

University of Missouri, St. Louis  
IRL @ UMSL

---

Dissertations

UMSL Graduate Works

---

6-22-2013

# The Effects of Religious Fundamentalism and Threat on Prejudice

Theta P. Gribbins

University of Missouri-St. Louis, [theta.gribbins@umsl.edu](mailto:theta.gribbins@umsl.edu)

Follow this and additional works at: <https://irl.umsl.edu/dissertation>

 Part of the [Psychology Commons](#)

---

## Recommended Citation

Gribbins, Theta P., "The Effects of Religious Fundamentalism and Threat on Prejudice" (2013). *Dissertations*. 307.  
<https://irl.umsl.edu/dissertation/307>

This Dissertation is brought to you for free and open access by the UMSL Graduate Works at IRL @ UMSL. It has been accepted for inclusion in Dissertations by an authorized administrator of IRL @ UMSL. For more information, please contact [marvinh@umsl.edu](mailto:marvinh@umsl.edu).

Theta P. Gribbins

M.A., Clinical Psychology, University of Missouri-St. Louis, May 2007

M.A., Counseling and Personnel Services, Clinical Program, University of Maryland,  
Asian Division, Okinawa, Japan, December 2002

B.S., Psychology, with minors in Sociology and History, University of Maryland, Asian  
Division, Okinawa, Japan, August 2000

The Effects of Religious Fundamentalism and Threat on Prejudice

A Dissertation Submitted to The Graduate School at the University of Missouri-St. Louis  
in partial fulfillment of the requirements for the degree  
Doctor of Philosophy in Clinical Psychology

September 2010

Dissertation Committee

Brian Vandenberg, Ph.D.  
Major Advisor and Chairperson

Miles L. Patterson, Ph.D.  
Committee Member

Matthew Taylor, Ph.D.  
Committee Member

Allon Uhlmann, Ph.D.  
Committee Member

Running head: RELIGIOUS FUNDAMENTALISM, THREAT, AND PREJUDICE

The Effects of Religious Fundamentalism and Threat on Prejudice

Theta Gribbins

University of Missouri- St. Louis

September 2010

This project fulfills the requirement of the Dissertation.

Signatures

---

Brian Vandenberg, Ph.D. (Major Advisor)

---

Miles L. Patterson, Ph.D. (Committee Member)

---

Matthew Taylor, Ph.D. (Committee Member)

---

Allon Uhlmann, Ph.D. (Committee Member)

### Acknowledgements

Completion of a dissertation and graduate school does not occur in isolation. I owe an unrepayable debt of gratitude to my research advisor, Dr. Brian Vandenberg, for his support and guidance throughout both processes and for allowing me to pursue my own research interests. I am also most grateful to Dr. Miles Patterson for his contributions to my research throughout my graduate career. His suggestions were always thoughtful, helpful, and enriching to the work. I would also like to thank committee members Dr. Matthew Taylor and Dr. Allon Uhlmann for their time, effort, interest, and intellectually stimulating conversations and ideas.

I am exceedingly grateful to Dr. Robert Calsyn and Dr. George Taylor, who each funded my graduate research during their respective terms as chairs of the Psychology Department at the University of Missouri-St. Louis. Thank you both so very much.

I am also forever indebted to my two favorite undergraduate professors at the University of Maryland, Asian Division: Jeffrey Newbern, M.A. and Dr. Richard Roberts. Both of these gentlemen encouraged me to pursue graduate education and provided me with the information and guidance to do so. I think of them often and know that I would not have pursued my present course without their assistance.

Finally, I want to acknowledge my family and friends, without whom accomplishment would be hollow. To my spouse and son, thank you for your sacrifices that allowed me to pursue intellectual interests and for your enduring support while I did so. To the individuals who have given me the gift of friendship, thank you for your steadfast encouragement and undeserved affection during my years of graduate training. I am forever grateful.

### Abstract

The study investigated the relation of religious fundamentalism (RF) and prejudice in the presence of two threat conditions: epistemic uncertainty, introduced via threat to beliefs, and existential threat, presented through mortality salience induction. A model of RF as a belief system adopted to manage uncertainty and threat was also presented. Participants were 396 undergraduates, 192 of whom met inclusion requirements. RF was significantly related to prejudice toward women, toward homosexual individuals, and toward other religions, the latter relationship being strongest. No significant effects for threat condition were found. Results indicate that the uncertainty and/or threat introduced by the target groups varied in magnitude and that this uncertainty and/or threat was stronger than that posed by the threat conditions.

### The Effects of Religious Fundamentalism and Threat on Prejudice

The term, *fundamentalism*, was initially coined in the United States in 1910 in a series of articles entitled, *The Fundamentals* (Gatewood, 1969; Johnstone, 1997). *The Fundamentals* consisted of nine principles created by Protestant religious leaders in the United States in response to modernism, liberalism, and secularism, which advocated a return to the basics of Christian faith (Gatewood, 1969; Johnstone, 1997; Sim, 2004). The term fundamentalism began as pertaining solely to Christianity, though it has since been applied to other faiths that also call for a “return to the basics” within their religions (e.g. Fundamentalist Orthodox Jews, Islamic Fundamentalists) (Johnstone, 1997). Globally, fundamentalism gained initial notice during the Iran Hostage Crisis of 1979-1980 (Chafe, 1999). Since that time, fundamentalism has continued to spread throughout the world. Globalization and the opposition to it have influenced the worldwide expansion of fundamentalism. As traditional cultures are disrupted, displaced, and endangered by the forces of globalization, including modernism, liberalism, and secularism, these cultures muster resistance to the accompanying uncertainty and sense of threat; unfortunately, all too often this struggle has taken violent form (Salzman, 2008). Because religious fundamentalism comes with perilous implications, understanding the psychology of fundamentalism is vital.

Despite their theological differences, fundamentalists of most religions are typified by three beliefs: (a) they (and others) must return to the basics of the true faith; (b) there is one standard of truth (e.g. the Bible, the Torah, or the Quran), which is contested by evil; and (c) believers have a special relationship with God, which includes doing God’s work on Earth so that they may live in the hereafter (Altemeyer &

Hunsberger, 1992; Johnstone, 1997). Fundamentalists of different religions also share similar attitudes and behaviors, including a consistent association with prejudice and discrimination (Altemeyer, 2003; Altemeyer & Hunsberger, 1992, 1993; Fulton, Gorsuch, & Maynard, 1999; Hunsberger, 1995, 1996; Hunsberger, Owusu, & Duck, 1999; Kirkpatrick, 1993; McFarland, 1989).

### Religious Fundamentalism and Prejudice

Most religions contain teachings that advocate treating one's neighbors with loving kindness. Yet, early researchers found that being religious was associated with prejudice and began to examine this phenomenon more fully (see e.g., Batson, 1976 or Batson, Floyd, Meyer, & Winner, 1999). As different facets and orientations of religion were explored for their contributions to prejudice, fundamentalism began to be investigated (see e.g., Kirkpatrick, 1993, McFarland, 1989, or Altemeyer & Hunsberger, 1992). Religious fundamentalism has been shown to be correlated with various prejudices, including that toward women, homosexual individuals, and individuals of other religious faiths (Altemeyer, 2003; Altemeyer & Hunsberger, 1992, 1993; Fulton et al., 1999; Hunsberger, 1995, 1996; Hunsberger et al., 1999; Kirkpatrick, 1993; McFarland, 1989).

#### *Women*

As women are approximately one-half of the world's population, prejudice toward them has both global and personal, daily consequence; being viewed as less than equal sanctions disrespect and maltreatment. Nevertheless, religious fundamentalism has been repeatedly associated with sexist attitudes and discriminatory behavior toward women. Two early studies on religious fundamentalism and prejudice investigated

specifically the desire to discriminate against women and to restrict women's roles in society and the family based on sex. The first study, using Caucasian Christian undergraduate participants from the United States and a six-item Christian specific measurement of religious fundamentalism, found religious fundamentalism was positively and significantly correlated with prejudice toward women (McFarland, 1989). The second study was a near replication of the first, except the participants included undergraduates from the United States and Canada of both Christian and non-Christian affiliations, though because the same six-item measurement of religious fundamentalism was used, the non-Christians were relegated automatically to non-fundamentalist status neglecting that they may have been high in fundamentalism in their own religions. Results indicated religious fundamentalism was again significantly associated with prejudice against women (Kirkpatrick, 1993), although the strength of the correlation was greatly diminished from that found in the previous study, which may have been due to the methodological difficulties mentioned.

These two early studies suggested that Biblical literalism could explain the prejudice toward women, as the Bible relegates women to a subservient status to men, (McFarland, 1989; Kirkpatrick, 1993). Yet, religious beliefs also encourage compassion towards others and do not seem to explain adequately of their own accord why prejudice toward women is tolerable. The researchers further conjectured that fundamentalism might be a way of knowing composed of a closed-mindedness that spills over into the attitudes of those high in fundamentalism. Closed-mindedness may begin to explain some facets of the relationship with prejudice toward women, but does not offer an explanation as to what it is about closed-mindedness or women that results in persons high in



fundamentalism exhibiting this prejudice.

A later study examined fundamentalism and sexist attitudes toward women, including advocating more traditional behaviors and roles for women, in religions other than Christianity, as well as in Christianity and Islam in another country (Hunsberger et al., 1999). This study employed Altemeyer and Hunsberger's (1992) Religious Fundamentalism Scale, which measures fundamentalism based upon the manner in which persons hold their religious beliefs, not on the specific content of those beliefs. For example, one item states, "To lead the best, most meaningful life, one must belong to the one, true religion" (p. 131), which applies equally well to Christianity or other religions. Participants included Christian and Muslim university students from Ghana, along with Christian and non-Christian university students from Canada (Hunsberger et al., 1999). Religious fundamentalism was significantly correlated with prejudice toward women for the Ghanaian Muslims and Canadian Christians, but not for the Ghanaian Christians. The researchers speculated that the more traditional culture of Ghana would be associated with greater prejudice toward women and were unsure if differences in belief content or some other factor, such as cultural differences in interpretation of the measurement questions, impacted the latter result (Hunsberger et al., 1999). No explanation was provided to address why fundamentalism and prejudice toward women should be related. Nevertheless, these results demonstrated that the relationship between religious fundamentalism and prejudice toward women held across religions and cultures.

Beyond simply attitudes toward women, in an examination of religious fundamentalism and discriminatory behavior, Canadian undergraduates from a variety of religious and non-religious backgrounds were requested to list values that were important

to them and to rate the extent to which target groups, in this case single mothers and college students, threatened or promoted these values (Jackson & Esses, 1997).

Participants then read vignettes that explained that unemployment was high among members of the target groups. The participants next rated the extent to which the members of the target groups were responsible for the unemployment problem and chose from among three types of help they would endorse for the target groups. The three categories of helping included: (a) personal change, which advocated that the unemployed individuals alter themselves and their behaviors to resolve the situation; (b) direct assistance, which called for aid to be given through such acts as provision of employment or monetary gifts; and (c) empowerment, which consisted of help through job incentive and education programs (Jackson & Esses, 1997).

Results indicated religious fundamentalism was significantly correlated with perceived value threat from single mothers, but not from students (Jackson & Esses, 1997). Also, for those high in religious fundamentalism, perceived value threat mediated attributions of responsibility such that single mothers were held responsible for their unemployment, but college students were not. Finally, individuals high in religious fundamentalism endorsed personal change for the single mothers as the best manner in which to help them with their employment difficulties, rejecting both the direct assistance and empowerment forms of helping for them. Religious fundamentalism was not associated with sanctioning any particular type of help over the others for college students. These results suggest that for those high in religious fundamentalism, perceived threats to their values impacts the determination of whom they are willing to help and the type of help they are willing to provide (Jackson & Esses, 1997). As an explanation,

value-threat offers the beginnings of a basis for understanding why religious fundamentalism and prejudice toward women are related. Perhaps, feminism and single mothers are threats to the beliefs and values of persons high in religious fundamentalism; however, value-threat is neither a comprehensive nor a nuanced theory of religious fundamentalism. A group of persons is said to be value-threatening and no further psychological processes are considered or predictions for further research generated.

Taken together, the literature suggests religious fundamentalism is associated with prejudicial attitudes and discriminatory behavior toward women across broad participant samples, including individuals from three countries and several religions. Yet, the literature provides only a few possible reasons for the relationship between religious fundamentalism and prejudice toward women, Biblical literalism, closed-mindedness, and value-threat, none of which is adequate as a theory of fundamentalism.

#### *Homosexual Individuals*

In addition to women and single mothers, fundamentalism has regularly been associated with prejudice toward homosexual individuals (Altemeyer, 2003; Altemeyer & Hunsberger, 1992; Fulton et al., 1999; Hunsberger, 1996; Hunsberger et al., 1999; Kirkpatrick, 1993; McFarland, 1989). Once more, being viewed as a less valued member of society implies that unfair and unequal treatment is acceptable. For example, within the United States the debates concerning homosexual persons serving in the military (they are not allowed to openly do so) and homosexual marriage (permitted in only a few states and contested in most of those) could not exist if homosexual individuals were viewed and treated as equal in status to their heterosexual counterparts; prejudice has consequences.

Two early studies on religious fundamentalism and homosexuality employed a Christian specific measurement of religious fundamentalism and examined prejudice toward homosexual individuals. The first study found religious fundamentalism was positively and significantly correlated with prejudice toward homosexual individuals (McFarland, 1989), as did the second (Kirkpatrick, 1993). The researchers suggested that Biblical literalism could account for the prejudice against homosexual individuals, as the Bible condemns homosexuality, or that closed-mindedness impacts the attitudes of persons high in religious fundamentalism toward homosexuality. However, these explanations do not adequately account for ignoring tenets to treat others with compassion and kindness or explain why Biblical literalism and closed-mindedness should prevent someone from doing so.

Later studies on religious fundamentalism and prejudice found similar results (Altemeyer, 2003; Altemeyer & Hunsberger, 1992; Fulton et al., 1999; Hunsberger, 1996; Hunsberger et al., 1999; Jackson & Esses, 1997). In a study employing Canadian undergraduates and their parents as participants, including nonreligious individuals, Jewish adherents, and followers of Christianity, religious fundamentalism was positively and significantly correlated with hostile attitudes toward those of a homosexual orientation for the combined undergraduate and the parent samples (Altemeyer & Hunsberger, 1992). This finding was replicated in an additional study involving Caucasian Canadian college students and their parents (Altemeyer, 2003), which found religious fundamentalism was significantly correlated with prejudice toward homosexual individuals for both the students and parents.

Two studies investigated religious fundamentalism and prejudicial attitudes

toward homosexual individuals in religions other than Christianity. The first study utilized a community sample of Canadian Muslims, Hindus, and Jews (Hunsberger, 1996). Fundamentalism within each of these faiths correlated significantly with prejudice toward homosexual individuals. The second study examined not only fundamentalism and prejudice in religions other than Christianity, but also in Christianity and Islam in another country. The participants included Christian and Muslim university students from Ghana, along with Christian and non-Christian university students from Canada (Hunsberger et al., 1999). Religious fundamentalism was significantly correlated with prejudice toward homosexual individuals for the Ghanaian Muslim individuals, Ghanaian Christians, and Canadian Christians. Thus, overall these four later studies found the relationship between religious fundamentalism and prejudice toward homosexual individuals remained across diverse participant and cultural samples and that the characteristics of persons high in religious fundamentalism appeared to be quite similar across religions and cultures as well, suggesting that similar psychological processes are operating for those high in religious fundamentalism the world over.

These later studies, when an explanation was offered, conjectured that religious fundamentalism could come from fear and a sense of moral superiority, which, in combination with the rigidity of beliefs demonstrated by those high in religious fundamentalism, leads to prejudice against those who disagree with their views (Altemeyer & Hunsberger, 1992). These explanations may have merit; fear of different others, a sense of superiority over others, and resistance to the views of others may begin to account for the mistreatment of others. However, these explanations were offered post hoc and have never been developed into a framework for synthesizing the literature or

allowing for predictions of behavior for further research.

One study sought to understand if fundamentalist beliefs accounted in the entirety for the prejudice by persons high in religious fundamentalism toward homosexual individuals (Fulton et al., 1999). Prejudice was defined as, “antipathy toward members of a group in excess of that required by religious value statements” (p. 14). Evaluation of attitudes towards homosexual individuals was categorized as morally justified (e.g., “Homosexuality is a perversion” (p. 17)) or non-morally justified (e.g., “A person’s homosexuality should not be a cause for job discrimination” (p. 17)). Participants in the study were Caucasian heterosexual undergraduate students from the United States. Individuals high in religious fundamentalism were significantly prejudiced against homosexual individuals overall, as well as when morally justified in this attitude and when not morally justified. Persons high in religious fundamentalism demonstrated their tendency to judge homosexual individuals beyond what was morally justified in two additional ways. First, persons high in religious fundamentalism judged sexually active homosexual individuals more negatively than they judged sexually-active non-married heterosexual individuals. Second, those high in religious fundamentalism judged celibate homosexual persons more negatively than they judged celibate heterosexual individuals. On the whole, the association between high religious fundamentalism and prejudice toward homosexual individuals was demonstrated to be stronger than could be justified by religious beliefs, though no explanation as to why was given.

In an examination of behavior rather than attitudes, a study in the series by Jackson and Esses (1997) examined the discriminatory behavior of persons high in religious fundamentalism toward the target groups of homosexual individuals and

members of the First Nations (Native Canadians). The results of this study mirrored those found when the target groups were single mothers and students, with religious fundamentalism significantly correlated with perceiving homosexual individuals as threatening to their values, responsible for the unemployment problem, and in need of personal change. However, religious fundamentalism was not significantly related to the perception of the members of the First Nations as value threatening, with blaming them for their unemployment, or with endorsing one form of helping over another for them. Value-threat offers a possible reason for the discriminatory behavior by those high in religious fundamentalism and may provide a starting point to understand why their prejudicial attitudes toward homosexual individuals are beyond that required by their beliefs: persons high in religious fundamentalism may be reacting defensively.

Altogether, religious fundamentalism is correlated with prejudice and discrimination toward homosexual individuals in several countries and numerous religions. Various explanations have been offered for the relationship, but Biblical literalism and closed-mindedness are insufficient to explain it and fear, moral superiority, and value-threat have not been developed into a larger model useful for predictions and for generating further study.

#### *Other Religions*

In addition to its association with prejudice toward women and homosexual individuals, religious fundamentalism has been found to be correlated with prejudice and discrimination toward other religions. The global implications of prejudice toward religions different from one's own can be seen throughout recorded history (e.g., consider the Crusades) and continue into the present (e.g., Israeli religious Jewish right-wing

settler movement versus Palestinian Muslims). Individuals high in religious fundamentalism believe they have the truth and the one true faith and that others should have the same truth and faith as well; understanding the psychology of fundamentalism is truly of global importance.

One study specifically investigated fundamentalism and prejudicial attitudes toward other religions (Altemeyer, 2003). Participants included Caucasian Canadian college students and their parents, with results indicating religious fundamentalism was significantly correlated with negative attitudes toward those of other religions for both the student and the parent samples. The researchers also assessed whether early religious identification was emphasized in the childhoods of the student participants. These participants received additional questions asking about their early gender, racial, and religious identity training in their families. Religious fundamentalism was not significantly related to gender or racial identity training, but was significantly correlated with early religious identity training.

The researchers suggested that the relationship between religious fundamentalism and prejudice toward other religions might be due to a strong us-versus-them favoritism learned through considerable religious social identification in early childhood (Altemeyer, 2003). The prejudice toward other religions, which cannot be explained adequately in terms of beliefs, may be simply learned in the “ethnocentrism school” (Altemeyer, 2003, p. 27) of childhood religion. Children are taught that their religion is necessarily better than others’ religions and learn to act accordingly. Yet, this still does not explain why a belief system that embraces kindness towards others embraces open antipathy toward specific groups, especially other religions.



Beyond attitudes, a later study investigated the relationship between religious fundamentalism and discrimination by examining helping behavior toward religious in-groups and out-groups contrasted with non-religious in-groups and out-groups (Gribbins & Vandenberg, in press). Helping behavior was measured directly through differences in recommended donations to the two in-group and out-group comparisons. Importantly, the religious in-group versus religious out-group was designed to trigger responses related to fundamentalist values concerning other religions, while the nonreligious in-group versus nonreligious out-group was intended to *not* activate religious fundamentalist values toward other religions. Results indicated religious fundamentalism significantly and positively influenced helping behavior in favor of religious in-groups, but did not impact helping toward nonreligious in-groups over out-groups. When religious values were not involved, a strong us-versus-them favoritism did not apply.

The researchers contended that the relationship between religious fundamentalism and helping changed in different circumstances; when the values of persons high in religious fundamentalism were threatened, in this case by other religions, their pattern of helping altered from when their values were not threatened (Gribbins & Vandenberg, in press). The researchers further proposed that religious fundamentalism was more than a set of religious tenets in that it was a worldview. As the fundamentalists' worldview included the components that their beliefs, values, knowledge, experiences, and thoughts were given by an omniscient, omnipotent, and omni-powerful being, any opposition to that worldview, especially by other religions, would become highly salient in determining the behaviors of persons high in religious fundamentalism toward others, including to whom help should be provided. Value-threat and worldview defense do begin to offer

insight into the psychology of those high in fundamentalism; different others may be threatening to their values and view of the world. However, value-threat and worldview defense are not a comprehensive theory of religious fundamentalism nor capable of explaining the larger literature or providing an adequate basis for making predictions for further research; groups are deemed threatening to the values and worldview of those high in religious fundamentalism with no further inquiry required.

In summary, religious fundamentalism is strongly associated with prejudicial attitudes toward other religions, though only one study has examined this relationship. Fundamentalism is also correlated with strong reactions to the presence of other religions, though again only one study has examined this phenomenon. Further, once more, no one comprehensive explanation for these findings has been offered in the literature.

#### *Comparative levels of prejudice*

Studies that examined prejudice toward both women and homosexual individuals demonstrate that the correlation between fundamentalism and prejudice toward homosexual individuals tends to be stronger than that toward women (see Table 1), even when different prejudice measures are used. When discriminatory behavior is considered, high religious fundamentalism is associated similarly with perceiving both single mothers and homosexual individuals as threatening to values (.48 and .47, respectively) (Jackson & Esses, 1997). However, fundamentalism demonstrated a much stronger correlation with endorsing personal change for homosexual individuals ( $r = .72$ ) than for single mothers ( $r = .39$ ) as the best manner of helping them. Although persons high in religious fundamentalism demonstrate prejudice and discrimination toward women and homosexual individuals, research suggests that they are most strongly prejudiced against

those of other religions, with the strength of the correlations ranging from .78 to .82 (Altemeyer, 2003); however, prejudice against these three target groups have not been investigated within the same participant sample. The current literature on religious fundamentalism and prejudice offers no comprehensive explanation or theory as to why fundamentalism is associated with prejudice and discrimination toward women, homosexual individuals, or other religions; neither does it provide reasons for why there appears to be differences in the magnitudes of these associations. Perhaps, these groups introduce uncertainty to fundamentalist beliefs or threaten religious fundamentalists in some manner and vary, in increasing severity, in the extent to which they do so.

#### *Overview and Criticisms*

Religious fundamentalism is associated with prejudice toward women, homosexual individuals, and other religions. These relationships exist across a variety of participant samples, including persons from several countries and religions. Yet, considered together, the extant literature on religious fundamentalism and prejudice has several limitations. First, the studies are primarily correlational in nature. Rarely are mediating or moderating factors investigated or the psychological processes involved addressed. Unfortunately, researchers have largely ignored the complexity of the relationships in which religious fundamentalism is involved. A second limitation is that it is treated solely as an individual difference variable. However, the evidence suggests that religious fundamentalism is influenced by context (e.g., see Gribbins & Vandenberg, in press; Jackson & Esses, 1997). Specifically, circumstances may influence the manner in which the attitudes and behaviors of persons high in religious fundamentalism are expressed.

Third, varied explanations have been given for the relationships between religious fundamentalism and prejudice. These reasons include Biblical literalism and beliefs, closed-mindedness, moral superiority and self-righteousness, us-versus-them favoritism, contextual aspects, fear, value-threat, and worldview defense. These explanations are primarily offered post hoc and are fragmentary. Previously there has not been any one satisfactory explanation given to account for the different prejudices associated with religious fundamentalism. For example, while value-threat and worldview defense appear to offer the beginnings of a larger framework upon which to hang the findings in the religious fundamentalism literature, they are insufficient in that they do not provide a means for predictions or a basis for further research. While value-threat and worldview are unsatisfactory, none of the other reasons that have been employed offers even the beginnings of a larger explanatory framework.

Taken together, the limitations in the current literature discussed above lead to the fourth, and overarching, criticism of the religious fundamentalism and prejudice literature: there is no established theory. There is no theoretical foundation providing an explanatory basis for specific results to any given study, offering a synthesis of results for the literature as a whole, addressing the complexity of the psychological processes involved, or accounting for the impact of situational variables. This lack of an integrative theory has not allowed for a nuanced understanding of religious fundamentalism and prejudice and has not provided a basis for a generative and systematic study. However, a framework employed by Jost, Kruglanski, Glaser, & Sulloway (2003) for political conservatism in which meaning systems, such as religious fundamentalism, are adopted, at least in part, as a response to uncertainty and threat appears to offer an approach for

integrating and understanding the religious fundamentalism literature.

### Religious Fundamentalism and Threat: A Framework

Political conservatism is a concept that is closely related to religious fundamentalism both empirically and conceptually (Unger, 2007; Wyatt, 2005). Similar to religious fundamentalism, political conservatism is associated with justifying inequality (Jost et al., 2003), which is similar to prejudice in the fundamentalism literature. Religious fundamentalism and political conservatism are both associated with other similar attitudes, behaviors, and characteristics as well. For example, both demonstrate strong correlations with authoritarianism, which includes the tendencies to submit to authority, aggress against authority-sanctioned targets, and to adhere to conventional norms (Altemeyer, 1996). Consequently, religious fundamentalism and political conservatism may share similar psychological processes.

Previously, political conservatism faced difficulties analogous to those of religious fundamentalism in its literature in that it lacked a unifying theoretical model. In response, Jost et al. (2003) proposed a model of political conservatism as motivated social cognition (MSC). According to Jost et al., MSC is at the intersection of situations, motivations, cognitions, and meaning systems, including political conservatism, that are espoused, at least in part, because they meet psychological needs. In particular, Jost et al. proposed that individuals adopt political conservatism, in part, as a response to uncertainty and threat. Moreover, political conservatism and its associated constructs (e.g., prejudice and authoritarianism) may all be expressions of the psychological experiences of opposition to change and preservation of the existing social order, including the justification of unequal hierarchical systems. A similar, modified,

framework, in which religious fundamentalism is viewed as a meaning system adopted, in part, as a response to uncertainty and threat, may be useful as a guide to integrate, organize, and inform the current literature on religious fundamentalism and prejudice.

*Resistance to Change and Maintenance of the Social Order*

Religious fundamentalism could be viewed as an exemplar of the psychological experiences of the opposition to change and preservation of the existing social order, including the justification of unequal hierarchical systems. By definition, fundamentalists advocate a return to the basics of their faith (Gatewood, 1969; Johnstone, 1997; Sim, 2004), which “must be followed today according to the fundamental, unchangeable practices of the past” (Altemeyer & Hunsberger, 1992, p.118). Moreover, fundamentalism began as a rejection of the modern, liberal, and secular changes to society (Gatewood, 1969; Johnstone, 1997; Sim, 2004), increased in response to liberal shifts introduced into the social structure in the 1960s (Chafe, 1999), and continued to spread throughout the world in response to the transformations to society brought about by globalization (Salzman, 2008).

*Uncertainty and Threat*

There is evidence that uncertainty and threat play roles in the attitudes and discriminatory behavior of persons high in religious fundamentalism, as helping has been found to be directed more toward groups that do not introduce uncertainty and threat for such individuals (Gribbins & Vandenberg, in press; Jackson & Esses, 1997). Likewise, religious fundamentalism has historically increased in response to societal uncertainty (Chafe, 1999). Additional research outside of the fundamentalism literature suggests prejudicial behaviors increase in the presence of various threats as well (Greenberg et al.,

1990; Hewstone, Rubin, & Willis, 2002; Solomon, Greenberg, & Pyszczynski, 2000).

Taken together, religious fundamentalism can be perceived as a method of managing uncertainty and threat and as representative of the psychological experiences of resistance to change and maintenance of the social order. If this conceptualization is correct, it may be that the advancement of feminism is seen as a direct threat to the hierarchical and patriarchic system deemed God-given by those high in religious fundamentalism. Single mothers may introduce uncertainty to beliefs (e.g., helping the baby may be seen as condoning sin), and threaten the existing social order for those high in religious fundamentalism. Homosexual individuals may threaten the beliefs, knowledge, and social hierarchy supported by individuals high in religious fundamentalism. The mere idea that homosexual individuals are “acceptable” may be incompatible with a religious belief structure that contends homosexual persons are an affront to God. To promote the equality of homosexual persons may be seen as sinful and threatening to one’s relationship with God both now and in the hereafter. When taken together, the aggregate of the threats potentially posed by homosexual individuals to persons high in religious fundamentalism begins to provide understanding of why this prejudice is beyond what moral dictates require. Further, for those high in religious fundamentalism, it may be that other religions pose threats to their beliefs and understanding of the world, their place in the present social order, and their immortality. Persons high in religious fundamentalism may fear other religions because if other religions are correct, their immortality plan of is in error. Nevertheless, no studies on religious fundamentalism and prejudice have examined the impact of direct threat on the prejudicial attitudes of those high in fundamentalism or considered how different types of

threat may be important to this relationship.

### *Different Threats*

Two threats that are considered in the political conservatism literature may also be applicable to religious fundamentalism: epistemic threat and existential threat. Epistemic threat involves the introduction of uncertainty to beliefs, knowledge, and conclusions arrived at through “motivated informational search” (Jost et al., 2003, p. 347). Motivated social cognition contends that individuals are motivated in how they search for information and how they reach “a given state of knowledge” (Kruglanski, 2001, p. 39), such that their information processing works in service of defending their beliefs, knowledge, and conclusions (Kruglanski, 1996). For example, researchers have speculated that as persons high in religious fundamentalism believe they have *the* truth, their contemplation of perspectives contrary to their own may be restricted such that they may: (a) seek only information confirming their religious teachings, (b) assimilate information divergent from their beliefs in such a way so as to make it consistent with their beliefs, (c) avoid information that might challenge their beliefs whenever possible, and/or (d) accept the religious rationalization for any doubt or concern they may have (Hunsberger, Alisat, Pancer, & Pratt, 1996).

Existential threat makes salient ontological death anxiety, the self-awareness that one will die (Castano & Dechesne, 2005; Dechesne, Janssen, & van Knippenberg, 2000; Friedman, 2008). Existential anxiety is a central feature of Terror Management Theory (TMT) (Dechesne et al., 2000; Greenberg et al., 1990; Rosenblatt, Greenberg, Solomon, Pyszczynski, & Lyon, 1989). TMT proposes that culturally created worldviews, or belief systems, such as religious fundamentalism, protect against existential anxiety by offering



immortality, either literally, through belief in an afterlife, or symbolically, through contributions to the perpetuation of the belief system itself. TMT further proposes that culturally created worldview systems require continuous defense against threat. When threat to the belief system is encountered, defensive reactions intensify (Greenberg et al., 1990). The standard experimental approach to triggering existential anxiety is to make mortality salient through asking research participants to write about what they think will happen to them as they physically die and once they are dead, as well as to describe the emotions that the thought of their own death arouses. This method is often referred to as a mortality salience induction (see e.g., Lavine, Lodge, & Frietas, 2005, p. 229).

Within the political conservatism literature, epistemic uncertainty and existential threat are considered interrelated, but separate constructs (Jost et al., 2003). In a series of three studies examining the extent to which uncertainty and threat were distinct, latent variables were employed to represent these constructs (Jost et al., 2007). In each study, structural equation modeling was used for the analysis and the results demonstrated that, while a one-factor solution suggesting uncertainty and threat could be considered one construct was adequate, a two-factor model signifying they are separate constructs was a significantly better fit for the data. These results indicated that epistemic uncertainty and existential threat were indeed separate, though related, constructs.

Within the fundamentalism literature, one study has examined the impact of introducing epistemic uncertainty to the beliefs of those high in religious fundamentalism (Friedman & Rholes, 2007). This examination employed the dual-process model of TMT, which includes distal and proximal defenses of death anxiety (Pyszczynski, Greenberg, & Solomon, 1999). Distal defenses are unconscious and implicit manners of handling death

anxiety, which situate a person in a meaningful and death-transcending reality, and become available in response to subliminal death related stimuli. Proximal defenses against death anxiety are conscious and readily available when explicitly exposed to thoughts of one's mortality (Friedman & Rholes, 2007; Pyszczynski et al., 1999).

The investigation sought to introduce epistemic uncertainty through a challenge to the beliefs of those high in religious fundamentalism (Friedman & Rholes, 2007). The epistemic uncertainty was designed to disrupt their distal defense of death anxiety (Friedman & Rholes, 2007; Pyszczynski et al., 1999). Participants consisted of Christian undergraduates from a university in the southern United States, who were assigned to one of four conditions: the experimental condition, called resurrection inconsistency, and three control conditions. In the resurrection inconsistency condition, participants were asked if they believed the Bible contained errors or contradictions, read the four gospel accounts of the resurrection, and were then provided with a paragraph highlighting the inconsistencies of the gospels and asked how they explained them. Following these tasks, participants performed a word-stem completion task that included stems that could become death-related words. The three control conditions included the resurrection control condition, which was similar to the inconsistency condition in that they read the four accounts of the resurrection, but did not include the questions about Biblical errors or the paragraph pointing out the inconsistencies, and the Bible neutral and the library control conditions, with the former containing four Bible passages unrelated to the resurrection or death and the latter consisting of four accounts of a trip to the library. Participants in the control conditions were asked about the language of the texts and given the word-stem completion task. Religious fundamentalism was significantly related

to death-awareness accessibility in the resurrection inconsistency condition only; there were no differences in death-awareness for persons high in religious fundamentalism in the other conditions. These results indicated that challenging the beliefs of those high in religious fundamentalism weakened their distal death-anxiety defenses and thereby increased unconscious death-awareness (Friedman & Rholes, 2007).

Two studies have investigated religious fundamentalism and existential threat in the form of mortality salience tasks (Friedman, 2008; Friedman & Rholes, 2008). Within the dual-process model of TMT, these existential threats are designed to attack the proximal death-anxiety defenses (Friedman & Rholes, 2007; Pyszczynski et al., 1999). The first study sought to examine the relationship between fundamentalism and beliefs about death by investigating the texts composed by participants during a standard mortality salience exposure (Friedman, 2008). Participants were undergraduates from a university in the southern United States comprised primarily of Christians (92%). Participants were asked to write about either the events and emotions surrounding their own death (mortality salience condition) or the experience of dental pain (control condition). The quantitative text analysis indicated that for essays in the mortality salience condition, high religious fundamentalism was significantly and positively correlated with inclusion of more positive emotion and more future and socially oriented language than low fundamentalism (Friedman, 2008). These results suggest that the proximal death-anxiety defenses of persons high in religious fundamentalism are not weakened by standard mortality salience manipulations; rather, it appears that fundamentalism defends well against conscious death anxiety.

The second study examined the role of religious fundamentalism in secular

worldview defense under conditions of mortality salience (Friedman & Rholes, 2008).

Participants were again undergraduate students from a university in the southern United States. They were assigned to a mortality salience or dental pain condition and asked to write about the events and emotions surrounding these events. They were then given two essays, one in support of universal compliance with a campus tradition and one in favor of personal choice in following the tradition. After reading each essay, participants answered questions about the author. These questionnaires were summed separately and then the anti-tradition responses subtracted from the pro-tradition responses to form an index of secular worldview validation. Low fundamentalism was associated with more secular worldview defense in the mortality salience condition than in the control condition; this was a typical defensive response to mortality salience induction.

Individuals high in fundamentalism did not significantly differ in secular worldview defense by condition, an atypical response to mortality salience. In further analysis of the texts participants wrote, in the mortality salience condition, religious fundamentalism was positively associated with peace and acceptance themed words and negatively correlated with uncertainty related words. Religious fundamentalism was also associated with positive mood in both conditions (Friedman, 2008). These results indicated that under mortality salience conditions, fundamentalism attenuated defense of a secular worldview and promoted positive emotional responses to conscious thoughts of death; once more fundamentalism defended proximal death-related anxiety well.

A final series of studies, though not specific to religious fundamentalism, examined the relationship between belief in a literal afterlife and existential threat in the form of mortality salience (Dechesne et al., 2003). Participants were undergraduates from

the Netherlands (studies 1 and 2) and from a Midwestern university in the United States (study 3). In the first two studies, participants completed several personality measures, read one of two articles with positions arguing either for or against a literal life after death, and completed either a mortality salience task or a control manipulation (write about events and emotion surrounding the experience of watching television for study 1 or dental pain for study 2). The second study also included a neutral condition in which participants read an article on animal navigation and answered questions similar to those in the control conditions. After reading the articles and writing their responses, participants were provided feedback about their personality (the feedback was the same and positive for all participants) and asked to rate whether they agreed with the personality assessment. In both studies, individuals in the mortality salience condition who read the article against an afterlife rated the personality assessment as more accurate than those in the control or neutral conditions; this difference did not occur for those participants who read the pro-afterlife essay. The results indicated that priming belief in an afterlife decreased the need for participants to engage in the defense of their self-esteem under the mortality salience condition, an atypical mortality salience reaction (Dechesne et al., 2003).

The third study in the series extended the first two by presenting the pro- and anti-afterlife articles in two ways, as a hard news article or as an anecdotal, soft news article, and by asking participants to provide punishments to transgressors of societal norms, as well as assessing participant greed via a bidding scenario (Dechesne et al., 2003). As before, participants were assigned to a mortality salience or control manipulation (dental pain). Results mirrored those of the previous two studies in that for participants in the

mortality salience condition, those who read either of the anti-afterlife articles demonstrated significantly more punishment of transgressors than did the participants in the control condition; the effects were attenuated for those participants who read the pro-afterlife articles. The analysis of greed followed the same pattern for male participants with significantly more greed in the anti-after life conditions, but was nonsignificant for female participants. Once more, these results indicated that belief in a literal afterlife attenuated the prototypical defensive responses to mortality salience induction (Dechesne et al., 2003). It may be, as a literal afterlife is by definition an element of religious fundamentalists' tenets, that this belief in the hereafter contributes to the atypical responses to mortality salience seen in the fundamentalism literature.

In sum, the one study of religious fundamentalism and epistemic uncertainty indicates that at the distal level of death-anxiety defense, the introduction of uncertainty to beliefs increases unconscious death awareness for those high in religious fundamentalism (Friedman & Rholes, 2007). The literature for religious fundamentalism and existential threat indicates that at the proximal level of death-anxiety defense, religious fundamentalism defends well against death anxiety and is significantly associated with positive emotions and mood, a future and social orientation, peace, acceptance, and decreased uncertainty, as well as a lessened need to defend a secular worldview (Friedman, 2008; Friedman & Rholes, 2008). Furthermore, related studies on belief in a literal afterlife demonstrate that this belief inhibits typical defensive responses to mortality salience (Dechesne et al., 2003). As religious fundamentalism includes belief in an afterlife, this further suggests that persons high in religious fundamentalism will not demonstrate typical responses to mortality salience manipulations.

### Present Study and Hypotheses

The present study examined the relationship between religious fundamentalism and prejudice toward women, homosexual individuals, and those of other religions in the presence of two conditions of threat, along with a control condition. Epistemic uncertainty was introduced in the form of a challenge to fundamentalists' beliefs, while existential threat was presented as a mortality salience induction. It was expected that overall, individuals high in religious fundamentalism would demonstrate greater prejudice than those low in religious fundamentalism. Further, it was expected that, because disputing fundamentalists' beliefs increases unconscious death awareness, an attack on their distal defenses through a challenge to their beliefs would result in greater prejudicial attitudes for those high in fundamentalism in the epistemic uncertainty condition than in either the existential threat or control conditions. For individuals high in religious fundamentalism, it was predicted that the existential threat and control conditions would result in similar levels of prejudicial attitudes, as mortality salience has not resulted in increased defensiveness for persons high in religious fundamentalism in previous studies. For individuals low in religious fundamentalism, it was expected that prejudicial attitudes would be greater in the existential threat condition than in the epistemic uncertainty or control conditions, as these individuals tend to respond in the more typically defensive manner to mortality salience tasks and because the challenge to beliefs was unlikely to be disquieting to them.

An additional question the study sought to address was whether there was a differential impact from the threat conditions on the different prejudices. For those high in religious fundamentalism, it was predicted that there would be a greater impact on

prejudice toward other religions in the epistemic uncertainty condition because a fundamentalist belief was being disputed and religious fundamentalism previously has been most strongly associated with prejudice toward other religions. For those low in religious fundamentalism, it was expected that the impact on prejudice toward women and homosexual individuals would be greater in the existential threat condition than on that toward other religions, as religion is less salient for them.

The current study measured right-wing authoritarianism to control for its impact in the presence of threat and on prejudicial attitudes. Right-wing authoritarianism is defined as a constellation of attitudes, including tendencies to: (a) submit to those considered to be authorities; (b) aggress toward others, especially when an authority figure sanctions the aggression; and (c) adhere to conventional social norms seen as approved by society and instituted by authority (Altemeyer, 1996). Right-wing authoritarianism correlates significantly with religious fundamentalism ( $r$  values ranging from .47 to as high as .89) (see e.g., Altemeyer, 1996; Altemeyer & Hunsberger, 1992; Hunsberger, 1996; Hunsberger et al., 1996; and Hunsberger et al., 1999) and with prejudice toward women (as high as .66) and homosexual individuals (as high as .74) (see e.g., Hunsberger, 1996 and Hunsberger et al., 1999). Individuals high in right-wing authoritarianism have also been shown to respond defensively to threats to their religious beliefs by dismissing evidence that conflicts with their religious teachings (Altemeyer, 1988).

## Method

### *Participants*

Data were collected from 396 undergraduates from the subject pool at the



University of Missouri-St. Louis, who received credit in their psychology courses in return for their involvement. Because the study was investigating the effects of specific threats, including a challenge to Christian religious beliefs, only those participants who were Christian were considered. Of the 396 student participants, 192 met the requirements for inclusion in the study; 126 participants were excluded because they were non-Christian, 38 for incomplete data, 32 because they were present during a disrupted data-collection session, 5 for failure to follow directions, and 3 for failure to demonstrate understanding of their experimental-condition article. The resulting sample consisted of 145 females and 47 males with an average age of 24 years. There were 90 African Americans, 84 Caucasians, 9 Multiracial individuals, 4 Asian, 2 Hispanic, 1 Native American, and 2 that listed themselves as Other (see Table 2 for additional classification information).

### *Threat Conditions*

Three threat scenarios (Appendix A) were created to expose participants to epistemic uncertainty, existential threat, or control (no threat) conditions. Participants in each threat condition read a short article that they were asked to imagine would occur one month in the future. After reading the article, participants were asked to answer two questions related to their article. The epistemic uncertainty scenario described the discovery of ancient parchments, which linked the story of Jesus to earlier Sumerian mythology, and concluded that Jesus never existed. Following the article, participants were asked to write what they thought the meaning of the discovery would be and the emotions the thought of the discovery aroused in them. The existential threat vignette depicted the recollections of a soldier whose comrade died. Participants were then asked

to respond to typical mortality salience induction questions in which they described what they thought would happen to them as they died and once they were dead and the emotions the thought of their own death aroused in them (see e.g., Lavine et al., 2005, p. 229). The control condition presented an article about a manatee that trekked to Cape Cod. Participants in this control condition were asked to describe what they believed the meaning of the article was and the emotions it aroused in them. The questions were added to the epistemic uncertainty and control conditions, and the article added to the mortality salience induction in the existential threat condition, to maintain procedural symmetry across threat conditions. In each condition, participants were given limited space in which to compose their answers.

### *Measures*

*Demographics.* Participants completed a demographic questionnaire that included information on age, gender, race, education, and religious affiliation and attendance (Appendix B).

*Religious fundamentalism.* Religious fundamentalism was measured using the Revised 12-item Religious Fundamentalism Scale, which is a self-report scale in a nine-point Likert format (Altemeyer & Hunsberger, 2004). The revised scale is a revision of the original 20-item scale, with improved internal consistency, broader coverage of the construct, and similar reliability. Test items include the statements, “The basic cause of evil in this world is Satan, who is still constantly and ferociously fighting against God,” and “God has given humanity a complete, unfailing guide to happiness and salvation, which must be totally followed” (Altemeyer & Hunsberger, 2004, p.52). Assessments of construct validity have been demonstrated through correlations made to hostility toward

homosexuals for Hindus, Jews, Muslims, and Christians with  $r$  values ranging from .42 to .78 (Altemeyer & Hunsberger, 1992, 2004; Hunsberger et al., 1999). Interitem reliability for this study was  $\alpha = .90$ .

*Attitudes toward women.* Attitudes toward women was measured via the Sexist Attitudes Toward Women Scale (Benson & Vincent, 1980), modified by the removal of 10 items due to their being outdated (see Hunsberger et al., 1999) and by extending the Likert scale from a seven-point to a nine-point measure. Test items include the statements, “It bothers me to see a man being told what to do by a woman,” and “Women rely more on intuition and less on reason than men do.” Construct validity has been demonstrated through correlations with attributions of humor to sexist jokes and of traditional sex-role stereotypes for women ( $r$  values from .36 to .68) (Benson & Vincent, 1980). The original interitem reliability was  $\alpha = .91$  (Benson & Vincent, 1980), with the modified version demonstrating similar results with  $\alpha$  ranging from .82 to .91 (Hunsberger et al., 1999). Interitem reliability for this study was  $\alpha = .84$ .

*Attitudes toward homosexual individuals.* Prejudice toward homosexual individuals was measured with the Attitudes toward Homosexuals Scale (Altemeyer, 1996), a self-report measure in nine-point Likert format. Test items include the statements, “In many ways, the AIDS disease currently killing homosexuals is just what they deserve,” and “Homosexuals should be forced to take whatever treatments science can come up with to make them normal.” Construct validity has been demonstrated through correlations with right-wing authoritarianism ( $r$  values from .50 to .60) (Altemeyer, 1988). Interitem reliability for this study was  $\alpha = .91$ .

*Attitudes toward other religions.* Prejudicial attitudes toward other religions were

measured with the Religious Ethnocentrism Scale (Altemeyer, 2003). This self-report scale is in nine-point Likert format. Test items include, “All people may be entitled to their own religious beliefs, but I don’t want to associate with people whose views are quite different from my own, “ and “I would be against letting some other, different religion use my church for its services when we were not using it.” Assessments of construct validity have been demonstrated through correlations with racial and ethnic ethnocentrism with  $r$  values ranging from .49 to .52. Interitem reliability for this study was  $\alpha = .91$ .

*Authoritarianism.* Right-wing authoritarianism was assessed via the 1996 version of the Right-wing Authoritarianism Scale (Altemeyer, 1996). This scale is a self-report measure in nine-point Likert format consisting of 30 questions. Test items include the statements, “Obedience and respect of authority are the most important virtues children should learn,” and “Our country will be destroyed someday if we do not smash the perversion eating away at our moral fiber and tried beliefs.” Construct validity has been demonstrated via correlations with submission to established authority ( $r$  values from .42 to .16); authority supported aggression against lawbreakers ( $r$  from .40 to .50) and peers in a learning situation ( $r = .43$ ); and hostility to nonconventional persons such as homosexual individuals ( $r$  from .26 to .51). Interitem reliability for this study was  $\alpha = .91$ .

*Social desirability.* Social desirability was evaluated to determine whether socially desirable responding influenced the measurements of prejudice. Socially desirable responding was assessed by the Marlowe-Crowne Social Desirability Scale, Form C, which is a 13-item self-report scale in a true/ false format and is a shortened revision of the original 33-item scale (Reynolds, 1982). The items are summed, with true

= 1 and false = 2, to create an overall score, with higher scores indicating a tendency to provide socially desirable responses. Test items include, “I am sometimes irritated by people who ask favors of me,” and “There have been times when I was quite jealous of the good fortune of others” (Reynolds, 1982, p. 122). A Kuder-Richardson reliability of  $\alpha = .76$  has been reported and concurrent validity rating to the original scale has been reported to be .93 (Reynolds, 1982).

### *Procedure*

Participants were given the demographics questionnaire, the Religious Fundamentalism Scale, and the Right-wing Authoritarianism Scale, followed by one of the three threat scenarios determined by random assignment. The participants then were given the prejudicial attitude measures in counterbalanced order, followed by the Social Desirability Scale.

## Results

### *Preliminary Analyses*

A Multivariate Analysis of Covariance (MANCOVA) was used for the main analysis and requires equality of the covariance matrices of the dependent variables to decrease Type I errors (Garson, 2009). The equality of the covariance matrices for attitudes toward women, attitudes toward homosexual individuals, and attitudes toward other religions was non-significant at the conservative value of  $p < .001$ , with a Box's  $M = .004$  (Garson, 2009; Tabachnick & Fidell, 2001); the assumption of equality of covariance matrices was met. MANCOVA analysis also requires equality of the error variances for the dependent variables to decrease Type I errors (Garson, 2009). The equality of error variances for attitudes toward women, attitudes toward homosexual

individuals, and attitudes toward other religions was non-significant, with Levene's Test ranging from .302 to .693; the assumption of equality of error variances was met.

Additionally, MANCOVA analysis requires a low measurement error for any covariates to decrease Type II errors (Garson, 2009). The interitem reliability of right-wing authoritarianism was  $\alpha = .91$ , well above the suggested interitem reliability of  $>.80$  (Garson, 2009; Tabachnick & Fidell, 2001); the assumption of low measurement error for the covariate was met. These analyses suggested the probability of Type I and Type II error for the main analysis would be within acceptable statistical limits, ensuring confidence in rejection of the null and in detection of a significant relationship should one exist.

MANCOVA is sensitive to outliers (Garson, 2009; Tabachnick & Fidell, 2001). The data were tested for outliers and the influence of outliers through analyses of Mahalanobis Distance and of Cook's Distance. Results indicated there were no extreme or significantly influential outliers; therefore, no deletion of outlying cases was deemed necessary.

The influence of age, race/ethnicity, social desirability, order, and gender on the proposed analysis was examined using five separate MANCOVAs with each of these variables added separately as an independent variable to the model. To analyze the impact of age, a median split was used to create two groups; age was non-significant on all dependent variables and therefore not added as a covariate to the final model. To analyze race/ethnicity, participants were divided into three categories, African American, Caucasian, and other; race/ethnicity was non-significant on all dependent variables and therefore not added as a covariate to the final model. To analyze social desirability, a

median split was used to create two groups; social desirability was non-significant on all dependent variables and therefore not added as a covariate to the final model. The six different order combinations were included in a MANCOVA; order was non-significant on all dependent variables and therefore not added as a covariate to the final model. The MANCOVA for gender, however, was significant on attitudes toward women,  $F(1,191) = 11.613$   $p < .001$ , and on attitudes toward homosexual individuals,  $F(1,191) = 28.142$ ,  $p < .001$ . For this reason, gender was added as a covariate to the final model.

### *Sample Size*

A priori power and effect size analysis suggested a sample size of approximately 160 was needed to achieve power of .80 with an effect size of .25 (Buchner, Erdfelder, Faul, & Lang, 1992-2006). The main analysis included 192 participants, adequately meeting this requirement. MANCOVA further requires a minimum sample size wherein every cell contains more cases than there are dependent variables in the model (Garson, 2009). Cell sizes ranged from a low of 8 cases to a high of 23, with no cell containing fewer cases than the number of dependent variables (three). Cell size was sufficient for all cells to be included in the analysis.

### *Main Analyses*

Hypothesis I predicted individuals high in religious fundamentalism would demonstrate greater prejudice than those low in religious fundamentalism on all dependent variables. The measure of religious fundamentalism was made categorical using a quartile split of the RF Scale, referred to as RF Group. Testing of the hypothesis was completed using a 4 (RF Group) x 3 (Threat Condition) MANCOVA, controlling for authoritarianism and gender. Results indicated that the combined dependent variables

were significantly influenced by RF Group, Wilks' Lambda  $F(9, 183) = 7.725, p < .001$ . The tests of between-subjects effects indicated RF Group was significant for all dependent variables: attitudes toward women—  $F(3,189) = 3.795, p < .011$ ; Effect size = .06 Partial  $\eta^2$ , Observed Power = .81; attitudes toward homosexual individuals—  $F(3,189) = 6.512, p < .001$ ; Effect size = .10 Partial  $\eta^2$ , Observed Power = .97; and attitudes toward persons of other religions—  $F(3,189) = 14.227, p < .001$ ; Effect size = .19 Partial  $\eta^2$ , Observed Power = 1.0.

Post hoc comparisons (Bonferroni) were made between the four levels of RF Group. Individuals high in religious fundamentalism demonstrated significantly more negative attitudes toward women than those low in religious fundamentalism (see Figure 1). Individuals high in religious fundamentalism demonstrated significantly more prejudice toward homosexual individuals than all other RF Groups, including those low in religious fundamentalism (see Figure 2). Individuals high in religious fundamentalism demonstrated significantly more prejudice toward persons of other religions than all other RF Groups, including those low in religious fundamentalism (see Figure 3). Hypothesis I was supported. Individuals high in religious fundamentalism demonstrated greater prejudicial attitudes toward women, homosexual individuals, and persons of other religions than those low in religious fundamentalism.

Previous studies in the religious fundamentalism literature have not measured prejudice toward women, homosexual individuals, and those of other religions in the same sample. Investigations have looked at religious fundamentalism and prejudice toward other races, homosexual individuals, and other religions and found the strongest relationship with prejudice toward other religions, concluding that prejudice toward other



religions is stronger than other prejudices for those high in religious fundamentalism (Altemeyer, 2003). In the present study, the correlations between religious fundamentalism and the prejudice measures followed the pattern seen in the literature (see Table 1), with correlations of .16 with attitudes toward women, .56 with attitudes toward homosexual individuals, and .70 with attitudes toward other religions. Moreover, the effect sizes differed in magnitude for each relationship between religious fundamentalism and prejudice: .06 for attitudes toward women, .10 toward homosexual individuals, and .19 toward other religions. The strongest relationship and effect size was between religious fundamentalism and prejudice toward other religions. These findings add support to the contention that individuals high in religious fundamentalism demonstrate the greatest prejudice toward those of other religions in that the degree of prejudice toward other religions was stronger than that toward women or homosexual individuals.

Hypothesis II predicted an interaction effect between fundamentalism and threat condition. Those high in religious fundamentalism were expected to demonstrate greater prejudice in the epistemic uncertainty (belief threat) condition than in the existential threat (mortality salience) or control conditions. Those low in religious fundamentalism were anticipated to exhibit greater prejudice in the existential threat condition than in the epistemic uncertainty or control conditions. The tests of between-subjects effects indicated the interaction between RF Group and threat condition was non-significant for all dependent variables. The hypothesis was not supported; the relationship between religious fundamentalism and prejudice did not change by threat condition.

Hypothesis III predicted a differential impact by threat condition on the three prejudices. It was expected that epistemic uncertainty would result in a greater impact on prejudice toward other religions for those high in religious fundamentalism, and that existential threat would have a greater impact on prejudice toward women and homosexual individuals for those low in religious fundamentalism. The interaction between RF Group and threat condition was not significant for any of the dependent variables. The hypothesis was not supported; threat condition did not differentially impact prejudice toward other religions for those high in religious fundamentalism nor toward women and homosexual individuals for those low in religious fundamentalism.

### Discussion

This study sought to investigate the relationship between religious fundamentalism and prejudice toward women, homosexual individuals, and those of other religions in the presence of different types of threat. Religious fundamentalism has correlated with various prejudices repeatedly with the evidence suggesting its strongest relationship is to prejudice toward other religions (Altemeyer, 2003; Altemeyer & Hunsberger, 1992, 1993; Fulton et al., 1999; Hunsberger, 1995, 1996; Hunsberger et al., 1999; Kirkpatrick, 1993; McFarland, 1989). However, no unifying theoretical framework had previously been offered to satisfactorily explain these prejudicial relationships or their differences in strength. It was therefore proposed that religious fundamentalism, as an exemplar of the psychological processes of opposition to change and support of the social order, may be a belief system that is adopted as one means of managing uncertainty and threat. Thus, two types of threat were introduced, epistemic uncertainty, in the form of a challenge to beliefs, and existential threat, in the form of a mortality

salience induction, along with a control condition, to examine their impact on the relationship between religious fundamentalism and prejudice.

It was expected that individuals high in religious fundamentalism would demonstrate greater prejudice than those low in religious fundamentalism under all threat conditions. Results supported this prediction. Previous studies had suggested for those high in religious fundamentalism prejudice toward other religions was greater than toward other races and homosexual individuals (Altemeyer, 2003). The present study provides evidence that prejudice toward other religions is also greater than that toward women, as well as homosexual individuals, for those high in religious fundamentalism. Of note, this study controlled for the influence of right-wing authoritarianism. Some researchers have suggested that the relationship between religious fundamentalism and prejudice does not hold without the impact of right-wing authoritarianism (Laythe, Finkel, & Kirkpatrick, 2001). Nevertheless, with the influence of right-wing authoritarianism accounted for, the relationships between religious fundamentalism and prejudice toward women, homosexual individuals, and other religions held, demonstrating religious fundamentalism is itself a strong predictor of prejudice. The present study also provides support for the relative degrees of prejudice suggested by the pattern of the strength of correlations in the literature (see Table 1). The previous correlations implied that the strength of the relationship between fundamentalism and attitudes toward women has been less than that with prejudice toward homosexual individuals and that the strongest relationship was with attitudes toward other religions. This study offers support for this implication in that individuals high in religious fundamentalism demonstrated a lesser degree of prejudice toward women than toward

homosexual individuals and the most prejudice toward those of other religions, as indicated by the configuration of the correlations with the prejudice measures and by the effect sizes found.

The proposed theoretical framework offers explanations for the prejudice demonstrated by those high in religious fundamentalism and for the differences in magnitudes of the prejudices shown. If the framework is correct that religious fundamentalism is an expression of the psychological processes of opposition to change and support for the existing social order and is a belief system adopted in part to manage uncertainty and threat, its relationship with prejudice is a manifestation of the degree of uncertainty and threat various groups embody. Consider prejudice toward women. Individuals high in religious fundamentalism demonstrated greater prejudice toward women than those low in religious fundamentalism, but not significantly more so than persons exhibiting a moderate level of religious fundamentalism (see Figure 1). Interestingly, the relationship between religious fundamentalism and prejudice toward women was not as direct as that with prejudice toward homosexual individuals (see Figure 2) or other religions (see Figure 3). Persons low in religious fundamentalism demonstrated low prejudice toward women and those high in religious fundamentalism demonstrated high prejudice toward women, but so did individuals demonstrating a moderate level of religious fundamentalism. Yet, the strength of the correlation and of the effect size for the relationship between religious fundamentalism and attitudes toward women was small and weaker than that found for attitudes toward homosexual individuals and other religions. In addition, the correlations among the prejudice measures themselves suggest religion is more involved in prejudice toward homosexual

individuals than it is toward women; the measure of prejudice toward other religions correlated more strongly to attitudes toward homosexual individuals (.68) than to attitudes toward women (.40).

In the relationship between religious fundamentalism and attitudes toward women, it may be that multiple forces are involved. The changes to the daily roles of women brought about by the women's rights movement over the past 30 years in the United States may have moderated the perceived threat of change and disruption to the secular social order women pose. That is, women are in secular positions of authority and power, yet the social order has not collapsed. However, women may continue to pose a threat to the traditional patriarchic and hierarchical power structure in the church. Women's roles in Christian fundamentalist churches often remain restricted, with women denied positions that would place them in authority over men. It may be that negative attitudes toward women are exemplified in the church such that, even for persons for whom religion is only moderately salient, the message is internalized that men are over women, women have their place, and this is as it should be. Perhaps there is a clash between the improvements made for women's rights in the secular world battling against the credence given to prejudice toward women in the religious sphere. Thus, a weak correlation and effect size between religious fundamentalism and attitudes toward women is demonstrated overall, but a difference in the degree of prejudice toward women is seen between those for whom religion is unimportant and those for whom religion is salient, however slightly. Women may not be as threatening to the secular social order as they once were for those for whom religion is moderately to extremely important, but the need

remains to protect the traditional hierarchical power structure in the church and, perhaps, wherever else possible.

For prejudice toward homosexual individuals and persons of other religions, individuals high in religious fundamentalism demonstrated greater prejudice than all other levels of religious fundamentalism in this study. It may be that the uncertainty and threat introduced by homosexual individuals is more than that posed by women, but less than that by other religions. Homosexual persons may threaten the beliefs and the social order of those high in religious fundamentalism. For example, homosexuality is often viewed as a sin by those high in religious fundamentalism. As such, to individuals high in religious fundamentalism persons who are of a homosexual orientation may be seen as willfully defying the teachings of Christianity and flaunting their disregard for its rules for living. Further, as homosexual individuals seek rights to marry and have families, persons high in religious fundamentalism may view these actions as contrary to the social order they deem god-given. As for other religions, their existence alone may threaten the beliefs and the present and future social orders of those high in religious fundamentalism. By definition, persons high in religious fundamentalism believe they have *the* truth; thus, other religions must necessarily be wrong and their continuing presence a sign that evil continues to exist. Other religions may also introduce doubt to beliefs for those high in religious fundamentalism, which cannot be tolerated; doubt brings fear that their purpose and position in this life, and their immortality in the next, are in danger. If those high in religious fundamentalism have to consider that they might be wrong, the meaning of life becomes unknown and death anxiety becomes undefended. Thus, the extent of dislike

toward other religions may be greatest for those high in religious fundamentalism because other religions introduce the most uncertainty and threat.

It was further expected that persons high in religious fundamentalism would demonstrate greater prejudice in the epistemic uncertainty condition than in the existential threat or control conditions. The literature on religious fundamentalism and TMT suggested that persons high in religious fundamentalism would respond defensively to a threat to their beliefs, as challenges to their beliefs weakened unconscious death-anxiety defenses (Friedman & Rholes, 2007), but would not do so under a direct threat to their mortality, as fundamentalism defended well against conscious existential threat (Friedman, 2008; Friedman & Rholes, 2008). However, there were no significant differences in prejudice levels between threat conditions for persons high in religious fundamentalism.

Perhaps the extent of uncertainty and/or threat introduced by the threat conditions was not as great as that posed by the target groups themselves. The present study threatened beliefs indirectly via a short article participants were asked to imagine would appear in the local newspaper one month in the future. The article described the discovery of ancient parchments linking the story of Jesus to earlier Sumerian mythology and concluded that Jesus never existed. The only other study in the literature that introduced a threat to beliefs was direct, asking participants to read the four gospel accounts of the resurrection and then to read a paragraph highlighting the inconsistencies between the differing accounts (Friedman & Rholes, 2007). The direct challenge to beliefs through the use of scripture may have been more distressing and impactful than the indirect and hypothetical approach taken in the present study.

It was also expected that persons low in religious fundamentalism would demonstrate greater prejudice in the existential threat condition than in the epistemic uncertainty or control conditions. The literature on religious fundamentalism and TMT had suggested that those low in religious fundamentalism tend to respond defensively in mortality salience conditions (Friedman, 2008; Friedman & Rholes, 2008). However, in this study, the prejudice levels of those low in religious fundamentalism were not influenced by threat condition. It may be that the existential threat introduced in this study was not powerful enough to alter the strong non-prejudicial attitudes of those low in religious fundamentalism. In typical mortality-salience induction procedures, participants are asked to write about the events and emotions surrounding their death (Lavine, Lodge, & Frietas, 2005). In the present study, an article about a soldier dying preceded this typical induction. It may be that considering someone else's death diluted the impact of the typical procedure.

This study also sought to answer whether there was a differential impact by threat condition on those high and low in religious fundamentalism. It was anticipated that for those high in religious fundamentalism, epistemic uncertainty would have a greater impact on prejudice toward other religions because a religious belief was being challenged and religion is highly salient to them. For those low in religious fundamentalism, it was expected that existential threat would have a greater impact on prejudice toward women and homosexual individuals, as religion is not salient for them. However, there were no differential impacts on prejudice for those high or low in religious fundamentalism. Once again, the scenarios used in the present study to challenge beliefs and introduce mortality salience may not have been powerful enough to



induce differences in the prejudice expressed by persons high or low in religious fundamentalism.

#### *Limitations and Future Research*

In addition to the methodological difficulties surrounding the uncertainty and threat scenarios, another problem was that measures of the degree to which participants felt threatened in each threat condition and by each target group were not included. One possibility would have been to include direct questions following the scenarios. For the epistemic uncertainty condition, questions such as, “To what extent did this article challenge your religious beliefs,” and “How much did the article pose a threat to how you think about your beliefs,” answered on a Likert scale would have been helpful in determining if uncertainty to beliefs was introduced. For the existential threat condition, similar Likert-scale questions such as, “To what extent did considering your own death cause you to feel threatened about your mortality,” and “To what extent did thinking about your own death cause you discomfort and anxiety,” would have provided a means of ascertaining if mortality was made salient and was threatening. Additionally, for both the threat scenarios and the target groups, one possibility would have been to add a measure similar to that used by Jackson and Esses (1997) in which participants rated the degree to which target groups threatened or promoted cherished values. Applying such an approach in the present study wherein participants rated the extent to which the scenarios and the target groups threatened their values, traditions, and beliefs would have made clear whether the groups themselves introduced more uncertainty and threat than the threat conditions. Perception of degree of uncertainty and threat imposed by condition and by target groups should be measured in future studies.

Similarly, perhaps a methodology akin to that suggested above could be employed to disentangle the long, and decidedly unclear, relationship between religious fundamentalism and racial/ethnic prejudice (see e.g., Altemeyer & Hunsberger, 1992 or Kirkpatrick, 1993). In previous studies, sometimes religious fundamentalism has correlated with racial/ethnic prejudice and sometimes it has not. It may be that the inconsistency in the relationship between religious fundamentalism and racial/ethnic prejudice is due to the associations of the targets groups under consideration with specific religions. Notably, the instruments used to measure racial/ethnic prejudice in the religious fundamentalism literature have generally included references to several racial/ethnic groups rather than concentrating on one (see e.g., the Manitoba Prejudice Scale, Altemeyer & Hunsberger, 1992). Perhaps this broad approach has further masked the influence of the religious associations attached to various groups. It would be intriguing to examine the relationship between religious fundamentalism and prejudice toward specific races/ethnicities using groups usually associated with specific religions while measuring the attitudes of participants toward each group separately. For instance, target groups could include groups who are often associated with Christianity, Islam, and Judaism. In addition to prejudice measures, participants could rate the degree to which each target group is associated with a specific religion and to which the group threatens their values and beliefs. In this manner, it could be determined if what has caused the lack of clarity in the literature on religious fundamentalism and racial/ethnic prejudice is that certain groups are representing other religions, because, as shown, individuals high in religious fundamentalism are strongly prejudiced toward those of other religions.

Clarification and refinement of the proposed theoretical framework for religious fundamentalism and prejudice are also needed. In the present study, epistemic uncertainty and existential threat did not influence prejudice distinctly. The presented model should be tested to determine if epistemic uncertainty and existential threat are separate constructs when applied to religious fundamentalism, as presumed in this study. Within the framework employed by Jost et al. (2003) for political conservatism, epistemic uncertainty and existential threat have been shown to be separate constructs (Jost et al., 2007). In a series of studies, epistemic uncertainty was measured through latent variables such as need for order, openness to new experience, need for predictability, and intolerance of ambiguity, while existential threat was measured in terms of death anxiety, system threat including perceptions of terrorism, and fear of a dangerous world. Structural equation modeling was used and it was determined that epistemic uncertainty and existential threat were indeed separate, though related, constructs (Jost et al., 2007). A similar approach should be applied to religious fundamentalism.

From a multicultural perspective, the findings of this study cannot be assumed to apply beyond Christian undergraduate students in the United States. It may be that college students are relatively lower in religious fundamentalism than the general population, which may have influenced the strength of the effects found. Research using a community sample would clarify the generalizability of the present findings to the population of Christians in the United States. Further, although research on religious fundamentalism and prejudice toward women and homosexual individuals has been conducted in several countries with several religions, prejudice toward persons of other religions has not been included in these studies. It remains unclear if similar results,

particularly regarding the strength of prejudice toward other religions, would be found in religions other than Christianity in countries other than the United States. Future research expanding beyond these limits is needed. Because religious fundamentalism has global influence and consequence, understanding the psychological processes of religious fundamentalism, and how they apply more broadly, is vital.

## References

- Altemeyer, B. (1988). *Enemies of freedom*. San Francisco, CA: Jossey-Bass Publishers.
- Altemeyer, B. (1996). *The authoritarian specter*. Cambridge: Harvard University Press.
- Altemeyer, B. (2003). Why do religious fundamentalists tend to be prejudiced? *The International Journal for the Psychology of Religion*, 13, 17-28.
- Altemeyer, B., & Hunsberger, B. (1992). Authoritarianism, religious fundamentalism, quest, and prejudice. *The International Journal for the Psychology of Religion*, 2, 113-133.
- Altemeyer, B., & Hunsberger, B. (1993). Reply to Gorsuch. *The International Journal for the Psychology of Religion*, 3, 33-37.
- Altemeyer, B., & Hunsberger, B. (2004). A revised religious fundamentalism scale: The short and sweet of it. *International Journal for the Psychology of Religion*, 14, 47-54.
- Batson, C. D. (1976). Religion as prosocial: Agent or double agent? *Journal for the Scientific Study of Religion*, 15, 29-45.
- Batson, C. D., Floyd, R. B., Meyer, J. M., & Winner, A. L. (1999). "And who is my neighbor?:" Intrinsic religion as a source of universal compassion. *Journal for the Scientific Study of Religion*, 38, 445-457.
- Benson, P. L., & Vincent, S. (1980). Development and validation of the sexist attitudes toward women scale (SATWS). *Psychology of Women Quarterly*, 5, 276-291.
- Buchner, A., Erdfelder, E., Faul, F., & Lang, A. G. (1992-2006). *GPower 3.0.7: A priori, post-hoc, and compromise power analysis for MS-DOS [computer program]*. Bonn FRG: Bonn University, Department of Psychology.

- Castano, E., & Dechesne, M. (2005). On defeating death: Group reification and social identification as immortality strategies. *European Review of Social Psychology*, *16*, 221-225.
- Chafe, W. H. (1999). *The unfinished journey: America since World War II*. New York: Oxford University Press.
- Dechesne, M., Janssen, J., & van Knippenberg, A. (2000). Derogation and distancing as terror management strategies: The moderating role of need for closure and permeability of group boundaries. *Journal of Personality and Social Psychology*, *79*, 923-932.
- Dechesne, M., Pyszczynski, T., Arndt, J., Ransom, S., Sheldon, K. M., van Knippenberg, A., & Janssen, J. (2003). Literal and symbolic immortality: The effect of evidence of literal immortality on self-esteem striving in response to mortality salience. *Journal of Personality and Social Psychology*, *84*, 722-737.
- Friedman, M. (2008). Religious fundamentalism and responses to mortality salience: A quantitative text analysis. *International Journal for the Psychology of Religion*, *18*, 216-237.
- Friedman, M., & Rholes, W. S. (2007). Successfully challenging fundamentalist beliefs results in increased death awareness. *Journal of Experimental Social Psychology*, *43*, 794-801.
- Friedman, M., & Rholes, W. S. (2008). Religious fundamentalism and terror management. *The International Journal for the Psychology of Religion*, *18*, 36-52.

- Fulton, A. S., Gorsuch, R. L., & Maynard, E. A. (1999). Religious orientation, antihomosexual sentiment, and fundamentalism among Christians. *Journal for the Scientific Study of Religion, 38*, 14-22.
- Garson, G. D. (2009). Multivariate GLM, MANOVA, and MANCOVA. *North Carolina State University*. Retrieved May 20, 2010, from <http://faculty.chass.ncsu.edu/garson/PA765/manova.htm>
- Gatewood, W. B., Jr. (Ed.). (1969). *Controversy in the twenties: Fundamentalism, modernism, and evolution*. Nashville, TN: Vanderbilt University Press.
- Greenberg, J., Pyszczynski, T., Solomon, S., Rosenblatt, A., Veeder, M., Kirkland, S. et al. (1990). Evidence for terror management theory II: The effects of mortality salience on reaction to those who threaten of bolster the cultural worldview. *Journal of Personality and Social Psychology, 58*, 308-318.
- Gribbins, T., & Vandenberg, B. (in press). The relationship between religious fundamentalism, the need for cognitive closure, and helping: The effects of differing groups. *International Journal for the Psychology of Religion*.
- Hewstone, M., Rubin, M., & Willis, H. (2002). Intergroup bias. *Annual Review of Psychology, 53*, 575-604.
- Hunsberger, B. (1995). Religion and prejudice: The role of religious fundamentalism, quest, and right-wing authoritarianism. *Journal of Social Issues, 51*, 113-129.
- Hunsberger, B. (1996). Religious fundamentalism, right-wing authoritarianism, and hostility toward homosexuals in non-Christian religious groups. *The International Journal for the Psychology of Religion, 6*, 39-49.

- Hunsberger, B., Alisat, S., Pancer, S.M., & Pratt, M. (1996). Religious fundamentalism and religious doubts: Content, connections, and complexity of thinking. *The International Journal for the Psychology of Religion*, 6, 201-220.
- Hunsberger, B., Owusu, V., & Duck, R. (1999). Religion and prejudice in Ghana and Canada: Religious fundamentalism, right-wing authoritarianism, and attitudes toward homosexuals and women. *The International Journal for the Psychology of Religion*, 9, 181-194.
- Jackson, L. M., & Esses, V. M. (1997). Of scripture and ascription: The relation between religious fundamentalism and intergroup helping. *Personality and Social Psychology Bulletin*, 23, 893-906.
- Johnstone, R. (1997). *Religion in society: A sociology of religion* (5th ed.). Upper Saddle River, NJ: Prentice Hall.
- Jost, J. T., Napier, J. L., Thorisdottir, H., Gosling, S. D., Palfai, T. P., & Ostafin, B. (2007). Are needs to manage uncertainty and threat associated with political conservatism or ideological extremity? *Personality and Social Psychology Bulletin*, 33, 989-1006.
- Jost, J. T., Kruglanski, A. W., Glaser, J., & Sulloway, F. J. (2003). Political conservatism as motivated social cognition. *Psychological Bulletin*, 129, 339-375.
- Kirkpatrick, L. A. (1993). Fundamentalism, Christian orthodoxy, and intrinsic religious orientation as predictors of discriminatory attitudes. *Journal for the Scientific Study of Religion*, 32, 256-268.



- Kruglanski, A. W. (1996). Motivated social cognition: Principles of the interface. In E. T. Higgins & A. W. Kruglanski (Eds.), *Social psychology: Handbook of basic principles* (pp. 493-520). New York: The Guilford Press.
- Kruglanski, A. W. (2001). Motivation and social cognition: Enemies or a love story? *International Journal of Psychology and Psychological Therapy, 1*, 33-45.
- Lavine, H., Lodge, M., & Freitas, K. (2005). Threat, authoritarianism, and selective exposure to information. *Political Psychology, 26*, 219-244.
- Laythe, B., Finkel, D., & Kirkpatrick, L. A., (2001). Predicting prejudice from religious fundamentalism and right-wing authoritarianism: A multiple-regression approach. *Journal for the Scientific Study of Religion, 40*, 1-10.
- McFarland, S. G. (1989). Religious orientations and the targets of discrimination. *Journal for the Scientific Study of Religion, 28*, 324-336.
- Pyszczynski, T., Greenberg, J., & Solomon, S. (1999). A dual-process model of defense against conscious and unconscious death-related thoughts: An extension of terror management theory. *Psychological Review, 106*, 835-845.
- Reynolds, W.M. (1982). Development of reliable and valid short forms of the Marlowe-Crowne Social Desirability Scale. *Journal of Clinical Psychology, 38*, 119-125.
- Rosenblatt, A., Greenberg, J., Solomon, S., Pyszczynski, T., & Lyon, D. (1989). Evidence for terror management theory: I. The effects of mortality salience on reaction to those who violate or uphold cultural values. *Journal of Personality and Social Psychology, 57*, 681-690.
- Salzman, M. B. (2008). Globalization, religious fundamentalism and the need for meaning. *International Journal of Intercultural Relations, 32*, 318-327.

- Sim, S. (2004). *Fundamentalist world: The new dark age of dogma*. Lanham, MD: Totem Books.
- Solomon, S., Greenberg, J., & Pyszczynski, T. (2000). Pride and prejudice: fear of death and social behavior. *Current Directions in Psychological Science*, 9, 200-204.
- Tabachnick, B. G., & Fidell, L. S. (2001). *Using multivariate statistics* (4th ed.). Boston: Allyn and Bacon.
- Unger, R. K. (2007). Religious ideology, a neglected variable. *American Psychologist*, 62, 1079-1077.
- White, E. E. (2002). *The journal of Patrick Seamus Flaherty: United States Maine Corps*. NY: Scholastic, Inc.
- Wyatt, R. (2005). God willing? Political fundamentalism in the White House, the “War on Terror,” and the echoing press. [Review]. *Mass Communication & Society*, 8, 177-178.
- Zeizima, K. (2006, August 25). A manatee, far from home, dips its toes in the chilly north. *N.Y. Times*. Retrieved July 13, 2009, from <http://www.nytimes.com/2006/08/25/us/25manatee.html?emc=eta1>

## Appendix A

*Threat Scenarios*

Questions for all scenarios were adapted from Lavine, Lodge, & Frietas (2005, p. 229).

*Epistemic threat condition.* Adapted from Altemeyer (1988, p. 224-225).

Suppose that next month an article appears in the St. Louis Post Dispatch in which a discovery is revealed.

A group of archeologists working in the Near East announced the discovery of a group of ancient parchments, very similar to the famous Dead Sea Scrolls, in a Syrian cave. Except these scrolls are somewhat older. Radiocarbon dating establishes that the inscriptions were made on the parchments about 200 B.C.  $\pm$  100 years. The inscriptions are in ancient Greek and contain many of the myths and teaching of the “mystery religions” which arose in Asia Minor at the time. But what is astounding about these scrolls is that they also contain much of the story of “Jesus” as well.

Specifically, the scrolls tell the story of Attis, a carpenter’s son raised in a Greek settlement in what is now Lebanon. Attis was born of a virgin, though in this myth his father was a Zeus-like god. He began a three-year public ministry at the age of 30, drawing a multitude of followers and eventually coming into conflict with the established religion in his region. Attis was put to death but arose three days later and eventually rose into the heavens. Furthermore, most of the parables, miracle stories, and teaching of the Gospels are found in these scrolls, which clearly predate the reform movement that arose in Judaism during the First Century A.D. and which eventually became Christianity.

Other scholars examine the scrolls and eventually pronounce them genuine. Scholars of Near East religions generally conclude that the long-forgotten myth of Attis was adapted and embellished by a group of Jewish reformers during the Roman occupation of Palestine to suit their own purposes— just as much of the book of Genesis has long been traced to earlier Sumerian myths. In short, there never was a Jesus of Nazareth.

Imagine for the sake of the following questions that the discovery and conclusions described above actually occurred. Please answer these questions as seriously and honestly as possible.

Please, write down, as specifically as you can, what you think the meaning of this discovery would be.

Please, briefly describe the emotions that the thought of this discovery arouses in you.

*Existential threat condition.* Adapted from White (2002, p. 105-108).

Suppose that next month an article appears in the St. Louis Post Dispatch in which a service member serving overseas provides his personal reflections.

My friend, John Sharp, took a sniper's bullet in the stomach yesterday. He had his flak jacket on, but they only protect us from shrapnel. It was a really serious wound, but the new corpsman said he's be okay if we could get him evacuated right away.

And then, the fog rolled in, thick. All of the helicopters were grounded again, and we had no way of getting John out until the weather cleared. The corpsman had to try to keep him alive for however long it took to for the medevac to come. Food and water aren't the only things that are scarce away from base camp— we're always close to running out of bandages, glucose, blood expanders, and all the other stuff the corpsmen need.

We all knew it was bad. I think John knew, too, but he never said so.... The only time he complained was to say how thirsty he was. The corpsman told us that people with stomach wounds are not supposed to drink anything, and to try to change the subject whenever he asked.

John lost feeling in his legs. I tried to reassure him we would get him evacuated soon and that the doctors would fix him. When John did not say anything for a few minutes, I was afraid he had passed out— or worse.

He asked me if I would help him write letters to his mother and his wife, and of course, I said yes.

Both of John's letters were sweet, and simple, and full of love.

He asked me if I thought the letters would be okay, if his mother and wife would like them. I told him they would love them. *Treasure* them.

John died just after 0930 this morning.

Consider for the sake of the following questions your own future death. Please answer these questions as seriously and honestly as possible.

Please, write down, as specifically as you can, what you think will happen to you as you physically die and once you are dead.

Please, briefly describe the emotions that the thought of your own death arouses in you.

*No threat, control condition.* Adapted from Zezima (2006, August 25).

Suppose that next month an article appears in the St. Louis Post Dispatch in which a Manatee has traveled far from home.

A meandering manatee has gone where few, if any, of its large, lumbering species have gone before: Cape Cod. A manatee that has taken an unusual northerly journey, including to Cape Cod, was spotted Sunday at a storm drainpipe in Warwick, R.I.

The manatee, which biologists believe is the same one spotted in the Hudson River two weeks ago, was spied in the waters off Falmouth, Mass., last Thursday. The creature, which officials believe is about 12 feet long and weighs 1,500 pounds, was last seen off North Kingstown, R.I., on Tuesday, hundred of miles from its home off the Florida coast.

“It’s, to our knowledge, the northernmost sighting of a manatee ever documented,” said Cathy A. Beck, a wildlife biologist. Gail Mastrati, a spokeswoman for the Rhode Island Department of Environmental Management, said, “He’s the talk of the town.”

The manatee has been on quite an adventure. It ventured up the Hudson River; sipped from a drainage pipe in Warwick; and, The Cape Cod Times reported, stopped for a snack of eelgrass in Falmouth Harbor.

Biologists do not know why it went so far north. Ms. Beck suspects it latched onto a warm ocean current and followed it northward.

Manatees typically reside in inlets and shallow coastal waters in Florida. In the summer, however, it is common for them to travel as far north as the Carolinas, hugging the coastline and exploring inlets, Ms. Beck said.

Rhode Island is not completely foreign territory, however. A notorious manatee nicknamed Chessie, who was rescued from Chesapeake Bay in 1994, swam up to Rhode Island the next summer. Mr. LaCasse said a manatee was spotted off Point Judith, R.I., a few years ago.

But until now, Cape Cod was uncharted manatee territory.

Imagine for the sake of the following questions that the story described above actually occurred. Please answer these questions as seriously and honestly as possible.

Please, write down, as specifically as you can, what you think the meaning of this story would be.

Please, briefly describe the emotions that the thought of this story arouses in you.

## Appendix B

*Demographics*

Please, complete the following personal information. Please, complete all items.

1. What is your age? \_\_\_\_\_
2. Please, indicate your gender: \_\_\_\_\_ Male \_\_\_\_\_ Female
3. Please, identify your Race or Ethnicity (check all that apply):
  - \_\_\_\_\_ Caucasian
  - \_\_\_\_\_ African American
  - \_\_\_\_\_ Hispanic
  - \_\_\_\_\_ Asian; please, mark your country of racial origin
    - \_\_\_\_\_ Japanese \_\_\_\_\_ Filipino \_\_\_\_\_ Chinese \_\_\_\_\_ Pacific Islander
    - \_\_\_\_\_ Other Asian; please, write your country of racial origin \_\_\_\_\_
  - \_\_\_\_\_ Native American; please, indicate your tribal affiliation(s) \_\_\_\_\_
  - \_\_\_\_\_ Other
4. How many years of education have you **completed**? \_\_\_\_\_ 12 years (High School/ GED) \_\_\_\_\_ 13 years (1 year of college) \_\_\_\_\_ 14 years (2 years of college) \_\_\_\_\_ 15 years (3 years of college) \_\_\_\_\_ 16 years (College degree) \_\_\_\_\_ Over 16 years
5. Are you presently married? \_\_\_\_\_ No \_\_\_\_\_ Yes
6. Are you a parent? \_\_\_\_\_ No \_\_\_\_\_ Yes
7. What is your religious affiliation?
  - \_\_\_\_\_ Protestant
  - \_\_\_\_\_ Catholic
  - \_\_\_\_\_ Latter Day Saints
  - \_\_\_\_\_ Jewish
  - \_\_\_\_\_ Muslim
  - \_\_\_\_\_ Other; please, specify \_\_\_\_\_
  - \_\_\_\_\_ I am not religious.
8. How often do you attend religious services?
  - \_\_\_\_\_ 1 or more times per week
  - \_\_\_\_\_ 1 to 3 times per month
  - \_\_\_\_\_ A few times per year
  - \_\_\_\_\_ Seldom to never
9. Which ideological perspective best represents your views:
  - \_\_\_\_\_ Conservative \_\_\_\_\_ Moderate \_\_\_\_\_ Liberal

Table 1

*Religious Fundamentalism and Prejudice: Correlations Found and Measures Used*

Study	Type of prejudice and correlation with religious fundamentalism	Measure of prejudice
Altemeyer, 2003 Canadian undergrads and parents		
Students	Homosxl indiv .61 Other religions .82	Attitudes Toward Homosexuals Scale* Religious Ethnocentrism Scale*
Parents	Homosxl indiv .52 Other religions .78	Attitudes Toward Homosexuals Scale* Religious Ethnocentrism Scale*
Altemeyer & Hunsberger, 1992 Canadian undergrads' parents	Homosxl indiv .41	Attitudes Toward Homosexuals Scale*
Altemeyer & Hunsberger, 2004 Canadian undergrads and parents		
Students	Homosxl indiv .51	Attitudes Toward Homosexuals Scale*
Parents	Homosxl indiv .57	Attitudes Toward Homosexuals Scale*
Fulton et al., 1999 US undergrads	Homosxl indiv overall .44 Morally justified .46 Not morally justified .37	18 items from the Attitudes Toward Lesbians and Attitudes Toward Gay Men Scales with references to gender removed
Hunsberger, 1996 Canadian community sample	Homosxl indiv Muslim .65 Hindu .52 Jew .42 Christian .42	Attitudes Toward Homosexuals Scale*
Hunsberger et al., 1999 Ghanaian undergrads Canadian undergrads	Homosxl indiv Ghanaian Muslim .78 Ghanaian Christian .52 Canadian Christian .50	Attitudes Toward Homosexuals Scale*
	Women Ghanaian Muslim .66 Ghanaian Christian .12† Canadian Christian .39	Sexist Attitudes Toward Women Scale* with 10 outdated items removed
Kirkpatrick, 1993 US and Canadian undergrads	Women .13 Homosxl indiv .28	10 items from the Attitude Toward Women Scale 6 items from the Attitudes Toward Lesbians and Attitudes Toward Gay Men Scales with references to gender removed
McFarland, 1989 US Christian undergrads	Women .43 Homosxl indiv .40	10 items from the Attitude Toward Women Scale 6 items from the Attitudes Toward Lesbians and Attitudes Toward Gay Men Scales with references to gender removed

\* Measure used in the present study

† Non-significant

Table 2

*Participants by Gender and Race/ethnicity*

Race/Ethnicity	Male	Female
African American	15	75
Caucasian	28	56
Multiracial	0	9 (1 African American/Cherokee, 1 Hispanic/Filipino, 1 Caucasian/Pacific Islander, 1 African American/Korean, 1 African American/Blackfoot, 1 Caucasian/Hispanic, 1 Caucasian/African American, 1 Caucasian/Choctaw, 1 Caucasian/Hispanic/Cherokee)*
Asian	1 (Vietnamese)	3 (2 Korean, 1 Asian other)
Hispanic	1	1
Native American	1 (Caskaskian)	0
Other	1	1
Total	47	145

\* Race/ethnicities presented in the order listed on the Demographics questionnaire (Appendix B)



### Figure Captions

*Figure 1.* Attitudes toward women at different levels of religious fundamentalism. When religious fundamentalism is low (RF Group1), negative attitudes toward women are low. At moderate (RF Group2) and high (RF Group4) levels of fundamentalism, negative attitudes toward women are high.

*Figure 2.* Attitudes toward homosexual individuals at different levels of religious fundamentalism. When religious fundamentalism is low (RF Group1), negative attitudes toward homosexual individuals are low. As religious fundamentalism increases, negative attitudes toward homosexual individuals also increase, with those high in religious fundamentalism (RF Group4) demonstrating the most negative attitudes.

*Figure 3.* Attitudes toward other religions at different levels of religious fundamentalism. When religious fundamentalism is low (RF Group1), negative attitudes toward other religions are low. As religious fundamentalism increases, negative attitudes toward other religions also increase, with those high in religious fundamentalism (RF Group4) demonstrating the most negative attitudes.

Figure 1

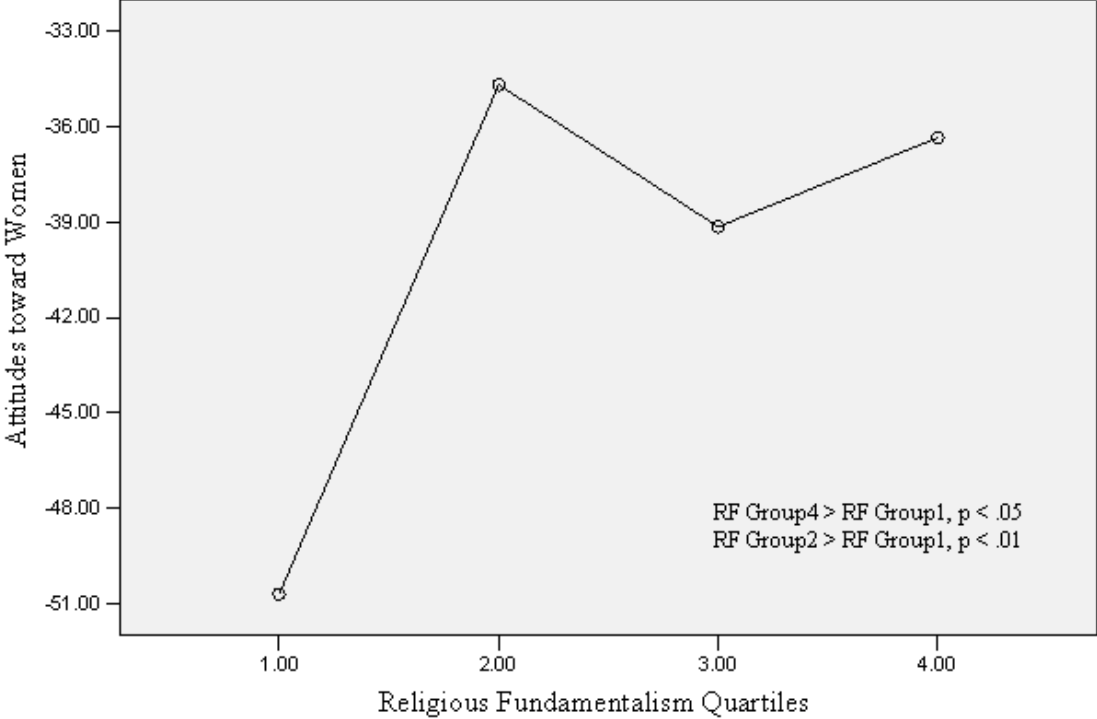


Figure 2

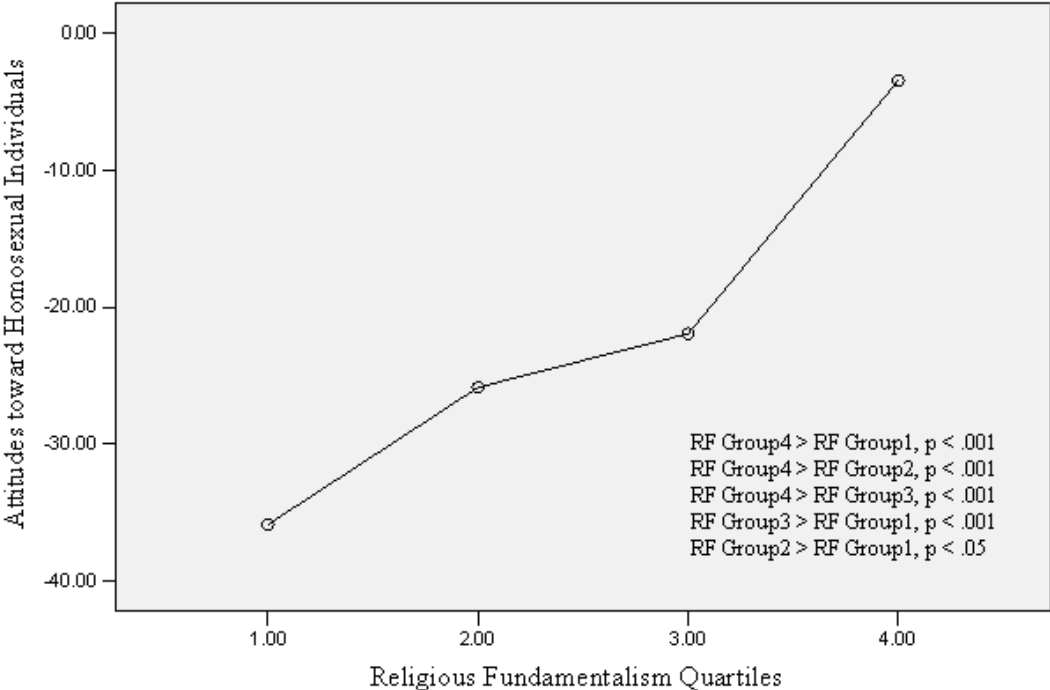


Figure 3

