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Examining the Relationship between Forgiveness and Subjective Well-Being as Moderated by Implicit Religiousness and Spirituality

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Examining the Relationship between Forgiveness and Subjective Well-Being as

Moderated by Implicit Religiousness and Spirituality

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Abstract

Forgiveness is thought to contribute to subjective well-being (SWB), which has been associated with a variety of beneficial physical and mental health outcomes. However, it remains unknown whether the relationship between forgiveness and SWB may vary depending on types of forgiveness, and may be strongest for those who endorse religiosity/spirituality as important. The current study tested whether forgiveness of oneself, others, and situations predicted SWB, as well as whether these links were moderated by implicit religiousness/spirituality (R/S). A cross-sectional on-line survey was provided to interested students attending a small private liberal arts college. Participants (N = 134) were largely women (83%) and Caucasian (75%), with a mean age of 20.53 (SD = 1.59). Participants completed validated measures of forgiveness, SWB (i.e., satisfaction with life, positive and negative affect), and R/S, including an implicit association test of R/S. Multiple regression results indicated significant main effects for total forgiveness, self-forgiveness, and situational forgiveness on SWB constructs. Other-forgiveness demonstrated significant main effects only with positive affect. In addition, there were significant interactions of forgiveness and R/S for two of the three components of SWB (i.e., negative affect and satisfaction with life): negative affect with total forgiveness (β = -.24, p = .002), self-forgiveness (β = -.2, p = .012), and situational forgiveness (β = -.29, p < .001) as well as satisfaction with life and total forgiveness (β = .17, p = .037). Analysis of simple slopes indicated the relationship between forgiveness and SWB facets was greater for high-forgiveness, as hypothesized. Results suggest that

forgiveness may influence SWB, but this relationship differs by type of forgiveness and is moderated by implicit R/S. Clinical implications derived from results include encouraging the development of forgiveness interventions that are sensitive to religion and spirituality issues for individuals seeking treatment for negative affect and maladaptive cognitions. The study also provides support for the use of the IAT to measure R/S, which may further develop the literature on R/S with regard to implicit attitudes.

CHAPTER I

Introduction and Literature Review

Purpose

The present study examined the unique and interactive effects of forgiveness and religion/spirituality (R/S) on subjective well-being (SWB), which is comprised of one's affect and an individual's cognitive evaluation of life. The present study tested the hypotheses that an individual's ability to forgive others, self, and situations predicts SWB. In addition, an individual's implicit attitudes toward R/S were expected to moderate the relationship between forgiveness and SWB, given that one's religious or spiritual convictions may encourage the facilitation of forgiveness. To provide support for these predictions, research on SWB and related constructs (such as happiness) will be reviewed. Literature on forgiveness and the rationale for the relationship between forgiveness and SWB as indicated by past research will be discussed. The basis for R/S to moderate the relationship between forgiveness and SWB will be examined. Lastly, the introduction will discuss the methodological concerns for measuring R/S and will consider the implicit association test (IAT), as a means of addressing some of these concerns.

Literature Review

Examining Happiness within a Historical Context

The definition and experience of happiness has been questioned since at least the time of ancient Greek philosophers such as Aristotle. However, no empirical research examined the definition and correlates of happiness until the 1960s. One early researcher of happiness (Wilson, 1967) proposed two main factors that may contribute to an individual's happiness. One factor was access to basic needs to flourish in society, such as food and shelter. The second factor was the fulfillment of these needs that satisfy the individual's subjective quality and quantity of one's needs. For example, an individual needs food. The fulfillment of the need and the satisfaction of this need is determined by not only the nutritional value of the food, (i.e., quality of the food) but also the amount of food the person has (i.e., quantity). Wilson later identified specific elements that he believed contributed to one's sense of happiness including youth, health, education level, income, religiousness, marriage, job morale, and intelligence.

However, Wilson's study of happiness examined essentially "external" factors that failed to integrate a subjective element of happiness (Diener, Suh, Lucas, & Smith, 1999). Specifically, in Wilson's methodology to examine happiness, higher personal rankings of each element considered to directly influence happiness (i.e., youth, health, education level, payment, religiousness, marriage, job morale, and intelligence) generally reflected a greater number of resources to which a person has access, leading to higher levels of happiness. This conceptualization and methodology does not account for how the individual feels subjectively or perceives each correlate. For example, a person with a

high school education may be equally as happy, if not happier, than a person with a doctoral degree.

In contrast, Brickman and Campbell (1971), pioneers in the early studies of happiness who paved the way for the development of the construct of subjective well-being (SWB), posited that happiness is based on one's subjective interpretation of his or her experiences. They theorized that an individual would gradually accept current environmental and life circumstances over time. This gradual adaptation and acceptance of circumstances was called the "hedonic treadmill" theory. The strength of this theory was that those who lived in challenging circumstances could be found equally happy as individuals who had ideal or objectively better living circumstances. The theory partially explained how an individual could be happy despite unpleasant circumstances. The theory did not appreciate the individual's experience of affect as a contributing component that influences one's perceptions of happiness (Diener, Lucas, & Scollon 2006). Thus, to account for the missing affect component, the construct of SWB was developed.

SWB is a higher-order construct comprised of an individual's affect and subjective evaluation of one's life. Regarding affect, SWB is related to the experience and endorsement of high levels of positive affect such as happiness and low personal experiences of negative affect, such as sadness (Diener, Smith, & Fujita, 1995). In addition, the subjective cognitive component of SWB, which assesses how one perceives his or her life, is generally called life satisfaction. Life satisfaction is considered to be one's attitude or personal belief toward life (Schimmack, 2008). Therefore, an individual

who experiences low negative affect, high positive affect, and high life satisfaction would score high on SWB.

Theories of Happiness and Defining SWB

To fully appreciate the present operationalization of SWB, a brief overview of happiness theories is required, given that the definition of SWB is derived from these notions. Haybron (2008) notes that theories of happiness can be categorized into three different types: hedonism, life satisfaction, and emotional state theories. Hedonism theories of happiness weigh an individual's experience of pleasant to non-pleasant experiences (Hayborn, 2005).

Life satisfaction theories of happiness emphasize a global judgment about the individual's attitude for his or her life. These theories typically focus on an individual's overall thoughts about his or her life (Haybron, 2008). The advantage of life satisfaction theories is that the individual is allowed to evaluate his or her level of satisfaction based on personal standards. Thus, life satisfaction theories rely on a cognitive judgment about one's life, but may or may not include an individual's perceptions of his or her emotions; this appears problematic when conceptualizing and measuring happiness, given that a fully-formed theory of happiness would seem incomplete without assessing emotions.

At the other end of the spectrum, rather than relying heavily on cognitions about one's life to determine an individual's happiness, emotional state theories of happiness evaluate happiness in the context of the individual's overall experience of emotions. Emotional state theories do not account for a cognitive evaluation of one's life, but rather examine happiness through an individual's experience of positive and negative emotions, and the propensity to experience positive emotions in particular (Haybron, 2008).

Emotional state theories only focus on the person's experience of emotions and not on cognitions or experiences.

In contrast to previous theories which tended to adopt a single perspective of happiness, SWB is operationalized as the experience of positive and negative affect and the subjective evaluations that one attributes to current circumstances, which is informed by past experiences, expectations, and societal norms (Diener, 2000). SWB is essentially a hybrid of all three happiness theories and a higher order construct that examines life satisfaction, positive affect, and negative affect. SWB examines subjective evaluations of life, positive affect, and negative affect separately; previous research indicates that these variables are distinct, yet intercorrelated (Pavot, 2008).

Measuring SWB

SWB is traditionally measured through the use of a self-report life satisfaction measurement to capture a global judgment of one's life and an assessment of one's positive and negative affect. Schimmack (2008) notes that the relationship between life satisfaction and positive affect does not invariably correlate positively as might be expected. Culture is one explanation for this finding. For example, satisfaction with life has been predicted by an individual's experience of positive affect in westernized cultures, while cultural beliefs about life satisfaction and the experience of low negative affect are two factors that both appear to equally predict life satisfaction in eastern cultures (Suh et al. 1998). Suh et al. (1998) suggest these findings may be the result of individualist cultures focusing more on oneself and thus giving more weight to the experience of emotions in relation to life satisfaction while collectivistic cultures may consider a broader perspective of personal well-being which is less dependent on

personal emotions. However, given a western sample in the present study, we would not expect cultural norms regarding life satisfaction to influence the results. Thus, the traditional measurement methods of SWB will be retained for this study (i.e., measuring both life satisfaction and affect) as these methods support a holistic approach to examining and understanding SWB.

SWB and Health

Cross-sectional, correlational research has shown SWB to be associated with outcomes such as better physical and mental health, life longevity, and healthy aging. Lee and Browne (2008) examined self-reported SWB, psychological distress, satisfaction with life, and physical and mental health status problems from 5,391 adults and found that those with fewer health problems and less psychological distress were more satisfied with life. Shaffer-Hudkins, Suldo, Loker, and March (2010) examined the physical health of 401 adolescents in relation to psychopathology and SWB. These authors found that SWB explained the most variance above and beyond psychopathology in predicting physical health of the sampled youth. With regard to longevity, Sadler, Miller, Christensen, and McGue (2011) examined data for SWB (and longevity) from 3,966 twins age 70 and older, finding that SWB predicted longevity independent of genes and environment. Such research linking SWB to important life outcomes suggests the importance of identifying and understanding factors that might contribute to SWB.

SWB and Forgiveness

Forgiveness may contribute to SWB. Despite a dearth of studies, existing research suggests reasons to expect a relationship between forgiveness and SWB. For instance, psychological well-being (i.e., a specific operationalization of well-being including

personal autonomy, environmental mastery, personal relationships with others, personal

life, personal growth, and self-acceptance) is a protective factor for the health of elderly

adults. In a study by Lawler-Row and Piferi (2006) with elderly adults, those who

endorsed a more forgiving disposition scored higher on the six dimensions of

psychological well-being than those who did not endorse a forgiving disposition.

Moreover, these authors found that those who endorsed higher forgiveness not only

engaged in healthier lifestyle behaviors, but also had more social support. The authors

concluded that forgiveness allowed these individuals to maintain meaningful

relationships, thus contributing to psychological well-being. Given that psychological

well-being is a construct parallel to SWB, and that psychological well-being has a

significant relationship with forgiveness, it is likely that forgiveness may also bear

important relationships to SWB.

Defining Forgiveness

Several theories and models have been proposed in recent years to conceptualize,

research, and understand forgiveness. For example, the model of forgiveness by

Baumeister, Exline, and Sommer (1998) conceptualizes forgiveness as consisting of two

components: interpersonal and intrapersonal. The interpersonal component is the

expression of forgiveness toward others, whereas the intrapersonal component

acknowledges the psychological aspect of forgiveness, such as choosing to forgive an

individual. This particular model has four outcomes regarding forgiveness: un-

forgiveness, silent forgiveness, hollow forgiveness, and full forgiveness. Un-forgiveness

is essentially the absence of interpersonal and intrapersonal forgiveness. Silent

forgiveness is the presence of both interpersonal and intrapersonal elements of

forgiveness; however, the transgressor is never told explicitly that the victim has forgiven him or her. Hollow forgiveness occurs when the victim engages in interpersonal expressions of forgiveness but does not accept intrapersonal forgiveness toward the transgressor (i.e., the person engages in acts of forgiveness, but psychologically the person has not forgiven the transgressor). Lastly, full forgiveness occurs when both interpersonal and intrapersonal forgiveness is embraced by the victim and is communicated to the transgressor.

McCullough (2001) proposed an alternative, two-tier model of forgiveness based on evolutionary theory. In this model, societies chose between an attachment-empathy approach for forgiveness (emphasizing the importance of the interpersonal relationship and feelings of empathy toward the transgressor) or a rumination approach (which emphasizes justice or revenge). The attachment-empathy approach seeks to repair the relationship with the transgressor and empathize with the motivations of the transgressor. The rumination approach focuses on seeking punishment for a transgression as a means to help the victim eventually forgive the transgression. One of the main criticisms of this theory is the assumption that the victim will interact with the transgressor again; however, this is not true for all situations. For example, an individual may never interact with the transgressor again, but still harbor negative emotions and thoughts toward the transgressor that may impact the victim's quality of life. Thus, the model does not explain forgiveness as a whole, but only part of the forgiveness process that includes interpersonal interaction.

Whereas McCullough's model emphasizes interpersonal interaction, some models of forgiveness focus solely on the intrapersonal aspect of forgiveness. For example,

Worthington (2006) developed a classical conditioning model of forgiveness, suggesting that the environment and contextual stimuli during a transgression act as cues to trigger anger and fear from a victim. Forgiveness in this model is equated with the concept of extinction, in that the fear and anger response is not elicited from triggers over time, which suggests that forgiveness has occurred. One problem with this model is that it does not account for the use of more complex cognitive structures such as one's desire to forgive another person despite exposure to potential triggers that remind the victim of the transgression, which may facilitate forgiveness (Worthington, 2006).

The current study will adopt the conceptualization of forgiveness proposed by Thompson et al. (2005) as a higher-order factor with three sub-factors: self-forgiveness, forgiveness of others ("other-forgiveness"), and acceptance of particular traumatic situations ("situational forgiveness"). According to this conceptualization, forgiveness may or may not occur after a transgression transpires. A transgression occurs when one's perceptions about others, self, and the world are violated. For example, engagement in self-harming behavior to regulate emotions may be experienced as a transgression against one's self, eliciting feelings of shame and guilt and challenging the person's view of the self as good. Another example would be when a person experiences a traumatic event, such as a hurricane, which challenges his or her fundamental belief in the world as a safe, and predictable place. These experiences in turn influence the victim's thoughts, affect, and behavior toward the cause of the transgression. The transgression causes cognitive dissonance in the individual (i.e., discomfort caused by a conflict of two beliefs), which creates a problem for the fundamental beliefs the individual holds about one's self, others, and/or worldview. Forgiveness is one way the individual can manage this

dissonance, which is manifested in the person's efforts to resolve the negative experience of the transgression into a neutral or positive experience. Thus, forgiveness in this study will be defined as "the framing of a perceived transgression such that one's responses to the transgressor, transgression, and sequelae of the transgression are transformed from negative to neutral or positive. The source of a transgression, and therefore the object of forgiveness, may be oneself, another person or persons, or a situation that one views as being beyond anyone's control (e.g. an illness, 'fate,' or a natural disaster)" (Thompson et al., 2005, p. 315).

From this conceptualization of forgiveness, changing one's emotions, thoughts, and behaviors from a negative perspective to emotions, thoughts, and behaviors from a neutral or positive perspective toward one's self, an offending individual, or a violating situation would be an indicator that forgiveness has occurred. In this context, forgiveness serves as one option to resolve cognitive dissonance created by a transgression/transgressor. This particular model allows for the reframing of one's thoughts surrounding the event, paving the way for therapeutic interventions to help individuals potentially manage negative thoughts, emotions, and beliefs more adaptively.

In addition, another issue relevant to conceptualizing forgiveness should be noted and addressed. Forgiveness can be conceptualized as (a) a non-transcendent construct or (b) a transcendent construct (McCullough & Worthington, 1999). Stated differently, research may try to understand why a person is more forgiving and what elicits this reaction from a secular, naturalistic perspective (i.e., non-transcendent), and forgiveness can also be understood as a spiritual or religious construct that is based on religious themes and literature (i.e., transcendent; McCullough & Worthington, 1999). In the

present study, it is assumed that forgiveness may subsume both perspectives, but the measure of forgiveness used provides a broad assessment of the construct without explicitly assessing religious motivations for forgiveness.

Forgiveness Research

Few extant studies have examined the relationship between SWB and the three types of forgiveness; nonetheless, these studies do suggest positive links between the constructs. For example, self-forgiveness has been found to be one factor that may influence not only affect, but also perceptions about one's life. In a sample of chronically depressed individuals, self-forgiveness was related to higher life satisfaction, higher positive affect, and low negative affect (MacCaskill, 2012). Additionally, brief psycho-educational forgiveness interventions have demonstrated reductions in self-reported negative affect after implementation (Allemand, Steiger, & Hill, 2013).

Existing research on forgiveness has linked the three types of forgiveness to outcomes relevant to well-being. For instance, individuals with anorexia, bulimia, and eating disorder not otherwise specified (EDNOS) have endorsed significantly lower levels of self-forgiveness as compared to controls (Watson, Lydecker, Jobe, Enright, Gartner, Mazzeo, & Worthington, 2012). In the same vein, self-forgiveness has shown potential in helping those with alcohol abuse. A study by Schere, Worthington, Hook, and Campana (2011) found alcoholics who were seeking treatment and were exposed to a four-hour self-forgiveness intervention program increased self-forgiveness and reduced their feelings of shame and guilt related to drinking behavior. Thus, self-forgiveness appears to be a clinically relevant factor for mental health treatment.

Research on forgiveness of others has demonstrated links to well-being. Forgiveness of others has been found to predict overall health status (more strongly than engaging in healthy behaviors) and reported life satisfaction for individuals with spinal cord injuries (Webb, Toussaint, Kalpakjian, & Tate, 2010). Forgiveness of others has also been associated with better mental health in individuals with Post Traumatic Stress Disorder (PTSD), as evidenced by less severe PTSD symptoms, depression, and anxiety (Witvliet, Phipps, Feldman, & Beckham, 2004).

Research on situational forgiveness is limited. Situational forgiveness has been linked with age, suggesting that this form of forgiveness may develop over time (Macaskill, 2007). One study found that a lack of forgiveness of both the self and situation strongly mediated the relationship between PTSD symptoms and acting out hostility, suggesting that discussions regarding forgiveness may be a valuable topic in therapy for individuals who have PTSD (Snyder & Heinze, 2005). Thus, forgiveness of situations (as well as forgiveness of self and others) appears to play a meaningful role in therapy and therefore understanding the role of forgiveness requires further research.

Religion and Spirituality

As noted earlier, religion has historically been considered a contributing factor to one's overall experience of happiness or well-being (e.g., Wilson, 1967). Religiousness and spirituality appear to be relevant for SWB (Lun & Bond, 2013), although they may not always be part of forgiveness, as the latter can occur inside and outside the context of spirituality or religion. However, because many religious contexts emphasize forgiveness, religiousness or spirituality may moderate the size of the relationship between forgiveness and SWB (Pargament & Rye, 1998).

Defining Religion and Spirituality

Within the psychological literature, religion has been defined as a meaning system which influences an individual's cognitions, motivations, and emotions (Park, 2005). Moreover, religion has a direct influence on core beliefs regarding one's self, one's future, and one's worldview (McIntosh, 1995). Although religions may differ in specific beliefs, each religion provides a framework and a historical context for such beliefs, providing ways for an individual to understand and interpret the world, thereby influencing behavior (Park, 2005).

Relatedly, spirituality has a close relationship with religion, though it is sometimes treated as conceptually distinct. Religion has been conceptualized as the search for an understanding of the sacred rooted in religious traditions, while spirituality is a search for the scared without the foundation of a formal religion (Zinnbauer & Pargament, 2005). "The sacred" may include the individual's perspective of God, transcendence, or that which he or she regards as holy (Pargament & Mahoney, 2002). Thus, despite different contexts, both religion and spirituality pursue the sacred. Similarly, religion and spirituality may help to create a sense of meaning out of life circumstances (Park, 2007). Furthermore, religion and spirituality may each encourage the practice of forgiveness. For instance, the major world religions (i.e., Judaism, Christianity, Islam, Buddhism, and Hinduism) consider forgiveness as a valuable quality to have and to express (Pargament & Rye, 1998), although each define forgiveness somewhat differently. In addition to ways in which religions formally encourage forgiveness, individuals who value spirituality also are likely to endorse valuing forgiveness (McCullough & Worthington, 1999). In either context, one might expect that

individuals pursuing the sacred might value forgiveness and thereby experience a stronger link between forgiveness and well-being.

For the purpose of this study, religion and spirituality were examined together as a single construct. This is consistent with the rationale by Hill and Pargament (2003): First, spirituality is typically informed by a social context, such as a religious tradition, which is interested in an individual's spiritual affairs. This suggests that there is a significant relationship between religion and spirituality despite conceptualization differences. Second, dichotomizing spirituality from religion may frame spirituality as good and religion bad; however, this deters researchers from examining possible beneficial and maladaptive outcomes from each context. Lastly, religion may be a means to which some individuals experience spirituality: without the exposure to religion, an individual may never experience the opportunity to be spiritual. Therefore, religion and spirituality will be examined as one construct in this study and referred to as "R/S" in subsequent references.

Reasons to Expect R/S to Moderate the Forgiveness-SWB Relationship

Given the role that R/S may have in facilitating forgiveness and SWB as noted above, the present study hypothesizes that the relationship between forgiveness and SWB will be moderated by one's level of R/S. R/S is conceptualized as a moderator because it provides a meaning system that influences an individual's life which may highlight the importance of forgiveness (see previous section). Conceptualizing forgiveness and R/S as two distinct constructs allows for examination of the effects of each variable. For this study, R/S is hypothesized to moderate the relationship between forgiveness and SWB

constructs, such that the relationship between forgiveness constructs and SWB constructs may be stronger for individuals higher in R/S.

Measuring R/S

Traditionally, R/S has been measured using self-report measures. However, self-report methods may be limited by self-report bias, impression management, and social desirability (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). One method designed to limit such biases is the Implicit Association Test (IAT). The IAT was originally used to assess for racial prejudice through measuring the response time to categorize words or pictures that were race-related (Greenwald, McGhee, & Schwartz, 1998).

For example, in a racial prejudice study (Greenwald, McGhee, & Schwartz, 1998), the participants distinguished in the first target categorization block (which is the first section of the IAT) between names that are traditionally African American versus European American. This was done by categorizing the names as "African American" or "European American" when they appear on a computer screen using assigned keys for the left hand and for the right hand designated on a computer keyboard. Next, during the attribute block (i.e., block two) of the IAT, participants completed a categorization of pleasant or non-pleasant words using a computer keyboard. For example, the individual would categorize words such as lucky, honor, or grief as either pleasant or unpleasant. The attribute block is followed by block three, which alternates between target concept discrimination (i.e. African American or European American) and attribute dimensions (i.e., pleasant or non-pleasant). This block is a combination of both block one and block two. The key used to categorize names as African American in the previous block is then used to categorize pleasant words; the key on the keyboard used to categorize European

American names is then used to categorize unpleasant words in this block. The idea

behind this categorization process in the IAT is that an individual will more quickly

categorize particular words as pleasant or unpleasant if the categorization terms reflect

the person's attitudes for a particular race. Whereas the first three blocks provide

practice, the fourth block (a repeat of block three) provides an active test. The fifth block

includes a reversal of the assigned category computer keys used during the target

discrimination block (i.e., block one): The categories assigned to the left and right of the

computer screen are reversed. The test concludes with a combination of attribute

dimensions and target concept discrimination, which is similar to block three, but the

assigned computer keys are the same as in block five. Participants complete one practice

block (block six) followed by a test block (block seven). Response times from each

block are recorded. Shorter categorization times indicate automatic associations between

presented pairs, while longer categorization times may indicate more effort on the part of

the participant since the categorization of the block goes against his or her implicit

attitudes.

  LaBouff, Rowatt, Johnsn, Thedford, and Tsang (2010) created a

religiousness/spirituality (R/S) IAT. In contrast to the race IAT described above, the R/S

IAT is an identity IAT since it prompts the participant to categorize religious/spiritual

words (i.e., faithful, believer, etc.) and non-religious/spiritual words (i.e., faithless,

atheistic, etc.) in relationship to self versus others. The R/S IAT assumes that a faster

categorization time of words that are religious and spiritual with words that represent

oneself self (e.g., "I" or "me") indicates that the individual implicitly associated

him/herself with religious and spiritual words/concepts.

LaBouff et al. (2010) found that the R/S IAT was sensitive toward measuring attitudinal responses, evidenced by correlations with measures of intrinsic religious orientation, religious participation and religious interest. The R/S IAT demonstrated convergent validity with other self-report measures for intrinsic and extrinsic religion and spirituality. Additionally, other research suggests that the IAT is a methodology that may limit effects of social desirability or faking when completed at a moderate pace (since participants are directed to work as quickly as possible) (Kim, 2003). Thus, the R/S IAT may provide a method for assessing R/S in a less explicit manner than self-report measures and possibly deter social desirability often found in R/S measures.

Criticism of the IAT

However, important criticisms of the IAT have been noted. Some researchers suggest that one may be able to fake the IAT. This is true to some extent. If an individual deliberately takes his or her time to think about a response rather than providing an automatic response to the words or images in an IAT, this may produce responses that are deliberate (versus more automatic) and are not an accurate reflection of the person's implicit attitudes. However, to account for this potential confound, the authors of the IAT recommend deleting item responses that take longer than 10,000 milliseconds (ms) to answer since responding longer than this time would suggest that the participant is not providing an automatic response.

Blanton and Jaccard (2006) have also highlighted concerns about the use of an IAT. First, the application of a participant's reaction time as a meaningful reflection to his or her implicit bias has been questioned; one's reaction time may constitute a different construct in and of itself from an individual's attitude (i.e., reaction time versus personal

attitudes). In addition, since one's reaction time is being measured for each item represented on the screen, there is the question regarding the meaning of zero in an IAT: If one cannot achieve an absence of bias (which would be equivalent to zero), then there is the concern that the overall metric used is skewed in a particular direction.

Greenwald, Nosek, and Sriram (2006) addressed Blanton and Jaccard's (2006) criticisms. First, these authors stated that an arbitrary metric is a common feature of most forms of instrumentation. Greenwald, Nosek, and Sriram also noted that Blanton and Jaccard (2006) were unclear in the definition and type of the construct to be measured with the IAT in their critique. Using the IAT for a latent construct (i.e., a variable that cannot be directly observed and is examined through the measurement of factors that are believed to comprise the variable) is different than using the IAT for an applied construct (i.e., directly observable). The IAT may not capture the depth and scope of a construct with many facets such as a latent variable and should not be used to measure a multi-faceted construct. Rather, the IAT is practical for variables that are operationalized as one-dimensional and are driven by an individual's attitude toward the variable, which would imply that reaction time is a meaningful way to measure attitude. To address the criticism of an arbitrary zero, Geenwald, Nosek, and Sriram (2006) referenced evidence that self-report measure scores consistently correlate to IAT scores. To calculate the score of an IAT, the difference between reaction times for blocks five and three are calculated, with a lower score indicative of identifying with that block's categorization scheme and a higher score indicative of either a bias or lack of identification with the block's categorization scheme. Given that the IAT score is calculated in this manner, a score of

zero is possible, which would suggest a neutral attitude or a lack of bias. Greenwald et al. (2006) suggest that the IAT therefore possesses a meaningful zero.

Despite the criticisms and concerns of the IAT, there is preliminary evidence of validity for the R/S IAT (LaBouff et al., 2010). The use of the IAT is considered to be a promising new direction for religion and spirituality research (Hill, 2005). There present study utilized the R/S IAT as a measure of R/S.

Summary

Given the present literature review, SWB has been related to significant health outcomes such as physical health and longevity. Since SWB is related to these outcomes, studying possible predictors of SWB may lead to important contributions to the understanding of SWB. One such predictor is forgiveness. Although forgiveness is typically considered a primarily positive factor in an individual's life, this assumption may be a somewhat premature as the specific influence of the various types of forgiveness (i.e. other, self-, and situational) has yet to be fully understood. Moreover, much of the recent forgiveness research focuses on the relationship between a transgressor and a victim (i.e., other forgiveness) and forgiveness of one's self, while little research has examined the benefits of situational forgiveness. Existing research on SWB and forgiveness does not adequately differentiate or examine forgiveness of self, others, and situations within the same study. As such, the present study seeks to examine forgiveness of self, others, and situations in relation to SWB concurrently.

In addition to the above, the role of moderators regarding the relationship between forgiveness and SWB has a substantial deficit within the literature as well. One potential

meaningful moderator of the relationship between forgiveness and SWB is R/S.

However, the role that R/S has with SWB is currently unclear; the methodology used to

measure R/S is one potential explanation for this lack of clarity. Typically, self-report

measures are used to study R/S and forgiveness. However, self-report measures are

subject to self-report bias, social desirability, and impression management. A novel

approach to studying R/S is the IAT, which can account for some if not all of the

concerns of a self-report study. The IAT has been successful in examining R/S constructs

such as attitudes toward religious denominations (Rowatt, Franklin, & Cotton; 2005;

Rudman, Greenwald, Mellor, & Schwartz, 1999) and perceptions of religion and

spirituality (Basset et al. 2005). Therefore, the current study will use a R/S IAT to avoid

the psychometric difficulties related with using R/S self-report measures.

Present Study and Hypotheses

The purpose of the present study is to extend the literature on the relationships between forgiveness, R/S, and SWB. To the best of this author's knowledge, the study will be the first to examine self-, other-, and situational forgiveness in the same study in relation as SWB. The hypotheses for this study include the following:

Hypothesis One: Forgiveness is expected to predict SWB. With regard to the specific components of SWB, forgiveness of self, others, situations and total forgiveness will have a significant positive relationship with positive affect and satisfaction with life (SWL) and a significant negative relationship with negative affect.

Hypothesis Two: The relationship between forgiveness and SWB will be moderated by one's score for implicit R/S. Specifically, it is expected that higher R/S will be associated with stronger positive relationships of forgiveness variables to positive affect and life satisfaction, as well as stronger negative relationships to negative affect. See *Figure 1*.
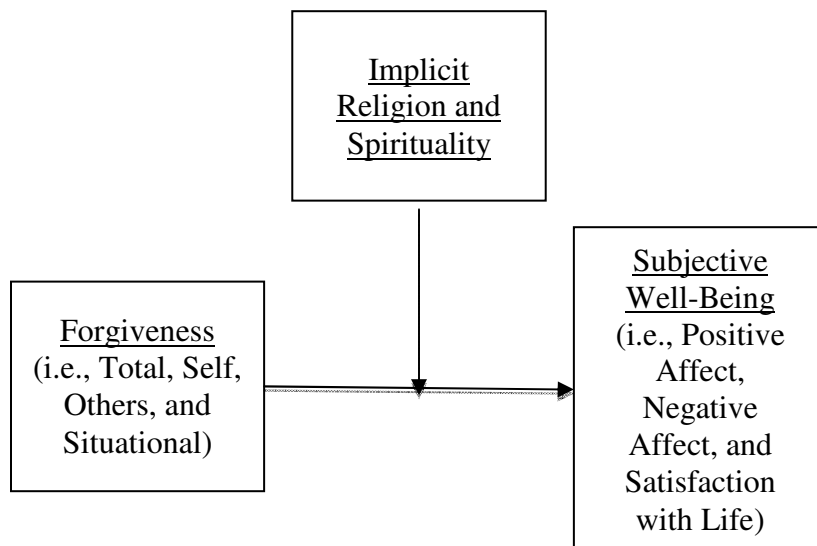
Figure 1. Proposed model of the relationship between forgiveness and SWB as moderated by implicit R/S.

CHAPTER II

Method

Participants and Procedures

The current study sought to recruit a minimum of 120 undergraduate students

enrolled in psychology classes at a private liberal arts university in the Pacific Northwest.

Students 18 years old and older were eligible to participate in this study. Students were

recruited through an announcement in their classes. Course credit was offered in return

for the students' participation in the study and an alternative assignment was also made

available to provide the opportunity for students not interested in the study to earn course

credit. Interested students provided contact information and received a link via e-mail to

access the two part on-line survey. Part 1 was comprised of several self-report measures

through Qualtrics. Next, participants completed Part 2, an IAT that was accessed through

a weblink via Millisecond. In total, all tasks could be completed in approximately 15 to

20 minutes. Responses to the on-line questionnaire and IAT were collected

confidentially as participants were randomly assigned a number to complete the survey.

In addition, data could only be accessed via a password known only to the investigator.

Sample Size, Power, and Precision

Sample size for this study was determined by using G*Power 3.1 (Faul, Erdfelder,

Buchner, & Lang, 2009). A linear two-tailed test for a regression model with fixed effects

and an effect size (f^2) of .15, α = .05, $1 - \beta$ = .95, with 3 predictors was specified. A

sample size of 119 was recommended for this study. This recommended G*power

sample size was consistent with other recommendations (Stone-Romero, Alliger, &

Aguinis, 1994) and with previous research that has used regression in cross-sectional

samples assumed to satisfy the assumptions of linearity, independence, homoscedasiticy, and normality (McCullough, Bellah, Kilpatrick, Johnson, 2001; Wohl, DeShea, & Wahkinney, 2008).

Measures

Forgiveness. The Heartland Forgiveness Scale (HFS; Thompson et al., 2005) measures forgiveness of self, others, and situations. The HFS is comprised of 18 self-report items. Participants rank items on a seven point scale ranging from 1 = *Almost Always False of Me* to 7 = *Almost Always True of Me*. Item examples include "Although I feel bad at first when I mess up, over time I can give myself some slack" (i.e., forgiveness of self), "I continue to punish a person who has done something that I think is wrong" (i.e., forgiveness of others [reversed scored]), and "When things go wrong for reasons that can't be controlled, I get stuck in negative thoughts about it" (i.e., forgiveness of situation [reversed scored]). There are nine reversed scored items. Items are totaled within each subscale to create a total score for self, other, and situational forgiveness (i.e., six items each). To create an overall total score for forgiveness, all items may be summed.

The HFS was developed in samples of undergraduate psychology students. Exploratory factor analysis was conduct on a sample of 499 undergraduates; confirmatory factor analysis was conducted with 1,103 students; the three-factor structure was supported. In a sample of 504 undergraduate students, the HFS showed adequate test-retest reliability (0.72 - 0.83) over a three week period for total HFS score, self, others, and situations, respectively (Thompson et al., 2005). The HFS showed expected convergent and discriminant validity (Thompson et al., 2005). The HFS also showed

adequate internal consistency ranging from 0.86 to 0.87 (Thompson et al., 2005). The coefficient alphas for the present study were 0.86, 0.79, 0.77, and 0.80 for total forgiveness, self-forgiveness, other forgiveness, and situational forgiveness, respectively.

Subjective Well-Being. To measure SWB in this study, two measures were used: the Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985) and the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988).

Satisfaction with Life Scale (SWLS). The SWLS is comprised of five items measuring cognitive evaluations of an individual's contentment with life based on an individual's personal comparisons of reality and his or her believed appropriate standards for life quality. Each item is ranked on a seven point Likert scale (1 = *Strongly disagree*; 7 = *Strongly agree*). An example item includes, "In most ways my life is close to my ideal." No items are reversed scored and item responses are totaled to create an aggregate score. Higher scores indicate higher life satisfaction.

The psychometrics of the SWLS were assessed in undergraduate students (*N* = 176) attending the University of Illinois (Diener, 1985). These students were enrolled in general psychology classes. The SWLS was administered in a group setting and re-administered to 76 of the original 176 participating students, yielding a test-retest correlation of 0.82 and a coefficient alpha of 0.87 (Diener, 1985). Comparable two-week retest reliability (.83) and internal consistency (.89) were reported in another sample (Alfonso & Allison, 1992a, 1992b as cited in Pavot & Diener, 1993). SWLS has also demonstrated evidence of convergent and discriminate validity (Diener, 1985). The coefficient alpha for this study was 0.81.

Positive and Negative Affect Scale. The PANAS consists of one positive mood

scale and one negative mood scale. It measures an individual's trait-like tendency toward

positive affect characterized by feeling enthusiastic, active, and alert. In addition to

measuring positive affect, the scale also measures one's reported levels of negative affect

characterized by acknowledgement of subjective distress, un-pleasurable interactions, and

"aversive" moods. The scales are comprised of single adjectives such as "interested,"

"distressed," and "excited," which are ranked on a five-point scale (1 = *very slightly or*

not at all, 2 = *a little*, 3 = *moderately*, 4 = *quite a bit*, and 5 = *extremely*). The mood

scales are rated for a specified time frame. For this study, participants were asked to rate

each item "in general (you generally feel this way, that is, how you feel on the average)."

A higher positive affect total score indicates the endorsement of experiencing higher

positive affect, while lower scores for the negative total affect score indicates the

experience of low negative affect.

The PANAS was developed in samples of undergraduate students enrolled in

psychology classes (Watson, Clark, & Tellegen, 1988). For each time frame specified on

the PANAS, Southern Methodist University (SMU) students completed the scale

(Moment, n = 660; Today, n = 675; Past few days, n = 1,002; Past few weeks n = 586;

Year n =649; General, n = 663). SMU employees completed the PANAS for the time

frame of "during the past few weeks (n = 164)" and for the time frame of "during the past

few days (n = 50)." Fifty-three non-affiliated SMU adults completed the scale for

"today." The Cronbach's coefficient alpha ranged from 0.86 to 0.90 for the positive

affect scale and ranged from 0.84 to 0.87 for the negative affect scale within the student

population, respectively. For the nonstudent population, Cronbach's coefficient alphas

for positive and negative scales were 0.86 and 0.87 (Watson, Clark, & Tellegen, 1988).

To assess test-retest reliability, 101 students completed the PANAS twice for all seven

time frames. Test-retest reliability estimates ranged from 0.47 to 0.68 for positive affect

and 0.39 to 0.71 for negative affect. For the current study, the internal consistency for

positive affect was 0.78 and negative affect was 0.84, respectively.

The IAT for R/S. The R/S IAT (LaBouff et al., 2010) was used to measure R/S

in the present study. This method records the participant's reaction time categorizing

words in two different categories using computer keys that correspond to the left category

(i.e., "d" key) and right category (i.e., "k" key) on the screen. These categories change

with each block of trials, such that the categorization items alternate presentation on the

left side and the right side of the screen. The IAT is comprised of seven blocks. Within

all blocks, each categorization made is called a trial. Five of the blocks are practice

blocks and two are test blocks that contain more trials and are primarily used to calculate

an IAT score (i.e., blocks 4 and 7). Practice blocks consist of 20 trials and test blocks

consist of 40 trials. Specifically, the categorization for each block is as follows: The first

block assigns religious and spirituality words to the left category (i.e., religious, spiritual,

faithful, theistic, believer) and non-religious/spirituality words to the right category (i.e.,

nonreligious, nonspiritual, faithless, atheistic, agnostic).The second block contains words

regarding one's self (left category: I, me, my, mine, and self) and other (right category:

they, them, their, it, and other).The third block pairs self + religious/spiritual words to the

left category and other + not religious/not spiritual words to the right category. Block

four is a test block and has the same categories as in block three but has 40 trials instead

of 20 trials. Block five is a practice block with not religious/not spiritual words as the

category on the left and religious/spiritual words as the category on the right. Block six is the last practice block with self + not religious/not spiritual words as the left category and other + religious/spiritual words as the right category. Block seven is a test category, which has the same categories as block 6 but has 40 trials.

Total scores for each participant regarding one's level of religiousness and spirituality were computed using an algorithm recommended by Greenwald, Nosek, and Banaji (2003). The scoring algorithm used to compute an IAT score computed the mean differences from testing trials (blocks 4 and 7) divided by the standard deviation of all trials in the associated testing block. Lower IAT values indicated faster categorization of self + religious/spiritual rather than the categorization of other + nonreligious/spirituality. Participants with 10% of all trials in the IAT that were less than 300 ms and trials greater than 10,000 ms were deleted. This followed recommendations of Greenwald, Nosek, and Banaji (2003) to delete participants who may have randomly hit computer keys or who may have attempted to respond in a deliberate manner.

The R/S IAT was pilot tested on 64 undergraduate students who received either research participation credit or extra credit in return for their participation. The R/S IAT showed positive significant correlations with external religion and spirituality self-report measures at the $p < .05$ level indicating convergent validity (LaBouff et al., 2010).

To establish internal reliability for the present study, correlations between the mean latencies (i.e. response time) for pairing 1 (i.e., self + religious and other + non-religious) and pairing 2 (i.e., self + non-religious and other + religious) of the practice blocks were correlated with the mean latencies of pairing 1 and pairing 2 of test blocks.

These correlations were significant at the *p* < .001 level (Table 1), indicating good split

half reliability for the R/S IAT in this study.

Table 1

Correlations for IAT Reliability

Variable	*M*	*SD*	1	2	3
1. Mean latency of 1st block, pairing 1	1184.70	341.85	-	-	-
2. Mean latency of 1st block, pairing 2	849.68	221.36	.55**	-	-
3. Mean latency of 2nd block, pairing 1	926.95	205.90	.73**	.52**	-
4. Mean latency of 2nd block, pairing 2	745.25	149.41	.52**	.70**	.63**

Note. N = 134. Dashes indicate data are not informative and were therefore not reported.
* *p* < .01, ** *p* < .001.

Additional self-report measures of religion and spirituality to confirm convergent

validity of the R/S IAT were included in this study. Two self-report instruments were

employed to compare the effectiveness of the IAT: the Duke Religion Index (DUREL;

Koenig, Patterson, & Meador, 1997) and the Attitude Toward God Scale (ATGS-9;

Wood, Worthington, Exline, Yali, Aten, & McMinn, 2010).

Duke Religion Index. The DUREL is comprised of five items that measure

religious attendance (i.e., one item), religious activities (i.e., one item), and intrinsic faith

(i.e., three items). Items are ranked on a six point Likert scale (1 = *never;* 6 = *more than*

once a week). Example items include, "How often do you spend time in private religious

activities, such as prayer, meditation, or Bible study?" and "My religious beliefs are what

really lie behind my whole approach to life." Items are reversed scored so that higher

values represent higher religious participation, attendance, and intrinsic faith. Only the

intrinsic faith subscale was examined in this study. The three items that comprise intrinsic

faith are summed to create a total score for that factor.

The psychometric properties of the DUREL were examined in undergraduate students at two time points (Stortch et al., 2004). The DUREL demonstrated good reliability in both samples for all five items with Cronbach's alphas of 0.91 and 0.78, respectively. The Cronbach's alpha for the intrinsic faith subscale in this study was 0.64.

Attitude Toward God Scale. The ATGS-9 is an eleven-item measure that is comprised of two subscales. One subscale measures positive attitudes toward God and the other subscale measures anger toward God. Items are ranked on an eleven point scale with 0 = *not at all* to 10 = *extremely*. Example items include, "Trust God to protect and care for you" and "Feel angry at God." Subscale scores are summed to create a total score for positive attitudes toward God and to create a total score for anger toward God.

The scale's psychometric properties were assessed in several studies using undergraduate students enrolled in a psychology class. The ATGS-9 demonstrated good reliability ranging from 0.80 to 0.93 (Wood et al., 2010). In addition, the scale has demonstrated good model fit through confirmatory factor analysis (Wood et al., 2010). The Cronbach's alpha for the positive attitude toward God subscale was 0.97 and anger toward God subscale was 0.84 in this study.

CHAPTER III

Results

Recruitment and Participant Flow

A total of 173 participants completed part one of the study (i.e., self-report items). The final sample for analysis (including self-report and IAT data; $N = 134$) was 17% male and 83% female. Sixteen percent were freshman, 23% were sophomores, 25% were juniors, and 36% were seniors. Five percent were African American, 13% Asian, 75% Caucasian, 3% Hispanic/Latino, and 4% other. With regard to endorsed religious beliefs, 9 % were Agnostic, 2% were Atheist, 1% were Buddhist, 64% were Protestant Christian, 8% were Roman Catholic, and 17% were Other (See Table 2).

Table 2

Participant Demographics (N = 134)

	n	*%*
Sex		
Male	23	17
Female	111	83
Age		
18	7	5
19	34	25
20	32	24
21	24	18
22	24	18
23	3	2
24	8	6
25	2	2
Year in School		
Freshman	22	16
Sophomore	31	23
Junior	33	25
Senior	48	36
Ethnicity		
African American	7	5
Asian	18	13
Caucasian	100	75
Hispanic/Latino	4	3
Other	5	4
Religious Endorsement		
Agnostic	12	9
Atheist	3	2
Buddhism	1	1
Protestant Christian	85	64
Roman Catholic	10	8
Other	23	17

Data Preparation Prior to Analysis

Data analyses were conducted with SPSS 22 software (IBM Corp, 2013).

Multiple imputation was used to handle missing values by creating five new datasets

based on distributions of the original dataset. Data analysis was conducted with the

pooled dataset. However, results from raw and imputed datasets did not differ

substantially, given that less than 1% of the data were missing.

Data were examined for outliers and for assumptions of normality. Six

participants were deleted due to not answering any items in the survey with the exception

of consenting to the study. No variables showed evidence of problematic skew or

kurtosis.

IAT data were prepared per recommendations and guidelines outlined in

Greenwald, Nosek, and Banaji (2003). Of the 173 participants who completed part one,

only 141 participants completed the IAT. Thirty-nine participants were deleted from the

self-report dataset as these individuals did not complete the IAT. Seven participant

deletions were made per Greenwald, Nosek, and Banaji recommendations due to

exceeding the 10,000 ms criteria to respond to each block, which may indicate responses

were not automatic and possibly chosen by the participate. The final IAT dataset was

comprised of 134 participants. IAT scores were reversed scored, such that higher IAT

values indicated higher values for implicit R/S. Reversal of the IAT values was

performed to help with data interpretation as all other measures used in the study were

measured such that higher scores suggest a higher presence of the construct. In this study

the R/S IAT was significantly correlated with the intrinsic religiosity subscale of the

DUREL ($r = .312$, $p < .001$) and the positive attitude toward God subscale of the ATGS-

9 ($r = .238$, $p < .001$), indicating convergent validity.

Upon data preparation for analysis in this study, it was discovered that one of the

anger toward God items from the ATGS-9 was not included in this study (i.e. "View God

as unkind."). Despite the exclusion of this item, a total score was computed for anger

toward God and this total score was used in data analysis as it did not appear to deviate from the reliability noted in the literature for the ATGS-9.

To prepare the dataset for regression analysis, all variables were transformed to Z-scores for comparison across different scales and to de-mean the data for multiple regression (i.e., to reduce multicollinearity between zero-order correlations and interaction terms).

Overview of Analyses

First, descriptive and correlational analyses were conducted. Next, hierarchical linear regression analysis was the most appropriate analytical model for tests of moderation. In each of these analyses, SWB variables as the outcome (i.e., satisfaction with life, positive affect, and negative affect, sequentially) were regressed on forgiveness variables (self, other, situation) for a total of 12 regression analyses. Age, sex, and year in school were entered as controlled variables in Step 1 of the regression analysis. Step 2 included self-forgiveness, other forgiveness, situational forgiveness, or total forgiveness as predictors in separate distinct models, in order to examine whether a different pattern would emerge depending on type of forgiveness as predictor. To test for moderation effects, the following interaction terms were created: total forgiveness   implicit R/S, self-forgiveness   implicit R/S, other forgiveness   implicit R/S, and situational forgiveness   implicit R/S. Each interaction term was entered as a predictor in Step 3, to test moderation effects above and beyond main effects. Analyses significant at the $p <$ .05 level were considered to be statistically significant. Significant interactions were explored via tests of simple slopes and interaction graphs.

Descriptive Analyses

Bivariate correlations, means, and standard deviations are reported in Table 3 and Table 4.

Table 3

Descriptive Statistics and Correlations Among Focal Variables in Study

Variable	M	SD	1	2	3	4	5	6	7
1. Other Forgive	31.96	5.64	-	-	-	-	-	-	-
2. Situational Forgiveness	29.43	5.80	.45**	-	-	-	-	-	-
3. Self Forgiveness	28.75	6.11	.25**	.58**	-	-	-	-	-
4. Forgiveness Total	90.14	13.80	.71**	.86**	.79**	-	-	-	-
5. SWL	25.17	5.48	.15	.34**	.44**	.40**	-	-	-
6. Positive Affect	35.11	5.28	.24**	.42**	.35**	.43**	.50**	-	-
7. Negative Affect	21.70	6.51	-.13	-.40**	-.47**	-.43**	-.35**	-.25**	-
8. Implicit R/S	.56	.32	.18*	.45**	.10	.12	.12	-.03	-.04

Note. $N = 134$. Dashes indicate data are redundant and were therefore not reported.
* $p < .01$, ** $p < .001$.

Table 4

Descriptive Statistics and Correlations with Implicit Religiousness and Spiritualty and

Other Religious/Spiritual Measures

Variable	M	SD	1	2	3
1. Intrinsic Religiosity	12.99	2.15	-	-	-
2. Positive Attitude Toward God	43.01	14.78	.84**	-	-
3. Anger Toward God	7.73	5.65	-.06	-.16	-
4. Implicit Religiousness and Spirituality	.56	.32	.31**	.24**	.04

Note. $N = 134$.
* $p < .01$, ** $p < .001$.

Predicting Subjective Well-being

Hypothesis One: An individual's self-reported scores of total forgiveness as well as forgiveness of self, others, and situations will predict reported scores for SWB components (a positive main effect of forgiveness variables on SWL and positive affect and a negative main effect on negative affect).

To examine the main effects of total forgiveness, self-forgiveness, other forgiveness, and situational forgiveness, hierarchical regression analysis was performed. Total forgiveness, self-forgiveness, and situational forgiveness had significant positive effects on SWL and positive affect, and negatively predicted negative affect. Other forgiveness had a significant positive effect on only positive affect. Thus, hypothesis two was partially supported (see Tables 5-7).

Hypothesis Two: The relationship between forgiveness and SWB will be moderated by one's values on the R/S IAT.

With regard to interaction effects, the following were significant: total forgiveness × implicit R/S predicting satisfaction with life ($\beta = .17$, $p = .037$), total forgiveness × implicit R/S predicting negative affect ($\beta = -.24$, $p = .002$), self-forgiveness × implicit R/S predicting negative affect ($\beta = -.20$, $p = .012$), and situational forgiveness × implicit R/S predicting negative affect ($\beta = -.29$, $p < .001$). All interaction results can be found in Tables 5 through 7. Significant interactions were plotted to examine the direction of these effects (see *Figures 2* through *5*). Implicit R/S did not moderate any relationships of forgiveness on positive affect. Other forgiveness did not demonstrate any significant interactions with R/S in predicting SWB factors. R/S did not demonstrate any significant interactions with self or situational forgiveness on SWB.

Simple slope analyses were performed for significant interactions. In line with hypotheses, total forgiveness predicted SWL for individuals high (1 SD above the mean) in implicit R/S ($b = .59$, $SE_b = .11$, $p < .001$), but this relationship was smaller and only marginally significant for those low (1 SD below the mean) in R/S ($b = .23$, $SE_b = .12$, $p < .06$). Similarly, for high R/S individuals, total forgiveness predicted lower negative affect ($b = -.69$, $SE_b = .11$, $p < .001$), whereas the relationship was not significant for those low in R/S ($b = -.17$, $SE_b = .12$, $p < .15$). Individuals with high R/S demonstrated a significant simple slope for the relationship between self-forgiveness and negative affect ($b = -.66$, $SE_b = .10$, $p < .001$), whereas self-forgiveness did not predict negative affect for those low in R/S ($b = -.22$, $SE_b = .13$, $p < .10$). Lastly, for individuals with high R/S, situational forgiveness predicted lower negative affect ($b = -.70$, $SE_b = .11$, $p < .001$), whereas this relationship was non-significant for individuals low in implicit R/S ($b = -.17$, $SE_b = .10$, $p < .11$). In summary, consistent with hypotheses, analysis of simple

slopes indicated that the predicted relationships between forgiveness and SWB constructs were present most strongly for high R/S individuals. Thus, hypothesis two was partially supported for negative affect and SWL components of SWB.

Table 5

Regression for Total, Self-, Other, and Situational Forgiveness on Negative Affect

Independent Variable	Total Forgiveness				Self-Forgiveness				Situational Forgiveness				Other Forgiveness			
	B	SE_B	R^2	ΔR^2	*B*	SE_B	R^2	ΔR^2	*B*	SE_B	R^2	ΔR^2	*B*	SE_B	R^2	ΔR^2
Step 1			.002	.002			.002	.002			.002	.078			.002	.002
Age	.02	.49			.02	.49			.02	.49			.02	.49		
Sex	.35	1.51			.35	1.52			.35	1.52			.35	1.52		
Year	-.24	.71			-.24	.72			-.24	.72			-.24	.72		
Step 2			.16	.19***			.22	.22***			.17	.17***			.02	.02
Forgiveness Score	-2.87***	.53			-3.14***	.52			-2.70***	.54			-.79	.59		
Implicit R&S	.11	.54			.13	.52			-.25	.54			-.15	.59		
Step 3			.21	.06**			.26	.04**			.25	.08***			.02	.001
Forgiveness (i.e., Total, Self-, Situation) × Implicit R&S	-1.68**	.54			-1.44**	.56			-1.75***	.48			-.2	.6		

Note. ** $p < .05$, *** $p < .001$.

Table 6

Regression for Total, Self-, Other, and Situational Forgiveness on Positive Affect

| Independent Variable	Total Forgiveness				Self-Forgiveness				Situational Forgiveness				Other Forgiveness			
	B	SE_B	R^2	ΔR^2	B	SE_B	R^2	ΔR^2	B	SE_B	R^2	ΔR^2	B	SE_B	R^2	ΔR^2
Step 1			.02	.02			.02	.02			.02	.02			.02	.02
Age	.44	.39			.44	.39			.44	.39			.44	.39		
Sex	-.42	1.22			-.42	1.22			-.42	1.22			-.42	1.22		
Year	-.79	.58			-.79	.58			-.79	.58			-.8	.58		
Step 2			.21	.20***			.14	.12***			.21	.19***			.08	.07**
Forgiveness Score	2.41***	.43			1.87***	.45			2.36***	.43			1.40**	.46		
Implicit R&S	-.37	.43			-.28	.45			-.07	.43			-.28	.46		
Step 3			.22	.003			.14	.001			.21	.000			.10	.02
Forgiveness (i.e., Total, Self-, Situation) × Implicit R&S	-.30	.45			-.16	.50			.11	.43			-.76	.46		

Note. ** $p < .05$, *** $p < .001$.

Table 7

Regression for Total, Self-, Other, and Situational Forgiveness on Satisfaction with Life

| Independent Variable	Total Forgiveness				Self-Forgiveness				Situational Forgiveness				Other Forgiveness			
	B	SE_B	R^2	ΔR^2	B	SE_B	R^2	ΔR^2	B	SE_B	R^2	ΔR^2	B	SE_B	R^2	ΔR^2
Step 1			.004	.004			.004	.004			.004	.004			.004	.004
Age	-.019	.41			-.019	.41			-.019	.41			-.019	.41		
Sex	.318	1.25			.318	1.25			.318	1.25			.318	1.25		
Year	-.27	.60			-.27	.60			-.27	.60			-.27	.60		
Step 2			.18	.17***			.14	.12***			.15	.14***			.04	.03
Forgiveness Score	2.29***	.45			2.49***	.45			2.00	.46***			.80	.49		
Implicit R&S	.32	.45			.31	.45			.61	.46			.50	.49		
Step 3			.21	.03**			.14	.001			.17	.02			.06	.02
Forgiveness (i.e., Total, Self-, Situation) × Implicit R&S	.98**	.46			.34	.50			.78	.43			.78	.49		

Note. ** $p < .05$, *** $p < .001$.

Figure 2. The effect of implicit religiousness and spirituality on the relationship between total forgiveness and satisfaction with life.
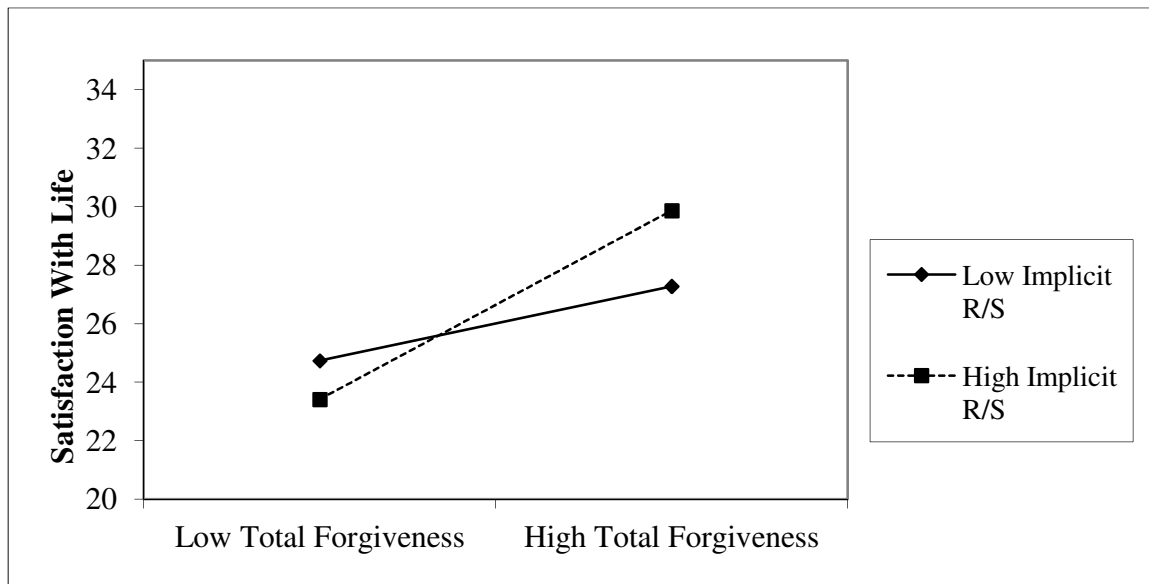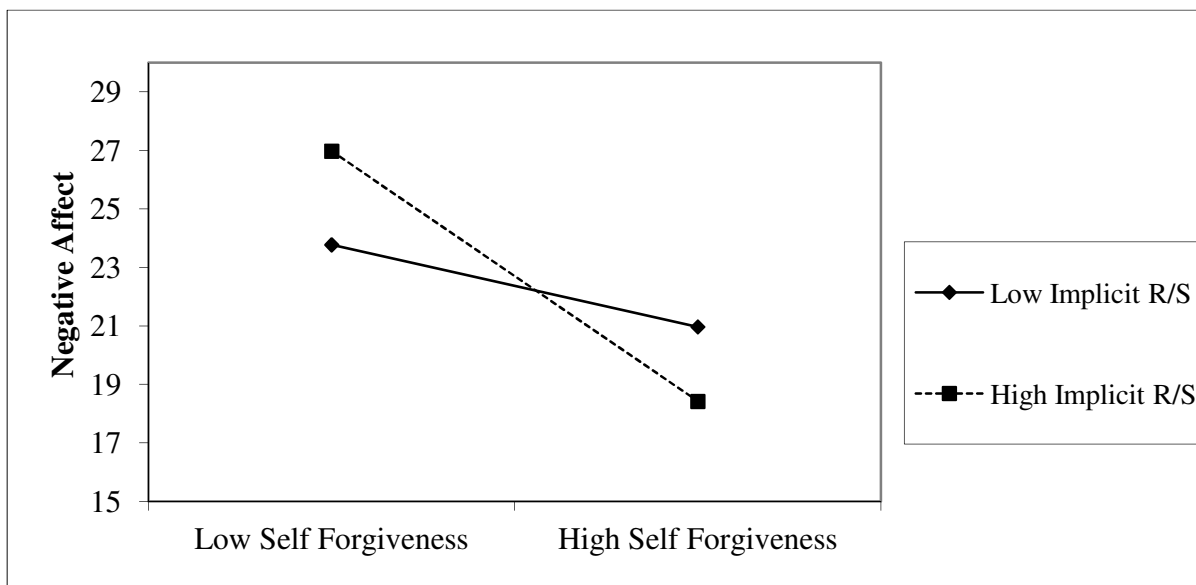

Note. Low and high were defined as ±1 SD on implicit R/S.

Figure 3. The effect of implicit religiousness and spirituality on the relationship between

total forgiveness and negative affect.
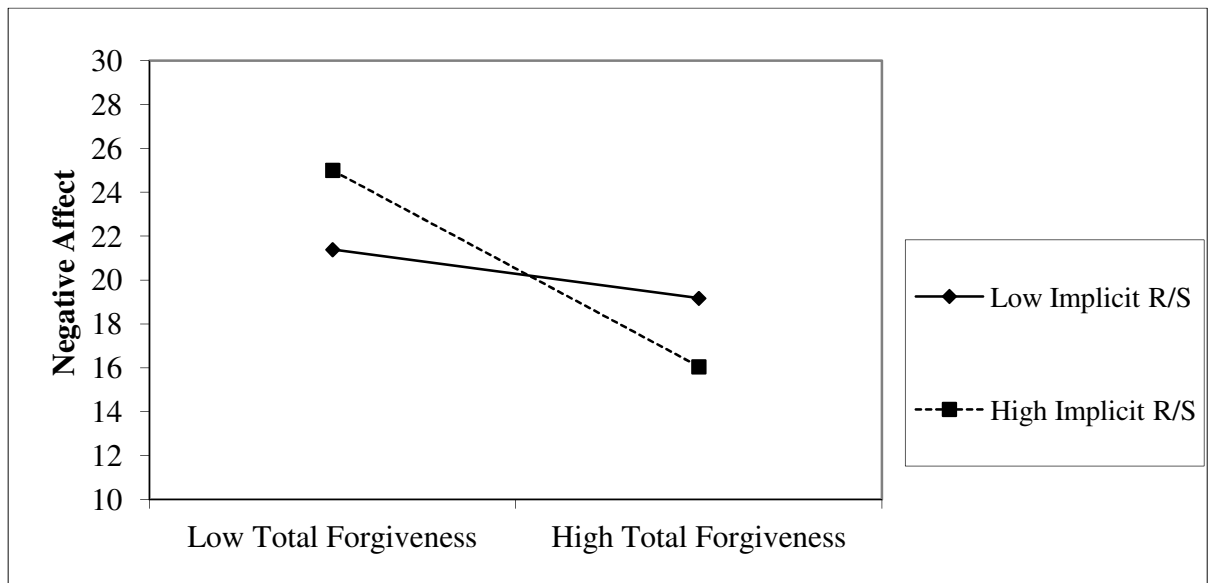
Note. Low and high were defined as ±1 SD on implicit R/S.

Figure 4. The effect of implicit religiousness and spirituality on the relationship between self-forgiveness and negative affect.
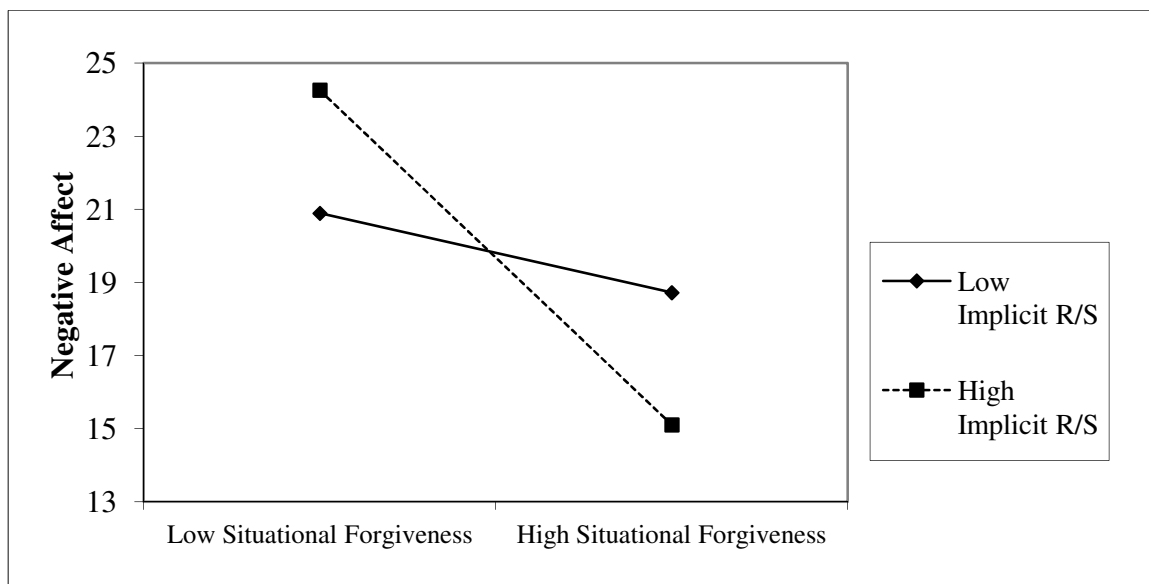

Note. Low and high were defined as ±1 SD on implicit R/S.

Figure 5. The effect of implicit religiousness and spirituality on the relationship between situational forgiveness and negative affect.

Note. Low and high were defined as ±1 SD on implicit R/S.

CHAPTER IV

Discussion

The goal of this study was to examine the relationships between forgiveness (i.e., total forgiveness, self-forgiveness, other forgiveness, and situational forgiveness), implicit R/S, and SWB (i.e., positive affect, negative affect, and SWL). Main effects were hypothesized for forgiveness constructs predicting SWB constructs. Results mostly supported the hypothesized relationships between forgiveness and SWB constructs. In this study, total forgiveness, self-forgiveness, and situational forgiveness predicted SWB constructs (higher positive affect, lower negative affect, and higher SWL) while controlling for gender, age, and year in school.

These results are consistent with previous research. For example, in a study examining gratitude, forgiveness, and orientations to happiness (i.e., happiness elicited through the pursuit of engagement in activities, pleasure, or a meaningful life) in predicting SWB, gratitude and forgiveness both explained a significant amount of variance in predicting SWB constructs with other forgiveness demonstrating a substantial impact on negative affect (Chan, 2013). Hill and Allemand (2011), who were interested in the effects of moral personality traits as predictors of well-being (i.e., negative affect, positive affect, optimism, pessimism, and satisfaction with life), found that gratitude and other forgiveness were significant predictors of well-being when controlling for marital status and Big Five personality traits. The current study expands on such research between forgiveness and SWB components by examining not only forgiveness of others, but also forgiveness of self and situations. The current study also highlights that the components of SWB influenced the most by forgiveness may be negative affect and

SWL. This implies that forgiveness may be one way to help manage maladaptive affect as well as an individual's perceptions about his or her life.

Counter to hypotheses, other forgiveness demonstrated a significant main effect only on positive affect and not on negative affect and SWL. The lack of significant main effects for other forgiveness with SWL and negative affect was unexpected. It is likely that other forgiveness is a more complex type of forgiveness, in that it requires an individual to consider his or her relationship with the transgressor, a variety of emotions, and possibly an aspect of trying to understand the motivation of the transgressor when there is no past relationship to consider. Previous research has demonstrated other forgiveness helps to reduce negative emotions (Witvliet, Phipps, Feldman, & Beckham, 2004). The fact that other forgiveness in this study had less consistent effects (relative to total, self, and situational forgiveness types) suggests that additional variables should be considered in future research to better understand the relationship between forgiveness and SWB. For example, Kang, Shaver, Sue, Min, and Jing (2003) examined the variables of emotion, relationship quality, and self-esteem in predicting SWL. They found that relationship quality had a direct and indirect relationship (through self-esteem) with SWL. Given this research, it would seem feasible that other factors such as self-esteem and quality of a relationship may influence the relationship between other forgiveness and SWL above and beyond the variables examined in this study. Features of this study that may have contributed to non-significant findings with other forgiveness include a college sample and a highly religious sample, which should be considered in future research on other forgiveness. Overall, these results indicate that the relationship with

other forgiveness and SWB may be less robust than expected and additional factors should be considered when examining this relationship in future research.

R/S Moderates the Relationship between Forgiveness and SWB

R/S is a factor that encourages forgiveness (Wunthnow, 2000). Moreover, R/S has been found to be a protective factor for addiction (Haber, Sartor, Heath, Grant, Koenig, & Jacob, 2013), depression (Agishtein, Pirutinsky, Kor, Baruch, Kanter, & Rosmarin, 2013), and stress (Lechner, Tomasik, Silbereisen, & Wasilewski, 2013). The buffering effect of R/S has been attributed to inherently encouraging positive emotions (Kim, Seidlitz, Ro, Evinger, & Duberstein, 2004), promoting access to healthy social support systems in religious or spiritual communities (Hill, 2010), and the psychological benefits of a cognitive meaning system which posits that God will help the individual during difficult times, which likely helps with managing negative emotions and thoughts. Thus, it was hypothesized that the relationship between forgiveness and SWB would be made stronger for persons high in R/S. Implicit R/S was used in this study to reduce self-report bias and possible impression management, both of which are concerns in using traditional self-report measures of R/S.

The study found partial support for the relationship between forgiveness and SWB components being moderated by implicit R/S, with effects specifically found for negative affect and SWL. The current study indicates that the relationship between total forgiveness and SWL was strongest for those high in R/S, but not significant for those low in R/S. When forgiveness was broken down into forgiveness of self, others, and situations, this interaction effect was not significant for SWL. Possible reasons for this may be that total forgiveness demonstrates more variance in the dataset and that this

variance is lost when it is examined via other, self, and situational forgiveness. Also, the brevity of the SWLS and associated decrease in reliability and variability may have contributed to a lack of significant findings when forgiveness is examined via three factors. Overall, findings suggest a multiplicative effect between forgiveness and R/S on one's SWL only when total forgiveness was considered. Future research should aim to replicate these findings and elucidate why total forgiveness versus the three-factor model of forgiveness might have a different effect on SWB constructs.

Additional significant interaction effects were found for negative affect when regressed on forgiveness (i.e., total, self, and situational), implicit R/S, and their product. Simple slope analysis for forgiveness (i.e., total, self, and situational forgiveness), with negative affect detected a negative relationship for individuals high in implicit R/S, but this relationship was not present for individuals low in R/S. Traditionally, forgiveness has been examined with regard to experiencing negative emotions such as anxiety and depression. For example, research indicates an inability to forgive others may be related to increased anxiety and depression (Spiers, 2004). However, forgiveness also appears to reduce anxiety and depression when used as an intervention. A meta-analysis examining the effects of forgiveness therapies found that forgiveness interventions promote less depression and anxiety and greater hope in individuals (Wade, Hoyt, Kidwell, & Worthington, 2014). Forgiveness interventions have also caused increases in positive affect and decreases in negative affect in participants and these effects were sustained at follow-up time points (Lundahl, Taylor, Stevenson, & Roberts, 2008). The present study contributes to the literature by indicating that this relationship (i.e., between forgiveness

and affect) may be amplified for highly religious/spiritual individuals but may not be present for unspiritual or irreligious persons.

However, other forgiveness did not demonstrate a significant interaction effect when regressed on negative affect and R/S. Finding a significant effect of other forgiveness only on positive affect (not negative affect or satisfaction with life) is surprising as it would seem that other forgiveness could possibly improve relationships and thus influence SWB constructs. However, these findings do not appear to be unusual within the literature on other forgiveness. Previous research on other forgiveness has found mixed results in relation to a variety of well-being constructs (Langman & Chung, 2013). As noted earlier, other forgiveness appears to be multi-faceted, with a variety of factors that likely contribute to an individual's ability to forgive another individual. Some studies on forgiveness suggest that anger (Langman & Chung, 2013), rumination (Ingersoll-Dayton, Torges, & Krause, 2010), and attachment (Burnette, Davis, Green, Worthington, & Bradfield, 2009) are all factors that may influence an individual's ability to forgive others. For example, rumination (which may imply a lack of forgiveness) may be a predisposition for depression and potentially increase one's experience of negative affect and increase a person's difficultly in experiencing positive interactions with others (Ingersoll-Dayton, Torges, & Krause, 2010). With regard to attachment, an anxious attachment style was significantly correlated with higher rumination and depression, while an avoidant attachment style was associated with a lack of empathy (Burnette, Davis, Green, Worthington, & Bradfield, 2009). Thus, attachment style appears to influence an approach to relating to others that may plausibly hinder the facilitation of forgiveness. Future research would benefit from including variables such as anger,

rumination, and attachment in studies that examine the relationship between forgiveness and SWB.

Clinical Application

The study results are consistent with the notion that the components of SWB, and especially negative affect and SWL, are influenced by forgiveness. In addition, this research, though correlational, provides further support for the idea that forgiveness interventions are likely to be beneficial. Findings suggest that clinicians need to be sensitive to the type of forgiveness elicited via the intervention, as type of forgiveness appears to influence negative affect and satisfaction with life differently. Thus, interventions for forgiveness should take into consideration the type of forgiveness that is being developed (i.e., either situational, self, or other forgiveness) to more accurately anticipate outcomes of such interventions and to achieve the desired effect; such interventions should also take into consideration the religiosity/spirituality of the individual. In particular, facilitating self-forgiveness and forgiveness of situations may help individuals, and particularly high R/S individuals, cope with difficult emotions and challenging circumstances.

Overall, efforts to help individuals manage negative affect such as anger, depression, and anxiety through forgiveness interventions have shown promise (Lin, Mack, Enright, Krahn, & Baskin, 2004; Wade, Hoyt, Kidwell, & Worthington, 2014). However, much of the research completed on forgiveness interventions targets forgiveness of others. Nathaniel Wade and Everett Worthington (2005) have created a process model of forgiveness that may help an individual forgive another person over time by recalling the event, finding empathy or compassion for the transgressor, offering

empathy as a gift to the transgressor, making a commitment to forgive a transgressor, and choosing to hold on to the commitment of forgiveness (Wade & Worthington, 2005). This model is called the REACH model of forgiveness. Research on the outcomes of forgiveness interventions based on the REACH model have demonstrated reduced negative affect, increased forgiveness, and increased hope in participants (Wade, Hoyt, Kidwell, & Worthington, 2014).

Self-forgiveness interventions, though less often tested, have demonstrated effects such as enhanced ability to forgive oneself as well as reduced feelings of shame and guilt (Schere, Worthington, Hook, & Campana, 2011). Schere, Worthington, Hook, and Campana (2011) adapted the above REACH model of forgiveness to promote self-forgiveness in individuals who abuse alcohol. The intervention was implemented over three weekly 90-minute sessions. These researchers found an increase in self-forgiveness and a decrease in guilt and shame related to offenses that occurred while intoxicated. The present study's results for self-forgiveness are not only consistent with the idea of beneficial outcomes for self-forgiveness interventions (i.e., lower negative affect and higher SWL), but also imply that these such interventions may be most beneficial for high R/S individuals, in line with the notion of tailoring interventions to pre-existing client characteristics.

To this author's knowledge, there are currently no intervention studies explicitly designed to influence situational forgiveness. Given the significant findings for situational forgiveness and negative affect in this study, creating and assessing outcomes for interventions that promote situational forgiveness may help some individuals manage negative emotions that are driven by a person's circumstances. Thus, the present study

highlights a gap in forgiveness research regarding situational forgiveness, and suggests the possibility that cultivating situational forgiveness interventions may help some to cope with negative affect. Future research should test this idea and clarify the similarities and differences between situational forgiveness with constructs such as mindfulness and acceptance, which are often recommended to manage difficult situations or circumstances.

This study encourages not only continued development of forgiveness interventions but also the discussion of forgiveness and R/S issues to help an individual improve personal well-being and/or manage negative affect. The study provides further support for the notion that individuals who are religious and/or spiritual may be more receptive to forgiveness as a therapeutic intervention. For example, Seedall, Butler, and Elledge (2014) found that those who were religiously motivated, either extrinsically or intrinsically, were more likely to accept forgiveness as a valid intervention for therapy. , in line with the present finding that individuals higher in implicit R/S had stronger relationships between forgiveness and SWB constructs. Taken together, the present study and previous research indicates that appreciating a client's R/S belief system may influence the effectiveness and purposefulness for using forgiveness interventions in therapy to improve SWB components, specifically affect and SWL.

Use of the IAT for R/S

The use of the R/S IAT in this study was consistent with other studies that have incorporated both implicit and explicit measures. Specifically, the R/S IAT demonstrated significant positive correlations with explicit measures of intrinsic religiosity and positive attitudes toward God. These findings are supported by studies finding convergent

correlations between implicit and explicit measures (Hofmann, Gawronski, Gschwender, Le, & Schmitt, 2005). These findings indicate the IAT may be a promising new measurement methodology for research in R/S studies. The IAT may be able to capture automatic associations, which may reflect a more accurate measurement of one's attitude for R/S. Thus, the R/S IAT appears to be one way to measure an individual's attitude toward R/S and encourages further research on the effects of implicit R/S attitudes.

Summary of Limitations

Several limitations of this study should be acknowledged. First, the homogeneity of the sample reduces the generalizability of the results. The sample used for this study was comprised mostly of Caucasian, female, Protestant, college students. There is some evidence in the literature that males forgive differently from females. Research suggests men may deal with a transgression by avoidance and/or revenge, whereas women may tend to seek revenge more than avoidance in response to a perceived transgression (Rijavec, Jurčec, & Mijočević, 2010). Thus, gender differences in motivations toward a transgressor may suggest the ability to forgive could differ between men and women. Gender was controlled for in the study, showing that the results are not explained by gender. However, given that the study sample included more women than men, it was not possible to fully test the impact of gender on forgiveness. Future research should aim to better understand the relationship between gender with regard to the process of forgiveness and proneness to forgive.

Moreover, age may also limit the generalizability of this study. The sample used in this study was comprised of college students. Research suggests that the ability to forgive matures and develops with age, on average. For example, some studies have

found that forgiveness seems to be highest in middle-aged adults (Cheng & Yim, 2008; Ghaemmaghami, Allemand, & Martin, 2011). The present study controlled for age, suggesting that age cannot fully account for this study's results. However, studies conducted with a diverse age sample may help to clarify the role age has on the relationship between forgiveness and SWB.

Another limitation of the study was a lack of diversity regarding culture and endorsed R/S worldviews. With regard to R/S worldview, 64 % of the sample identified as being Protestant Christian. The motivation and the approach to forgiveness within religious and spiritual traditions as well as within cultures differ. The effects of forgiveness found in the present study may not be generalizable across religious and spiritual beliefs and/or cultures.

In addition, some of the measures in this study had few items, such as the SWLS (which has five items). This may have reduced the amount of variance in the data and thus contributed to non-significant findings. It would behoove future researchers to use several measures that assess SWL to examine if different measures of SWL are more sensitive and thus produce more variance in data, contributing to more meaningful statistical analyses. In addition, correlational outcomes may have been different with the ATGS-9 Anger Toward God subscale and other variables in the study as one item was accidently omitted from the survey.

The current study had a one-time point correlational design. Longitudinal research may provide different results. Investigating the effects of forgiveness on SWB over time may not only provide further support for the findings of this study, but also contribute to a better conceptualization of the relationship between forgiveness and SWB when

examining forgiveness as a trait versus a state. Research has examined forgiveness as both a trait and a state (Lawler, Younger, Piferi, Jobe, Edmonson, & Jones, 2005; Lawler-Row, 2010; Wohl, DeShea, Wahkinney, 2008). Measuring one's ability to forgive over time and identifying forgiveness as either a stable characteristic (i.e., trait) or as a variable behavior that fluctuates over time (i.e. state) may provide insight on the relationship between forgiveness SWB constructs. This would help to inform the best approach in administering and developing forgiveness interventions that are either continuous with follow-up sessions or time limited (i.e., a limited number of sessions without follow-up sessions).

Implications for Future Research

This study generally confirms previous research that suggests forgiveness effects well-being; however, there is still a need for further research to understand and better appreciate this relationship. The results of this study indicate that other forgiveness is distinct from self and situational forgiveness, consistent with the idea that it may rely on contextual factors that influence one's ability to forgive another, such as the nature of the transgression or the quality of the relationship before the offense.

A measurement and theoretical issue that requires consideration is the use of inconsistent measures for SWB in previous research, which creates difficulty in comparing previous studies. Some studies chose to define SWB by only examining affect, while others studies have chosen to define SWB by only examining SWL. However, these approaches do not adhere to the original concept of SWB developed by Diener (1984), which requires both cognitive and affective parts of SWB to be examined.

Therefore, some of the research on SWB is conceptually questionable as it deviates from the traditional definition of the construct.

With regard to measuring forgiveness, there is currently no consensual definition of the construct in the literature. This poses significant challenges in examining the effects of forgiveness as variations in the operationalization allows for extraneous variables to be included in some forgiveness studies and not others, which may lead to misinterpretation or confusion when interpreting results. Regardless, both the literature and the present study indicate that forgiveness appears to be a complex construct that has many facets that may contribute to well-being.

Lastly, it is possible that SWB predicts forgiveness (a bidirectional relationship). Previous research indicates that negative affect and poor perceptions about one's quality of life influences an individual's ability to forgive (Toussaint & Friedman, 2009). Thus, clarifying which components of SWB impact forgiveness and vice versa may help to further refine forgiveness interventions.

Conclusion

This study sought to examine the relationship between forgiveness and SWB. Specifically, the present study hypothesized that religion and spirituality moderated the relationship between forgiveness and SWB. Results found that implicit R/S moderated the following relationships: total forgiveness with SWL, total forgiveness with negative affect, self-forgiveness with negative affect, and situational forgiveness with negative affect. Results indicate that these relationships are stronger for those who demonstrate higher implicit R/S.

The study adds to the body of literature on forgiveness and SWB. Specifically, this study highlights the importance of examining how an individual forgives and the role R/S has in an individual's life. Clinical implications include discussing the role religion and spirituality has in a person's life as well as how the individual approaches forgiveness to better understand, appreciate, and possibly improve the negative affect an individual is experiencing. Implications of this study also indicate that researchers and clinicians should be sensitive to the type of forgiveness that is either researched or being elicited. This study did not find all expected results for other forgiveness, but found many significant findings for total, self, and situational forgiveness. Thus, this study supports the notion that types of forgiveness differentially impact individuals' well-being.

Future research is needed not only to expand on the present study's findings but also to address several limitations of this study. First, this study suggests that different types of forgiveness effects SWB differently. Continued research on the mechanisms that contribute to the different outcomes for total, self, other, and situational forgiveness on SWB components is needed. Second, research is also needed to understand why implicit R/S moderated some type of forgiveness and SWB relationships but not others. The lack of consistent interaction effects across forgiveness type with implicit R/S suggests there may be additional variables that influence the relationship between forgiveness, SWB, and implicit R/S. Lastly, future research comprised of a more diverse sample with regard to age, gender, and culture is necessary to recognize the generalizability of this study's findings since the sample for this study consisted primarily of college aged Caucasian females.

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