), 52 Males (19.8%), and 1 participant who identified as Other (.4%). Additionally, racial demographics consisted of 1 American Indian (.4%), 7 Asian or Asian American (2.7%), 57 Black or African American (21.8%), 59 Hispanic or Latino (22.5%), 123 Non-Hispanic White (46.9%), 4 Bi-racial (1.5%), 9 Multi-racial (3.4%), and 1 participant who identified as Other (.8%). Participant age ranged from 18 to 43 years ($M = 20.5$, $SD = 2.93$ years). Religious affiliation demographics consisted of 31 NO particular religious affiliation (but not agnostic) (11.8%), 11 Agnostic (4.2%), 232 Christian (all Christian affiliations combined; 77%), 6 Atheist (2.3%) 2 Buddhism (.8%), 2 Islam (.8%), 1 Shinto (.4%), 1 Unitarian (.4%), and 6 Other (2.3%).

Materials

Demographics and Religion Questionnaire

The demographic questionnaire included standard demographic questions regarding age, gender, ethnicity, religious affiliation, educational standing, and educational major of the participants.

Religious Orientation Scale- Revised (Gorsuch & McPherson, 1989)

The Religious Orientation Scale – Revised (ROS-R) was used to measure intrinsic, extrinsic, and total religious motivation. The ROS-R is a 14-item scale that participants rate on a 5-point Likert-type scale from strongly disagree to strongly agree. The ROS-R is a revised form of the Allport-Ross Religious Orientation Scale (1967) which demarcated religiousness by extrinsic and intrinsic orientations. Within the ROS-R, this is expressed as subscales distributing 14 items into 8 items for the intrinsic subscale and 6 items for the extrinsic subscale (E_O) Although inapplicable to the current study, the ROS-R also specifies extrinsic religiosity as a measure of the use of religion for personal benefits and a source of comfort (E_P) and the use of religion for social rewards/gain (E_S) (Gorsuch & McPherson, 1989). The reliability coefficient for the ROS-R has been reported as .83 for the intrinsic scale and .65 for the total extrinsic scale (Gorsuch & McPherson, 1989). Low reliabilities for extrinsic scales have been attributed to the small number of scale items and have been observed to significantly increase by doubling the number of items (e.g., using a total score from all six extrinsic items; Genai, 1993) For the current study, extrinsic motivation (total score) had an alpha coefficient of .83, while intrinsic motivation had a value of .83.

Five Facet Mindfulness Questionnaire (Baer, Smith, Hopkins, Krietemeyer, Toney, 2006)

The Five Facet Mindfulness Questionnaire (FFMQ) was used to measure dispositional mindfulness and the five facets of mindfulness. The FFMQ is a 39-item scale that participants rate on a 5-point Likert-type scale from never or very rarely true to

very often always true of me. An exploratory factor analysis of the combined the items of existing mindfulness questionnaires Baer et al. (2006) determined the five facets as follows: (a) observing, defined in terms of noticing or attending to internal and external experiences; (b) describing, defined in terms of labeling internal experiences with words; (c) acting with awareness, defined in terms of attending to one's activities of the moment (opposite of acting on automatic pilot); (d) nonjudging of inner experience, defined in terms of taking a nonevaluative stance toward thoughts and feelings; and (e) nonreactivity to inner experience, defined in terms of allowing thoughts and feelings to come and go, without getting caught up in or carried away by them. Although inapplicable to the current study, these five facets are measured in subscales which distribute the 39 items into (a) 8 Observe items (b) 8 Describe items (c) 8 Act with Awareness items, (d) 8 Nonjudge items, and (e) 7 Non-react items. The reliability coefficients for the FFMQ have been reported as (a) .77, (b) .90, (c) .89, (d) .92, and (e) .81 respectively (Williams, Dalgleish, Karl, & Kuyken, 2014). For the current study, the total FFMQ was used to assess mindfulness with an observed alpha of .86.

Heartland Forgiveness Scale (Thompson & Snyder, 2003)

The Heartland Forgiveness Scale (HFS) was used to measure dispositional forgiveness and forgiveness of self, others, and situations. The HFS is an 18-item scale that participants rate on a 7-point Likert-type scale from almost always false of me to almost always true of me. The facets of forgiveness are measured in subscales which distribute the 28 items into (a) Dispositional 1-18, (b) Self 1-6, (c) Other 7-12, and (d) Situation 13-18. In a series of studies, Thompson et al. (2005) reported reliability coefficients for the HFS total ranging from .86 to .87. For the current study, the total HFS

was used to assess forgiveness with an observed alpha of alpha .86. Further, the alpha level for the forgiveness of self scale was .75, the forgiveness of others scale was .80, and the forgiveness of situation scale was .79.

Procedure

Following the approval of the Institutional Review Board of Sam Houston State University (SHSU), participants were recruited through the PeRP system in the Department of Psychology and Philosophy. Students were invited to participate in an online study exploring beliefs and attitudes on a psychological intervention. After granting their informed consent, the demographics questionnaire was administered first. Following the demographics questionnaire, the participants were given the additional measures in a counterbalanced order. These measures included the Religious Orientation Scale- Revised (Gorsuch & McPherson, 1989), the Five Facet Mindfulness Questionnaire (Baer, Smith, Hopkins, Krietemeyer, Toney, 2006), and the Heartland Forgiveness Scale (Thompson & Snyder, 2003). The online survey was a total of 80 items and took subjects no more than an hour to complete.

CHAPTER IV

Results

Preliminary Analyses

Prior to specifically addressing the individual study hypotheses, a preliminary analysis was conducted. The results are discussed below, followed by the results of the hypothesis-based analyses.

Demographic Differences

A univariate analysis of variance (ANOVA) on race and gender was performed to determine if demographic differences or interaction effects emerged in relation to participant's level of dispositional forgiveness. Among the total sample, one participant identified as American Indian or Alaskan Native, which prevented post hoc analysis of difference on forgiveness between the racial groups; therefore, this participant was excluded from these and subsequent analyses. Results indicated no significant difference among racial groups on forgiveness (HFS) average scores [$F(6, 247) = .72, p < .64, \eta p^2 = .02$], between the sexes on forgiveness [$F(2, 247) = .05, p < .96, \eta p^2 = .00$], nor any interaction effects between race and gender [$F(5, 247) = 1.95, p = .09, \eta p^2 = .04$].

Hypothesis 1: Forgiveness will be positively related to mindfulness and religiosity.

While forgiveness has been consistently associated with religiosity, little research has been conducted on its relation to mindfulness. It was hypothesized that forgiveness (HFS) would be positively related to mindfulness (FFMQ) and religiosity (ROS-R). In order to determine if mindfulness and religiosity were positively related to trait forgiveness, a correlational analysis was conducted. Mindfulness was positively related to

forgiveness ($r = .53, p < .001$). Further, intrinsic religious motivation was positively related to forgiveness ($r = .17, p < .01$), but extrinsic religious motivation was unrelated to forgiveness ($r = .02, p > .05$). Please see Table 1 for correlations among all of the main study variables.

Hypothesis 2: Within an aggregate regression model, mindfulness (FFMQ) will be the strongest predictor of forgiveness (HFS).

While forgiveness and mindfulness have each been associated with health-religion relationships, little research has been conducted on the relationship between mindfulness and religiosity on forgiveness. It was hypothesized mindfulness (FFMQ) would be a stronger predictor of forgiveness (HFS) than religiosity. A regression analysis was performed with forgiveness (scale total) being regressed onto religiosity (intrinsic and extrinsic) and mindfulness (scale total). The results indicated that the predictor variables accounted for 30% of the variance in forgiveness [$F(3, 251) = 36.15, p < .001$; $R^2 = .302$]. Mindfulness had the highest standardized beta weight ($B = .52, p < .001$), followed by intrinsic religiosity ($B = .15, p < .05$). Extrinsic religiosity was not a significant predictor of forgiveness.

Table 1

Correlations

	Correlation Coefficients		
	ROS-R Intrinsic	ROS-R Extrinsic	HFS Total
FFMQ Total	.14	.04	.52
ROS-R Intrinsic		.38	.23
ROS-R Extrinsic			.07

CHAPTER V

Discussion

Forgiveness and mindfulness, once considered primarily constructs of religiosity/spirituality, are now psychological constructs subject to increasing empirical attention. As such, they have each been associated with salutary psychological and physical health outcomes. While it has been suggested that mindfulness plays an important role in forgiveness (Orcutt, 2006; Sesan 2009), there has been little research on the relation between these variables, and much less research within the context of religiosity. It has been suggested that the fields of psychology and religious studies could benefit from collaboration, specifically in regard to the value of forgiveness in health care, regardless of perceived incompatibility (Webb et al., 2012). Considering the potential research implications of forgiveness and mindfulness to improve mental and physical health care, it is imperative that we investigate their relationship and, in light of their theological backgrounds, the impact of religiosity on their association. It is to be noted that mindfulness was investigated as a predictor of forgiveness rather than the converse, in that it is presumed a psychological construct constituted primarily of an ongoing cognitive process, internal awareness, and acceptance of the present moment; thus, it was posited as a more likely predictor of the *conditional* cognitive process of forgiveness. That is, mindfulness' external value may, in part, lie in the conditional cognitions/behaviors that it fosters.

Our hypothesis that forgiveness would be positively related to mindfulness and religiosity was confirmed. However, while intrinsic religious motivation was positively related to forgiveness, extrinsic religious motivation was unrelated to forgiveness.

Gordon et al. (2008) found that intrinsic religious motivation was positively related to forgiveness of an interpersonal betrayal, whereas extrinsic religious motivation was indicative of vengefulness and susceptibility to social pressures to forgive. These findings suggest that individuals who use religion as an end in and of itself are more likely to be forgiving and less vengeful. In turn, individuals who use religion for social gains are more likely to be vengeful rather than forgiving but are more responsive to social motivations to forgive. The current study seems to support previous research in that intrinsic religious motivation was positively related to forgiveness, potentially due to a prescribed belief system. This is possibly a result of the great effort required to forgive. Those who use religion for social gains may be less likely to put forth the necessary work and time to forgive without proper social motivations, whereas those who use religion as an end in and of itself are willing to engage in the process regardless of external benefits. On the contrary, one study is found to have had nonsignificant results when analyzing spirituality within the forgiveness-mindfulness association (Webb et al., 2013). This was attributed to the potential influence of individual differences, in that the dispositional tendency for forgiveness has been negatively correlated with controlling God concepts (Webb et al., 2005) and the tendency to view God as judgmental rather than loving is a characteristic of the southern region of the United States (Pew, 2008) where the sample was drawn. Further, it has been found that God image may impact forgiveness motivations (Tsang et al., 2005). As such, this regional differentiation could have influenced the relative predictive strength of mindfulness and religiosity in respect to forgiveness in the current study.

Our hypothesis that mindfulness would be the strongest predictor of forgiveness was also confirmed. While additional research is necessary, the results seem to support the proposition that directing one's awareness to the present moment (mindfulness) may be a stronger predictor of forgiveness than how one uses or lives his/her religion (religious motivation). It has been previously observed that forgiveness is correlated with mindfulness (Oman et al., 2008; Webb et al., 2013) and intrinsic religious motivation (Webb et al., 2005) but the two had not yet been compared as predictors of forgiveness. Further, both mindfulness and intrinsic religious motivation have been observed to benefit personal health and well-being (Didonna, 2009; Greeson, 2009; Masters & Knestel, 2011). Mindfulness as a health behavior has been found to mediate the forgiveness-health association (Webb et al., 2013) and forgiveness has been found to mediate religion-health relationships (Lawler-Row, 2010). Within the current study it was also found that mindfulness and intrinsic religiosity were not correlated. That is, while both mindfulness and intrinsic religious orientation are potential mechanisms through which forgiveness impacts health, the current study indicates that the personal behavioral benefits of mindfulness (e.g., forgiveness) may exist independent of religious motivation. If so, these results may lend support for the efficacy of *secular* mindfulness based approaches to health and behavior therapies. Mindfulness has been observed to improve emotional regulation (Arch & Craske, 2006) and it is suggested that it is this mechanism through which mindfulness positively impacts wellbeing (Nyklíček, 2011). Further forgiveness is an emotion focused coping strategy (Worthington & Scherer, 2004). This implies that mindfulness likely impacts forgiveness through emotional regulation. Directing awareness to the present moment may, therefore, increase one's ability to

monitor and control emotional reactions towards transgressors. It is also plausible that mindfulness, through emotional regulation, increases willingness to put forth the necessary effort involved in the process of forgiveness. This suggests that emotional regulation fostered by mindfulness could have a more direct impact on forgiveness than intrinsic religious motivations.

These findings provide additional support to the limited research on the relations between forgiveness, mindfulness, and religiosity; further, the results are a basis for further research on the mechanisms through which the benefits of forgiveness and mindfulness are achieved. By examining the relations between mindfulness, religiosity, and forgiveness, the results contribute to the extant literature on contemplative studies and health and behavioral outcomes. As previous research indicates, such studies have the potential to guide healthcare in a positive, prevention-driven direction (Raski, 2015).

Future Research

Further research is needed to address the underlying mechanisms of the forgiveness-mindfulness association, with emphasis on the facets of forgiveness (forgiveness of self, situations, and others), and their relations to the factors of mindfulness (observing, describing, acting with awareness, nonjudging, and nonreactivity). A recent study (Johns et al., 2015) examined the relationship between factors of mindfulness and forgiveness of infidelity and found that lower levels of acting awareness mindfulness and being nonjudgmental of inner experience mindfulness were related to higher levels of current nonforgiveness of the partner; further, non-reactive mindfulness was positively related to higher levels of current forgiveness. Therefore,

these dimensions may influence associations and potentially impact the role of religiosity within the forgiveness-mindfulness association.

Additional research is also needed to address the forgiveness-mindfulness association in relation to health and behavioral outcomes. As mentioned previously, mindfulness has been proposed as a health behavior and, as such, a mediator between forgiveness and health (Webb et al., 2013). However, there has been little research examining mindfulness and forgiveness in relation to other health behaviors (e.g., smoking, exercise, diet, etc.) and no such research in relation to the forgiveness-mindfulness association. Potential mediators of the relationship between forgiveness and mindfulness should also be addressed.

Limitations

Methodologically, causal conclusions cannot be drawn from a cross-sectional study. Further experimental, longitudinal, and intervention-based research is necessary. Sampling a more diverse population could support the generalizability of these findings. Future research should draw a sample from beyond the Southern region of the United States and one that is not drawn from a single university or composed of predominately females and Christians. Further, including measures beyond self-report could lend additional support to the generalizability of the current findings. For example, it may be important to utilize direct behavioral measures to distinguish those who actively practice mindfulness from those who do not, and examine potential group differences on forgiveness and religiosity.

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VITA

Education

Sam Houston State University

Bachelor of Science (BS), Psychology, 2013 - 2017

Activities and Societies: Elliott T. Bowers Honors College, Alpha Lambda Delta Honors Society, Active Minds, Psi Chi.

Onalaska Jr Sr High School 2009-2013

Activities and Societies: Class President, Student Council Secretary, Choir VP, NHS UIL; Debate, Poetry, Science, One Act Regional Qualifiers

Professional Experience

Marketing Consultant at Rocket Software

April 2015 - Present

At Rocket Software, one of the world's leading software development firms, I first began as a seasonal intern and was promoted to a full-time consultant shortly after. I have worked with marketing managers and sales representatives to analyze contacts, engage in database research and organization, and study the integral details of target consumers.

Volunteer experience

Emotional Wellness Booth Director at Carriage Inn Independent Living Facility

October 2016

I constructed and operated a booth pertaining to emotional wellness specifically oriented towards the elderly. The focus was mindfulness meditation and adaptive yoga. I created a relevant brochure and lead a breathing exercise.

Stress Relief Booth (Active Minds)

November 2016

I helped conduct several stress relieving activities on SHSU campus in promotion of stress relief week.

Honors and Awards

Onalaska Jr-Sr High Salutatorian 2013

Dean's List of Academic Honors; Fall 2013, Spring 2015, Fall 2016

Top Ten Scholarship; 2013

Emerging Scholars Honor; 2013-2016

Academic Achievement University Scholarship; Fall 2016, Spring 2017

Presentations

“Religion and Community Involvement”

Chothiakadavil Robinson and Shaelyn Lewis

Presented at SSSA Convention Las Vegas 2016

“Mindfulness and Religiosity as Predictors of Forgiveness”

Shaelyn Lewis and James Crosby

Presented at SHSU 2017 Undergraduate Research Symposium