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# TOO TIRED TO CARE: RELIGIOUS ORIENTATIONS' RELATIONSHIP WITH EGO-DEPLETED EMPATHY

Mark Handley

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**TOO TIRED TO CARE: RELIGIOUS ORIENTATIONS' RELATIONSHIP WITH EGO-  
DEPLETED EMPATHY**

A Thesis  
Presented to the Faculty of the Department of Psychology  
Murray State University  
Murray, Kentucky

In Partial Fulfillment  
of the Requirements for the Degree  
of Masters of Science in Clinical Psychology

by Mark Handley  
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## Abstract

Psychological research into various aspects of religiosity, empathy, and self-regulation has grown throughout the years. Using Wulff's (1997) literal versus symbolic bipolar dimension of religiosity, Duriez (2004) found that participants who identified as tending to possess symbolic beliefs regarding religious symbols reported the ability to empathize with others more than those adhering to increasingly literal interpretations of religious themes. Watterson and Giesler (2012) found that individuals who tended to have higher levels of religiosity appeared to engage longer in a self-regulatory task than those who showed lower levels of religiosity. Researchers interested in self-regulation have found individuals who had undergone an ego-depletion task were increasingly inhibited in their ability to empathize with other individuals (DeWall, Baumeister, Gailliot, & Maner, 2008). In light of previous research, the current study sought to understand the underpinnings between the literal versus symbolic dimension of religiosity in the context of self-regulation and empathy, though all analyses were non-significant.

## Chapter I: Introduction

The psychology of religion has been studied in various forms for almost a century, but in more recent years, the study of this topic has grown (Koenig & Büssing, 2010). The long history of interest and subsequent increase in research of this subject has led a number of researchers to propose a variety of ways to conceptualize religiosity. In the current study, religiosity will be broadly defined as the beliefs and practices an individual engages in to facilitate inquiry and understanding of religious-based themes (Batson, 1976; Duriez, 2004; Koole, McCullough, Kuhl, & Roelofsma, 2010; Krumrei, Pirutinsky, & Rosmarin, 2012).

Researchers have proposed different orientations, or view-points, people take when approaching religious content, in which the first suggested set created was Allport's intrinsic and extrinsic religiosity (Allport, 1959, 1963, 1966; Batson, 1976). Those high in extrinsic religiosity were individuals who view their religion as a means or tool to accomplish a goal that is unrelated to the religious experience itself, such as increased social desirability or psychological security. Under this dichotomous orientation, individuals who are high in intrinsic religiosity are thought to internalize their religion and its beliefs, and use them as a guide and a motivation to live their lives. Allport and Ross (1967) found that people with predominately intrinsic orientations hold fewer prejudicial beliefs towards minority groups than those who endorsed mainly extrinsic beliefs or those who were considered indiscriminately pro-religious (a tendency to favor both intrinsic and extrinsic qualities).

Further, Allport found a relationship between intrinsic religiosity and other psychosocial characteristics. As a result, these associated traits have led to a need to re-conceptualize the intrinsic-extrinsic dichotomy of religiosity (Batson, 1976). For example, Allport's (1959, 1963)

early conceptualization of the psychological characteristics of intrinsic-oriented individuals included a propensity towards humility, sincerity, and a tendency to engage in independent, reflexive thought. In later articles, Allport (1966, 1967) argued that individuals with predominantly intrinsic orientations can also adopt dogmatic, rigid, and conformist styles of thinking. Along with the primary use of self-report measures of religiosity, this observed contradiction in the characteristics of intrinsic religious style has motivated researchers to re-conceptualize Allport's (1959, 1963, 1966, 1967) findings concerning intrinsic religiosity.

Instead of creating an entirely different view of Allport's dichotomous religious orientation, Batson redefined the intrinsic orientation of religiosity into two separate types: end and quest orientations. He renamed Allport's concept of extrinsic religiosity as means orientation (Batson, 1976). Some of the characteristics that Batson proposed to be associated with those who adopt an end style to religiosity include a propensity towards adherence to religious dogma and a tendency towards high levels of social desirability (Batson, 1976, 1978). Individuals with a quest orientation tend to be characterized by open mindedness and view their religiosity as a process to find continued meaning in life. In two studies involving students at a theological seminary, Batson (1976) had the participants individually pass by a confederate who was in need of help while on the way to an event for which the subjects were late. Although none of the orientation styles predicted whether or not the participants stopped, Batson found that those who did stop to help the victim interacted differently based on their orientation. Individuals with a propensity towards a quest orientation tend to be more inclined to adhere to the wishes of the victim when they indicated they did not need help. Conversely, those who endorsed an end orientation continued to give assistance even after the confederate insisted they were fine. Batson interpreted

the perseverance of those with an end style of religiosity as a need to maintain an image of social desirability, giving the victim the help that the subjects perceived was needed.

In recent years, researchers have begun to conceptualize yet another view of religiosity (Duriez, Fontaine, & Hutsebaut, 2000; Duriez, 2004; Fontaine, Duriez, Luyten, & Hutsebaut, 2003; Wulff, 1997). In Europe, for example, participants who completed questionnaires based on Batson's (1976) quest, end, and means religiosity styles typically do not endorse items along these orientations, but rather respond in a manner that is either pro-religious or anti-religious, and thus do not adhere to Batson's subtypes (Duriez et al., 2000). This led authors' to create the Post Critical Belief Scale (PCBS), which assesses an individual's religiosity based on Wulff's model (Duriez et al., 2000; Duriez, 2004; Fontaine et al., 2003; Wulff, 1997). For Wulff (1997), religiosity can be viewed on a double bipolar dimensional plane, in which an individual is measured based on the dimensions of symbolic verses literal and inclusion verses exclusion of transcendence. Regarding the symbolic verses literal dimension, individuals who adhere to a literal position believe that religious themes and stories were meant to be interpreted as explicitly apart of reality or were actual occurring events. An embodiment of these tendencies can be seen in the beliefs of many Evangelical Christians, who believe the human species began with Adam and Eve, as written in the Bible, rather than by evolutionary processes. Conversely, those who maintain a symbolic ideology when evaluating these same concepts view them as having a deeper meaning, while not necessarily requiring them to be understood as concrete. For example, individuals who believe that Muhammad's rise into Heaven was a metaphor for the rewards of living a good life, tend to view their religious symbols in a symbolic manner. The inclusion verses exclusion of transcendence dimension assesses to what degree individuals believe religious elements are granted supernatural properties. Specifically, those with an inclination



towards inclusion of transcendence view religious concepts as having intrinsic supernatural qualities, while those with an exclusion orientation view them to be explainable by natural processes. For instance, individuals who hold beliefs that Heaven is a real place that exists in a supernatural realm would be considered to be holding an inclusion of transcendence view of religion. Those holding beliefs congruent with an exclusion of transcendence view would agree that Buddha never reached Enlightenment, as there is no objective “Truth” to be revealed.

When these two dimensions are combined, individuals fall into one of four categories: Literal Affirmation, Literal Disaffirmation, Reductive Interpretation, or Restorative Interpretation (Duriez et al., 2000; Fontaine et al., 2003; Wulff, 1997). Individuals who tend to endorse qualities of the Literal Affirmation quadrant believe religious elements should be interpreted both literally and as being the result of a supernatural process. This quadrant is dominated by a tendency to engage in increasingly prejudicial beliefs and to score lower on measures of cognitive development and ability to adapt. Those falling into a Literal Disaffirmation orientation have an inclination to believe religious concepts should be interpreted literally, but their origins and existence are the products of natural processes. Although people who fall into this quadrant tend to be more intellectual, as with the Literal Affirmation group this group also tend to take part in rigid thinking and are often unable to tolerate ideas that differ from their own.

People comprising the Reductive Interpretation quadrant believe religious elements can retain symbolic meaning and the nature of these concepts are not of supernatural properties. People comprising this quadrant are characterized as “complex, socially sensitive and insightful, rather unprejudiced and original” (Fontaine et al., 2003, p. 503-504). As for those endorsing beliefs matching those of the Restorative Interpretation, these individuals typically view religious

elements and concepts as having a place in the supernatural and believe religious concepts have a deeper meaning that transcends what is explicitly presented. A small amount of research has been conducted regarding these individuals, leading some to conclude people adhering to this approach are highly individualized and ambiguous, as they do not respond in a manner that allows researchers to define typical personality features of people of this quadrant (Duriez et al., 2000; Fontaine et al., 2003). In short, those who maintain an increasingly symbolic thought process tend to be more flexible and open when evaluating religious based concepts, while those who use a more literal mentality when looking at religious themes tend to be more rigid and less tolerating of competing religious ideas.

### **Religiosity's Relationship with Empathy**

Empathy for others and the association religiosity has with empathy has been considered in previous research. In this instance, empathy is defined as an individual's ability to mentally place one's self in the position of another person, and then perceive how that individual may be feeling or thinking given his or her circumstances (de Acedo Lizarrage, Ugarte, Cardelle-Elawar, Iriarte, & de Acedo Baquedano, 2003; Miles, 2013). Research has indicated there are multiple components that are the basis for the empathetic construct. For example, researchers have identified two different ways in which individuals can empathize with one another: a cognitive and affective manner (Reniers, Corcoran, Drake, Shryane, & Völlm, 2011; Spreng, McKinnon, Mar, & Levine, 2009; Topcu & Erdur-Baker, 2012). The cognitive aspect of empathy requires an individual's ability to understand another's perspective, metaphorically, placing themselves in another person's shoes while the affective component of empathy is characterized by one's ability to experience or feel another individual's emotions.

Another way in which empathy can be understood is based on situational (state) and dispositional (trait) forms of empathy (Hogan, 1975; Steibe, Boulet, & Lee, 1979). More specifically, state empathy is an individual's capacity to experience empathy for another person in the current moment or situation, while trait empathy is a person's pre-existing, personality inclinations towards empathizing with another's situation. According to Steibe et al. (1979), though trait empathy is not as amenable, state empathy in individuals can be manipulated, such as after conducting empathetic training sessions, during situations of notable distractions (Batson, 1976), or after completing tasks that require sustained attention (DeWall et al., 2008). Steibe et al. (1979) noted that state empathy, which can be viewed as an interpersonal skill, can be trained in an individual, as to allow them to consider the affective and cognitive state of another person.

Research has been conducted regarding religiosity's relationship with an individual's propensity to empathize with others. As highlighted above, Batson (1976) concluded that those individuals adhering to a quest orientation who stopped to help the confederate, but respected their wishes when told they were fine and did not need assistance, were able to empathize with the individual, as they believed they did not want to be bothered. As for those with an end orientation, these people were more concerned with maintaining a perception of social desirability associated with being religious, and thus ignored the victims desire to handle the situation on their own. This indicated a reduced tendency to consider the internal feelings or viewpoint of others. In another study, Duriez (2004) examined how people differ based on Wulff's model of religiosity. The results indicated that whether or not an individual viewed religious elements as part of the supernatural was unimportant as to whether he or she could potentially empathize with another; what was important was how one interpreted religious

concepts. It was revealed that those who adopted a symbolic approach tended to be more empathetic towards others than those who believed in a literal interpretation, even after accounting for social desirability.

### **Self-regulation in the Context of Empathy and Religiosity**

An individual's ability to self-regulate internal processes has been another highly researched concept involving religiosity. Self-regulation is the notion that people have the ability to control and change their own thoughts, feelings, and behaviors, and to choose whether or not to act on them (Watterson & Giesler, 2012; Zell & Baumeister, 2013). Regulating internal processes draws from a limited resource in the brain, argued to be glucose (DeWall et al., 2008).

It is believed that once they became depleted, individuals are unable to regulate themselves as effectively as before, until the resource is replenished (Zell & Baumeister, 2013). The notion of becoming unable to continue regulating oneself as effectively is known as ego-depletion (DeWall et al., 2008; Watterson & Giesler, 2012; Zell & Baumeister, 2013). Self-regulation has been found to act like a muscle in that it can be strengthened with practice, but weakened when ignored for periods of time (Zell & Baumeister, 2013). Religion can give individuals opportunities to practice self-regulation, as religious teachings typically dictate what is and is not moral. Individuals must abstain from immoral practices and to engage in moral ones (Koole et al., 2010). This can involve a great deal of self-regulation on the part of the individual, strengthening the metaphorical self-regulatory muscle. For example, Watterson and Giesler (2012) randomly assigned participants to either an ego-depleting condition or they went directly onto a task in which they were requested to ostensibly solve an anagram (all participants ultimately attempted to complete the unsolvable anagrams). After completing the ego-depleting task, individuals with higher levels of religiosity tended to persist significantly longer on the

task, than those with lower levels; participants levels of religiosity did not influence whether one persisted on the unsolvable anagram longer when in the control group.

People's ability to experience empathy for others has also been found to be influenced by the effects of ego-depletion. Once self-regulatory resources have been depleted, an individual's ability to perceive the internal state and thought processes of others becomes weakened (DeWall et al., 2008). In a series of studies, Dewall and his colleagues (2008) examined the effects of ego-depletion on prosocial behavior. Although influenced by situational factors, individuals with higher levels of empathy are increasingly predisposed to engage in pro-social acts (Graziano, Habashi, Sheese, & Tobin, 2007). Throughout these experiments, the researchers found that once individuals had become ego-depleted, they were significantly less likely to help another individual (with the exception of family members). This exception is believed to have an evolutionary component to it, as individuals are predisposed to sacrifice more of their resources, both internally and externally, for those with a similar genetic makeup (DeWall et al., 2008; Hamilton, 1964). However, once an individual was ego-depleted, they were more likely to help after they had consumed a sugary drink (DeWall et al., 2008). This adds evidence to the argument that glucose is the source of the self-regulatory process, as individuals were returned to pre-ego-depletion levels after drinking a drink high in glucose.

## Chapter II: Hypotheses

As mentioned previously, Duriez (2004) found those who tended to adhere to a symbolic religiosity were increasingly able to empathize with others. Further, Watterson and Giesler (2012) found that individuals who reported higher levels of religiosity tended to persist longer on an ego-depletion task than those who indicated lower levels of religiosity. Other researchers found that when participants were ego-depleted, their ability to empathize with the plight of others was significantly reduced (DeWall et al., 2008).

Combining the implications of these lines of research, the current study aimed to elucidate the connections between the literal versus symbolic dimension of religiosity in the context of self-regulation and empathy.

1. **Hypothesis 1:** it was hypothesized there was a main effect of religiosity; more specifically, it was expected that those individuals who tend to possess a symbolic interpretation to religious symbols would exhibit higher scores on a measure of empathy than those adhering to an increasingly literal stance.
2. **Hypothesis 2:** it was hypothesized there would be a main effect of ego-depletion, as it is expected that those individuals randomly assigned to an ego-depletion task would indicate lower scores on a measure of empathy than those who were randomly assigned to a control condition. The possibility of an interaction was examined as a research question.

## Chapter III: Methodology

### Design

The current study used a 2 (Religiosity: literal or symbolic) x 2 (Ego-Depletion: ego-depleted or control) between-groups design, in which the subject variable includes whether one interprets religious based themes literally or symbolically, while the independent variable consists of whether the individual was ego-depleted or not. The dependent variable was the summed scores on a measure of state empathy.

### Participants

Eighty-one participants were recruited from introductory psychology courses at Murray State University via the SONA program (SONA system is an online study recruitment program) with ages ranging from 18 to 38 ( $M = 19.9$ ,  $SD = 3.4$ ). Twenty-eight individuals reported identifying as male (34.1%), while fifty-three identified as female (64.6%); no participant identified as Other. Caucasian (86.6%) was the predominant ethnicity, with five identifying as African-American (6.1%), one identifying as Asian (1.2%), and four identifying as Other (4.9%). Regarding the religious groups that participated in this study, the majority of the participants identified as Christian (73.2%), with one identifying as Muslim (1.2%), eight identifying as Atheist/Agnostic (9.8%), and twelve identifying as Other (14.6%). Each session was comprised of small groups. Additional information regarding the demographics of the sample can be found in Table 1.

*Table 1**Frequencies, Means, and Standard Deviations of the Sample Demographics*

<i>Characteristic</i>	<i>N</i>
Gender	
Male	28
Female	53
Religious Affiliation	
Christian	60
Muslim	1
Atheist/Agnostic	8
Other	12
Educational Class	
Freshman	46
Sophomore	16
Junior	11
Senior/Fifth Year	8
Ethnicity	
Caucasian	71
African American	5
Asian	1
Other	7



## Materials

**Post-Critical Belief Scale.** Participants completed the 18-item Post-Critical Belief Scale (PCBS) to assess their religious orientation regarding the interpretation of religious concepts. The shortened version of this measure was used which has been shown to be equivalent to the original version in its ability to assess an individual's beliefs based on Wulff's (1997) symbolic versus literal dimension of religiosity (Duriez, Soenens, & Hutsebaut, 2005; Wulff, 1997). Duriez et al. (2000) reported the Literal Affirmation and Literal Disaffirmation portions of the 33-item form both had a Cronbach's alpha of .79; the Restorative Interpretation was found to have an alpha of .87; the Reductive Interpretation had an alpha of .65. No reliability coefficients have been reported for the 18-item version of the PCBS.

Based on a two step-procedure obtained from the author of the PCBS, items were first averaged together into four separate sets of means based on the four quadrants of religiosity proposed by Wulff (1997). The means of the Reductive and Restorative Interpretation portions of the measure were added together and then subtracted from the means of the Literal Affirmation and Literal Disaffirmation portions; this in turn created a participant score on the literal versus symbolic dimension with higher scores indicating an increasingly symbolic stance regarding religiosity. Responses are scored on a 7-point Likert scale with higher scores indicating an increased agreement with the statements of the items (Appendix A). An example item of the PCBS includes the following: "I am well aware my ideology is only one possibility among so many others." Higher scores regarding this item, specifically, would indicate an increasingly symbolic stance.

**Ego-Depletion Task.** Identical to the DeWall et al. (2008) ego-depletion procedure, all participants completed a task in which they were required to develop a habit. Furthermore, the

ego-depletion group were forced to break this newly formed behavioral pattern. More specifically, all participants marked through each “e” that occurs in a paragraph of text (Appendix C1). After this task was completed, participants in the experimental (ego-depletion) group were asked to read another passage of text, but were given a different set of rules regarding when they can and cannot mark-out each “e” (Appendix C3). This required the participants to actively inhibit their impulses to cross out “e” throughout the text. The control group read another passage of text as well, but did not have the additional rules (Appendix C2). Each paragraph was produced using an online paragraph generator from [Randomparagraphgenerator.com](http://Randomparagraphgenerator.com) (2016); this program was used to guarantee the paragraphs are novel to the participants.

**Toronto Empathy Questionnaire.** An alternate version of the Toronto Empathy Questionnaire (TEQ; Spreng et al, 2009) was used to assess an individual’s state empathy; the original questionnaire was designed to measure a person’s trait empathy. The alteration was done by adding phrases such as “Right now, I feel...” to indicate to the participants the item refers to their current ability to experience empathy for another person. Participants respond to items on the TEQ using a 5-point Likert scale, in which higher scores indicate increased frequency in their engagement of the proposed scenario. An example item a participant would respond to includes, “Currently, I can tell when others are sad even when they do not say anything.” Items 2, 4, 7, 10, 11, 12, 14, and 15 on the TEQ were reversed scored. The internal consistency of the original TEQ was found to be reliable across three studies, in which the measure achieved multiple Cronbach’s alphas ranging from .85-.87. The TEQ was positively correlated with the Empathetic Concern ( $r = .71, p < .001$ ) and Perspective Taking ( $r = .35, p < .001$ ) subscales of the Interpersonal Reactivity Index; these subscales tap into the affective and cognitive components

of empathy, respectively (Davis, 1980; Spreng et al, 2009). The TEQ was negatively correlated with the Autism Quotient ( $r = -.30, p = .001$ ), which has been found to be a scale useful in measuring an individual's inability to process social information. A Cronbach's alpha of the altered version of the TEQ was conducted to confirm comparable internal reliability of the original form. This altered TEQ achieved a Cronbach's Alpha of  $\alpha = .71$  with 16 items indicating that it had acceptable internal consistency.

**Demographics.** Participants completed several items regarding demographic characteristics such as age, ethnicity, gender, religious affiliation, and educational classification (Appendix D). This information was gathered to determine the characteristics of the sample.

### **Procedure**

The current study received the approval from the Murray State University's Institutional Review Board. As partially outlined above, participants were recruited using the online SONA program. After logging into the program, participants signed-up for the experiment and chose one of the available time-slots. Upon entering the testing session and providing consent (Appendix F), participants were randomly assigned to either the experimental (i.e., ego-depletion procedure) or control group; all but one participant attending the sessions completed the condition assigned for the session. Prior to the beginning of each session, the experimenter randomized the packets in a way that allowed for the participants and the experimenter to be blind to what individuals were assigned to each condition. The packets were then given to all participants in the session. Individuals completed the questionnaire packets in the following order: PCBS, First Ego-Depletion Task, Second Ego-Depletion Task, TEQ, and then various demographic items. When the participants engaged in the ego-depletion task, they used the method outlined above based on the condition of the session. Once participants had completed the session, they were then given a debriefing form (Appendix G) describing the nature of the

experiment and provided information to contact the researcher. Each session lasted approximately 30 minutes.

## Chapter IV: Results

Participants' responses to the items of the TEQ were summed to derive their state empathy scores. A Cronbach's alpha of the altered TEQ (alteration explained in the Method section above) was computed to ensure a similar internal consistency of the original form had been achieved. Correlations of the variables used in the analyses are listed in Table 2. Means and standard Deviations of all dependent variable measures are listed in Table 3.

*Table 2*

*Pearson Correlations for Variables Used in Regression Analyzes*

	1	2	3	4	5
Symbolic (1)	--				
Condition (2)	.021	--			
Religious (3) Participation	.311**	.143	--		
Religious (4) Importance	.291**	.146	.730**	--	
TEQ Scores (5)	.149	-.004	.202	.159	--

*Note:* Condition was represented as Experimental Group = 0 and Control Group = 1.

*Note:* \* $p < .05$ . \*\* $p < .01$ .

Table 3

*Means and Standard Deviations of Dependent Measures*

<i>Measures</i>	<i>M</i>	<i>SD</i>
TEQ	14.93	5.70
Religious Participation	3.64	1.71
Religious Belief Importance	3.39	1.37

*Note:* Toronto Empathy Questionnaire (TEQ)

The aforementioned two-step procedure was used to ascertain participants' scores on the bipolar dimension of literal versus symbolic religiosity, in which individuals with higher scores indicated an increased belief in a symbolic interpretation of religious symbols and texts, while those with lower scores indicated individuals adopted an increasingly literal approach. A moderated regression was conducted to test whether the relationship between scores on the bipolar dimension of literal versus symbolic religiosity and scores on state empathy were moderated by the ego-depletion task. Scores of symbolic versus literal religiosity were centered before entering it into the analysis. As indicated by Table 4, the final overall model accounted for 3% of the variance in state empathy scores,  $F(3, 77) = .783, p = .507$ . Regarding hypothesis 1, in which it was hypothesized there would be a main effect of religiosity, the analysis was found to be non-significant ( $t = -.064, p = .949$ ). Hypothesis 2, which stated there would be a main effect of ego-depletion, the analysis was also found to be non-significant ( $t = 1.331, p = .187$ ). When the possibility of an interaction was analyzed, the analysis was found to be non-significant ( $t = -.764, p = .447$ ), as well.

Table 4

*Moderated Regression Utilizing Post Critical Belief Scale scores*

Predictor Variable	<i>B</i>	<i>SE B</i>	$\beta$	$\Delta R^2$
Step 1				<.01
Symbolic	0.43	0.32	0.15	
Condition	-0.08	1.17	-0.01	
Step 2				<.01
Symbolic x Condition	-0.49	0.64	-0.28	
Overall <i>R</i>	0.17			
Overall $R^2$	0.03			
Adjusted $R^2$	-0.01			
Overall <i>F</i>	0.783			

*Note:* Condition was represented as Experimental Group = 0 and Control Group = 1.

\* $p < .05$ . \*\* $p < .01$ .

Two exploratory analyses were conducted in which the symbolic variable was replaced with participants' scores on a measure of the importance religious beliefs have in their lives and the number of times a week they participated in religious-based meetings. A moderated regression tested whether the ego-depletion task moderated the relationship between participants' importance placed on their own religious beliefs and their state empathy scores. Participants' religious beliefs importance scores were centered prior to the analysis and the interaction term was entered. The final overall model accounted for 3% of the variance in participants' state empathy,  $F(3, 77) = .714, p = .547$ . There was no main effect of religious beliefs ( $t = 1.441, p = .154$ ) or a main effect of ego-depletion ( $t = -.247, p = .806$ ). When the possibility of an

interaction was examined, the analysis was found to be non-significant ( $t = .299, p = .765$ ).

Information on this regression can be found in Table 5.

Table 5

*Moderated Regression Utilizing Religious Beliefs Importance Scores*

Predictor Variable	<i>B</i>	<i>SE B</i>	$\beta$	$\Delta R^2$
Step 1				0.03
Importance	0.66	0.46	0.16	
Condition	-0.29	1.18	-0.03	
Step 2				<.01
Importance x Condition	0.27	0.91	0.11	
Overall <i>R</i>	0.17			
Overall $R^2$	0.03			
Adjusted $R^2$	-0.01			
Overall <i>F</i>	0.714			

*Note:* Condition was represented as Experimental Group = 0 and Control Group = 1.

\* $p < .05$ . \*\* $p < .01$ .

A moderated regression was conducted to determine whether the relationship between participants' scores on a measure of state empathy and the number of times they participate in religious activities per week was moderated by whether the participants were either in the ego-depleted or non-ego-depleted conditions. Scores on the measure of religious participation were centered prior to being entered into the analysis, while the interaction term was added later. As visualized in Table 6, final overall model accounted for 4% of the variance in participants' TEQ scores,  $F(3, 77) = 1.169, p = .327$ . When main effects were analyzed, the analysis indicated there



was no main effect of religious participation ( $t = 1.845, p = .069$ ) and no main effect of ego-depletion ( $t = -.301, p = .764$ ). When the possibility of an interaction was examined, the analysis was found to be non-significant ( $t = -.374, p = .709$ ).

Table 6

*Moderated Regression Utilizing Religious-based Meetings Participation Scores*

Predictor Variable	<i>B</i>	<i>SE B</i>	$\beta$	$\Delta R^2$
Step 1				0.04
Meetings	0.67	0.36	0.21	
Condition	-0.35	1.17	-0.03	
Step 2				<0.01
Meetings x Condition	-0.25	0.67	-0.12	
Overall <i>R</i>	0.21			
Overall $R^2$	0.04			
Adjusted $R^2$	0.01			
Overall <i>F</i>	1.169			

*Note:* Condition was represented as Experimental Group = 0 and Control Group = 1.

\* $p < .05$ . \*\* $p < .01$ .

## Chapter V: Discussion

The purpose of this study was to test the hypothesis that those who view their religious concepts in a more symbolic fashion would produce scores higher on a measure of state empathy, than those who adhered to a more literal interpretation. It was also hypothesized that individuals who were placed in an ego-depletion condition would score lower on a measure of state empathy, than those who were placed in a control, non-ego-depletion condition. These hypotheses were established based on past research in this line of study. Specifically, past findings have suggested that not only does an individual's interpretation of religious concepts influence their empathetic abilities, but the state of ego-depletion does, as well (Duriez, 2004; DeWall et al., 2008). Watterson and Giesler (2012) found that people who scored higher on a measure of religiosity tended to persist longer on an ego-depletion task, giving light on a possible connection between the two variables of ego-depletion and religiosity on empathy levels.

The proposed hypotheses of this study were not supported by the data. More specifically, the main effects of religiosity and ego-depletion were not found to be significant, meaning the participants' ego-depletion condition and symbolic religiosity levels did not individually influence state empathy scores. Furthermore, the results indicated there was not a significant interaction between ego-depletion and symbolic religiosity scores in predicting participants' levels of state empathy. Although, past research has suggested a significant main effect of religiosity and ego-depletion should have been expected in this study (DeWall et al, 2008; Duriez, 2004), the lack of significance related to these variables could be due to a few limitations.

One such limitation may have been that the measure used to assess participants' religious beliefs (i.e., the PCBS) was developed and validated in Europe where individuals tend to be

either indiscriminately pro-religious or anti-religious (Duriez et al., 2000). Duriez and colleagues indicated that European countries tend to be much less religious in general, while individuals in the United States tend to be more religious. This would lead to cultural differences in how to perceive questions on the PCBS that were not originally assessed in the PCBS validation process. To the knowledge of the current author, this study is the first to utilize the PCBS in the United States. A measure comparable to the PCBS could be created and validated using Americans. The items of this new measure would also need to reflect the diverse religious beliefs of the nearly 350 million individuals living in the United States today. Once this new measure has been created and validated, similar findings that were found on the PCBS in Europe may be reproduced (Duriez, 2004; Duriez et al., 2000; Duriez et al., 2005; Fontaine et al., 2003).

Another limitation of the study involves the fact that the data collected were based on a convenience sample used from psychology courses at a single university. This rather homogenous sample may lead to a reduction in the ability to generalize this study to people in other locations and older than traditional college students. Future studies in this area could use participants across multiple settings throughout the nation to increase generalization of their findings beyond those of traditional college age students.

Future research into the influences of religiosity and self-regulation should focus on the use of ego-depletion procedures not used in this study. The self-regulatory task used in the current investigation may not have been robust enough to produce the desired effect of ego-depletion in the experimental group. Although no interactions or main effects were found in this study using DeWall et al. (2008) ego-depletion procedure, additional studies in this topic with other procedures may be able to produce findings similar to what has been discovered in past

research regarding self-regulation, religiosity, and their effects on empathy (Batson, 1976; Duriez, 2004; Graziano et al., 2007).

A fourth limitation to consider is the composition of the participants. Of the 81 participant responses collected, 73% of the individuals identified as Christians. This further reduces generalization of people of other religious faiths. Collecting data from individuals of other religious affiliations would increase generalization to other faiths, such as Muslims, Jews, and Hindus.

In addition to this consideration, future studies using the PCBS should consider solely looking at Christians. The PCBS includes such items as, “The Bible is a guide, full of signs in the search for God, and not a historical account,” and “The Bible holds a deeper truth which can only be revealed by personal reflection.” It would be expected that Muslims, Hindus, and other non-Christian religious affiliations would answer this question in the negative, as the Bible is a Christian text. This would ultimately paint other non-Christians in a biased manner based on these types of questions and would not accurately portray what the designers of this measure intended with regards to the two bi-polar planes of religiosity (Duriez et al., 2005; Wulff, 1997).

## Conclusion

The current experiment did not find that individuals' state empathy levels were significantly influenced by their interpretation of religious symbols and whether or not they were ego-depleted. This was unexpected as Duriez's (2004) findings suggested that people who adopt a more literal stance on religiosity tended to be less able to empathize with others, than those with a more symbolic belief system. Another line of research found that individuals' ability to empathize with others is significantly reduced when they are ego-depleted (DeWall et al., 2008). An interaction between these two lines of thought was suspected to be possible considering another study found people were differentially able to persist on an ego-depletion task when their levels of religiosity were considered (Watterson & Giesler, 2012). Although any of the mentioned limitations could have contributed to the null findings of this study, the lack of significance could also be attributed to the fact that the findings found previously may be a product of the cultural environment found in Europe and may not be immediately applicable to the enormous faith communities of the United States.

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## Appendix A

### The Post-Critical Belief Scale-Revised

Below is a list of statements. Please read each statement *carefully* and **rate how much you agree with the statement, using the rating scale below**. There are no right or wrong answers or trick questions.

Please answer each question as honestly as you can.

**1**= completely opposed, **2**= moderately opposed, **3**= slightly opposed, **4**= neutral, **5** = slightly agree, **6** = moderately agree, **7** = completely in agreement

1. The Bible holds a deeper truth which can only be revealed by personal reflection. \_\_\_\_
2. God has been defined for once and for all and therefore is immutable. \_\_\_\_
3. Faith is more of a dream, which turns out to be an illusion when one is confronted with the harshness of life. \_\_\_\_
4. The Bible is a guide, full of signs in the search for God, and not a historical account. \_\_\_\_
5. Even though this goes against modern rationality, I believe Mary truly was a virgin when she gave birth to Jesus. \_\_\_\_
6. Each statement about God is a result of the time in which it was made. \_\_\_\_
7. Despite the fact that the Bible has been written in a completely different historical context from ours, it retains a basic message. \_\_\_\_
8. Only the major religious traditions guarantee admittance to God. \_\_\_\_
9. The manner in which humans experience their relationship to God, will always be colored by the times they live in. \_\_\_\_
10. Ultimately, there is only one correct answer to each religious question. \_\_\_\_
11. The world of Bible stories is so far removed from us, that it has little relevance. \_\_\_\_
12. A scientific understanding of human life and the world has made a religious understanding superfluous. \_\_\_\_

13. God grows together with the history of humanity and therefore is changeable. \_\_\_\_
14. I am well aware my ideology is only one possibility among so many others. \_\_\_\_
15. I think that Bible stories should be taken literally, as they are written. \_\_\_\_
16. Despite the high number of injustices Christianity has caused people, the original message of Christ is still valuable to me. \_\_\_\_
17. In the end, faith is nothing more than a safety net for human fears. \_\_\_\_
18. Faith is an expression of a weak personality. \_\_\_\_

**Appendix B****Toronto Empathy Questionnaire instructions****Items 2, 4, 7, 10, 11, 12, 14, and 15 are reversed scored**

Below is a list of statements. Please read each statement *carefully* and rate how frequently you feel or act in the manner described. Circle your answer on the response form. There are no right or wrong answers or trick questions. Please answer each question as honestly as you can.

(Never = 1; Rarely = 2; Sometimes = 3; Often = 4; Always = 5)

1. At this moment, when someone else is feeling excited, I tend to get excited too. \_\_\_\_
2. Currently, other people's misfortunes do not disturb me a great deal. \_\_\_\_
3. Right now, it upsets me to see someone being treated disrespectfully. \_\_\_\_
4. Presently, I remain unaffected when someone close to me is happy. \_\_\_\_
5. Currently, I enjoy making other people feel better. \_\_\_\_
6. At this moment, I have tender, concerned feelings for people less fortunate than me. \_\_\_\_
7. Right now, when a friend starts to talk about his\her problems, I try to steer the conversation towards something else. \_\_\_\_
8. Currently, I can tell when others are sad even when they do not say anything. \_\_\_\_
9. Presently, I find that I am "in tune" with other people's moods. \_\_\_\_
10. Right now, I do not feel sympathy for people who cause their own serious illnesses. \_\_\_\_
11. At this moment, I become irritated when someone cries. \_\_\_\_
12. Right now, I am not really interested in how other people feel. \_\_\_\_
13. Currently, I get a strong urge to help when I see someone who is upset. \_\_\_\_

**14.** At this moment, When I see someone being treated unfairly, I do not feel very much pity for them.

\_\_\_\_\_

**15.** Presently, I find it silly for people to cry out of happiness. \_\_\_\_\_

**16.** Right now, when I see someone being taken advantage of, I feel kind of protective towards him/her.

\_\_\_\_\_

## Appendix C1

### Ego-Depletion Task Instructions

**Please read the following paragraph carefully. Please mark through each “E/e” that occurs in each word throughout the passage of text.**

The software thirsts! A fluid aborts on top of the devoid comedy. A bump alleges the recorder underneath the out wash. A companion prosecutes inside the bucket! The friendly mill rails around an instant bishop. The falling agent explodes behind the circuitry. Under the spokesman jokes any blackboard. Should the vice march compliment an antisocial garage? Behind the tactic barks a drained photocopy. Beside the discontinued fog experiments the provoking applicant. Over a tense changeover strays the terrified dependence. A burst changes near the sweated ace. Should the diary participate under this unconscious castle? Why can't our scaled motto fail near a history? The trapped message beams a pseudo moon.

## Appendix C2

### Ego-Depletion Task Instructions (Non-ego depletion group)

**Please read the following paragraph carefully. Please mark through each “E/e” that occurs in each word throughout the passage of text.**

Does the glow fudge the intensive counterpart? Under the holiday changes the research. When will a rarest origin peer? The upgrade flood speculates. The coin floods the mum feat. Its dealer guns the remarkable consultant. The rested plastic truncates the parent. A fire bolts? The bugger laughs on top of the cathedral! Into the slag fudges the naive trolley. Every appraisal derives a brain. The concentrated exit fishes. The throat succeeds beside a packaged riot. The interior swears! The withdrawing bush tortures the pride. The obnoxious clause distributes the overtone.

## Appendix C3

### Ego-Depletion Task Instructions (Ego depletion group)

**New Rules:** Please read the following paragraph carefully. **Mark through each “E/e”** that occurs in each word throughout the passage of text, **as long as it is not adjacent to another vowel or one letter away from another vowel.** For example, you would not mark out the “e” in *vowel*.

Does the glow fudge the intensive counterpart? Under the holiday changes the research. When will a rarest origin peer? The upgrade flood speculates. The coin floods the mum feat. Its dealer guns the remarkable consultant. The rested plastic truncates the parent. A fire bolts? The bugger laughs on top of the cathedral! Into the slag fudges the naive trolley. Every appraisal derives a brain. The concentrated exit fishes. The throat succeeds beside a packaged riot. The interior swears! The withdrawing bush tortures the pride. The obnoxious clause distributes the overtone.

## Appendix D

### Demographics

1. What is your current age? \_\_\_\_\_
2. What is your gender? M F Other
3. What is your religious affiliation? \_\_\_\_\_

Put the letter of the option that fits the following the questions.

4. What is your educational classification? \_\_\_\_\_
  - a. Freshman
  - b. Sophomore
  - c. Junior
  - d. Senior/Fifth year
5. What is your ethnicity?
  - a. White
  - b. Hispanic or Latino
  - c. African American
  - d. Native American
  - e. Asian
  - f. Pacific Islander
  - g. Other
6. How often do you attend church or other religious meetings? \_\_\_\_\_



**1** = Never; **2** = Once a year or less; **3** = A few times a year; **4** = A few times a month **5** = Once a week; **6** = More than once/week

7. How important are your religious beliefs to your life? \_\_\_\_\_

**1** = Not Important; **2** = Slightly Important; **3** = Moderately Important; **4** = Very Important; **5** = Profoundly Important

## Appendix E

### Cover Letter

Study Title: Empathetic Self-Regulation in the Context of Religiosity.

Principal Investigators: Mark Handley, Department of Psychology, Murray State University, Murray, KY 42071.

You are being asked to participate in a project conducted through Murray State University. As such, we would like you to have an understanding of the following:

1. Your participation is strictly voluntary and you may discontinue your participation at any time.
2. All of your responses will remain anonymous, thus, do not write your name or other identifying information on this form.
3. The purpose of this study is to gain information pertaining to how religious beliefs can interact with people's ability to understanding another's situation. Your participation in this study will require you to complete a focused-based task. You will then be required to complete a series of surveys that will measure different aspects about your religious beliefs and your views about other people's dispositions.
4. Although your individual responses will not be made public (i.e., they will remain anonymous), your data may be combined with the data of others and submitted for presentation at conventions and/or publication in scholarly journals.
5. You must be 18 years or older to participate.
6. Your completion of these forms indicates your consent to participate.

7. There are no direct benefits to you for your participation in this research. A general benefit will be that you will receive first hand experience of psychological research and you will add to our knowledge of the research subject.
8. There are no known risks involved with this research.
9. Completion of this study will require approximately 20 minutes.

THIS PROJECT HAS BEEN REVIEWED AND APPROVED BY THE MURRAY STATE UNIVERSITY INSTITUTIONAL REVIEW BOARD (IRB) FOR THE PROTECTION OF HUMAN SUBJECTS. ANY QUESTIONS PERTAINING TO YOUR RIGHTS AS A PARTICIPANT, OR ACTIVITY-RELATED INJURY SHOULD BE BROUGHT TO THE ATTENTION OF THE IRB ADMINISTRATOR AT (270) 809-2916. ANY QUESTIONS ABOUT THE CONDUCT OF THIS RESEARCH PROJECT SHOULD BE BROUGHT TO THE ATTENTION OF DR. DAN WANN, IN THE PSYCHOLOGY DEPT., AT (270) 809-2860.

**Approved by the MSU IRB 4/28/16. Expires 12/15/16.**

## **Appendix F: Debriefing Statement**

### **Post-Participation Debriefing**

First, I would like to thank you for your help in this study. Your participation will be very useful in answering the research question of the current experiment. This study attempted to look at how one's interpretation of their religious symbols and texts, may influence their ability to continue to empathize with another person, after completing a task that required you to break a habit. We expect to find those who interpret their religious themes and events as symbolic/metaphorical will experience a reduction in their ability to empathize with others, after completing a habit-breaking task.

Although only a minimal amount of boredom was to be expected resulting from the manipulations, if you are feeling any discomfort or distress because of this study, please contact the MSU Psychological Center at 270-809-2504 . If you have any questions, comments, or concerns about this study, please contact Dr. Wann at [dwann@murraystate.edu](mailto:dwann@murraystate.edu) or 270-809-2860. Additionally, you may contact the IRB Coordinator at 270-809-2916 if you have any questions about your rights as a participant.

Your participation in this study was greatly appreciated. If you would like to receive a report of this research when it is completed, or a summary of findings, please contact Dr. Wann at [dwann@murraystate.edu](mailto:dwann@murraystate.edu). Thank you for your participation.

## Appendix G

### IRB Approval Letter

**TO:** Dan Wann  
Department of Psychology

**FROM:** Institutional Review Board  
Sally Mateja, CIP, IRB Coordinator

**DATE:** April 20, 2016

**RE:** Human Subjects Protocol I.D. - IRB 16-153

On behalf of the IRB, I have completed my review of your student's Level 1 protocol entitled "Empathetic Self-Regulation in the Context of Religiosity." After review and consideration, I have determined that the research, as describe in the protocol form, will be conducted in compliance with Murray State University guidelines for the protection of human participants.

**The cover letter and materials that are to be used in this research study are attached to the email containing this letter. These are the forms and materials that must be presented to the subjects. Use of any process or forms other than those approved by the IRB will be considered misconduct in research as stated in the MSU IRB Procedures and Guidelines section 20.3. If this research study is being conducted by a student, you, as the faculty mentor, are responsible for ensuring that the correct processes and forms are used by your student.**

This Level 1 approval is valid until December 15, 2016. If data collection and analysis extends beyond this time period, the research project must be reviewed as a continuation project by the IRB prior to the end of the approval period, December 15, 2016. You must reapply for IRB approval by submitting a Project Update and Closure form (available on the Institutional Review Board web site). You must allow ample time for IRB processing and decision prior to your expiration date, or your research must stop until such time that IRB approval is received. If the research project is completed by the end of the approval period, then a Project Update and Closure form must be submitted for IRB review so that your protocol may be closed. **It is your responsibility to submit the appropriate paperwork in a timely manner.**

The protocol is approved. You may begin data collection now.