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## **An Examination of the Influence of Religion on the Forgiveness Process**

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An Examination of the Influence of Religion on the Forgiveness Process

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A thesis

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In Partial Fulfillment

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Master of the Arts

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by

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Keywords: forgiveness, religion, empathy, emotional intelligence

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## ABSTRACT

This study sought to examine the religion-forgiveness hypothesis in the context of the forgiveness process in an attempt to better understand the basis of the relationship. Data was collected from 140 participants in an online survey that contained measures of religious behaviors, religious beliefs, religious fundamentalism, empathy, emotional intelligence, forgiveness, and social desirability. A hypothesized model specified that religious variables of religious belief, behavioral religiosity, religious fundamentalism would be predictive of forgiveness when mediated by emotional intelligence and fully mediated by empathy. Using structural equation modeling, it was found that religiosity was predictive of greater levels forgiveness when mediated by empathy; however, religious fundamentalism was found predict lower empathy and lower levels of forgiveness. Examination of alternative models indicated that religiosity did not predict forgiveness unless mediated by empathy and although social desirability was predictive of empathy, its influence on the religiosity-empathy relationship was minimal. Implications and limitations are discussed.

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## TABLE OF CONTENTS

COMMITTEE MEMBERS.....	ii
ABSTRACT .....	iii
ACKNOWLEDGEMENTS .....	iv
LIST OF TABLES .....	viii
LISTS OF FIGURES .....	ix
INTRODUCTION.....	1
Forgiveness.....	2
The Role of Empathy in Forgiveness.....	5
Religion and Forgiveness .....	8
Religion and Empathy.....	13
Emotional Intelligence and Forgiveness .....	15
Emotional Intelligence and Religion.....	18
CURRENT STUDY .....	21
METHOD.....	25
Participants.....	25
Materials.....	26
Procedures .....	32
RESULTS.....	33
Measurement Model.....	33



Path Analysis of the Hypothesized Model .....	34
Path Analysis of Alternative and Final Models .....	37
DISCUSSION .....	39
Limitations and Future Directions.....	43
Conclusion.....	45
APPENDIX A: Demographic Questionnaire .....	57
APPENDIX B: Mayer-Salovey-Caruso Emotional Intelligence Sample Items.....	58
APPENDIX C: Dissipation-Rumination Scale .....	61
APPENDIX D: Heartland Forgiveness Scale .....	63
APPENDIX E: Tendency to Forgive Scale.....	65
APPENDIX F: Interpersonal Reactivity Index .....	66
APPENDIX G: Behavioral Religiosity Items .....	69
APPENDIX H: Religious Orientation Scale-Revised.....	71
APPENDIX I: Short Christian Orthodoxy Scale .....	72
APPENDIX J: Christian Religious Internalization Scale .....	73
APPENDIX K: Short Religious Fundamentalism Scale.....	75
APPENDIX L: Short Right-Wing Authoritarianism Scale.....	77
APPENDIX M: Revised Quest Scale.....	79
APPENDIX N: Personal Need for Structure Scale.....	81
APPENDIX O: Social Desirability Scale-17 .....	83
APPENDIX P: Electronic Informed Consent Form.....	85
APPENDIX Q: Signed Informed Consent Form .....	89
APPENDIX R: Debriefing Script .....	93

## LIST OF TABLES

Table 1. Descriptive Statistics for Indicator Variables .....	95
Table 2. Indicator Variable Correlation Matrix .....	98
Table 3. Fit Indices of Hypothesized and Alternate Models.....	100
Table 4. EFA Factor Loadings .....	102

## LIST OF FIGURES

Figure 1. Descriptive Statistics for Indicator Variables .....	103
Figure 2. CFA of the hypothesized measurement model.....	104
Figure 3. Hypothesized model path analysis.....	105
Figure 4. Demonstration of extreme collinearity between behavioral religiosity and religious behavior.....	106
Figure 5. Respecified model with religiosity factor score estimate .....	107
Figure 6. Trimmed model.....	108
Figure 7. Alternative near-equivalent model.....	109
Figure 8. Alternative near-equivalent model 2.....	110
Figure 9. Alternative near-equivalent model 3.....	111
Figure 10. Final model .....	112

## An Examination of the Influence of Religion on the Forgiveness Process

### INTRODUCTION

Forgiveness is a topic of increasing interest among researchers in the social sciences over the last decade. Initially, the studies on forgiveness examined its role in coping, interpersonal relationships, and general well-being or the conditions in which forgiveness may occur in the context of counseling psychology (McCullough, Exline, & Baumeister, 1998). More recently researchers have begun to examine forgiveness itself and attempt to understand its inner-workings and how it achieves particular outcomes of interest. Not surprisingly, research on forgiveness has begun to incorporate variables of religiosity as many faiths stress forgiveness as a part of their core teachings (Rye et al., 2000). Despite this, research on forgiveness and religiosity has primarily centered around two broad areas: the examination of religious samples being more forgiving than non-religious samples and the incorporation of forgiveness as a possible coping mechanism that helps to mediate the relationship between religion and psychological adjustment and well-being. This presents a gap in the research literature, as previous studies only go as far as to conclude that religious persons are more forgiving while neglecting to examine how religion may foster greater forgiveness beyond the assumption that forgiveness is motivated by religious beliefs or social expectations. The current study sought to better understand the relationship between religiosity and forgiveness by examining the means by which religion may impact the process of forgiveness.

## **Forgiveness**

One of the challenges presented in forgiveness research has been the conceptualization of forgiveness. Numerous models of forgiveness have been developed, each with different operationalizations and organizations of the forgiveness process. Models of forgiveness have primarily emerged from religious and therapeutic orientations; however, few are based on a psychological theoretical framework with even fewer having any empirical validation (Strelan & Covic, 2006). A number of conceptualizations of forgiveness have been developed by researchers including “intraindividual prosocial personal change towards a perceived transgressor within a specific interpersonal context” (McCullough, Pargament, & Thorsen, 2000, p. 9) and “a willingness to abandon one’s right to resentment, negative judgment, and indifferent behavior toward one who unjustly hurt us, while fostering the undeserved qualities of compassion, generosity, and even love toward him or her” (Enright, Freedman, & Rique, 1998, pp.46-47). However, it is also important to identify common assumptions that should not be included in the definition of forgiveness. Forgiveness does not excuse the transgression by allowing the offense to be minimized, justified, or denied, nor does it include reconciliation (Enright, Gassin, & Wu, 1992; Freedman, 1998). Reconciliation is distinct from forgiveness as it is the restoration of a relationship between two parties. The largest difference between forgiveness and reconciliation is that forgiveness occurs within an individual, whereas in reconciliation both parties must be willing to reestablish a relationship. Forgiveness is also not a requirement for reconciliation as in some instances one may be motivated by other obligations that require an individual to continue a relationship with an individual who has injured them. Despite this distinction between forgiveness and reconciliation, many models and definitions of forgiveness include reconciliation as part of the process (Strelan & Covic, 2006) even though

reconciliation of a relationship may not be healthy, prudent, or possible. In this study, forgiveness is defined as the process of neutralizing negative feelings (e.g. animosity, feelings of hurt) that have resulted from the perception of an interpersonal injury.

One model of forgiveness that has been utilized frequently in research is that of Enright and The Human Development Study Group (1996). Enright et al.'s process model of forgiveness is based in a cognitive-developmental framework that parallels Kohlberg's stages of moral development. However, unlike Kohlberg's moral development model, Enright presents the cognitive framework of forgiveness as styles of forgiveness rather than stages, which implies a formal hierarchical and universal structure (Enright, Gassin, & Wu, 1992). The two lowest level forgiveness styles require restitution to the offended in order for forgiveness to be granted, which is in fact not truly forgiveness, but rather justice. The middle two forgiveness styles are situated around social pressure to forgive, whereas the fifth forgiveness style is based on the condition that forgiveness will effectively restore social order and ameliorate harmony. The final sixth style of forgiveness is unconditional and requires that principles take priority over the functioning of society. The development component of this framework stems from the finding that forgiveness style has been found to correlate positively with age, suggesting that an increased ability of societal perspective-taking is required to utilize higher order forgiveness styles.

Process models that incorporate cognitive, affective, and behavioral strategies have also been proposed as a means to understand how individuals forgive (Enright et al., 1992). Enright et al. (1996) developed a 20-item non-exhaustive list of processes that one may undergo en route to forgiving a transgression, which was later organized into four broader phases (Enright, 2001). Enright outlined that the process of forgiveness begins with the Uncovering phase, when one

identifies the transgression and the feelings associated with it. It is in this phase one confronts his or her emotions and personal distress regarding a transgression committed against him or her.

The Decision phase of the process model is where the injured party acknowledges that concentrating on the transgression may prolong negative feelings and seeks to consciously manage his or her emotions by forgiving the offender. This begins by relinquishing one's feelings or thoughts of revenge and other forms of animosity. The so-called "heart" of forgiveness occurs in the Work phase of Enright's model in which the injured person attempts to empathize with the offender and understand the circumstances surrounding the injury he or she endured. At this point the injured party does not excuse, minimize or justify the wrong-doing of the offender, but accepts that the event occurred while holding the offender responsible and choosing not to retaliate and instead offers goodwill. The final phase of the forgiveness process is the Deepening phase. This phase is characterized by the injured party no longer feeling the emotional pain of an offense against him or her. Retrospection of the experience may foster personal growth, as one understands the paradox of forgiveness: "When we give to others the gifts of mercy and compassion, we ourselves are healed" (Enright , Freedman, & Rique, 1998, p. 54).

Given the numerous conceptualizations of forgiveness, it can be challenging to evaluate and plan forgiveness research as the utilization of a particular model of forgiveness may be solely based upon agreement between the selected model and the researcher's own conceptualization of forgiveness. Strelan and Covic (2006) identified a high degree of agreement among process models of forgiveness as models typically have specified that the process of forgiveness includes the recognition of the injured individual feeling hurt, angry, or other negative affect, acknowledgment that forgiving the transgression will remove or mitigate the

feelings of hurt, commitment to forgiveness, and empathy for the offender. The conceptualization of the forgiveness process utilized in this study is based on Enright et al.'s, (1996)'s model of forgiveness as it has been one of the more widely accepted models in forgiveness research, while additionally possessing the common components of forgiveness identified by Streland and Covic. However, most importantly the selection of Enright's model is based upon the fact that empirical evidence exists supporting Enright's model (Hodgson & Wertheim, 2007), a claim few other proposed models of forgiveness can make.

### **The Role of Empathy in Forgiveness**

Empathy, the ability to identify and affectively understand the feelings of others, is considered to have an important role in forgiveness and has been included in various models of forgiveness (Enright & The Human Development Research Group, 1996; Walker & Gorsuch, 2002; Worthington, 1998). Early empathy research generally made a distinction between two forms of empathy, cognitive empathy, described as the ability to recognize the emotional experiences of others, and emotional empathy, the ability to understand another's emotional experience on an affective level (Davis, 1980). This early research on empathy typically utilized only one of these two forms of empathy and provided an incomplete understanding of empathy's impact on human behavior. Davis (1980) worked to address this issue by developing a multidimensional scale of empathy that contained a four-factor structure. Davis's empathy construct included a fantasy factor that reflected an individual's tendency to identify with fictional characters in various media, a perspective taking factor that assessed the ability to adopt the perspective of others, an empathetic concern factor that denoted the tendency to feel warmth and compassion for others, and lastly a personal distress factor that indicated an individual's feeling of anxiety and discomfort when other's experience negative events. Empirical evidence



has supported the role of empathy in the forgiveness process. Empathy emerged as a factor in Walker and Gorsuch's (2004) process model of forgiveness in their attempt to integrate 16 process models of forgiveness. Macaskill, Maltby, and Day (2002) found that empathy scores were associated with higher scores on a measure of forgiveness of others among college students. Additionally, it has been demonstrated that forgiveness interventions designed to cultivate empathy for the offender are effective in increasing emotional empathy for the offender and ultimately forgiveness compared to another intervention designed to encourage forgiveness by touting the benefits of forgiveness to one's own well-being and a waitlist control group (McCullough, Worthington, & Rachal, 1997). In a study similar to McCullough et al.'s (1997), Sandage and Worthington (2010) designed an empathy-oriented forgiveness seminar intended to encourage forgiveness through affective and cognitive empathy. The seminar increased scores on both empathy and forgiveness scales in a sample of university students compared to a control wait-list sample; however, unlike McCullough et al. (1997) the empathy-oriented forgiveness seminar did not significantly increase forgiveness compared to a self-enhancement forgiveness seminar that focused more on the decision to forgive opposed to emotional forgiveness. Sandage and Worthington explained that the discrepancy between their and McCullough et al.'s findings was possibly due to their empathy-oriented forgiveness seminar underperforming, compared to the expected effect sizes reported in a meta analysis by Wade, Worthington, and Meyer (2005), while McCullough et al.'s empathy-oriented forgiveness intervention over performed.

Conversely, Sandage and Worthington's self-enhancement seminars were more potent compared to McCullough et al.'s decisional forgiveness interventions that had no effect. Despite the empathy-oriented forgiveness seminar not promoting greater empathy or forgiveness compared to the self-enhancement forgiveness seminar, empathy was found to partially mediate the

relationship between treatment condition and forgiveness.

Additional evidence of empathy's impact on forgiveness comes from Hodgson and Wertheim's (2007) research that sought to gain a greater understanding of the roles of empathy and emotional management in forgiveness through the inclusion of multidimensional models of empathy and emotional management. In the study, Hodgson and Wertheim hypothesized that the ability to identify and manage emotions would predict forgiveness, and that the ability to regulate one's emotions would allow for improved perspective taking which in turn would lead to individuals experiencing empathetic concern and ultimately a greater tendency to forgive others. In a sample of 110 participants, data on emotional management was collected using the Trait Meta-Mood Scale (TMMS), a self-report measure of the tendency to recognize and manage emotions. The TMMS contains three subscales: attention to emotion, emotional clarity, and emotional repair (emotional management). Additionally, the Interpersonal Reactivity Index (IRI), a multidimensional measure of empathy, Trait Forgiveness Scale, and the Forgiveness of Self subscale of the Heartland Forgiveness Scale were employed to assess the disposition to forgive. Using hierarchical regression forgiveness of self and the subscales of the TMMS and IRI were predictive of the forgiveness of others with perspective taking being the only significant predictor. In turn, perspective taking was predicted by greater emotional regulation and attention to emotions indicating that empathy does mediate the relationship between emotional management and forgiveness. However, the role of empathetic concern in forgiveness remained unclear. Hodgson and Wertheim speculate that empathetic concern may inhibit forgiveness, as one's concern may not be limited to the offender, but also other potential victims of the offender, which may evoke additional negative feelings toward the offender.

## **Religion and Forgiveness**

At its core, forgiveness is described as a cognitive change in which feelings of animosity towards one who has offended us cease. It is this idea that is central to many religious traditions (McCoullough & Worthington, 1999; Rye et al., 2000). Traditions differ in their interpretation of forgiveness, but a commonality among many of these belief systems is that the motive to forgive comes from the belief that because of God's capacity to forgive them, they too should be forgiving of offenders for their transgressions. Religious texts are filled with parables that command followers to adhere to the practice of forgiveness or risk condemnation and the loss of God's forgiveness (e.g. Ephesians 4:32; Luke 6:37, Mark 11:25; Matthew 6:14-16; Matthew 18:21-35, New International Version; Qur'an, 7: 199; Qur'an, 24:22; Qur'an, 42:43; Qur'an, 64: 14; ).

Given this emphasis on the importance of forgiveness, it would not be unreasonable to assume that religious individuals should be more forgiving compared to non-religious persons. As part of Gorsuch and Hao's (1993) development of a multifactorial model of forgiveness, data on various religious variables were collected (religious identity, importance of religion, service attendance, closeness to God, etc.) Factor analysis of these variables yielded two distinct factors, Personal Religiousness and Religious Conformity. The Personal Religiousness Factor, consisting of importance of religion, intrinsic religiousness, closeness to God, church/ synagogue membership, service attendance, and extrinsic-personal religiousness, was found to significantly correlate with each of the four factors of forgiveness derived by Gorsuch and Hao. Additionally, a comparison of religious affiliation and scores on the Religious Response forgiveness factor revealed that Protestants and Catholics exhibited significantly higher forgiveness scores than

Jewish persons, those who claimed a non-specified religious affiliation and persons claiming no religious affiliation. Jewish and nonreligious person did not differ from one another.

Edwards et al. (2002) also sought to evaluate the religion-forgiveness hypothesis using the Santa Clara Strength of Religious Faith Questionnaire and the Heartland Forgiveness Scale. In a sample of 196 college students, Edwards et al. found significant relationships between religious faith and total dispositional forgiveness ( $r = .229, p < .01$ ) and the disposition to forgive others ( $r = .299, p < .01$ ). Similar results were found in Webb, Chickerling, Colburn, Heisler, and Call (2005) as significant correlations were found between the Duke University Religion Index and Heartland Forgiveness Scale ( $r = .30, p < .01$ ), Forgiveness of Others subscale ( $r = .30, p < .01$ ), and Situation Forgiveness  $r = .22, p < .01$ ). Additionally, using one's faith to solve problems was positively associated with scores on the Heartland Forgiveness Scale as was having a conception of a loving God; however, a vengeful image of God was negatively associated with forgiveness scores. Lastly, Leach and Lark (2004) found that spirituality accounted for a significant proportion of the variance in dispositional forgiveness after controlling for personality traits.

Moving beyond dispositional measures, Fox and Thomas (2008) included attitudinal and behavioral measures of forgiveness and found significant positive correlations between variables of religiosity (attendance, prayer, faith, orthodoxy/liberal interpretation) and three measures of forgiveness, the Attitudes Towards Forgiveness Scale (ATF), Tendency to Forgive Scale (TTF), and the Transgression Narrative Test of Forgiveness. The ATF was developed as a measure of how an individual values forgiveness, whereas the TTF was designed to measure 'actual' forgiveness (Brown, 2003). Analysis of covariance revealed that those affiliated with Abrahamic religions had significantly higher scores on attitudinal and dispositional measures of forgiveness

compared to secular individuals, but did not differ in their scores of behavioral forgiveness from participants not claiming a religious affiliation.

Evidence from the previous mentioned studies and other similar research (Mullet et al., 2003; Toussaint & Williams, 2008) support the relationship between religiosity and forgiveness. However, Tsang, McCullough, and Hoyt (2005) point out that there is often a discrepancy between religious belief and actual forgiveness, arguing that the endorsement of forgiveness is easy when it is conceptualized in the abstract, but actual transgression specific forgiveness may be more difficult to engage in. Tsang et al.'s explanation claimed that discrepancy was due to psychometric issues because transgression specific measures of forgiveness allow for biased selection of the event recalled, as well as moral rationalization where multiple meaning systems in religion (e.g. a loving God who is also just) and temporal motivational factors (forgive or retaliate) at the time are utilized to rationalize behavior.

Brown, Barnes, and Campbell (2007) further demonstrate the discrepancy between religiosity and forgiveness by comparing scores on Altemeyer and Hunsberger's (1992) Religious Fundamentalism scale to scores on the both the ATF and TTF) scale. Brown et al. (2007) found that scores of fundamentalism were related to pro-forgiveness attitudes, but not the tendency to forgive. Brown et al. also ran a second study where participants were given a measure of internal religiosity taken from the Intrinsic, Extrinsic, and Quest measures (Batson, Schoenrade, & Ventis, 1993) and the Personal Need for Structure Scale (PNS), a measure of an individual's preference for well defined, simple rigid cognitive structures, as a crude partial indicator of fundamentalism, in addition to the ATF and TTF scales. Regression analysis found that being female and religiosity were significant predictors of attitudes towards forgiveness, whereas the need for structure was not; however, when participants were classified as either high

(scores greater than one standard deviation above the mean) or low (scores more than one standard deviation below the mean) on the dimensions of religiosity and personal need for structure, an interaction effect was found between the two in which high need for structure scores predicted higher ATF scores toward forgiveness among those classified as highly religious. A similar regression analysis was conducted using TTF as the criterion and gender, religiosity and need for structure were found to significantly predict the tendency to forgive. When participants were again categorized as high or low on religiosity and the need for structure, an independent association between the tendency to forgive and religiosity was found. High religiosity was found to predict a greater tendency to forgive and those with high need for structure had a lower tendency to forgive.

The findings from Brown et al. (2007) introduced the question of how religious fundamentalism may impact forgiveness. The study of religious fundamentalism has resulted in numerous definitions of the construct, from which no single model has emerged as widely accepted. Thus it is important to first explore what is meant by religious fundamentalism prior to discussing its implications for forgiveness.

Perhaps the most widely accepted definition of fundamentalism is that of Altemeyer and Hunsberger (1992):

the belief that there is one set of religious teachings that clearly contains the fundamental, basic, intrinsic, essential, inerrant truth about humanity and deity; that this essential truth is fundamentally opposed by forces of evil which must be vigorously fought; that this truth must be followed today according to the fundamental, unchangeable practices of the past; and that those who believe and follow these fundamental teachings have a special relationship with the deity (p.118).

In the context of this research, Altemeyer and Hunsberger's (1992) definition of religious fundamentalism is expanded to include Altemeyer's right-wing authoritarianism construct as a rigid cognitive style that utilizes well-defined and simple cognitive schemas regarding social norms and authorities; said norms and authorities are submitted to and violators are treated with hostility and aggression. Religious fundamentalism and right-wing authoritarianism have consistently been found to be strongly related to one another with correlations ranging from .66 to .75 (Altemeyer & Hunsberger, 1992; Jonathan, 2008; Laythe, Finkel, Bringle, & Kirkpatrick, 2002; Laythe, Finkel, & Kirkpatrick, 2001; Shaffer & Hasting, 2007). Kraus, Steib, Keller, and Silver (2006) found after conducting an exploratory factor analysis on Altemeyer and Hunsberger's measures of religious fundamentalism and right-wing authoritarianism, that fundamentalism and right-wing authoritarianism were indistinguishable from one another. Confirmatory factor analysis of the data found that most of the differences between the factors were due to the wording of items being either pro-trait (a statement an individual high in the construct being measured would endorse) or con-trait (a statement an individual high in the construct being measured would not endorse); however, once this was controlled for, the two constructs were subtly distinguishable from one another, supporting Altemeyer's assertion of fundamentalism as the religious manifestation of authoritarianism.

Such an encompassing conceptualization of religious fundamentalism may be argued against. Hood, Hill, and Williamson, (2005) take a broad approach to their understanding of fundamentalism based upon a model of intratextuality. Hood et al. present fundamentalism as a worldview in which a text demands compliance with authority and simultaneously establishes itself as the supreme authority as the basis from which meaning and understanding are derived. In this conceptualization of fundamentalism, a text (typically sacred) will designate itself as the

authority and present its content as absolute truths that form the framework through which beliefs are developed. This definition of fundamentalism allows it to take on a religious or nonreligious context and does not include the aggressive components of authoritarianism. To argue one conceptualization of religious fundamentalism over the other is a semantic argument as models are not mutually exclusive of one another.

Given the weight of the empirical evidence, it can be concluded that religious individuals likely possess a greater disposition to forgive others compared to non-religious individuals (Edwards et al., 2002; Gorsuch & Hao, 1993; Leach & Lark, 2004; Webb et al., 2005). However, adoption of religiously fundamental beliefs may inhibit one's ability to forgive (Brown et al., 2007) due to the authoritative nature of religious fundamentalism with its rigid expectation and interpretations of events and aggression towards that which does not align with one's own ideology. As indicated by Tsang et al. (2005), a religious person may circumvent cognitive dissonance by rationalizing his or her decision to not forgive a transgression by utilizing a multiple meaning system within his or her faith to justify punishment.

### **Religion and Empathy**

Another core value promoted in religious traditions is compassion for others (e.g. bible scriptures). Although compassion, defined by the Oxford Dictionary as "sympathetic pity and concern for the sufferings or misfortunes of others," is distinct from empathy, it encompasses the warm regard for others that is believed to be the transforming feature of empathy that ultimately allows an individual to forgive another (Worthington, 1998). This emphasis of concern for others has generated the religion-empathy hypothesis. Watson, Hood, Morris, and Hall (1984) found that intrinsic religiosity, an orientation in which religion provides an internalized framework by which an individual lives his or her life (Allport & Ross, 1967), positively correlated with scores



on the Mehrabian and Epstein Empathy Scale (MEES) and the Smith Empathetic Personality Questionnaire (SEPQ), but not with the Hogan Empathy Scale (HES). Conversely, extrinsic religiosity, which denotes the utilization of religion as a means to personal or social benefits, was found to negatively correlate with the HES and the MEES, but not the SEPQ. In a sample of Pakistani university students, Kahn, Watson, and Fatima (2005) found similar results using subscales from the IRI; however, correlations with extrinsic religiosity were mostly non-significant, although the personal distress subscale was positively correlated with extrinsic religiosity.

In a study examining religion and prosocial behaviors (e.g. altruism, empathy, honesty, etc.) using self and peer reports, Saroglou, Pichon, Trompette, Verschueren and Dernelle (2005) found somewhat consistent evidence to support the religion-empathy hypothesis. Using Davis's (1980) IRI scale, no relationship was found between any of the empathy subscales and three-item measure of religiosity among a large sample of Belgian high school aged children. This pattern was found among self-reports and ratings from siblings and friends; however, in a follow up study using a sample of Belgian adults, self-report and ratings from colleagues found a positive relationship between religiosity and the empathetic concern subscale.

Duriez (2004) also examined the religion-empathy hypothesis using the IRI but utilized the Post-Critical Belief Scale (PCBS) as a measure of religiosity. The PCBS is made of two dimensions; Exclusion versus Inclusion of Transcendence dimension that measures religiosity and a Literal versus Symbolic dimension that indicates how one processes religious content. Bivariate and partial correlations controlling for social desirability showed no relation between scores on the Exclusion versus Inclusion of Transcendence dimension and scores on IRI subscales. Interestingly, scores on all but the personal distress subscale of the IRI correlated with

the Literal versus Symbolic dimension of the PCBS, indicating that those who approach religion symbolically were more empathetic than those who take a literal approach to religion. Duriez 's findings yield two important conclusions. First, given that empathy is considered to be a key component in forgiveness, the finding that those who approach religion literally are less empathetic does appear to fit with the finding that religious fundamentalists, who typically interpret religious scripture literally, are less forgiving. Secondly, when comparing the results of Duriez's study to the findings of other researchers, it should be taken into consideration that the Exclusion versus Inclusion of Transcendence dimension of the PCBS is distinctly different from intrinsic/ extrinsic religious orientation. The Exclusion versus Inclusion of Transcendence dimension is a measure of the belief in a higher power beyond the limits of material experience, whereas the intrinsic religious orientation is a measure of the degree to which one lives in accordance with his or her religious beliefs.

In summary, it appears that religious persons are more empathetic compared to those who are not religious. This conclusion is supportive of the rationale that religion does impact an individual's disposition to forgive as empathy is often identified as an integral part of forgiveness. Additionally, Duriez's (2004) findings of a lack of empathy among those who interpret religion literally may serve as an explanation for Brown et al.'s (2003) finding that religious fundamentalists were less forgiving compared to their non-fundamentalist counterparts.

### **Emotional Intelligence and Forgiveness**

Emotional intelligence (EI), the ability to perceive, understand and manage emotions, has been a topic of growing interest to researchers over the past two decades. The origin of EI can be traced back to Thorndike's social intelligence concept, defined as the ability to manage others including one's self in the context of social relationships; however, this eventually grew to be

interpreted as the ability to effectively manipulate others (Salovey & Mayer, 1990). Over time social intelligence grew to be understood as a central process to one's personality, social problem solving, and social interaction as reflected in Gardner's intrapersonal and interpersonal intelligences (Salovey & Mayer, 1990). From this, EI was conceived as a component of social intelligence in which emotional information was processed for accurate appraisal of emotions in oneself and others, appropriate expression of emotion, and adaptive regulation of emotion in such a way as to enhance living (Mayer, DiPaolo, & Salovey, 1990).

Ability models of EI, such as those by Mayer and Salovey (1997), define EI as "the capacity to reason about emotion, and of emotions to enhance thinking" (Mayer, Caruso, & Salovey, 2004, p.197). From this, Mayer and Salovey (1997) divided the skills of EI into a four-branch ability model that includes the ability to perceive emotions, use emotions, understand emotions, and manage emotions.

The first branch, perceiving emotion, is the ability to detect and identify the emotional content within forms such as facial expressions and other body language as well in voices, music, and images (Salovey & Grewal, 2005). In addition, the perceiving of emotions includes the ability to recognize emotions within oneself as well as sources external to the individual. Amongst the abilities of emotional intelligence, this is perhaps the most rudimentary as it speaks to the initial processing of emotional information.

The second branch of EI, using emotions, is the ability to utilize emotions to facilitate thought and other cognitive processes, most notably problem solving (Salovey & Grewal, 2005). Based on his theory of natural selection, Darwin (1965) proposed that emotions provided information about the environment allowing for greater adaptation and ultimately survival. More recent research supports this understanding as emotional states have been shown to be influential

in aiding social problem solving (Andrews & Thompson, 2009). An individual's EI can be exemplified by his or her ability to alter his or her emotional state in order to undertake the completion of a given task, such as lowering his or her mood to better engage critical reasoning.

The third branch of EI, the ability to understand emotions, is the capacity to comprehend the unique assembly of emotions and how more basic emotions can be combined to create more complex emotions, such as how anger and disgust combine to form contempt. Additionally, this branch is also the understanding of how emotions relate to one another, including how an emotion may transition to another emotion within an individual.

The fourth and final branch concerns the managing of emotion in oneself and others. Often this ability is linked to motivation and goal achievement; however, most definitions of this branch include phrasing to suggest that this ability is oriented towards personal growth in order to distinguish it from mere manipulation of others (e.g. Mayer, Salovey, Caruso, & Sitarenios, 2001; Mayer, Caruso, & Mayer, 2004). Examples of this form of EI can include reappraisal of an event or avoidance of particular feelings, such as engaging in physical exercise as a means to dissipate anger and regain or maintain one's composure.

The role of EI in forgiving has only been explored in the previously discussed study by Hodgson and Wertheim (2007). Hodgson and Wertheim used path analysis to evaluate their hypothesis that emotional management would allow for greater empathy and in turn a greater disposition to forgive others. As a measure of emotional management Hodgson and Wertheim utilized the TMMS. The TMMS was the first measure based upon an ability model of EI and is a 30 item self-report scale of perceived EI containing three subscales of emotional attention, clarity, and regulation (Salovey, Mayer, Goldman, Turvey, & Palfai, 1995). Each of the TMMS's three subscales was positively correlated with forgiving others using both self-report and peer-

reported data and in Hodgson and Wertheim' final model the TMMS subscales were predictive of forgiveness, although entirely mediated by empathy. This finding reveals the important role of EI in the forgiving process as the ability to identify, understand, and manage emotions are significant components needed to foster empathy for one who has offended and ultimately forgive him or her.

### **Emotional Intelligence and Religion**

Relatively little research has been done examining the relationship between EI and religion. Additionally, all of the studies found on the topic presented limitations that prevent a clear understanding of the variables' relationships to one another.

In a commentary by Pizarro and Salovey (2002) it was suggested that the link between religion and well-being may be partially due to the promotion of emotional regulation by religious organizations. Pizarro and Salovey (2002) proposed that religion may encourage emotional regulation and in turn EI among its followers by providing greater access to venues of emotional disclosure, structured practices that lessen emotional intensity of negative emotions (such as meditation and prayer), and access to others skilled in managing the emotions of others (e.g. religious leaders or counselors). Additionally, social interaction provides individuals an opportunity to learn, practice and gain efficacy in emotional skills.

Other researchers have empirically studied the relationship between religion and EI; however, in all but one of those studies, EI was not a principle focus of the research and was used as an indicator of emotional adjustment. For example, the research conducted by Watson et al. (2002) examined the relationship between Allport's (1950) intrinsic and extrinsic religious orientation constructs and adjustment using samples of university students from Iran and the United States. Watson et al. (2002) found that intrinsic religious orientation positively correlated

with measures of adjustment, such as EI and self-esteem, and was negatively correlated with measures of maladjustment, such as depression and perceived stress. Extrinsic religious motivation was generally found to be positively related to alexithymia, a deficiency in understanding, processing, and describing emotions, as well as maladjustment.

Similar results were found among an Iranian Muslim sample by Ghorbani and Watson (2006). When participants were classified by religious orientation (intrinsically oriented, extrinsically oriented, indiscriminately pro-religious, or indiscriminately anti-religious), it was found that people classified as intrinsically oriented generally scored significantly higher on measures of EI compared to other religious orientations, whereas those classified as extrinsically oriented were generally observed as having greater levels of alexithymia compared to those of other orientations (Ghorbani & Watson, 2006).

The research that perhaps provides the greatest understanding of the relationship between religion and EI is that of Paek (2006). Paek's examination of the relationships between EI, behavioral religiosity, and religious orientation found that intrinsic religiosity and religious behavior were significant predictors of EI; however, behavioral religiosity (e.g. church attendance, bible reading, prayer, etc.) did not contribute to the amount of explained variance beyond that predicted by intrinsic religiosity. Intrinsic religiosity was found to be positively correlated with total scores on the TMMS; however, when compared with the TMMS's subscales intrinsic religiosity only correlated with the emotional understanding subscale. Interestingly, emotional perception and emotional regulation subscales were unrelated to any of the religiosity variables, whereas findings from Ghorbani and Watson (2006) and Watson et al. (2002) indicated a strong relationship between emotional regulation and intrinsic religiosity.

A limitation of the findings by Watson et al. (2002), Ghorbani and Watson (2006), and Paek (2006) is that all utilized the TMMS as measure of EI. The TMMS was the first measure based upon an ability model of EI and is a 30 item self-report scale of perceived EI containing three subscales of emotional attention, clarity, and regulation (Salovey et al., 1995). Problems with the TMMS deal largely in its reliability as the emotional management subscale has a low internal consistency,  $\alpha = .35$  (Paek, 2006) and  $\alpha = .62$  (Salovey et al., 1995).

Also, as a self-report measure, the TMMS is susceptible to social desirability, which was not assessed in the previously described research. Paulhus (1991) denoted two varieties of social desirability, self-deceptive positivity, when an individual's responses are genuine over-estimations of the individual's self, and impression management, where responses are adapted to present the individual in the most positive light to others. It has been argued that self-deceptive positivity is part of some personality traits (Paulhus, 1991); however, the ability model clearly presents EI as distinct from other personality constructs such as optimism and motivation (Mayer, 2004; Mayer, Caruso, & Salovey, 2000). The inclusion of a social desirability measure with the TMMS would have possibly allowed for this response bias to be assessed and controlled for in analyses. Lastly, items of the TMMS only ask respondents to evaluate emotional attention, clarity, and regulation within themselves. This, in essence, only allows the TMMS to provide a partial measure of EI that prevents a more complete understanding of the construct as the TMMS does not measure an individual's ability to be aware, identify, and manage the emotions of others.

Collectively these findings appear to mostly support Pizzaro and Salovey's (2002) supposition that religion promotes EI; however, their suggested hypotheses are not supported that is, prayer was unrelated to emotional regulation (Paek, 2006). Additionally, the use of the

TMMS has its limitation regarding its measurement of EI; however, the findings of Watson et al. (2002), Ghorbani and Watson (2006), and Paek (2006) demonstrate the relationship between religion and EI. The religion-EI relationship appears to suggest that religion may not only increase one's the motivation to forgive but may also provide a setting that fosters efficacy in the emotional skills utilized in empathy thus effectively increasing one's capacity to forgive as suggested by Hodgson and Wertheim's (2007) findings.

### CURRENT STUDY

The primary aim of the present study was to evaluate the role of religion on the disposition to forgive by examining its impact on empathy and EI using structural equation modeling (SEM). SEM provides several advantages over regression modeling including the reduction of measurement error through the use of confirmatory factor analysis (CFA), the ability to test entire models instead of individual coefficients, the ability to model mediating variables and the ability to compare alternative models to assess relative fit.

The measurement model is comprised of the six latent variables of behavioral religiosity, religious belief, religious fundamentalism, emotional intelligence, empathy, and forgiveness. Each latent variable had three to five indicators. The first latent variable, labeled behavioral religiosity, was comprised of the indicator variables of frequency of service attendance, scripture reading, prayer, involvement in religious activities (bible study, Sunday School, church book club, volunteer work), and financial contributions. The basis for distinguishing these manifest variables into a latent variable separate from the religious belief latent variable was that these variables constitute the ritual of religion and although the practice of religious rituals and acceptance of religious doctrine are strongly related, engaging in one of these two areas does not necessarily involve the other. Additionally, research is beginning to make a clearer distinction



between the rituals imparted by religious institutions and an individual's personal religious beliefs and spirituality (Spilka, Hood, Hunsberger, & Gorsuch, 2003). Second, Paek (2006) found that behavioral variables of religiosity did not improve the prediction of EI scores. Given that this result may impact the structural component of the hypothesized model (described later), behavioral religiosity was made into its own variable to evaluate possible unique relationships and to possibly provide a better model fit.

A latent variable designated as religious belief was made up of intrinsic religious orientation, extrinsic religious orientation, religious orthodoxy, and religious internalization. Although intrinsic and extrinsic religious orientation scales do not identify true believers from non-believers, an intrinsic religious orientations measures how much an individual's religious beliefs serve as the basis for how lives his or her life, from which acceptance of the beliefs can be inferred. However, having an extrinsic orientation means that one uses his or her religion for personal comfort or social status; it has been correlated with a number of personality characteristics that are generally viewed as negative and not openly embraced by many religious teachings, such as fearfulness and prejudice (Donahue, 1985). The relationship between intrinsic and extrinsic religiosity is often described as curvilinear; however, in a review of religious orientation, Donahue reported that the correlation between intrinsic and extrinsic religious orientation ranged from  $-.58$  to  $.24$ . This provides an ambiguous understanding of the relationship between intrinsic and extrinsic religious orientation, which may have been an issue regarding how extrinsic religiosity loads onto the latent factor. Should extrinsic religiosity have failed to load onto the religious belief variable, intrinsic religiosity with the two other indicators, orthodoxy and internalization, should load onto the variable to properly identify it.

The latent variable of religious fundamentalism was specified as an expanded conceptualization of Altemeyer and Hunsberger's (1992) definition. In addition to their religious fundamentalism construct right-wing authoritarianism, quest, and the personal need for structure were included. As previously mentioned, fundamentalism and right-wing authoritarianism have been found to be highly correlated, and personal need for structure has been utilized as measure of fundamentalism by Brown et al. (2007) based on findings from Saroglou (2002). Quest should load onto the religious fundamentalism variable, as it is the antithesis of the closed and rigid belief structure held by fundamentalists; one high in the quest dimension approaches religious issues with flexibility and prizes his or her open questioning of religious belief.

The forgiveness latent variable was made up of three indicators, the Dissipation-Rumination Scale (DRS), The Heartland Forgiveness Scale (HFS), and the Tendency to Forgive Scale (TFF). Each scale is a measure of forgiveness and was chosen for its strong psychometric properties and because it is a measure of dispositional forgiveness opposed to a transgression-specific measure of forgiveness.

The EI latent factor is taken from the EI construct that has been empirically supported by research from Mayer et al. (2001). It is measured using the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT), which yields a score for each branch outlined by Mayer and Salovey (1997) that serves as an indicator in this study's model.

Finally, empathy is measured using Davis's (1980) Interpersonal Reactivity Index (IRI). The measure generates four scores for empathetic concern, perspective taking, personal distress, and fantasy which served as indicators for the model's latent variable of empathy.

A structural model has been specified based on a review of the relevant literature. The hypothesized model (Figure 1) specifies a relationship between three exogenous variables of

religious behavior, religious belief and religious fundamentalism, each with four to five indicators, and the endogenous variable, forgiveness, as partially mediated by and fully mediated by empathy. Unlike previous research that used only religious orientation scores (Kahn et al., 2005; Watson et al., 1984) or a scale made of intrinsic orientation items combined with behavioral items (Saroglou et al., 2005) as a measure of religiosity, the present study makes the distinction between religious practice and religious belief. This distinction is warranted because religious practices, such as attending services, bible studies, and other church-oriented activities, are largely social which may influence an individual's disposition to forgive differently from one's own intrapersonal religious beliefs by impacting an individual's ability or tendency to empathize.

The hypothesized model was a recursive hybrid structural equation model that specified that as an individual practices his or her religion and accepts the doctrine or his or her religious faith, he or she will possess greater EI which in turn promotes greater empathy. The hypothesized relationship between the variables of religious belief and EI is based on the findings that higher intrinsic religiosity is associated with higher EI scores (Ghorbani & Watson, 2006; Paek, 2006; Watson et al., 2002), whereas the relationship between behavioral religiosity and EI is less clear. Pizzaro and Salovey's (2002) suggestion that religious practices, such as prayer, and the social relationships with other followers may promote greater emotional management has been somewhat supported by Watson et al.'s finding that emotional management positively correlated with the Prayer and Practices factor of their Negatively Reinforcing Personal Extrinsic Motivations Scale and also by Peak's discovery that service attendance and Bible reading were associated with higher scores of emotional understanding. However, Peak did not find a relationship between total EI scores and variables of behavioral

religiosity. Given the ambiguity of these previous findings and the previously discussed limitations of the TMMS used to measure EI by Paek (2006) and Watson et al. (2002), subsequent alternative models were planned to provide a better understanding of the relationship between religious belief, religious practice, and EI.

The model also denoted empathy as a product of behavioral religiosity and religious belief, and like EI, increased levels of these variables should enhance one's empathy. This process is supported by researching findings from Kahn et al. (2005), Saroglou et al. (2005), and Watson et al., (1984). Conversely, unlike behavioral religiosity and religious belief, the degree to which one embraces a fundamentalist ideology is predicted to result in lower levels of empathy (Bradley, 2009; Duriez, 2004). Lastly, empathy is expected to fully mediate the relationship between the exogenous religious variables and the endogenous variable because empathy has been found predict forgiveness in previous studies (Macaskill et al., 2002; McCullough et al., 1997; Sandage & Worthington, 2010; Walker & Gorsuch, 2004).

## METHOD

### Participants

Data were collected from 239 participants recruited from a medium-sized public Midwestern university. The data collection design oversampled in order to insure that an adequate sized sample with useable data was achieved for data analysis. Of the 239 participants, only 162 completed data collection for both data collection sessions. Cases of acquiescence, habituation and excessive missing responses were screened from the data set and removed from analysis, leaving 142 cases. Due to financial consideration of scoring participant responses and in line with the recommended 20 participants per parameter, only 140 of the 142 participants'

data were included in the analysis. The two excluded cases were determined using a random number generator. The incentive for participation was provided in the form of course credit.

The final sample of 140 participants included in the analysis was made up of 101 females (72%) and 39 males (28%). Participants were predominately either Caucasian (68.6%) or African American (23.6%), while the remaining 7.1% of the participants claimed Multiracial, Hispanic, Asian-Pacific Islander, or other ethnicity. The sample consisted of 53 Mainline Protestants, 41 Christian Evangelicals, 26 Roman Catholics, 11 Atheists, eight Agnostics, and one participant who did not respond. The mean age of participants was 20.6 years ( $SD = 5.31$ ).

## **Materials**

**Demographic information.** A small series of items were designed to collect relevant demographic variables of sex, ethnicity, age, education, marital status, and religious affiliation (Appendix A).

**Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT).** The current standard of measurement for EI is the MSCEIT (Appendix B). The MSCEIT evaluates EI based upon the four-branch model of EI developed by Mayer and Salovey (1997), assessing each branch with two types of tasks for a total of eight tasks (Caruso, 2005; Mayer et al., 2004). The MSCEIT consists of 141 items and takes approximately 30 to 45 minutes to complete. Participants taking the MSCEIT are asked to identify emotional content from images of faces and designs, to generate complex emotions using more basic emotions, and to solve problems using moods (Caruso, 2005). Additionally, participants are asked about the causes of moods and how emotions interrelate with one another using vignettes. Lastly, participants are given hypothetical situations in which they are asked how they would manage the emotions of both themselves and others (Mayer et al., 2004).

The MSCEIT is scored objectively, the scoring guide having been developed from expert and consensus scoring (Caruso, 2005; Mayer et al., 2004). Experts used to develop the expert proportion of the scoring guide were 21 members of the International Society for Research on Emotion. Some researchers have pointed out that scores between the two scoring guides have yielded low reliability correlations between one another (Mayer et al., 2004); however, correlations in those studies were calculated using data collected on a precursor measure to the MSCEIT, the Multifactor Emotional Intelligence Scale (MEIS). Mayer et al. (2004) found high reliability coefficients between the two scoring systems for the MSCEIT and on each of the eight tasks and four branches of EI with coefficients ranging between .99 and .94, with an overall reliability coefficients of .98. The current study utilized consensus scoring on the MSCEIT as emotional knowledge is largely dependent upon social norms and this scoring method allowed for comparison among laypersons.

**The Dissipation-Rumination Scale (DRS).** The DRS (Caprara, 1986) is a unifactorial measure of an individual's ability to overcome feelings of malice (Appendix C). Originally used to predict retaliatory aggression over time, in the context of this study it is used to measure forgiveness as it best exemplifies the release of negative emotions and the cessation of animosity. The scale is made up of 20 items, 15 items measuring the construct and an additional five control items. It has an internal consistency of .87 in English, and a test-retest reliability of .91. A potential limitation of this scale is that it contains no negative items, which combined with its true/ false response format may increase the risk of response habituation.

**Heartland Forgiveness Scale (HFS).** Thompson et al. (2005) developed the HFS as a self-report measure of dispositional forgiveness, in which forgiveness is defined as one's tendency to reassociate a negative transgression as neutral or positive (Appendix D). The 18-item

scale is made up of three subscales measuring forgiveness of self, forgiveness of others, and forgiveness of the situation while providing a global measure of one's disposition to forgive. The HFS has demonstrated acceptable internal consistency with Cronbach's alphas ranging between .72 and .82 on the subscales and .87 for the entire measure, while also showing good test-retest reliability ( $r = .83$ ).

**Tendency to Forgive (TTF).** The TTF scale is a brief 4-item measure of one's "tendency either to let go of one's offense experiences or hold on to them" (Brown, 2003, p.761; Appendix E). The TTF is positively correlated with self-esteem ( $r = .31$ ), negatively correlated with trait anger ( $r = -.44$ ), and those with higher scores on the TTF have reduced access to recall past offenses (Brown, 2003). The TTF's internal consistency was found to be reasonable ( $\alpha = .82$ ), and the test-retest reliability was  $r = .71$  over an eight week period (Brown, 2003).

**Interpersonal Reactivity Index (IRI).** Davis's (1980) IRI (Appendix F) measures four separate aspects of empathy (empathetic concern, perspective taking, personal distress, and fantasy) using a 5-point Likert-type scale (0 = does not describe me well to 4 = describes me very well). The Perspective Taking subscale measures "the tendency to spontaneously adopt the psychological point of view of others," whereas the Empathic Concern subscale assesses "other-oriented feelings of sympathy or concern for unfortunate others" (Davis, 1983, pp. 113–114). The Personal Distress subscale gauges feelings in response to emotionally tense situations of others and the Fantasy subscale measures a respondent's tendency to imagine themselves transposed onto fictional characters in various media. The internal consistency of the scales ranged from .70 to .78 (Davis, 1980) with a test-retest reliability between .61- .81 over a period between 60 and 75 days between administrations.

**Behavioral religiosity.** Behavioral religiosity was measured using a series of five single

item scales that assess the frequency of service attendance, scripture reading, prayer, involvement with faith-based organizations, and contributions to religious organizations as separate variables (Appendix G). Items were either borrowed or adapted from the Multidimensional Measurement of Religiosity/ Spirituality (Fetzer Institute, 1999). After reviewing the responses to the item designed to measure contributions to religious organizations, it was decided to exclude the item from analysis because the responses often appeared to indicate that participants did not understand the question or no response was given.

**Religious Orientation Scale- Revised (I/E-ROS).** The I/E-ROS (Gorsuch & McPherson, 1989) is a modified and shortened form of Allport and Ross's (1967) measure of intrinsic and extrinsic religious orientation using 14 items (Appendix H). The measure of the extrinsic motivation is divided into two subscales of extrinsic-social and extrinsic-personal, each subscale is made up of three items with a total reliability estimate of .65 (Hill & Hood, 1999). The intrinsic scale contains eight items (three of which are reverse scored) and has a reliability estimate of .83. Participants are instructed to rate their level of agreement with each item.

**Short Christian Orthodoxy Scale (CO-S).** The CO-S (Hunsberger, 1989; Appendix I) is a six item shortened version of the 24-item Christian Orthodoxy scale (Fullerton & Hunsberger, 1982) that serves as a measure of "the acceptance of well-defined, central tenets of the Christian religion" (Fullerton & Hunsberger, 1982, p.318) that bypass interpretative differences of various denominations. Items reflect beliefs such as the existence of an omniscient God, that Jesus of Nazareth was Divine, that Jesus was crucified for the salvation of mankind, and the death and resurrection of Jesus. The CO-S shows strong psychometric properties as overall reliability was found to be .94 and .93 across participants from Catholic and Protestant backgrounds. Scores on the short version had a .98 correlation with the original long version.



**Christian Religious Internalization Scale (CRIS).** The CRIS (Appendix J) is a 12-item scale measuring the degree of self-determination for their Christian beliefs and practices using a four-point scale (1 = not at all true and 4 = very true) (Ryan, Rigby, & King, 1993). The CRIS is comprised of two subscales, identification and introjection, each with an internal-consistency of  $\alpha = .82$ . Identification is conceptualized as an internalization in which a person feels the beliefs and practices are the result of his or her volition, opposed to introjections in which internalization of beliefs are “maintained through contingent self-approval, guilt, esteem related anxieties” (Ryan et al., 1993, p.594). The identification subscale was found to positively relate to Allport and Ross’s intrinsic religious orientation, whereas the introjection subscale was only moderately related to extrinsic religious orientation.

**Short Religious Fundamentalism Scale (RF-S).** The 12 item scale (Appendix K) developed by Altemeyer and Hunsberger (2004) is a shortened and slightly altered form of their Religious Fundamentalism Scale (1992) that attempts to reflect their definition of fundamentalism, described as “the belief that there is one set of religious teachings that contains...the truth about humanity and deity...that is opposed by evil which must be vigorously fought ... followed today according to the fundamental, unchangeable practices of the past” (Altemeyer & Hunsberger, 1992, p.118). The shortened form addresses Altemeyer and Hunsberger’s belief that the original measure did not emphasize the religion as the basic truth of reality conceptualization enough. The shortened form also addresses the problem of some researchers’ tendency to use only part of the scale. Comparison of the original and shortened form of the scale found the RF-S to yield similar correlations to other measures (e.g. right-wing authoritarianism, belief in a traditional God, church attendance) and in some cases stronger

correlations than the original scale in a sample of college students and parents. Reliability coefficients were reported to be between .91 and .92.

**Right-Wing Authoritarianism Scale (RWA).** Zakrisson (2005) developed a 15-item shortened version of Altemeyer's (1998) Right-Wing Authoritarian scale that utilizes less extreme wording, fewer references to specific groups, and overall shortened items (Appendix L). The removal of extreme wording (i.e. exchanging "perversions" for "untraditional values") and specific groups makes the items themselves less offensive and reduces the likelihood of priming prejudices of which the RWA scale has been found to predict. This version of the RWA scale was found to have a reliability ranging from .72 to .80. The scale was also found to be predictive of ethnic tolerance, racism, and sexism when controlling for social dominance orientation. Although this scale reflects a narrower view of authoritarianism compared to Altemeyer's original scale, it does appear to represent a "purer" (p.870) representation of the construct.

**Quest Scale.** Altemeyer and Hunsberger (1992) developed a 16 item version of the Quest scale (Appendix M), designed to measure the degree to which an individual approaches complex religious and extensional issues with an open and flexible mentality (Altemeyer, 1996; Spilka et al., 2003). Items were derived from McFarland's (1989) revised Quest Scale in addition to twelve new items, nine of which were "con-traits" designed to balance the scale. Scores from the scale were found to have a correlation of -.67 with scores on the Right Wing Authoritarian scale and an internal consistency of .88.

**Personal Need for Structure (PNS).** The PNS (Appendix N) is a 12-item measure of one's desire to organize and structure his or her environment and is composed of two factors, Desire for Structure and Response to Lack of Structure, on a six-point Likert scale ranging from strongly agree to strongly disagree (Neuberg & Newson, 1993). An 11-item version of the

measure has acceptable internal consistency ( $\alpha = .77$ ) and retest reliability ( $r = .76$ ). The subscales of the Need for Structure Scale, preference for structure and preference for predictability, were found to positively correlate with religious fundamentalism (Saroglou, 2002), thus suggesting that a measure such as the PNS might capture the rigidity described in the religious fundamentalism construct.

**Social Desirability Scale- 17 (SDS-17).** The SDS-17 is a 17-item scale that assesses social desirability (Stöber, 2001; Appendix O). The selection of this scale is based upon its items' reflection of more current social standards compared to the widely used Marlowe-Crowne Scale (MCS; Crowne & Marlowe, 1960). The SDS-17 has an acceptable reliability of .82 as well as acceptable validity using convergent and divergent methods. The SDS-17 correlates with the MCS ( $r = .74$ ) and no significant correlations were found between SDS-17 scores and measures of neuroticism or negative affect. Additionally when a sample of students was asked to rate the social desirability of items on both the MCS and SDS-17, ratings of social desirability were found to be significantly higher for items on the SDS-17. In this study, however, only 16 items will be used as the item "I have tried illegal drugs (for example, marijuana, cocaine, etc.)" was found to consistently have an inter-item correlation close to zero in four studies assessing the validity of the scale (Stöber, 2001).

## **Procedures**

Data were collected in two separate sessions; the first was completed online while the second session was completed via computer administration in a laboratory. This design was necessary as the MSCEIT is a controlled measure and for matters of practicality was administered in a laboratory. It was estimated that administering all measures in a single data collection session could take approximately 90 minutes, and this design was used to reduce

participant fatigue during data collection as well as to limit the chance of acquiescence.

Participants accessed the first session of the survey via an online participant pool and were presented with an informed consent page (Appendix P) prior to completing the online questionnaire which was comprised of all the measures presented in randomized blocks, with exception of the MSCEIT. The MSCEIT was administered in a laboratory in the second data collection session after participants completed a second informed consent form (Appendix Q). Responses were anonymous, but the responses from both data sessions were paired using a personal code generated by participants. After participants completed data collection, they were debriefed (Appendix R).

## RESULTS

Analysis of the structural equation model (SEM) was undertaken using AMOS [Version 18] (Arbuckle, 2009). This analysis utilized a two-step modeling procedure in which a CFA assessed the latent factor loadings of the hypothesized measurement model prior to assessing the structural component of the hypothesized model (Figure 1). Indicator descriptive statistics are presented in Table 1 and correlations are presented in Table 2.

### **Measurement Model**

A CFA was conducted to evaluate the fit of measurement model (Model 1) of the hypothesized hybrid model using maximum likelihood estimation (Figure 2). The fit indices indicated the observed data fit the model poorly and are presented in Table 3. Examination of the modification indices suggested fit could be improved. Post-hoc modifications were made in which the error terms of the indicator variables of the latent variables behavioral religiosity and religious belief were allowed to covary when theoretically justified; however, the fit indices only improved marginally (Model 2, Table 3).

Review of the modification indices showed high correlations between the error terms for the indicators loaded onto the behavioral religiosity and religious belief factors indicating a possible misspecification. To evaluate the possibility of an improved organization of the factors and the overall measurement model, an exploratory factor analysis (EFA) was conducted using a maximum likelihood extraction method and oblique rotation (direct oblimin) on the indicator variables of the latent variables of behavioral religiosity and religious belief. The Kaiser-Meyer-Olkin measure verified the sampling adequacy for the analysis,  $KMO = .88$ , and all KMO values for individual items were greater than .83, which was above the acceptable limit of .5 (Field, 2009). Bartlett's test of sphericity,  $\chi^2 (28) = 734.29$ ,  $p < .001$ , indicated that correlations between items were sufficiently large for factor analysis. Two components had eigenvalues over Kaiser's criterion of one, together explaining 65.90% of the variance, and were retained in the final analysis. The factor loadings reproduced the hypothesized factors of behavioral religiosity and religious belief; however the indicators of intrinsic religiosity and prayer were cross-loaded on the two factors. The factor loadings after the rotation are presented in Table 4.

CFA was used to assess the fit of the respecified measurement model (Model 3), which again was found to exhibit poor fit (Table 3). The modification indices indicated that fit could be improved; however, fit only improved marginally (Model 4, Table 3).

### **Path Analysis of the Hypothesized Model**

Because the observed data failed to converge with the measurement component of the hypothesized model and the primary interest of the study is focused on the structural component of the model and the scores used to measure the indicator variables came from standardized measures widely used in the religion research, the researcher opted to conduct a path analysis using factor score estimates as alterations made based upon the sample may not replicable. An

issue of concern for this technique is that random measurement error is computed into the factor scores, weakening the size of path estimates; however, model fit remains relatively unaffected (Hair, Black, Babin, & Anderson, 2009).

Standardized scores were computed for all indicator variables, from which a mean factor score was derived for each of the originally hypothesized factors, with the exception of EI. The MSCEIT provided an overall score of EI derived from the four EI subscales, which was standardized and utilized in place of a mean factor score of the four EI subscales. Additionally, the empathy, religious fundamentalism, and religious belief factor scores were also calculated excluding one of their hypothesized indicator loadings. The specification of these factors was done to simplify the constructs and make them more representative of what they were intended to conceptualize. The fantasy subscale of the IRI was excluded from the mean factor score calculation as theoretically one's ability to relate to and understand the feelings of fictional characters has little bearing on empathizing with actual people. This operationalization of empathy has been utilized by other studies (Hodgson & Wertheim, 2007; Penner, 2002). The religious fundamentalism factor score estimate did not include the Personal Need for Structure Scale because it was included as a novel means of measuring religious fundamentalism. Additionally, the reliability analysis found that excluding the scale improved the factor score's reliability from  $\alpha = .78$  to  $.90$ . Lastly, the religious belief factor score was estimated without the extrinsic religious orientation scale. This was done because the factor was conceptualized to measure the degree to which an individual accepts religious beliefs and applies them to his or her life. Extrinsic religiosity is a measure of one's approach to religion as a means to an end; however, it is not unexpected to find individuals who exhibit a high degree of both intrinsic and extrinsic orientation in what Allport and Ross (1967) deemed as indiscriminately pro-religious.

For this reason, extrinsic religiosity was originally hypothesized to load on the factor. However, despite its significant positive correlation with the other variables in the factor, it is somewhat limited in its theoretical basis for inclusion in the factor score and the factor reliability improved with extrinsic religiosity removed from the calculation.

After conducting a path analysis using the estimated factor scores, the hypothesized model mostly exhibited good fit (see Model 5, Table 3) and all but two of the hypothesized paths were significant (Figure 3) as behavioral religiosity did not predict empathy and the path coefficient between EI and empathy was merely approaching significance. Additionally, the direction of the path coefficient between behavioral religiosity and EI was unexpectedly negative opposed to positive as hypothesized. The unexpected directionality of the path between behavioral religiosity and empathy, along with inflated standard error and the high correlation between behavioral religiosity and religious belief ( $r = .96, p < .001$ ) suggested an issue of extreme collinearity. To test the impact of the collinearity between behavioral religiosity and religious belief, the path of religious belief predicting empathy was removed to allow behavioral religiosity to explain more the variance of empathy. The fit of the overall model did worsen to levels just short of indicating good fit on a few of the fit indices (see Table 3, Model 6), however, all path coefficients were significant at least at the  $\alpha = .01$  level and the path coefficient between behavioral religiosity and empathy had changed to a positive direction,  $\beta = .41, p < .01$ , confirming an issue of collinearity between the factor score estimates (Figure 4).

Due to high degree of collinearity between the behavioral religiosity and religious belief factor score estimates ( $r = .96, p < .001$ ), a new religiosity factor score estimate was computed by averaging the standardized scores of prayer, frequency of service attendance, scripture reading, religious activities, intrinsic religiosity, orthodoxy, and the identification subscale of the CRIS.

The theoretical basis of the new factor score estimate was based on the idea that if one were to exhibit strong belief in his or her faith, then it would not be unexpected that he or she would also regularly engage in the practices promoted by their faith's religious doctrine that were conceptualized in the behavioral religious factor score estimate. Empirically the factor estimate presented excellent reliability,  $\alpha = .91$ .

Utilizing the new factor score estimate labeled religiosity, a new path model was specified (Figure 5) in which it was hypothesized that higher religiosity scores would predict higher EI and empathy scores, whereas religious fundamentalism would inversely predict empathy. Additionally, EI was hypothesized predict greater empathy and empathy was hypothesized to predict greater dispositional forgiveness. Path analysis found the model to exhibit good fit (Table 3, Model 7), and all but the coefficient between religiosity and EI were significant (Figure 5). The path coefficient was unexpectedly negative; however, excessive collinearity was not suspected, as religiosity was the only predictor of EI. In order to present a better fitting and more parsimonious model, the non-significant path was trimmed from the model and EI was respecified as an exogenous variable (Figure 6). The trimmed model did exhibit improved fit across fit indices (Table 3, Model 8) and all path coefficients were significant at least at the .05 level.

### **Path Analysis of Alternative and Final Models**

An alternative near-equivalent model (Model 9) was specified in which an added path predicting EI from religious fundamentalism was included (Figure 7). This respecification of the model was made as the scores on Managing, Understanding, and Using Emotion branches of EI were significantly related to right-wing authoritarianism and it also potentially explained the relationship between religious fundamentalism and empathy. It was excluded from specification



in the original hypothesized model as no previous research has examined the relationship thus there was no empirical basis for its specification. The alternative model was found to demonstrate good fit (Table 3) on all fit indices, and all path coefficients were significant at least at the .05 level; however the indirect effect of religious fundamentalism on empathy through EI was in fact quite minimal,  $r = -.03$  for a total effect of  $r = -.43$  of religious fundamentalism on empathy.

To evaluate if the religion-forgiveness hypothesis was not dependent upon empathy predicting forgiveness in the model, a near-equivalent model (Figure 8) was specified in which the exogenous factor score estimates directly predicted forgiveness in addition to empathy. Although the model indicated good fit (Model 10, Table 3), the added paths predicting forgiveness were not significant, supporting the hypothesis of empathy's role in the religion-forgiveness relationship.

Finally, to evaluate the influence of social desirability on the model, the standardized score of the SDS-17 was included in an alternative near-equivalent model as an exogenous variable predicting empathy and forgiveness (Figure 9). The model exhibited good fit across fit indices (Table 3, Model 11). The social desirability-empathy path coefficient was significant and the social desirability-forgiveness path coefficient approached significance,  $p = .07$ . All other path coefficients were significant. The social desirability-forgiveness path was trimmed to the final and preferred model (Figure 10). All of the fit indices indicated good fit of the final model with the exception of the RMSEA (Table 3, Model 12). The RMSEA was found to indicate marginal fit; however, the probability of a close fitting model, where the null hypothesis is a good fitting model ( $RMSEA \leq .05$ ) and the alternative hypothesis is a poor fitting model ( $RMSEA > .05$ ), was .37, indicating the model was a close fit.

## DISCUSSION

This study sought to examine the religion-forgiveness hypothesis by evaluating how religion may influence forgiveness within the context of the forgiveness process. It was hypothesized that the religious factors of religious belief and behavioral religiosity would predict EI and empathy, the key to forgiveness, and ultimately forgiveness. Additionally, the rigid and punitive nature of religious fundamentalism was predicted to negatively predict empathy and ultimately dispositional forgiveness.

Using SEM, a hybrid model was evaluated. Examination of the measurement model failed to achieve an acceptable level fit indicating a misspecification and a path analysis using estimated factor scores was conducted instead. The misspecification was likely among the religious belief and behavioral religiosity factors as the error terms of the indicators were highly correlated in the measurement model. Despite using EFA to try and correctly specify the two factors, fit of the measurement model did not improve to a sufficient level. The misspecification presented itself again as the two estimated factor scores exhibited an excessive degree of collinearity in the path analysis. Ultimately, behavioral religiosity and religious beliefs were combined to form a single religiosity factor score estimate. The purpose of conceptualizing religious behavior as separate from religious belief, which this study was unable to do, was to examine the possibly unique contribution each may have made to empathy and forgiveness since previous research by Mullet et al. (2003) concluded social commitment to religion in the form of going to church contributed largely to an individual's dispositional forgiveness. Despite the study's inability to statistically separate religiosity into behavioral and belief factors, other constructs of religiosity also conceptualize religiosity as both ritual and personal belief system

such as the Santa Clara Strength of Religious Faith Questionnaire (Plante & Boccaccini, 1997) and the Duke University Religion Index (Koenig, Meador, & Parkerson, 1997).

The overarching religion-forgiveness hypothesis was supported, as religiosity was predictive of empathy and empathy was predictive of forgiveness; however, a caveat to this relationship is that religious fundamentalism was predictive of lower levels of empathy and ultimately lower levels of dispositional forgiveness. These results supported previous findings by other researchers (Edwards et al., 2002; Fox and Thomas, 2008; Mullet et al., 2003; Toussaint & Williams, 2008; Webb et al., 2005) who concluded that religiosity was predictive of dispositional forgiveness. However, comparing near-equivalent models, the researcher found that the religion-forgiveness relationship was dependent upon empathy, as paths directly predicting dispositional forgiveness from religiosity were not significant. This finding supports this study's hypothesis of the religion-forgiveness relationship in the context of current models of the forgiveness process in which empathy is key.

As the Enright's (1996) forgiveness process outlines what was referred to as the Uncovering Phase, in which an individual is able to recognize the injury caused by a transgression committed against him or her, it has been suggested that this phase may utilize the perceiving emotion ability encompassed in EI. The relationship between the forgiveness process and EI may also extend to the Decision Phase where understanding emotions could aid in the decision to let go of animosity given the long-term consequences of ruminating over the transgression, prior to managing one's emotions in order to begin empathize with the offender. In this study it was hypothesized that religiosity would predict greater EI and ultimately higher levels of empathy and dispositional forgiveness, as the self-reflective practice of prayer was thought to aid in emotional perception and emotional management. Additionally, practices such

as religious service attendance and engagement in religious activities were thought to encourage the efficacy of the abilities comprised in EI. Although the findings of Hodgson and Wertheim (2007) that greater emotional management in the form of EI did aid forgiveness were replicated, the hypothesized path of religiosity predicting greater emotional intelligence was not supported. Previous studies have found intrinsic religiosity to be predictive of EI and its subscales (Ghorbani & Watson, 2006; Paek, 2006; Watson et al., 2002) and the failure of the religiosity factor score to relate to EI may largely be due to the construct of the religiosity factor score estimate as it was constructed using multiple religious variables, including the behavioral religiosity variables that only significantly correlated with EI and its subscales in a few instances (Paek, 2006). Additionally, the current study utilized an objective measure of EI whereas previous studies used a self-report measure of EI making their results possibly susceptible to social desirability.

Although not originally hypothesized, religious fundamentalism was found to be predictive of lower EI. The addition of this path to the model provides some additional understanding of how religious fundamentalism lessens empathy and forgiveness. Although a rigid and literal interpretation of religious scripture would not be expected to impact the emotional abilities that make up EI, it appeared that inclusion of right-wing authoritarianism in the factor score estimate may have been primarily driving this relationship as those higher in right-wing authoritarianism exhibited lower abilities of using, understanding and managing emotions. This may be the result of having a literal and rigid interpretation of religious dogma that endorses a punitive ideology that lessens the requirement to manage or understand emotions towards ambiguity or offenders, ultimately serving as a barrier to forgiving others. However, the

sum of the indirect path was small and did not contribute much in explaining religious fundamentalism's influence on empathy.

One of the challenges of conducting forgiveness research is best outlined by Tsang et al. (2005), who argued that there is often a discrepancy between reported forgiveness and actual forgiveness as it is relatively easy to endorse items that treat forgiveness as an abstract concept compared to actually forgiving a transgression. To reduce and evaluate response bias on self-report measures of religiosity, empathy and forgiveness, the current study first randomized the order of presentation for each of the measures administered to participants. The randomized design was used to reduce demand characteristics should a participant determine forgiveness as a variable of interest; by presenting the forgiveness measures with blocks of items from other measures, none of the participants indicated forgiveness as part of the study when asked what they thought was being studied during the debriefing. Secondly, a measure of social desirability was administered to evaluate its influence on empathy and forgiveness. Despite social desirability significantly predicting empathy and approaching significance in predicting forgiveness, religiosity and religious fundamentalism were still predictive of empathy, and empathy was predictive of forgiveness. Furthermore correlations between social desirability and religiosity factors were not significantly related, demonstrating that social desirability was not influencing the relationship between religion and empathy.

Given the findings of this study, it seems relevant to evaluate the value of this study. To answer that requires an examination of the value of forgiveness itself. Baring a grudge or resentment towards an individual for a transgression limits the potential for being hurt or taken advantage of a second time; however, it also reduces the ability to continue forward with a relationship. Forgiveness serves as a means by which an individual can remove the emotional

burden of a transgression and potentially continue a functional relationship with the offender. This positions forgiveness as a rather important ability in human behavior as humans are a social animal and much throughout the course of evolutionary history, have been socially dependent upon one another. As conflict is an inevitable within many social groups, forgiveness allows for conflict resolution and furthered prosperity for the group and its individuals. The consequences of holding on to the rancor and acrimony of a transgression is the potential for reduced social cohesion and persistent rumination of the transgression and its associated negative emotions which has been found to be a source of depression (Andrews & Thompson, 2009). It has been suggested that rumination and symptoms associated with depression may be a form of social problem solving (Andrews & Thompson, 2009) and given the effectiveness of forgiveness therapy and forgiveness interventions in counseling and clinical settings (Freedman & Enright, 1996; Baskin & Enright, 2004; Reed & Enright, 2006) it stands to reason that forgiveness can serve as a means of resolving the social conflicts that ensue from transgressions committed against us. The current study provides some incite to how religion influences this process and supports previous research findings that religion person are more forgiving than their non-religious counterparts. An implication of this may be a demonstration of how religion has benefited society over time by impelling it followers thereby allowing improved cooperation among individuals and lessening the emotional burden of transgressions committed against them and perhaps improving mental health.

### **Limitations and Future Directions**

Perhaps one of the largest limitations of this study is its use of a correlational design. When using SEM there is the tendency by some to want to interpret significant path coefficients and good fit as a causal relationship; however, as a correlational design causality between the

factors cannot be determined. Future research can provide new understanding of the religion-forgiveness hypothesis by employing experimental designs to evaluate a possibly causal relationship.

Another limitation of the study is its generalizability due to over-representation of Christians, women, and young adults in the study's sample. The study was comprised primarily of participants claiming a Christian religious affiliation (over 85%), while the only other affiliations claimed were atheist and agnostic. A larger sample with representation of other Abrahamic faiths and a greater representation of Atheism and Agnosticism would be required to make the study's findings generalizable beyond Christians. However, the addition of other faiths besides Christianity poses an issue with the design of the current study as the measure of orthodoxy was a measure of Christian orthodoxy and would not be an accurate measure of orthodoxy of participants of Judaism and Islam. This is easily remedied as Pirutinsky (2009) has developed a measure of Jewish orthodoxy and Ji and Ibrahim (2007) a measure of Islamic orthodoxy that could be utilized in place of the Christian orthodoxy measure when needed.

Additionally, the results of this study maybe biased because of the over-representation of women in the study's sample. This may be problematic for two reasons, the first being that women have been found to exhibit greater levels of religiosity compared to men in a number of different facets of religious life (Gallup & Lindsay, 1999). Secondly, women have also found to be more forgiving (Brown et al., 2007; Toussaint & Williams, 2008). Because of the greater levels of religiosity and forgiveness typically exhibited by women and the sample being comprised of 72% women, a key limitation to the results and findings of this study is presented and should be further explored.

Furthermore, the generalizability of the study's findings may also be limited by the age of the participants as many college students are generally less religious compared to older samples (Spilka et al., 2003).

Lastly, because the measurement model failed to fit the observed data, the factors as specified in the study may have been misspecified. The failure of the measurement model may have also been the result of the study's relatively small sample size ( $N = 140$ ) to estimate the measurement model's 66 parameters, well below the recommended minimum of 10 participants per parameter by Kline (1998). A more adequate sample size may achieve a good fit between the model and observed data.

## **Conclusion**

In psychology of religion, the religion-forgiveness hypothesis has been a topic of frequent study in which most of the research has focused primarily on the establishment of the relationship. The present study sought to expand the literature by exploring the religion-forgiveness hypothesis in the context of the forgiveness process. Religious variables were found to significantly predict forgiveness through empathy and EI. Unlike previous findings, empathy was required in the analysis for religion to be predictive of forgiveness which indicates that religion enhances the forgiveness process; however, a caveat to this is the degree of religious fundamentalism that is present as it negatively influenced empathy and forgiveness. Despite the tendency of social desirability to inflate empathy and forgiveness responses in participants, religion remained predictive of empathy and forgiveness. Contributing to the literature of forgiveness and religion, this study served as preliminary exploration into the role religion may play in the forgiveness process and provided a basis for future research of the religion-forgiveness relationship.



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## APPENDIX A

## Demographic Questionnaire

1. What is your sex?

Male                  Female

2. What is your age?

3. What is your ethnicity?

Caucasian      African American      Hispanic      Asian-Pacific Islander  
Native American      Multiracial      Other

4. What is your class?

Freshman      Sophomore      Junior      Senior      Graduate      Other

5. What is your religious affiliation?

Protestant Christian      Roman Catholic      Evangelical Christian  
Jewish      Muslim      Hindu      Buddhist  
Agnostic      Atheist      Other

6. What is your political affiliation?

Democrat      Republican      Independent      Other  
Don't Know

7. Which of the following best describes your general political views?

Conservative      Moderate leaning Conservative      Moderate  
Moderate leaning Liberal      Liberal      Don't Know

## APPENDIX B

## Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT) Sample Items\*

## Identifying Emotions

Indicate how much of each emotion is present in this picture.



Emotion	Not Much				Very
Happiness	1	2	3	4	5
Fear	1	2	3	4	5
Sadness	1	2	3	4	5
Surprise	1	2	3	4	5

## APPENDIX B (continued)

## Using Emotions

What mood(s) might be helpful to feel when meeting in-laws for the very first time?

Mood	Not Much				Very
Tension	1	2	3	4	5
Surprise	1	2	3	4	5
Joy	1	2	3	4	5

## Understanding Emotions

Tom felt anxious, and became a bit stressed when he thought about all the work he needed to do. When his supervisor brought him an additional project, he felt \_\_\_\_\_. (Select the best choice.)

a) Overwhelmed

b) Depressed

c) Ashamed

d) Self Conscious

e) Jittery

## APPENDIX B (continued)

## Managing Emotions

Debbie just came back from vacation. She was feeling peaceful and content. How well would each action preserve her mood?

Action 1: She started to make a list of things at home that she needed to do.

Very Ineffective 1    2       3       4       5 Very Effective

Action 2: She began thinking about where and when she would go on her next vacation.

Very Ineffective 1    2       3       4       5 Very Effective

Action 3: She decided it was best to ignore the feeling since it wouldn't last anyway.

Very Ineffective 1    2       3       4       5 Very Effective

\* The MSCEIT is a controlled measure, as such; the complete measure is unavailable for review.

## APPENDIX C

## Dissipation-Rumination Scale

Using the following scale, indicate the response that reflects your first reaction to each statement by placing an appropriate number before each item. Please do not leave any item blank and be accurate as much as possible within the limits of choices offered below.

5 = completely true for me

4 = fairly true for me

3 = true to a certain extent

2 = false to a certain extent

1 = fairly false for me

0 = completely false for me

1. I never help those who do me wrong.
2. I will always remember the injustices I have suffered.
3. The more time that passes, the more satisfaction I get from revenge.
4. It is easy for me to establish good relationships with people.
5. It takes many years for me to get rid of a grudge.
6. When somebody offends me, sooner or later I retaliate.
7. I do not forgive easily once I am offended.
8. I often bite my fingernails.\*



## APPENDIX C (continued)

- 9. I won't accept excuses for certain offenses.
- 10. I hold a grudge, for a very long, towards people who have offended me
- 11. I remain aloof (distant/ standoffish) towards people who annoy me, in spite of any excuses.
- 12. I can remember very well the last time I was insulted.
- 13. I am not upset by criticism.\*
- 14. I like people who enjoy jokes.\*
- 15. I still remember the offenses I have suffered, even after many years.
- 16. If somebody harms me, I am not at peace until I can retaliate.
- 17. When I am outraged, the more I think about it, the angrier I feel
- 18. I like people who are free. \*
- 19. I am often sulky. \*
- 20. Sometimes I cannot sleep because of a wrong done to me.

\* reverse scored

## APPENDIX D

## Heartland Forgiveness Scale

Directions: In the course of our lives negative things may occur because of our own actions, the actions of others, or circumstances beyond our control. For some time after these events, we may have negative thoughts or feelings about ourselves, others, or the situation. Think about how you typically respond to such negative events. Next to each of the following items write the number (from the 7-point scale below) that best describes how you typically respond to the type of negative situation described. There are no right or wrong answers. Please be as open as possible in your answers.

- |                              |   |                           |   |                          |   |                             |
|------------------------------|---|---------------------------|---|--------------------------|---|-----------------------------|
| 1                            | 2 | 3                         | 4 | 5                        | 6 | 7                           |
| Almost Always<br>False of Me |   | More Often<br>False of Me |   | More Often<br>True of Me |   | Almost Always<br>True of Me |
1. Although I feel bad at first when I mess up, over time I can give myself some slack. <sup>a</sup>
  2. I hold grudges against myself for negative things I've done. \* <sup>a</sup>
  3. Learning from bad things that I've done helps me get over them. <sup>a</sup>
  4. It is really hard for me to accept myself once I've messed up. \* <sup>a</sup>
  5. With time I am understanding of myself for mistakes I've made. <sup>a</sup>
  6. I don't stop criticizing myself for negative things I've felt, thought, said, or done. \* <sup>a</sup>
  7. I continue to punish a person who has done something that I think is wrong. \* <sup>b</sup>
  8. With time I am understanding of others for the mistakes they've made. <sup>b</sup>

## APPENDIX D (continued)

9. I continue to be hard on others who have hurt me.\* <sup>b</sup>
10. Although others have hurt me in the past, I have eventually been able to see them as good people. <sup>b</sup>
11. If others mistreat me, I continue to think badly of them.\* <sup>b</sup>
12. When someone disappoints me, I can eventually move past it. <sup>b</sup>
13. When things go wrong for reasons that can't be controlled, I get stuck in negative thoughts about it.\* <sup>c</sup>
14. With time I can be understanding of bad circumstances in my life. <sup>c</sup>
15. If I am disappointed by uncontrollable circumstances in my life, I continue to think negatively about them.\* <sup>c</sup>
16. I eventually make peace with bad situations in my life. <sup>c</sup>
17. It's really hard for me to accept negative situations that aren't anybody's fault. \* <sup>c</sup>
18. Eventually I let go of negative thoughts about bad circumstances that are beyond anyone's control. <sup>c</sup>

\* reverse scored

<sup>a</sup> Self sub-scale

<sup>b</sup> Others sub-scale

<sup>c</sup> Situation sub-scale

## APPENDIX E

## Tendency to Forgive Scale

Please rate your agreement with each of the following statements using the following scale.

Strongly Disagree    1       2       3       4       5       6       7       Strongly Agree

1. "I tend to get over it quickly when someone hurts my feelings."
2. "If someone wrongs me, I often think about it a lot afterward." \*
3. "I have a tendency to harbor grudges." \*
4. "When people wrong me, my approach is just to forgive and forget."

\* reverse scored

## APPENDIX F

## Interpersonal Reactivity Index

The following statements ask about your thoughts and feelings in a variety of situations. For each item, show how well it describes you by choosing the appropriate number on the scale at the top of the page. READ EACH ITEM CAREFULLY BEFORE RESPONDING. Answer as honestly and as accurately as you can. Thank you.

ANSWER SCALE:

1                      2                      3                      4                      5                      6                      7

Does NOT Describe Me

Describes Me

1. I daydream and fantasize, with some regularity, about things that might happen to me.<sup>1</sup>
2. I often have tender, concerned feelings for people less fortunate than me.<sup>3</sup>
3. I sometimes find it difficult to see things from the “other guy’s” point of view.\*<sup>2</sup>
4. Sometimes I don’t feel very sorry for other people when they are having problems.\*<sup>3</sup>
5. I really get involved with the feelings of the characters in a novel.<sup>1</sup>
6. In emergency situations, I feel apprehensive and ill-at-ease.<sup>4</sup>
7. I am usually objective when I watch a movie or play, and I don’t often get completely caught up in it.\*<sup>1</sup>
8. I try to look at everybody’s side of a disagreement before I make a decision.<sup>2</sup>
9. When I see someone being taken advantage of, I feel kind of protective towards them.<sup>3</sup>
10. I sometimes feel helpless when I am in the middle of a very emotional situation.<sup>4</sup>

## APPENDIX F (continued)

11. I sometimes try to understand my friends better by imagining how things look from their perspective.<sup>2</sup>
12. Becoming extremely involved in a good book or movie is somewhat rare for me.\*<sup>1</sup>
13. When I see someone get hurt, I tend to remain calm.\*<sup>4</sup>
14. Other people's misfortunes do not usually disturb me a great deal.\*<sup>3</sup>
15. If I'm sure I'm right about something, I don't waste much time listening to other people's arguments.\*<sup>2</sup>
16. After seeing a play or movie, I have felt as though I were one of the characters.<sup>1</sup>
17. Being in a tense emotional situation scares me.<sup>4</sup>
18. When I see someone being treated unfairly, I sometimes don't feel very much pity for them.\*<sup>3</sup>
19. I am usually pretty effective in dealing with emergencies.\*<sup>4</sup>
20. I am often quite touched by things I see happen.<sup>3</sup>
21. I believe that there are two sides to every question and try to look at them both.<sup>2</sup>
22. I would describe myself as a pretty soft-hearted person.<sup>3</sup>
23. When I watch a good movie, I can very easily put myself in the place of a leading character.<sup>1</sup>
24. I tend to lose control during emergencies.<sup>4</sup>
25. When I'm upset at someone, I usually try to "put myself in his shoes" for a while.<sup>2</sup>

## APPENDIX F (continued)

26. When I'm reading an interesting story or novel, I imagine how I would feel if the events in the story were happening to me.<sup>1</sup>

27. When I see someone who badly needs help in an emergency, I go to pieces.<sup>4</sup>

28. Before criticizing somebody, I try to imagine how I would feel if I were in their place.<sup>2</sup>

\*Reverse scored

<sup>1</sup>Fantasy subscale

<sup>2</sup>Empathetic Concern subscale

<sup>3</sup>Perspective Taking subscale

<sup>4</sup>Personal Distress subscale

## APPENDIX G

## Behavioral Religiosity Items

1. How often do you pray privately in places other than at church, synagogue, or mosque?

- 0 – Never
- 1 – Less than once a month
- 2 – Once a month
- 3 – A few times a month
- 4 – Once a week
- 5 – A few times a week
- 6 – Once a day
- 7 – Several times a day

2. How often do you read scripture (e.g. Bible, Torah, Talmud, Quran, Vedas) or other religious literature?

- 0 – Never
- 1 – Less than once a month
- 2 – Once a month
- 3 – A few times a month
- 4 – Once a week
- 5 – A few times a week
- 6 – Once a day
- 7 – Several times a day

3. How often do you attend religious services?

- 0 - Never
- 1 - Less than once a year
- 2 - About once or twice a year
- 3 - Several times a year
- 4 - About once a month
- 5 - 2-3 times a month
- 6 - Nearly every week
- 7 - Every week
- 8 - Several times a week



## APPENDIX G (continued)

4. Besides religious services, how often do you take part in other religious oriented activities (e.g. Bible study, missions, youth group, church sports leagues, various church clubs or organizations, volunteer efforts)?

- 0 - Never
- 1 - Less than once a year
- 2 - About once or twice a year
- 3 - Several times a year
- 4 - About once a month
- 5 - 2-3 times a month
- 6 - Nearly every week
- 7 - Every week
- 8 - Several times a week

5. During the last year about how much was the average monthly contribution of your household to your congregation or to religious causes?

\$ \_\_\_\_\_ OR \$ \_\_\_\_\_  
Contribution Contribution  
per year per month

## APPENDIX H

## Religious Orientation Scale-Revised

Please response that reflects your agreement with each statement with the scale below.

Strongly Agree    Somewhat Agree    Unsure    Somewhat Disagree    Strongly Disagree

1. I enjoy reading about my religion.
2. I go to church because it helps me make friends.
3. It doesn't matter what I believe so long as I am good. \*
4. It is important to me to spend time in private thought and prayer.
5. I have often had a strong sense of God's presence.
6. I pray mainly to gain relief and protection.
7. I try hard to live my life according to my religious beliefs.
8. What religion offers me most is comfort in times of trouble and sorrow.
9. Prayer is for peace and happiness.
10. Although I am religious, I do not let it affect my daily life. \*
11. I go to church to spend time mostly with my friends
12. My whole approach to life is based upon my religion.
13. I go to church mainly to because I enjoy seeing people I know there.
14. Although I believe in my religion, many other things are important in life. \*

\* reverse scored

## APPENDIX I

## Short Christian Orthodoxy Scale

In the space provided, write a:

- 3 if you strongly disagree with the statement
- 2 if you moderately disagree with the statement
- 1 if you slightly disagree with the statement
- +1 if you slightly agree with the statement
- +2 if you moderately agree with the statement
- +3 if you strongly agree with the statement

If feel exactly or precisely neutral about an item, write down a "0" in the space provided.

1. \_\_\_\_\_ Jesus Christ was the divine Son of God.
2. \_\_\_\_\_ The Bible may be an important book of moral teaching, but it was no more inspired by God than were many other such books in human history.\*
3. \_\_\_\_\_ The concept of God is an old superstition that is no longer needed to explain things in the modern era.\*
4. \_\_\_\_\_ Through the life, death, and resurrection of Jesus, God provided a way for the forgiveness of people's sins.
5. \_\_\_\_\_ Despite what many people believe, there is no such thing as a God who is aware of our actions.\*
6. \_\_\_\_\_ Jesus was crucified, died, and was buried, but on the third day He rose from the dead.

\*reverse scored

## APPENDIX J

## Christian Religious Internalization Scale

## Religious Behaviors

This questionnaire has four statements, each of which is followed by three possible responses.

Please read the first statement, and then consider each response. Indicate how true each response is for you, using the following scale.

Not at all true    1       2       3       4    Very true

A. One reason I think it's important to actively share my faith with others is:

1. Because God is important to me and I'd like other people to know about Him too.<sup>a</sup>
2. Because I would feel bad about myself if I didn't.<sup>b</sup>
3. Because I want other Christians to approve of me.<sup>b</sup>

B. When I turn to God, I most often do it because:

4. I enjoy spending time with Him.<sup>a</sup>
5. I would feel guilty if I didn't.<sup>b</sup>
6. I find it is satisfying to me.<sup>a</sup>

C. A reason I think praying by myself is important is:

7. Because if I don't, God will disapprove of me.<sup>b</sup>
8. Because I enjoy praying.<sup>a</sup>
9. Because I find prayer satisfying.<sup>a</sup>

## APPENDIX J (continued)

D. An important reason why I attend church is:

10. Because one is supposed to go to church.<sup>b</sup>

11. By going to church I learn new things.<sup>a</sup>

12. Because others would disapprove of me if I didn't.<sup>b</sup>

<sup>a</sup> Identification items

<sup>b</sup> Introjection items

## APPENDIX K

### Short Religious Fundamentalism Scale

This survey is part of an investigation of general public opinion concerning a variety of social issues. You will probably find that you agree with some statements, and disagree with others, to varying extents. Please indicate your reaction to each statement using the following scale.

- 4 if you very strongly disagree with the statement.
- 3 if you strongly disagree with the statement.
- 2 if you moderately disagree with the statement.
- 1 if you slightly disagree with the statement.
- +1 if you slightly agree with the statement.
- +2 if you moderately agree with the statement.
- +3 if you strongly agree with the statement.
- +4 if you very strongly agree with the statement.

If you feel exactly and precisely neutral about neutral about an item, select 0.

You may find that you sometimes have different reactions to different parts of the statement. For example, you might strongly disagree (“-4”) with one idea in the statement, but slightly agree (“+1”) with another idea in the same item. When this happens, please combine your reactions and select how you feel on balance (a “-3” in this case).

1. God has given humanity a complete, unfailing guide to happiness and salvation, which must totally be followed.
2. No single book of religious teachings contains all the intrinsic, fundamental truths about life. <sup>a</sup>
3. The basic cause of evil in this world is Satan, who is still constantly and ferociously fighting against God.
4. It is more important to be a good person than to believe in God and the right religion. <sup>a</sup>

## APPENDIX K (continued)

5. There is a particular set of religious teachings in this world that are do true, you can't go any "deeper" because they are the basic bedrock message that God has given humanity.
6. When you get right down to it, there are basically only two kinds of people in the world: the Righteous, who will be rewarded by God; and the rest, who will not.
7. Scriptures may contain general truths, but they should NOT be considered completely literally true from beginning to end. <sup>a</sup>
8. To lead the best, mot meaningful life, one must belong to the one, fundamentally true religion.
9. "Satan" is just the name people give to their own bad impulses. There really is no such thing as a diabolical "Prince of Darkness" who tempts us. <sup>a</sup>
10. Whenever science and sacred scripture conflict, science is probably right. <sup>a</sup>
11. The fundamentals of God's religion should never be tampered with, or compromised with others beliefs.
12. All of the religions in the world have flaws and wrong teachings. There is no perfectly true right religion. <sup>a</sup>

<sup>a</sup> indicates item is worded in a con trait direction for which scoring is reversed.

## APPENDIX L

## Short Right-Wing Authoritarian Scale

Please indicate how you view of the following statements on the scale blow.

Very Negative 1      2      3      4      5      6      7 Very Positive

1. Our country needs a powerful leader, in order to destroy the radical and immoral currents prevailing in society today.
2. Our country needs free thinkers, who will have the courage to stand up against traditional ways, even if this upsets many people.\*
3. The “old-fashioned ways” and “old-fashioned values” still show the best way to live.
4. Our society would be better off if we showed tolerance and understanding for untraditional values and opinions.\*
5. God’s laws about abortion, pornography and marriage must be strictly followed before it is too late, violations must be punished.
6. The society needs to show openness towards people thinking differently, rather than a strong leader, the world is not particularly evil or dangerous.\*
7. It would be best if newspapers were censored so that people would not be able to get hold of destructive and disgusting material.
8. Many good people challenge the state, criticize the church and ignore “the normal way of living”.\*
9. Our forefathers ought to be honored more for the way they have built our society, at the same time we ought to put an end to those forces destroying it.
10. People ought to put less attention to the Bible and religion, instead they ought to develop their own moral standards.\*
11. There are many radical, immoral people trying to ruin things; the society ought to stop them.
12. It is better to accept bad literature than to censor it.\*



## APPENDIX L (continued)

13. Facts show that we have to be harder against crime and sexual immorality, in order to uphold law and order.
14. The situation in the society of today would be improved if troublemakers were treated with reason and humanity.\*
15. If the society so wants, it is the duty of every true citizen to help eliminate the evil that poisons our country from within.

\* reverse scored

## APPENDIX M

## Revised Quest Scale

This survey is part of an investigation of general public opinion concerning a variety of social issues. You will probably find that you agree with some statements, and disagree with others, to varying extents. Please indicate your reaction to each statement using the following scale.

-4 if you very strongly disagree with the statement.

-3 if you strongly disagree with the statement.

-2 if you moderately disagree with the statement.

-1 if you slightly disagree with the statement.

+1 if you slightly agree with the statement.

+2 if you moderately agree with the statement.

+3 if you strongly agree with the statement.

+4 if you very strongly agree with the statement.

1. It might be said that I value my religious doubt and uncertainties.
2. It is better for a person's religious beliefs to be firm and free of doubt. \*
3. You don't find the true religion by studying all the facts in the universe; you find it by praying to God for grace, humility and enlightenment. \*
4. Religious doubt allows us to learn.
5. When my religious beliefs are challenged by famine, disease, and other evils in the world, it only makes me believe in God's goodness more fervently than ever. \*

## APPENDIX M (continued)

6. My religious beliefs may change in the future as I mature and learn.
7. Religion should just be an aspect of a more basic quest to discover the truth about everything, without prejudice and taking nothing on faith.
8. My religious beliefs are far too important to me to be jeopardized by a lot of skepticism and critical examination. \*
9. The point of life is to search for the truth, with as open a mind as you can, NOT to memorize the “eternal truths” that have been handed down from generation to generation as matters of faith.
10. I am glad my religious beliefs are based upon faith; it would not mean as much to God, and to me, if these beliefs could be “scientifically proven” beyond a doubt.\*
11. We were NOT put on this earth to go “searching for the truth, whatever it is,” but instead to live our lives according to the revealed word of God.\*
12. If a quest for the truth leads to the conclusion that there is no God, then that is what one must conclude.
13. The human mind is too limited to discover God and the Truth by itself; we simply have to accept the truths as they have been revealed.\*
14. The real goal of religion ought to be to make us wonder, think and search, NOT take the word of some earlier teachings
15. When my religious beliefs are challenged by personal unhappiness, or by some clever argument, it just makes me believe stronger than ever.\*
16. My goal is to discover the truth, even if it means changing my religious beliefs.

\* reverse scored

## APPENDIX N

## Personal Need for Structure Scale

Read each of the following sentences and decide how much agree with each according to your attitudes, beliefs, and experiences. It is important for you to realize that there are no “right” or “wrong” answers to these questions. Please respond according to the following 6-point scale.

1 = strongly disagree

2 = moderately disagree

3 = slightly disagree

4 = slightly agree

5 = moderately agree

6 = strongly agree

1. It upsets me to go into a situation without knowing what I can expect from it.
2. I'm not bothered by things that interrupt my daily routine. \*
3. I enjoy having a clear and structured mode of life.
4. I like to have a place for everything and everything in its place.
5. I enjoy being spontaneous. \*
6. I find that a well-ordered life with regular hours makes my life tedious. \*
7. I don't like situations that are uncertain.
8. I hate to change my plans at the last minute.

## APPENDIX N (continued)

- 9. I hate to be with people who are unpredictable.
- 10. I find that a constant routine enables me to enjoy life more.
- 11. I enjoy the exhilaration of being in unpredictable situations. \*
- 12. I become uncomfortable when the rules in a situation are not clear.

\*reverse scored

## APPENDIX O

## The Social Desirability Scale- 17

Below you will find a list of statements. Please read each statement carefully and decide if that statement describes you or not. If it describes you, respond "true"; if not, respond "false".

1. I sometimes litter.\*
2. I always admit my mistakes openly and face the potential negative consequences.
3. In traffic I am always polite and considerate of others.
4. I always accept others' opinions, even when they don't agree with my own.
5. I take out my bad moods on others now and then.\*
6. There has been an occasion when I took advantage of someone else.\*
7. In conversations I always listen attentively and let others finish their sentences.
8. I never hesitate to help someone in case of emergency.
9. When I have made a promise, I keep it--no ifs, ands or buts.
10. I occasionally speak badly of others behind their back.\*
11. I would never live off other people.
12. I always stay friendly and courteous with other people, even when I am stressed out.
13. During arguments I always stay objective and matter-of-fact.
14. There has been at least one occasion when I failed to return an item that I borrowed.\*
15. I always eat a healthy diet.

APPENDIX O (continued)

16. Sometimes I only help because I expect something in return.\*

\*reverse scored

## APPENDIX P

### Electronic Informed Consent Form

You are being invited to participate in a web-based research study on belief and emotion. This research is being conducted by Master's student Gregory Johnson and Dr. Patrick Bennett of the Psychology Department at Indiana State University. Your participation in this study is entirely voluntary. Please read the information below prior to deciding if you want to participate in the study.

If you choose to participate in this study you will be asked to complete two computer surveys inquiring about your religious beliefs and behaviors, emotions, and some demographic information. Most items will ask you to click on the bubble(s) next to the appropriate response.

A few items may ask for "fill in the blank" responses that may require using the keyboard to type in a short response (e.g., a number). The total time that is it is expected for most to complete the first survey is 45 minutes, and it can be completed online in a location of your choosing. The second survey will be completed in the Psychology Department's lab and will also take approximately 45 minutes to complete.



## APPENDIX P (continued)

Efforts will be made to keep your identification and responses strictly anonymous and confidential. At no time will you be asked to provide any identification with your responses. The software being used for the study specializes in Internet-based research and is designed to enhance the privacy of all participants. All data collected will be kept in a secure database designed to maintain anonymity of Internet-based research. The University's online experiment system will track your participation for the purpose of receiving extra credit; however, this information is separate from the software used to record and store your responses.

You can choose whether or not to participate in this study. If you volunteer to be in this study, you may not answer question you are uncomfortable with or withdraw at any time without penalty. You may chose to not/ stop participating by closing your browser at any point during the study. You may also refuse to answer any questions you do not wish to answer. Regardless of your participation, you will not be contacted in any way by the researchers.

By participating in this experiment you may benefit by learning about scientific psychological research and having a chance to explore some of your beliefs and

## APPENDIX P (continued)

reactions. You also have the right to receive a report of the study's findings after the study is completed, if you so choose.

Risks of participation are minimal and are not expected to be greater than what you would encounter in day-to-day activities. You may experience some mild anxiety when completing some of the questions due to examining your own beliefs. If you experience any distress as a result of participating in this study, you can access psychological services at the University's Student Counseling Center (812-237-3939) or the Psychology Clinic in Root Hall (812-237-3317).

This project has been reviewed and approved by the Institutional Review Board (IRB) of Indiana State University as adequately safeguarding the participant's privacy, welfare, civil liberties, and rights. If you have any questions about your rights as a research subject, you may contact the Indiana State University Institutional Review Board (IRB) by mail at 114 Erickson Hall, Terre Haute, IN 47809, by phone at (812) 237-8217, or by e-mail at [irb@indstate.edu](mailto:irb@indstate.edu). Any questions or concerns about this research can be directed toward the primary researcher, Gregory J. Johnson, by e-mail at [gjohnson18@indstate.edu](mailto:gjohnson18@indstate.edu). The project supervisor, Patrick Bennett, can also be contacted in the Department of Psychology at 812-237-2446, or by e-mail at [Patrick.Bennett@indstate.edu](mailto:Patrick.Bennett@indstate.edu).

## APPENDIX P (continued)

By clicking 'I agree' below, you are confirming that you are at least 18 years old, and that you understand the information described above. In addition, you are agreeing to participate in this study. Before beginning the study, you may print a copy of this consent form for your records. If you do not choose to participate, you may now close the browser.

## APPENDIX Q

### Signed Informed Consent

You are being invited to participate in a web-based research study on belief and emotion. This research is being conducted by Master's student Gregory Johnson and Dr. Patrick Bennett of the Psychology Department at Indiana State University. Your participation in this study is entirely voluntary. Please read the information below prior to deciding if you want to continue your participation in the study.

If you choose to continue your participation in this study, you will be asked to complete a computer survey inquiring about your religious beliefs and behaviors, emotions. Most items will ask you to click on the bubble(s) next to the appropriate response. The total time that is it is expected for most to complete this final portion of the survey is 45 minutes.

Efforts will be made to keep your identification and responses strictly anonymous and confidential. At no time will you be asked to provide any identification with your responses. The software being used for the study specializes in Internet-based research and is designed to enhance the privacy of all participants. All data collected will be kept in a secure database designed to maintain anonymity of Internet-based research. The University's online experiment system will track your participation for the purpose of

## APPENDIX Q (continued)

receiving extra credit; however, this information is separate from the software used to record and store your responses.

You can choose whether or not to participate in this study. If you volunteer to be in this study, you may choose to not answer any question(s) you are uncomfortable with or withdraw for any reason at any time without penalty. You may choose to not/ stop participating by closing your browser at any point during the study. Regardless of your participation, you will not be contacted in any way by the researchers.

By participating in this experiment you may benefit by learning about scientific psychological research and having a chance to explore some of your beliefs and reactions. You also have the right to receive a report of the study's findings after the study is completed, if you so choose. Risks of participation are minimal and are not expected to be greater than what you would encounter in day-to-day activities. You may experience some mild anxiety when completing some of the questions due to examining your own beliefs. If you experience any distress as a result of participating in this study, you can access psychological services at the University's Student Counseling Center (812-237-3939) or the Psychology Clinic in Root Hall (812-237-3317).

## APPENDIX Q (continued)

This project has been reviewed and approved by the Institutional Review Board (IRB) of Indiana State University as adequately safeguarding the participant's privacy, welfare, civil liberties, and rights. If you have any questions about your rights as a research subject, you may contact the Indiana State University Institutional Review Board (IRB) by mail at 114 Erickson Hall, Terre Haute, IN 47809, by phone at (812) 237-8217, or by e-mail at [irb@indstate.edu](mailto:irb@indstate.edu). Any questions or concerns about this research can be directed toward the primary researcher, Gregory J. Johnson, by e-mail at [gjohnson18@indstate.edu](mailto:gjohnson18@indstate.edu). The project supervisor, Patrick Bennett, can also be contacted in the Department of Psychology at 812-237-2446, or by e-mail at [Patrick.Bennett@indstate.edu](mailto:Patrick.Bennett@indstate.edu).

By signing this form I am stating that I am over 18 years of age, and that I understand the above information and consent to participate in this portion of study being conducted at Indiana State University.

Signature: \_\_\_\_\_ Today's Date: \_\_\_\_\_  
(of participant)

Print your Name: \_\_\_\_\_

Are you enrolled in Introductory Psychology (PSY 101)?    YES    NO    If no, write the name of the psychology class to which you would like to apply this research participation credit.

\_\_\_\_\_

## APPENDIX Q (continued)

Are you enrolled in Introductory Psychology (PSY 101)?    YES    NO    If no, write the name of the psychology class to which you would like to apply this research participation credit.

---

Name of your psychology class instructor: \_\_\_\_\_

Days your psychology class meets: M T W Th F

Time your psychology class meets: \_\_\_\_\_

## APPENDIX R

## Debriefing Script

Before we go on to talk about this experiment, I need to ask you some questions about your experience:

Do you have any questions or comments about anything so far?

Does anything strike you as particularly interesting or unusual?

Do you have any ideas about what we were actually interested in studying?

The purpose of the experiment is not only for us to collect data, but also for you to learn what psychological research is like. It gives you a chance to see how experiments really work and an opportunity to learn how we test hypotheses. I only gave you a brief idea at the beginning of the study of what the experiment's purpose was. Sometimes when we are studying how people think about certain thing, we don't give them a full description of what we are interested in. That way we are able to get natural responses. Not every psychology study does this. However, there are a few things about this experiment that I would like to explain.

It is really important that we do get people's natural reactions. For that reason, we ask that you please do not talk to anyone about the details of the study, especially any of your friends who are in Psychology 101. We will be running this study for at least a couple of months, and sometimes if people know what the study is about it can bias their responses



## APPENDIX R (continued)

even when they don't mean for it to. If your friends have already been in the study, then that's fine, and you can talk all you want. But with your friends who haven't been in the study yet, we just ask that you refrain from giving them the details. Like I said, it really is important that we know how people actually respond if we want to be able to say anything about these phenomena. Any questions?

Thank you for your participation. If you have any additional questions or concerns, please feel free to contact Dr. Bennett, the IRB, or myself via the information provided on your informed consent sheet.

Table 1

Descriptive Statistics for Indicator Variables

Variable	Mean	SD	Minimum	Maximum	$\alpha$
Behavioral Religiosity					
Activities	2.88	2.06	1	8	-
Attendance	3.71	1.98	1	8	-
Prayer	5.04	2.61	1	8	-
Scripture Reading	3.31	2.22	1	8	-
Religious Belief					
Extrinsic	15.81	4.79	6	24	.80
Identification	16.67	5.96	6	24	.96
Intrinsic	24.58	6.46	10	39	.81
Orthodoxy	7.86	10.08	-18	18	.90
Religious Fundamentalism					
Fundamentalism	-0.68	24.11	-48	45	.93
Need for Structure	44.21	8.08	25	68	.81

Table 1 (continued)

Variable	Mean	SD	Minimum	Maximum	$\alpha$
Quest	-2.06	25.44	-59	56	.91
Right-Wing Fundamentalism	57.19	11.80	23	90	.76
Emotional Intelligence					
Managing Emotion	93.48	12.04	61.12	116.88	-
Perceiving Emotion	101.39	14.21	63.65	134.34	-
Understanding Emotion	89.91	11.35	53.42	118.35	-
Using Emotion	95.41	15.78	58.26	127.00	-
Total	93.76	13.47	57.27	119.13	-
Empathy					
IRI- Empathetic Concern	35.50	6.97	15	49	.77
IRI- Fantasy	34.23	7.84	15	49	.78
IRI- Personal Distress	29.81	6.96	14	49	.74
IRI- Perspective Taking	32.07	6.80	15	48	.73

Table 1 (continued)

Variable	Mean	SD	Minimum	Maximum	$\alpha$
Forgiveness					
Dissipation-Rumination Scale	55.87	12.82	20	84	.88
Heartland Forgiveness Scale	85.11	12.57	56	126	.84
Tendency to Forgive Scale	15.59	4.88	4	26	.69
Social Desirability					
SDS-17	8.02	3.55	0	16	.73

Note. Inter-item correlations could not be produced for Behavioral Religiosity variables, as they were single item variables. Inter-item correlations could not be produced for the MSCEIT branch variables, as item responses were not provided in the participant reports.

Table 2

[illegible]

Table 2 (continued)

Variable	13	14	15	16	17	18	19	20	21	22	23	24
1. Prayer	.16	.07	-.19*	-.06	-.03	-.03	-.03	-.04	.20*	.00	.03	.02
2. Service Attendance	.09	.08	-.19*	.01	-.04	-.10	-.02	-.11	.11	.01	.00	.02
3. Scripture Reading	.03	-.04	-.13	-.05	.03	-.06	-.05	-.06	.17*	.00	.10	.05
4. Activities	-.06**	-.03	-.13	-.14	.04	-.06	-.07	-.12	-.10	-.15	-.08	.07
5. Intrinsic	.09	-.01	-.21*	-.03	-.07	-.05	-.06	-.10	.10	-.03	.02	.00
6. Extrinsic	-.05	-.06	-.14	-.19*	-.17*	-.27*	-.14	-.24**	-.11	-.27**	-.12**	.03
7. Orthodoxy	.23**	-.02	-.07	-.02	.01	-.05	-.02	-.01	.14	-.03	.05	-.01
8. Identification	.22**	-.15	-.03	.00	-.06	-.16	-.06	.14	.04	.09	.07	-.01
9. Religious Fundamentalism	.12	-.13	-.25**	-.03	.01	-.11	-.16	-.10	.09	-.10	.02	.04
10. Right-Wing Authoritarianism	-.02	-.18*	-.29**	-.08	.05	-.21*	-.30**	-.19*	-.01	-.10	-.02	.02
11. Quest	-.07	-.19*	.16	.05	-.02	.12	.20*	.08	-.07	.06	-.02	-.06
12. Need for Structure	.06	.05**	-.07	-.08	-.15	-.01	-.01	-.04	-.14	-.23**	-.18*	.01
13. IRI - Empathetic Concern	—	.45**	-.16	.40**	.06	.20*	.31**	.35**	.23**	.23**	-.01	.10
14. IRI - Perspective Taking	—	—	-.08	-.20*	-.10	.10	.14	.09	.32*	.31**	.26**	.30
15. IRI - Personal Distress	—	—	—	-.07	-.06	-.21*	.08	.05	.10	.15	.16	.23**
16. IRI - Fantasy	—	—	—	—	.22**	.37**	.26**	.33**	-.04	.18*	-.02	-.12
17. MSCEIT - Perceive Emotion	—	—	—	—	—	.49**	.18	.22**	-.02	.01	-.16	-.18*
18. MSCEIT - Use Emotion	—	—	—	—	—	—	.46**	.60**	.10	-.17*	-.04	-.11
19. MSCEIT - Understand Emotion	—	—	—	—	—	—	—	.54**	.06	.12	-.10	-.16
20. MSCEIT - Manage Emotion	—	—	—	—	—	—	—	—	.27**	.29**	.11	.02
21. Dissipation-Rumination	—	—	—	—	—	—	—	—	—	.54**	.69**	.19
22. Heartland Forgiveness	—	—	—	—	—	—	—	—	—	—	.50**	.18
23. Tendency to Forgive	—	—	—	—	—	—	—	—	—	—	—	.26**
24. Social Desirability	—	—	—	—	—	—	—	—	—	—	—	—

Note. IRI = Interpersonal Reactivity Index, MSCEIT = Mayer-Salovey-Caruso Emotional Intelligence Test.

Table 3

## Fit Indices of Hypothesized and Alternate Models

Model	Description	$\chi^2$	df	p	GFI	NFI	CFI	TLI	RMSEA
1	CFA- Measurement Model	506.72	215	***	.77	.75	.83	.80	.10
2	CFA- Measurement Model w/ Modification Indices	423.32	210	***	.80	.78	.88	.85	.09
3	CFA – Measurement Model w/ Respecified Factors	440.40	213	***	.80	.78	.87	.85	.09
4	CFA – Measurement Model w/ Respecified Factors and Modification Indices	414.65	212	***	.81	.79	.88	.86	.08
5	PA – Hypothesized Model	11.70	5	*	.97	.98	.99	.97	.10
6	PA- Collinearity Evaluation	19.96	6	**	.96	.97	.98	.94	.13
7	PA- Respecified Model w/ Religiosity Factor	5.30	4	.26	.99	.97	.99	.98	.05
8	PA- Trimmed Model	1.35	3	.72	1.00	.99	1.00	1.00	0
9	PA- Alternate Model	2.16	4	.71	.99	.99	1.00	1.00	0
10	PA- Alternate Model 2 Religion → Forgiveness	.89	2	.64	1.00	1.00	1.00	1.00	0

Table 3 (continued)

Model	Description	$\chi^2$	df	p	GFI	NFI	CFI	TLI	RMSEA
11	PA- Alternate Model 3 Social Desirability	5.52	5	.36	.99	.97	1.00	.99	.03
12	PA –Final/ Preferred Model	8.86	6	.18	.98	.96	.99	.98	.06

Note. GFI = Goodness of Fit Index; NFI = Normed Fit Index; CFI = Comparative Fit Index; Tucker-Lewis Index; RMSEA = Root Mean Squared Error Approximation. \*\*\* p < .001.



Table 4

## EFA Factor Loadings

Variable	<u>Factor</u>	
	Behavioral Religiosity	Religious Belief
Scripture Reading	1.00	
Activity	.71	
Attendance	.61	
Prayer	.44	.53
Intrinsic	.62	.36
Orthodoxy		.80
Identification		.77
Extrinsic		.61

Note. Direct oblimin rotation. Loadings under .30 are suppressed.

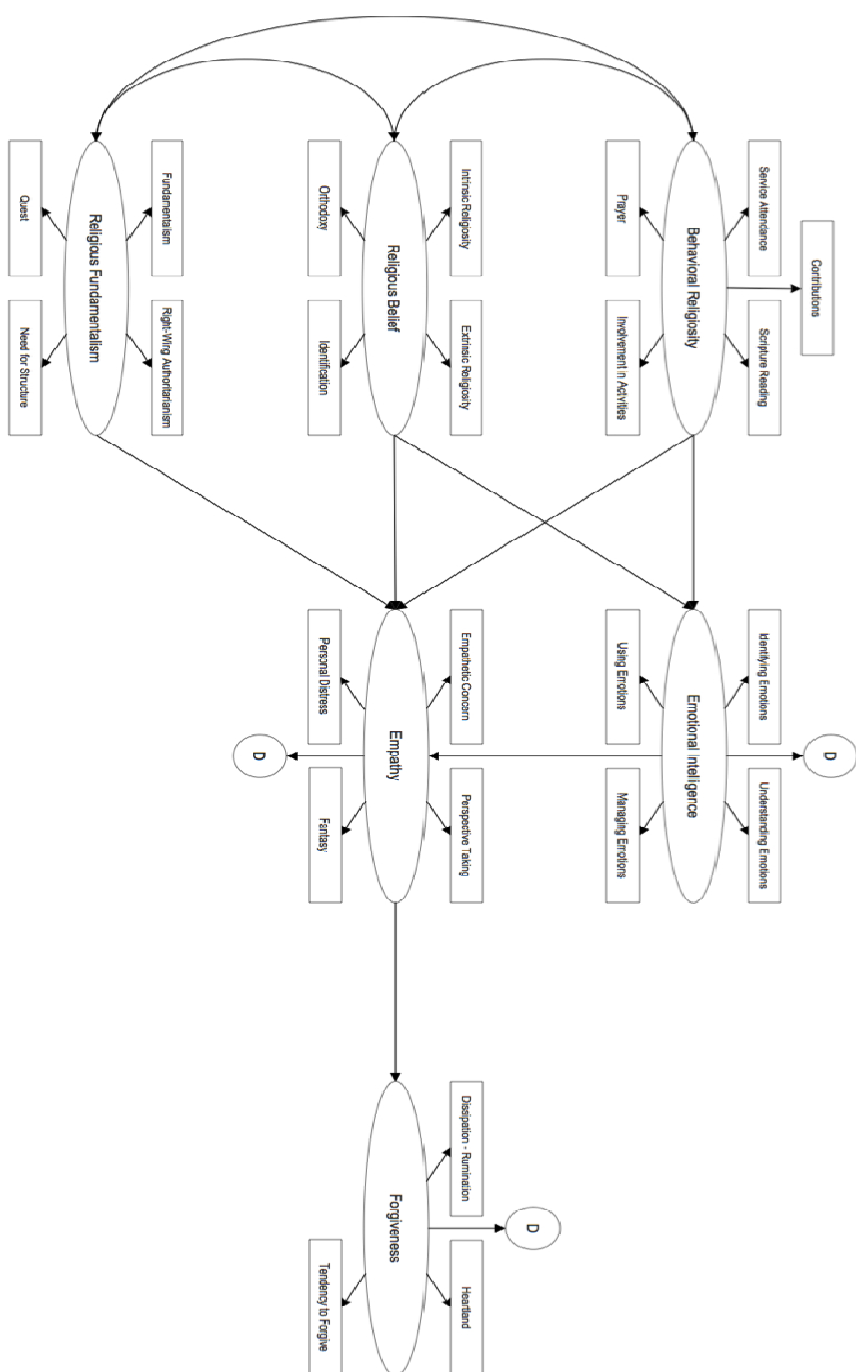


Figure 1. Hypothesized model.

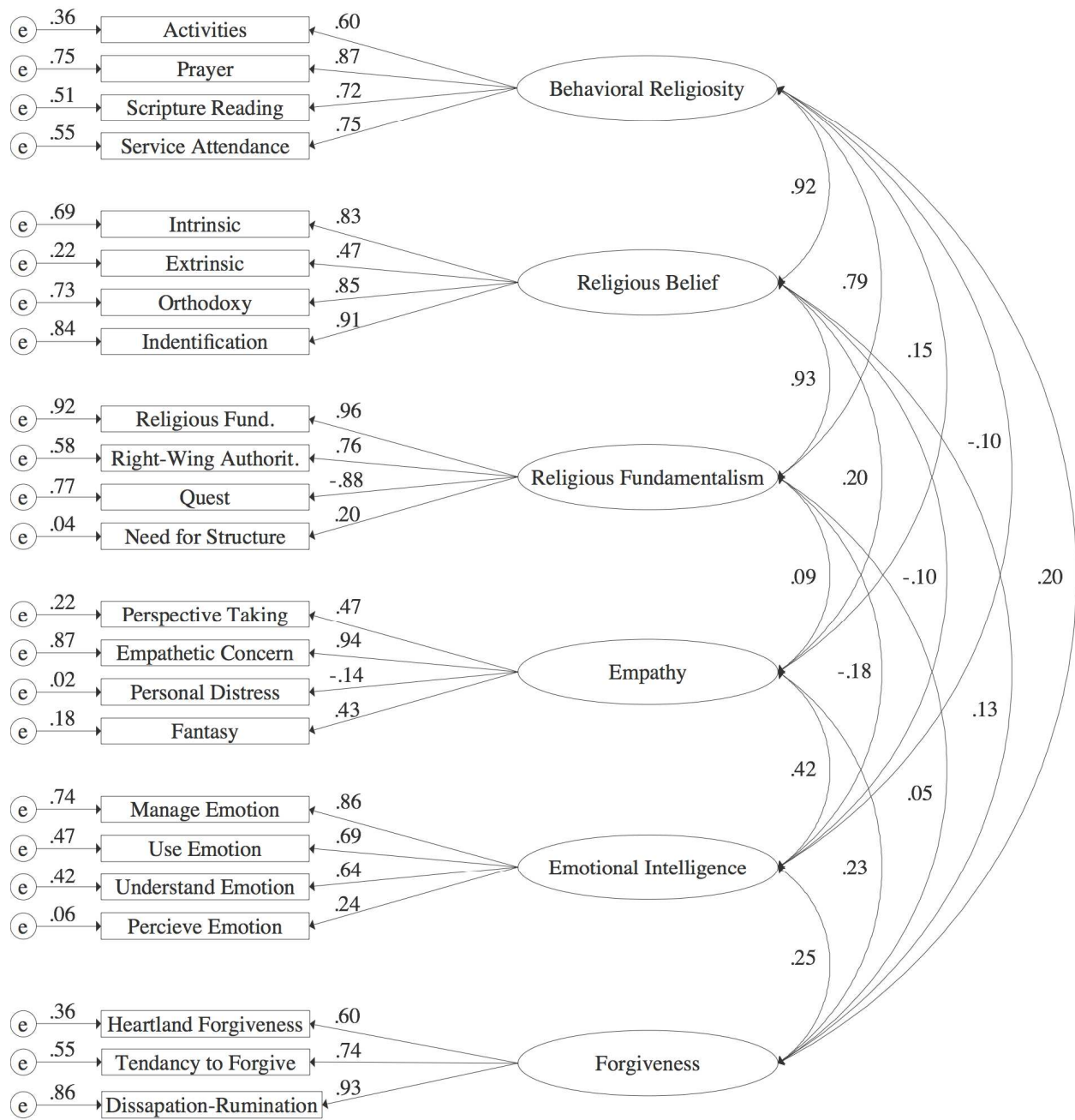


Figure 2. CFA of the hypothesized measurement model. Path coefficients are standardized.

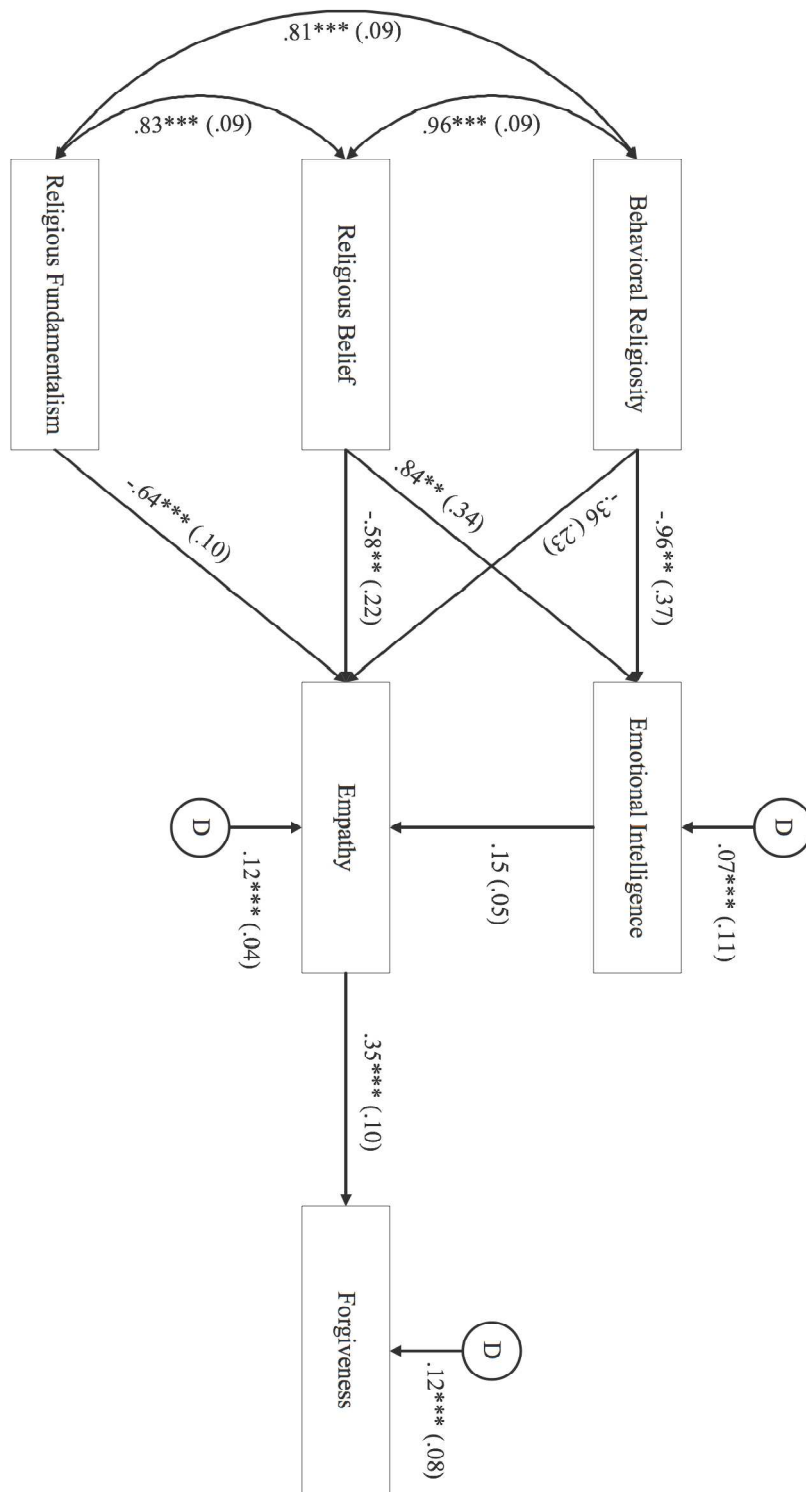


Figure 3. Hypothesized model path analysis with estimated factor scores. Path coefficients are standardized and standard errors are reported in parentheses next to the standardized path coefficient. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

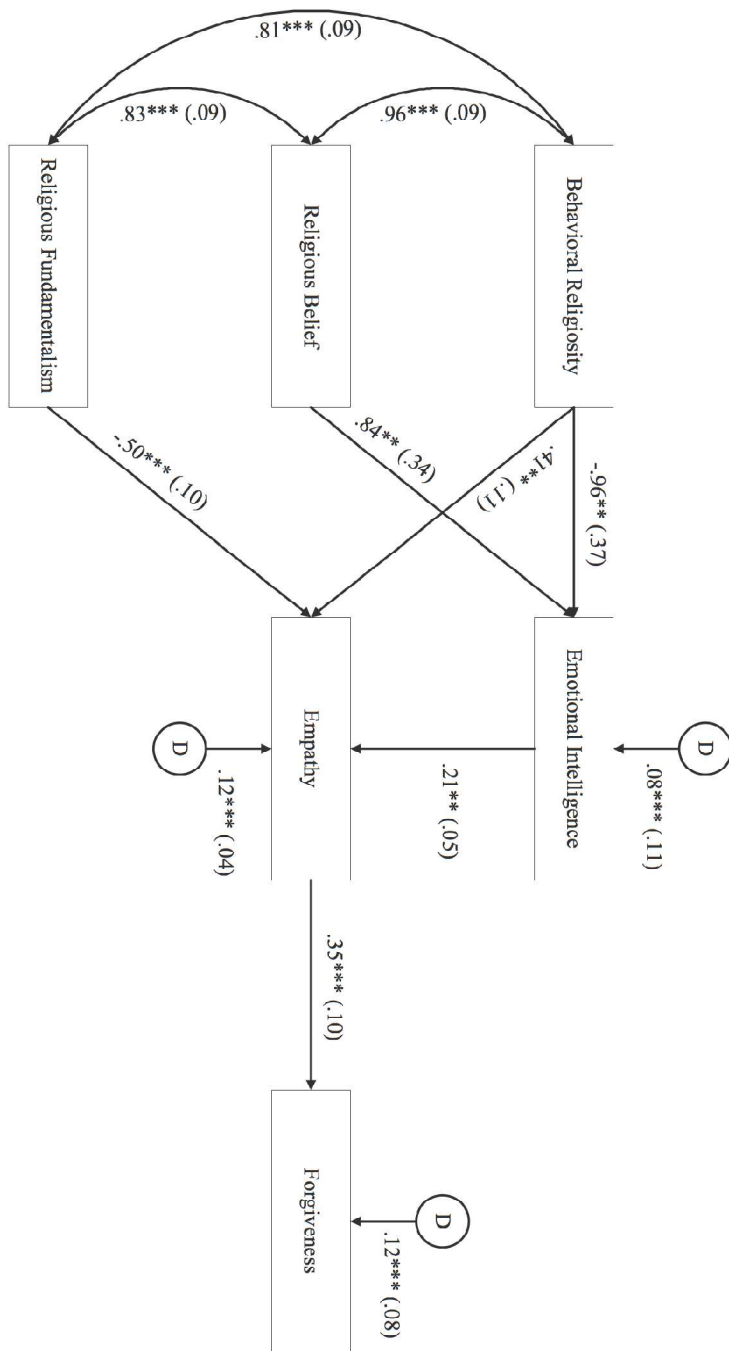


Figure 4. Demonstration of extreme collinearity between behavioral religiosity and religious behavior. Path coefficients are standardized and standard errors are reported in parentheses next to the standardized path coefficient. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

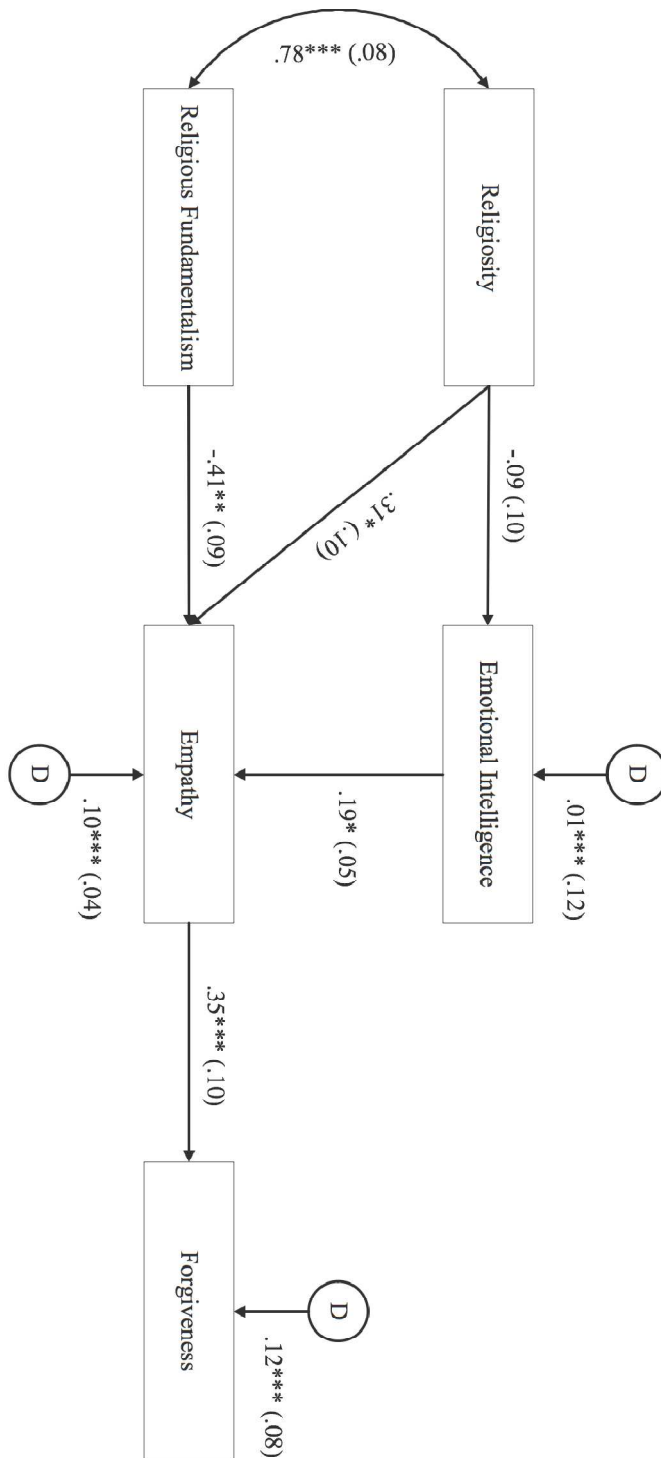


Figure 5. Respecified model with religiosity factor score estimate. Path coefficients are standardized and standard errors are reported in parentheses next to the standardized path coefficient. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

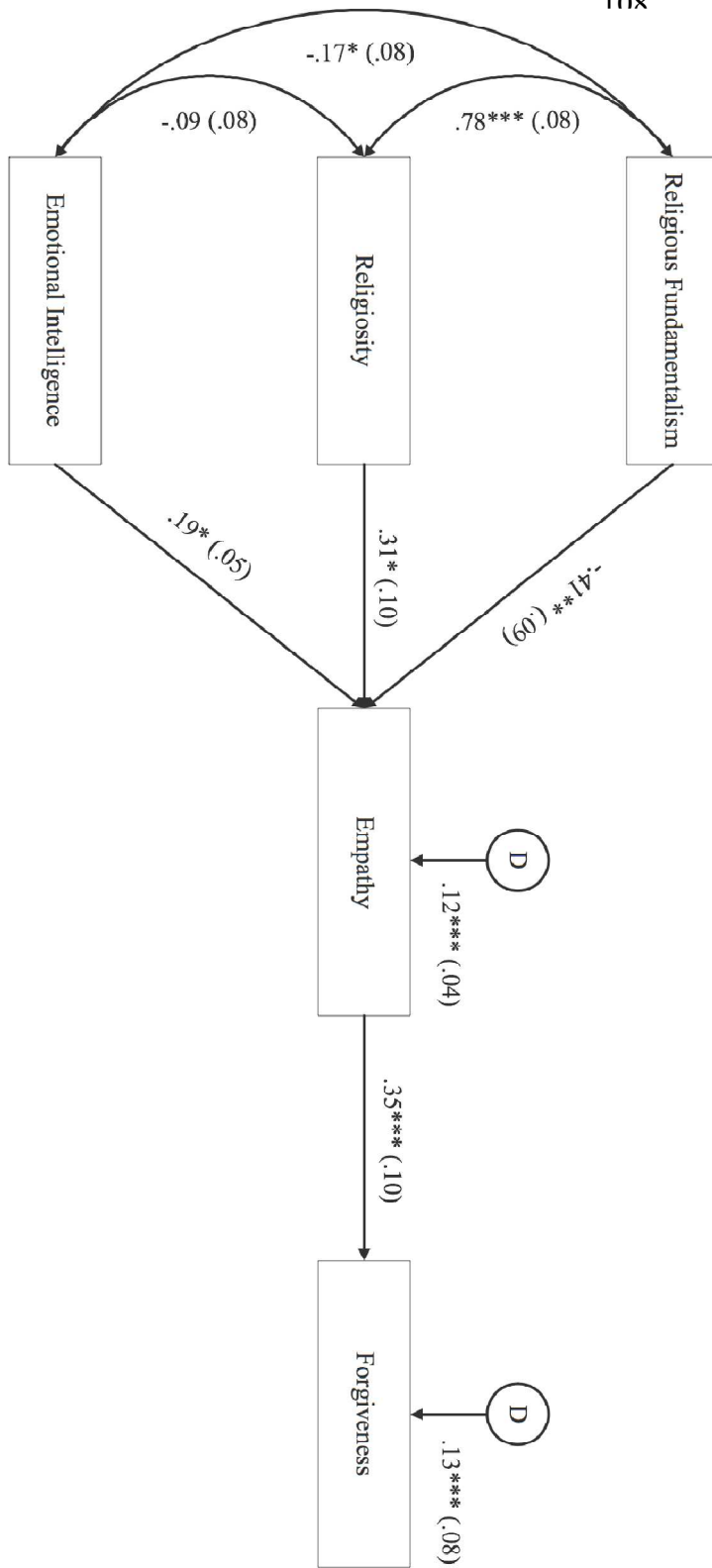


Figure 6. Trimmed model. Path coefficients are standardized and standard errors are reported in parentheses next to the standardized path coefficient. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

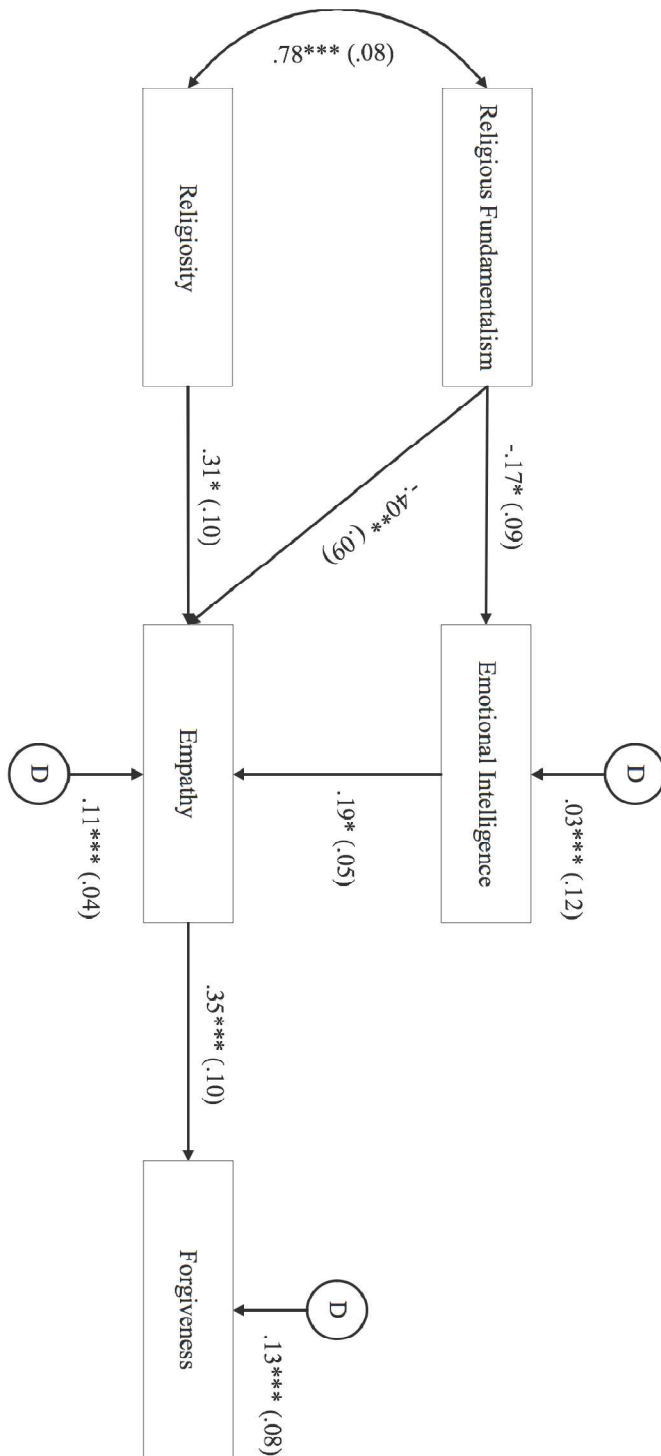


Figure 7. Alternative near-equivalent model. Path coefficients are standardized and standard errors are reported in parentheses next to the standardized path coefficient. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .



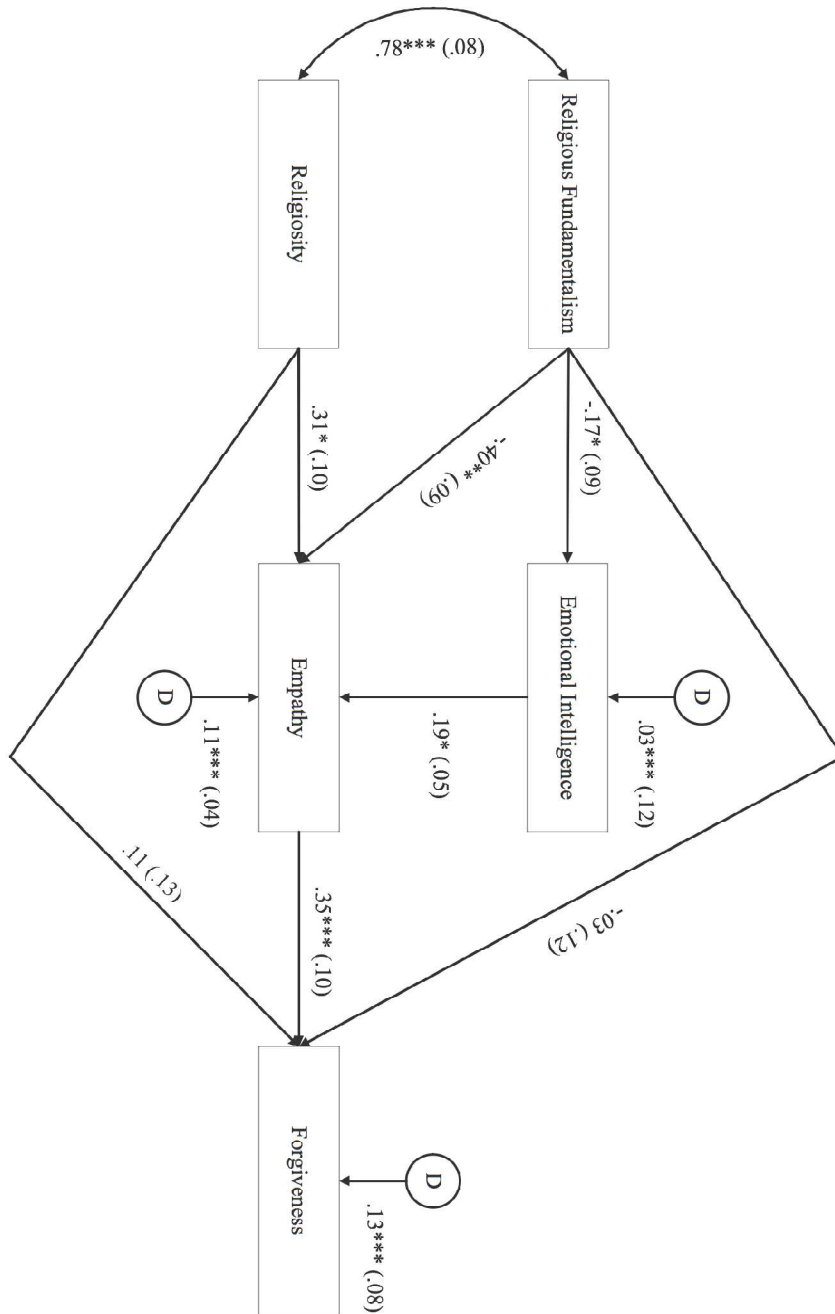


Figure 8. Alternative near-equivalent model 2. The model adds paths directly linking religious factor score estimates to forgive to evaluate the religion-forgiveness hypothesis dependency on empathy. Path coefficients are standardized and standard errors are reported in parentheses next to the standardized path coefficient. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

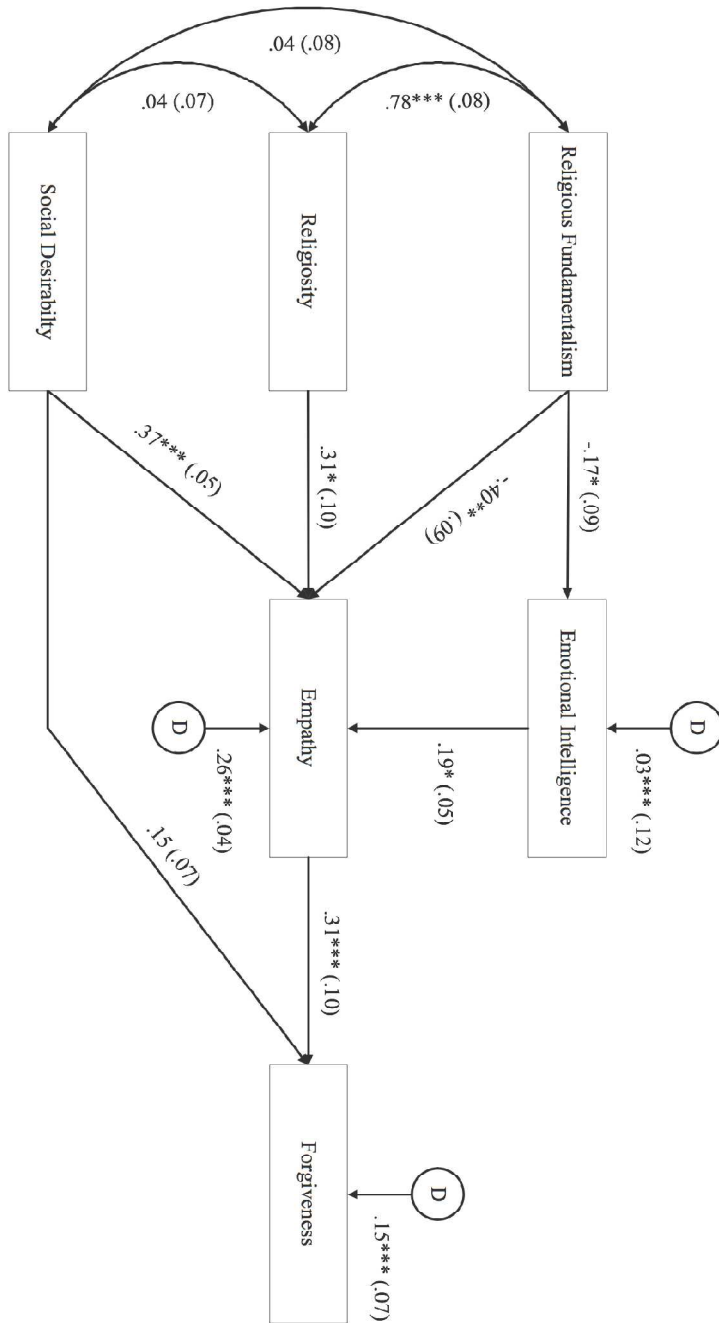


Figure 9. Alternative near-equivalent model 3. The model includes social desirability in the analysis, predicting empathy and forgiveness in an attempt to rule out mere endorsement of these traits due to self-deception and/ or impression management. Path coefficients are standardized and standard errors are reported in parentheses next to the standardized path coefficient. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

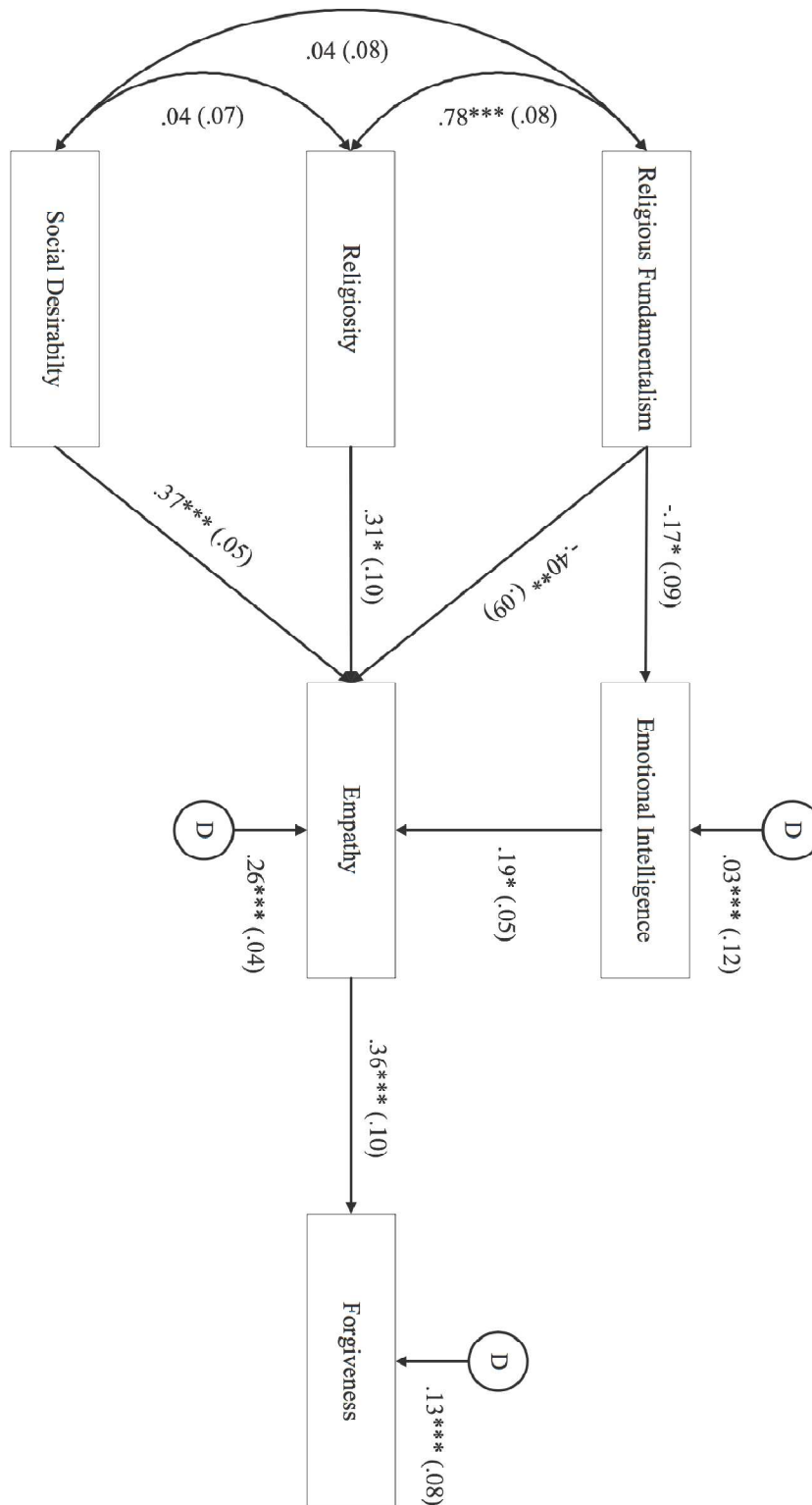


Figure 10. Final model. Path coefficients are standardized and standard errors are reported in parentheses next to the standardized path coefficient. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .