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**WHEN FAITH HURTS: STIGMA, SOCIAL IDENTITY THREAT, AND RELIGION**

A Thesis in

Psychology

by

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## ABSTRACT

Members of four religious groups in the United States completed an online survey designed to assess predictors and consequences of religious stigma and the effects of an experimental identity threat manipulation. Participants were a national community sample of Protestants ( $n = 250$ ), Catholics ( $n = 243$ ), Jews ( $n = 246$ ) and Muslims ( $n = 234$ ). Results reveal that religious stigma was higher among religious minorities (i.e., Muslims and Jews) compared to Christians (i.e., Protestants and Catholics) and among people who are more religious. In turn, people who reported more stigma also reported a greater propensity to conceal their religious identity, felt like they belonged less and were more likely to question their belonging, and endorsed more negative outgroup attitudes.

Participants were randomly assigned to read a news article designed to elicit religious stigma and social identity threat or a neutral article. Results revealed that the effect of this religious social identity threat manipulation differed between the religious groups, with consequences ranging from increased stigma consciousness, a greater propensity to conceal religious identity, and, in some cases, more negative attitudes towards various outgroups. However, the specific direction of these effects and the religious groups that were affected varied. A stereotype threat effect that was expected to lead participants, particularly those with greater religiosity, to underperform on a test described as measuring scientific ability did not yield the expected results. Participants performed equally well across conditions.

Results suggest that societal attitudes and beliefs about religion can be stigmatizing and that religious stigma can have negative implications, as shown here. However, null and mixed results of an identity threat manipulation suggest that religion or another variable may confer a benefit that helps neutralize identity threats. Alternatively, the identity threat manipulation used

here may not have been sufficiently compelling, either because of the stimuli themselves or the use of an adult online sample who may be more difficult to threaten using typical materials.

Implications are discussed.

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## Chapter 1

### Introduction

In 2015, three Muslim youth were murdered at the University of North Carolina. In 2014, three Jews were shot at a Jewish community center and retirement community in Overland Park, Kansas. In 2012, six Sikh worshipers were killed in Oak Creek, Wisconsin. And in 2010, a Muslim taxi driver was stabbed while on shift in New York City. These notable examples of violent crimes targeting members of religious groups are symptomatic of a larger trend: religion is the third most commonly targeted social category in hate crimes, following only race and sexual orientation (United States Department of Justice Federal Bureau of Investigation, 2014).

Prejudice against people of faith is commonplace. Consider, for example, the anti-Muslim sentiment endorsed by Pastor Terri Jones, who made headlines both for his plan to publically burn copies of the Qur'an—Islam's holy book—and for his own book entitled *Islam is of the Devil* (2010). Religious bias is not confined to Muslim targets. For example, anti-Semitism on college campuses is so concerning that the United States Commission on Civil Rights recently issued a report suggesting that the Department of Education take concrete action to protect Jewish students (2006). And while religious minorities may bear the brunt of religious intolerance, even members of Christian denominations can be the targets of prejudice. In many secular contexts religiosity itself may even be subject to negative stereotypes (Sedlovskaya et al., 2013).

It is clear that religious bias affects many Americans; yet, we know little about its social psychological consequences. Though a large literature examines the consequences of prejudice targeting other social groups (e.g., race, gender, sexual orientation), little research examines prejudice targeting religion. In this research, I sought to fill this gap by conducting a large semi-

representative survey of members of four major religious denominations (Protestant Christianity, Catholicism, Islam, and Judaism) and by using both correlational and experimental methods to better understand the predictors and consequences of religious stigma.

### **Background**

#### **Is religion a source of stigma, and if so, for whom?**

##### ***Applying social identity threat to the study of religion.***

The social psychology of stigma offers a lens through which we might gain insight into the experiences of individuals who are the targets of religious discrimination and stereotyping. In his seminal work, *Stigma: Notes on the Management of Spoiled Identity*, Goffman (1963) suggests that there are three broad dimensions on which an individual can be stigmatized: (1) their physical appearance, (2) their character (i.e., disposition, habits, beliefs), and (3) their group membership (e.g., race, sex, religion). On each of these dimensions, stigma can result from a process of dehumanization, whereby an individual is “reduced in our minds from a whole and usual person to a tainted, discounted one” (Goffman, 1963, p. 3).

In this research, I focus primarily on stigmatization from group membership. Stigmatized groups can be defined as “social categories about which others hold negative attitudes, stereotypes, and beliefs, or which, on average, receive disproportionately poor interpersonal or economic outcomes relative to members of the society at large because of discrimination against members of the social category” (Crocker & Major, 1989, p. 609). A central hypothesis of this masters research is that, given the prevalence of prejudice and discrimination targeting members of religious groups, religion and religious group membership may be stigmatized.

A recent study by Wallace, Wright, and Hyde (2014) demonstrates how religion can be stigmatized. The researchers sent resumes of fictitious job applicants to employers who were advertising jobs in the southern United States. They created four resume templates. Each of these was written so that the candidates differed in specific details of their educational

background and job histories, but were equivalent in overall qualifications. Thus, on average there would be little reason to believe one should be selected more than another. They also created eight versions of each of these templates; the only thing that varied was the religion of the applicant (one of the eight versions was a control that did not include any information about religion). They then sent employers a job candidate's materials from each of the four templates, while randomizing the religion across the templates (but assuring that no religious affiliation was used more than once). Over repeated trials, they measured whether individuals from particular religious groups were more or less likely to hear back from employers. Applicants whose religious affiliation was expressed on their resume were 26% less likely to hear back from employers than applicants whose religious affiliation was not apparent (control group). Breaking the results down by religion, results revealed that Muslims were 41% less likely to hear back, Catholics were 29% less likely, and identified atheists were 35% less likely. The results of this study suggest that simply having a salient religious group membership can expose people to discrimination, with outcomes worse for members of specific religions or faith groups. Thus, there is reason to expect that people of faith may legitimately fear being seen through a lens of stigma.

While religious prejudice affects many Americans, religious stigma, as suggested above, may be more pronounced and thus consequential for members of minority religious denominations. Many members of religious minority groups report experiencing prejudice first hand. For example, 28% of Muslim Americans believe that others have treated them with suspicion because of their religion and 22% report having been called offensive names (Pew Research Center, 2011). Similar feelings exist among Jewish Americans. For example, 43% of Jewish Americans report that they face a lot of discrimination and 15% report being called offensive names or being discriminated against in social settings (Pew Research Center, 2013). Even those who have not personally experienced prejudice or discrimination are likely aware of

such treatment directed toward other members of their religious group and are cognizant of the negative attitudes that others hold toward their religion (Steele & Aronson, 1995). Such stereotype awareness can be consequential; it may undermine an individual's sense of self-integrity and might impair performance in domains where religion or one's religious group is stereotyped (e.g., intellectual or scientific domains).

In addition to members of minority religious denominations, specific dimensions of religion (across denominations) may also be associated with more stigma. One such dimension is religiosity. In an American context, Christian fundamentalism (or fundamentalism in general) is often viewed as a prototypical form of what it means to be highly religious. Research suggests that Christian fundamentalists—people who believe that there is one true religion that must be literally followed (Altemeyer & Hunsberger, 1992, 2004)—contend with negative stereotypes about being militant and backwards (Hood, Hill, & Williamson, 2005) and that they are often the targets of prejudice (Yancey, 2010; Yancey & Williamson, 2014) and negative media portrayals (Bolce & De Maio, 2008). While it is possible to be highly religious without endorsing fundamentalist beliefs, to the extent that religious fundamentalism represents one extremity of the religiosity spectrum, such stereotypes are likely emblematic of broader prejudice targeting highly religious individuals. Hence, we might expect religiosity itself to be a source of stigma.

### **The present study**

A central goal of my master's research was to investigate how stigma and social identity threats affect Americans of diverse religious backgrounds. More specifically, I sought to extend previous research in two ways. First, I tested whether religious stigma differs as a function of (1) religious group affiliation, (2) religiosity, and (3) the interactive effect of religious group and religiosity (Aim 1; see Figure 1-1), and (4) whether, in turn, religious stigma predicts negative psychological consequences. To address this aim, I conducted a large semi-representative national survey of people from four major religious denominations: Protestant Christianity,

Catholicism, Judaism, and Islam. All participants provided information about their religiosity and their perceptions of stigma and also completed measures of psychological outcomes. Second, I tested for consequences of a religious social identity threat manipulation (Aim 2; see Figure 1-2). To address this aim, I used an identity threat paradigm to experimentally manipulate the salience of religious stigma and test the resulting psychological and performance consequences.

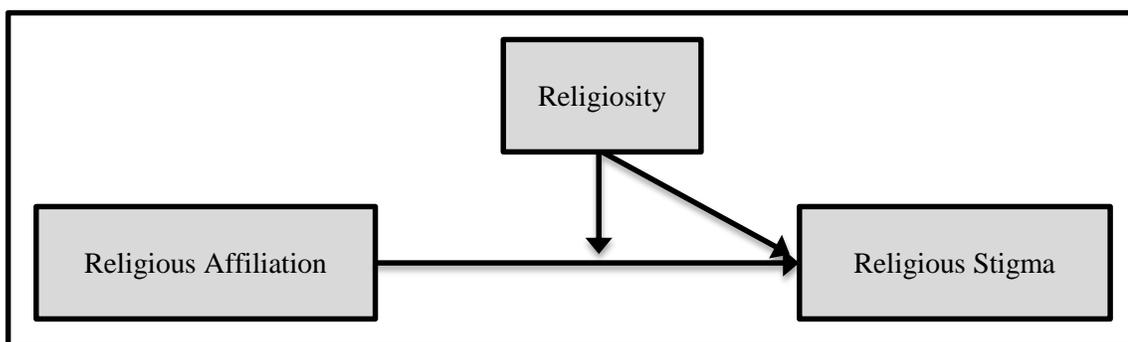


Figure 1-1: Theoretical model of how religious affiliation and religiosity predict religious stigma.

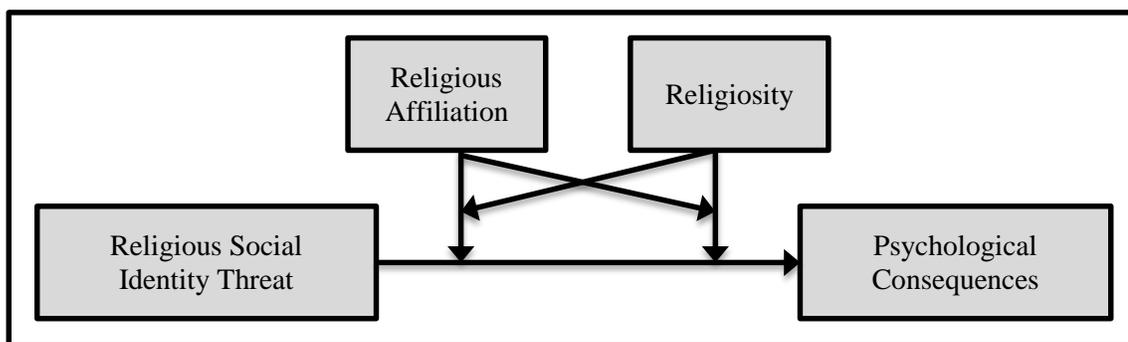


Figure 1-2: Theoretical model of how religious affiliation and religiosity moderate the relation between religious social identity threat and negative psychological outcomes.

### **Extending research on religious stigma and identity threat**

As detailed above, research to date has narrowly examined the consequences of religious stigma and social identity threats. In particular, research has focused on coping mechanisms (e.g., action intentions in response to threat) and emotional experiences of religious people under

conditions of religious identity threat (Ysseldyk et al., 2011) and on the ways in which stereotypes about the scientific ability of Christians may affect Christians' performance on science-related tasks (Rios et al., 2015). However, this research is limited because it is either non-experimental (Ysseldyk et al., 2011) or limited to a Christian sample (Rios et al., 2015). Additionally, no research has investigated whether and for whom religion is a source of stigma or what the broader consequences of religious stigma may be. In this research I sought to extend our understanding of this subject by: (1) examining whether members of different religious groups and people who are high in religiosity differentially report feeling and experiencing more stigma, (2) investigating the correlations between self-reported stigma and possible psychological consequences including identity concealment, belonging, negative outgroup attitudes, and (3) experimentally delivering a religious social identity threat to further understand the consequences of religious stigma. Below, I review literature on the potential consequences of religious stigma investigated in this study. Importantly, these outcomes are not meant to represent an inclusive list of all potentially meaningful consequences of religious stigma, but rather a limited set of relevant and unexamined consequences.

### **Identity concealment**

If individuals are worried about being stigmatized, they might attempt to conceal membership in their stigmatized group. With a potentially concealable stigma like religion, individuals can “pass” by hiding aspects of their identity in relevant situations in order to “fit in” (Quinn, 2006). For example, people who identify as gay may attempt to conceal their sexual orientation in contexts where they fear others may endorse homophobic attitudes, but people who belong to an identifiable racial group (e.g., African American) may not be able to as readily hide group membership.

While identity concealment may offer benefits for avoiding direct experiences of discrimination, it can be psychologically costly. For instance, concealment may lead to a

“divided self,” whereby an individual maintains a dual identity, with a more superficial public self distinct from a concealed private self (Sedlovskaya et al., 2013). This can lead to distress and depression (Sedlovskaya et al., 2013). Across a variety of identities, living with a concealable stigma has been shown to be cognitively taxing and linked to negative health outcomes (Cole, Kemeny, Taylor, & Visscher, 1996; Quinn & Chaudoir, 2009; Smart & Wegner, 2000).

Little research to date has investigated the consequences of concealing a religious identity. Importantly, religion is unique because it can be concealed along two dimensions, including religious group membership and religiosity. People may also vary in their ability to conceal their group membership. For example, individuals whose religious beliefs prescribe wearing religious garb are restricted from concealing their identity. Similarly, members of religious groups sometimes share phenotypic characteristics that make their religious group membership identifiable. Despite these examples, concealment may still be possible for many people of faith. In addition to or in lieu of concealing religious group membership, individuals may also conceal their religiosity. Doing so may allow a religious individual to be open about their religion but concealed about the extent to which their religion is central to their lives, which might generate additional stigma if known. The current research tested these various possibilities by exploring whether individuals who feel stigmatized on the basis of their religion and or religiosity conceal their religious identity and or religiosity.

### **Belonging**

Belonging has been identified as a core social motive (Fiske, 2009) that underlies myriad social psychological processes. Belonging is related to numerous indices of well-being (Baumeister & Leary, 1995) with lower levels predicting anxiety and depression (Hagerty, Williams, Coyne, & Early, 1996), negative affect, decreased capacity for self-regulation, impaired cognitive ability, and other negative mental and physical health outcomes (Baumeister,

DeWall, Ciarocco, & Twenge, 2005; Baumeister & Leary, 1995; Baumeister, Twenge, & Nuss, 2002; Hagerty et al., 1996).

To the extent that religion offers a valued group membership, it may foster a greater sense of belonging for people of faith (Baumeister & Leary, 1995; Ysseldyk et al., 2010). Indeed, research suggests that religion may be especially effective at bolstering people's sense of belonging and as a result, religion is positively associated with well-being (Lim & Putnam, 2010). However, in some contexts, particularly those where religious individuals are in a minority or where they represent one among many religious denominations, they may become aware of stigma associated with their religion. They may experience social identity threat, which can undermine their sense of belonging in that environment, particularly if the environment is evaluative and stereotype relevant (Cook, Purdie-Vaughns, Garcia, & Cohen, 2012). They may also be concerned with social rejection from outgroup members (Mendoza-Denton, Downey, Purdie, Davis, & Pietrzak, 2002) and have a heightened sense of belonging uncertainty – the idea that one's sense of belonging is highly contingent and variable (Walton & Cohen, 2007). The paradox between the idea that religion can simultaneously increase belonging and expose people to threats to their belonging suggests that both effects are likely to be context-dependent. Religious social identity threat may undermine belonging at work, in secular or religiously diverse community settings, or even in a particular country, but not in places of worship or other settings that are relatively more homogenous.

### **Outgroup attitudes**

To date, the majority of social psychological research on religion has focused on the relation between religiosity and outgroup prejudice. Researchers have attempted to shed light on what Allport (1954) identified as a paradox: how does religion promote prosocial behavior and intergroup tolerance while simultaneously promoting antisocial behavior and intergroup conflict? To unravel this paradox, researchers have investigated whether separate dimensions of religiosity

may differentially predict negative outgroup attitudes. For example, Allport and Ross (1967) found that extrinsic, but not intrinsic, religious motivations predicted outgroup prejudice, but other research has failed to replicate this effect. More recently, religious fundamentalism has been demonstrated to predict outgroup prejudice (Altemeyer & Hunsberger, 1992; Hunsberger, 1995; Laythe, Finkel, Bringle, & Kirkpatrick, 2002; Rowatt & Franklin, 2004). Despite decades of research on this subject, questions remain about how and why some dimensions of religiosity, but not others, predict outgroup prejudice.

A stigma and social identity threat perspective may offer additional insights into Allport's (1954) paradox by suggesting that experiences of these may be the key ingredient for predicting when religion leads to outgroup prejudice. In particular, I hypothesize that any time people feel threatened because of their religion, they are likely to derogate outgroups. Although people higher in religiosity may often be more likely to experience threat, any situation that evokes religious identity threat is likely to affect outgroup perceptions. Social identity theory suggests that when individuals belong to an ingroup that compares unfavorably to an outgroup, they may engage in downward comparison by derogating outgroup members. Derogating outgroup members can help boost collective self-esteem in threatening situations (Branscombe & Wann, 1994). One reason that religious fundamentalists may endorse negative outgroup attitudes may be that they feel targeted on the basis of their religious beliefs, which threatens self-esteem and motivates outgroup derogation. Feelings of stigma and social identity threat may, ironically, motivate religious fundamentalists to derogate others in an effort to preserve their sense of self-integrity. In this sense, a stigma and social identity perspective may help provide a unifying "missing link" to better understand when members of religious groups espouse negative outgroup attitudes or behaviors.

Individuals under threat may be especially motivated to derogate outgroup members who belong to groups that are a source of threat (Branscombe, Spears, Ellemers, & Doosje, 2002;

Branscombe & Wann, 1994; Leach, Spears, Branscombe, & Doosje, 2003; Riek, Mania, & Gaertner, 2006). In the case of religion, members of other religious groups, atheists, or even people whose behaviors appear to violate an individual's religious convictions (e.g., homosexuals) may be perceived as threatening. Not surprisingly, research suggests that religiosity is a consistent and strong predictor of negative outgroup attitudes toward these groups but a less consistent predictor of negative outgroup attitudes against groups that should not pose a values-threat (e.g., racial outgroups) (Hunsberger & Jackson, 2005; Laythe et al., 2002). Derogating members of values-threatening groups may be particularly effective because, by doing so, individuals may simultaneously buffer their religious identity and an accompanying belief system from threat.

### **Religious stereotype threat and science performance**

As previously described, one study suggests that social identity threat leads Christians to underperform on tests of scientific reasoning (Rios et al., 2015). No research has investigated whether members of non-Christian denominations are affected by religious stereotype threats. Because questions about the intellectual ability of people who are religious are common (Zuckerman, Silberman, & Hall, 2013), one could expect that stereotypes about the scientific ability of people who are religious may affect people regardless of their religious faith, particularly as a function of religiosity. However, we may also question whether such stereotypes are relevant to non-Christians in the United States, and in particular, Jews, who are often stereotyped as being intelligent (though emotionally cold) (Fiske, Cuddy, Glick, & Xu, 2002).

### **Hypotheses**

The discussion above leads to four main hypotheses, each of which is enumerated below. Hypothesis 1 corresponds to Aim 1 described above. In particular, it addresses the relations between religious affiliation, religiosity and stigma, as well as the relations between stigma and psychological outcomes. Hypotheses 2 and 3 correspond to Aim 2; they address the

consequences of an experimentally manipulated social identity threat and how these may vary by religious affiliation and religiosity.

### **Hypothesis 1**

Religious stigma—operationalized as self-reported stigma consciousness and experienced stigma—will be higher among: (A) members of religious minority groups (Muslims and Jews) compared to members of religious majority groups (Protestant Christians and Catholics), (B) Muslims compared to Jews, and (C) individuals who are more religious. In turn, religious stigma will be related to: (D) a propensity to conceal one's religious identity, (E) lower and more uncertain belonging, and (F) more negative outgroup attitudes, especially towards values-threatening groups.

### **Hypothesis 2**

A social identity threat making religious stigma salient will lead individuals, relative to those in a control condition, to: (A) report feeling more stigmatized (a self-report validation of the identity-threat manipulation), (B) express a greater propensity to conceal their religious identity, (C) feel like they belong less, and (D) endorse more negative outgroup prejudice—especially against groups that may be perceived as posing a values-threat (e.g., members of other faiths, atheists, gays/lesbians). The above consequences were (E) expected to be greater for individuals who, as predicted in Hypothesis 1, perceive themselves to be more stigmatized (i.e. Muslims and Jews, as well as individuals high in religiosity).

### **Hypotheses 3**

A social identity threat making negative stereotypes about the scientific ability of people of faith will lead individuals to (A) underperform on a test described as measuring scientific reasoning ability. This effect will be stronger for: (B) people who are more religious, (C) for Protestants, Catholics and Muslims compared to Jews, and (D) this differential effect of condition is expected to be stronger for those who are more religious.



## Chapter 2

### Method

#### Participants

Complete data were collected from 1,110 participants. Of these, 103 were excluded because they did not follow study protocols (e.g., they typed nonsense text into text boxes in order to advance through the survey), 26 were removed because they completed the survey so fast (in less than one-third the median completion time) that it was unreasonable to assume that they paid attention, 6 were removed because they self-reported being under the age of 18, and 1 each was removed for omitting their gender and age (both of which are used as covariates in tests of hypotheses). These exclusion criteria were decided before analyzing the data. The final sample yielded 973 participants, with 250 Protestants (26%), 243 Catholics (25%), 246 Jews (25%), and 234 Muslims (24%). This sample included 563 females (58%) and 409 males (42%), with 1 participant identifying as neither male nor female. Participants were also racially diverse; 730 (75%) participants identified as White, 50 (5%) identified as South Asian, 40 (4%) identified as Black, 38 (4%) identified as Asian, 32 (3%) identified as Arab or Middle Eastern, 24 identified as Hispanic (2%), 53 (5%) identified as bi- or tri-racial, and 5 (1%) identified as “Other.”<sup>1</sup> Participants ranged in age from 18 to 88 ( $M = 51.47$ ,  $SD = 18.04$ ).

#### Procedure

I had two main objectives in sampling participants for this study. First, I wanted to sample equally from four religious groups: Protestants, Catholics, Jews, and Muslims. These religious groups were selected to ensure religious diversity within the sample and to enable cross-religion comparisons of identity threat experiences. I aimed for a total sample of 1,000 in order

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<sup>1</sup> Because of rounding, percentages add to 99% instead of 100%.

to allow adequate power to investigate between-religion comparisons as a function of experimental condition and individual difference moderators. Second, I wanted to collect data from as ecologically valid a sample as possible, with participants from across the United States. This was important because I wanted to be able to generalize—as best as possible—to adults in the United States from the religious groups being studied. To accomplish these aims, I contracted with Qualtrics—a company with expertise in conducting large-scale survey-research—to coordinate participant recruitment. Qualtrics partnered with two panel-companies, Survey Sampling International and Lightspeed GMI, both of which have extensive experience in recruiting hard-to-reach populations in social science research.

Potential participants were randomly selected by the panel companies from a pool of individuals who were believed to be eligible for this study (i.e., identified in a pre-screen questionnaire as belonging to one of the four religious groups being studied). Qualtrics sent an email invitation to those selected with information about the study, which they were told was designed to help the researchers understand the beliefs, behaviors, and attitudes of Americans from diverse religious backgrounds. In exchange for completing the survey, participants were offered various forms of compensation, which ranged in value from approximately \$1.50 to \$2.00 depending on the exact reward that participants chose (e.g., money or airline miles). Individuals who elected to participate were directed to an internet survey.

After consenting, participants were asked to identify their religious affiliation; this information was also used to customize items throughout the survey for members of each religious group. Any participants who self-identified with a religious group not being studied ( $n = 359$ ) were immediately removed from this study by Qualtrics and prevented from completing the survey. Qualtrics also immediately removed participants if, at one of two points, they failed an attention check ( $n = 170$ ).

Participants were next asked to complete survey items measuring their religious identity and their religious beliefs. Importantly, these measures were asked before the experimental manipulation. By doing so, I was able to ensure that participants' religious identification and reported religiosity were not affected by the delivered social identity threat.

To test the consequences of a social identity threat targeting religion, participants were next randomly assigned to an experimental threat ( $n = 503$ ) or control ( $n = 470$ ) condition. As a cover story for the experimental manipulation, participants in both conditions were told that the researchers were interested in understanding people's perceptions of news stories. To provide the illusion of a choice in news articles, I presented participants with four boxes, each of which they were led to believe "contained" a different unidentified news article. I then asked participants to choose one of these boxes and told them that they would receive the article that was "inside" the box that they chose. Importantly, participants did not know what article was meant to be inside the box they chose. In reality, only two news articles existed corresponding to participants' randomly assigned experimental condition and their choice of box had no bearing on their condition assignment. This paradigm was used to minimize suspicion about the purpose of the article-reading task.

Participants in both conditions were asked to carefully read a fictitious article purported to be from the Wall Street Journal (See Appendix A). In the threat condition, participants read an article designed to induce religious identity threat. This article—based on one used by Ysseldeck et al., (2011)—described the results of a fictitious recent public opinion survey, revealing that negative attitudes towards participants' religious group had risen by 50% in the last 20 years. The results of this survey were described in text and presented in a graph that was used to

emphasize the survey-results. This article was adapted for use with each religious group (i.e., there were four versions of the article, each of which referenced participants' identified religion).<sup>2</sup>

To increase the personal nature of the threat manipulation and to make the threat more relevant to participants, I included quotes from survey-respondents that expressed explicit negative sentiments towards the given religious group. For example, one quote read, "As a hiring manager, I often consider whether someone with a [Muslim/Jewish/Christian/Catholic] background would be the best fit for our jobs. I don't really think that there is a place for [Islam/Judaism/Christianity/Catholicism] in the workplace."

Because I also wanted to assess whether negative stereotypes about the scientific ability of people who are religious would lead to a stereotype threat, I included an additional paragraph in the threat article that specifically emphasized additional fictitious research. This paragraph highlighted findings showing that Americans perceive people who are religious to be unscientific and illogical. To ensure that this threat would apply to all religious groups so as not to raise overall suspicion, this section was framed without regard to any specific religious group (i.e., the information was simply about "religious people"). In particular, this decision was made to ensure that Jews—who are generally stereotyped on other dimensions than intellectual ability—would not discredit the article as a whole.

Participants in the control condition were asked to read an article designed to be similar in length, style, and valence to that used in the threat condition, but that would not induce any religious identity threat. This article described rising negative attitudes that Americans have towards traffic. To make the articles as parallel as possible, I included an additional section in the control article attributing traffic and congestion to outdated construction practices that did not take advantage of modern science and engineering. This control article was used to maximize the procedural consistency between the experimental and control conditions and to ensure that any

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<sup>2</sup> References for Protestants used Christianity/Christians rather than Protestantism/Protestants.

between-condition effects would be the result of a religious identity threat and not the reading of the article itself.

After reading their respective articles, participants in both conditions were asked to write a brief summary (a few sentences) of the news article that they read for two reasons. First, I wanted participants to actively reflect on the article that they read. I reasoned that doing so would be likely to accentuate any perceptions of threat. Second, I reasoned that participants who skipped the article and hence did not receive the experimental manipulation would be unable to provide even a semi-accurate summary of the article, which would allow me to identify and exclude participants who were skipping through the study inattentively; as noted above 103 were removed as a result of this manipulation check.

After summarizing the news article, participants were asked to complete a series of survey items that assessed primary study outcomes, including their perceptions of religious identity threat, propensity to conceal their religious identity, sense of belonging and belonging uncertainty, and outgroup attitudes.

To assess whether stereotypes about the scientific reasoning ability of religious people would impair performance on a test framed as measuring scientific ability, participants next completed a problem-solving task. Condition assignment was maintained in the instructions for this task, which were modeled after stereotype threat research (e.g., Steele & Aronson, 1995; Rios et al., 2015). Participants in the threat condition read that the main purpose of this task was to examine the relation between religious identity and *scientific reasoning*, and that the test that they were about to complete measured their ability to use *scientific logic and reasoning*. In particular, participants read that preliminary studies had shown that people who are religious *tend to score worse* on tests that measured their scientific reasoning ability such as the one they were about to complete. In contrast, participants in the control condition read that the main purpose of this part of the study was to examine the relation between religious identity and *intuitive thinking and*

*thought processes* and that the problem-solving task they were about to complete measured their ability to use *intuitive thinking and thought processes*. Additionally, participants in the control condition read that preliminary studies had shown that people who are religious *do not differ in thinking style* from non-religious individuals. After acknowledging that they had read the instructions, participants completed a syllogism (logic puzzle) task, designed as a performance measure that should be solvable regardless of people's formal educational background.

After completing the syllogism task, participants completed measures of stigma consciousness and experienced stigma, their awareness and beliefs of different stereotypes about their religious group and religious people in general, and a demographic questionnaire. Finally, participants completed a manipulation check, were given an opportunity to comment on the study, and were debriefed. For a visual demonstration of the survey order, see Figure 2-1.

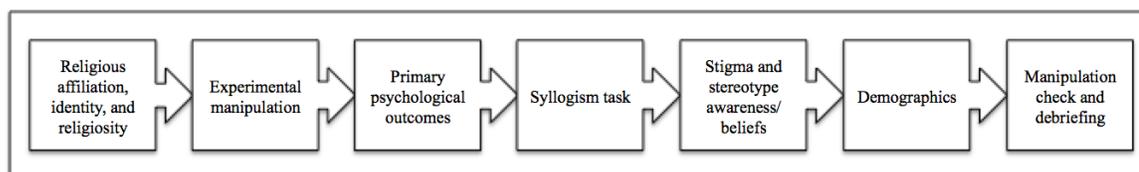


Figure 2-1: Survey order.

## Materials

Participants completed a 30-minute internet survey that included a variety of measures. The measures below are listed in the order in which they were presented to participants. In the interest of completeness, I have included all measures, even though only a subset are analyzed here. Measures that are not used in primary analyses are marked with an \*.

### Religious affiliation

Participants selected their religious affiliation (e.g., Christian, Jewish, Muslim) from a list. Only one religion could be selected. A subsequent list provided denominations associated with that religion for participants to select (e.g., people who selected Christian saw Protestant, Catholic, Mormon, and other Christian denominations). This information was used to customize

survey materials so that survey items referenced participants' religious group. Participants were additionally asked whether they had ever converted religions, and, if so, to indicate any previously religion(s).

### **Religiosity and religious identity**

The primary measure of religiosity used in this study was Cohen's R. Because there is a lack of scientific consensus as to which measures best capture religiosity and its various dimensions, I also included measures of religious fundamentalism, and religious orientation (intrinsic and extrinsic religious motivations). I additionally asked participants to complete four measures assessing religious social identification, including shortened and adapted versions of the Identity Centrality, Private Regard, and Nationalist Ideology sub-scales from the Multidimensional Model of Religious Identity and a pictorial measure of identity fusion. These scales are described in more detail below.

#### ***Cohen's R***

Religiosity and religious identity were assessed using Cohen's R, which was developed to measure religious commitment across various religious groups (Malka et al., 2011). This six-item scale assesses religious attendance, prayer frequency, and subjective religious importance. Example items include, "How much do you practice the requirements of your religion?" and, "If someone wanted to understand who you are as a person, how important would your religion or faith be in that?" Four items were rated on a scale from 1 (*not at all*) to 5 (*deeply*) and two items were rated on a scale from 1 (*not at all*) to 5 (*extremely*), adjusted to most appropriately match the item stem. Responses to the six items were averaged to form a single composite scale, with higher scores indicating greater religiosity. Reliability in the current sample was high ( $\alpha = .93$ ).

#### ***Religious fundamentalism\****

Religious fundamentalism was measured using the Revised 12-Item Religious Fundamentalism Scale (Altemeyer & Hunsberger, 2004). This scale was used to assess the extent

to which an individual believed that there is one true religion that must be totally followed (e.g., “God has given humanity a complete, unfailing guide to happiness and salvation, which must be totally followed”). All items were rated on a 5-point scale from 1 (*not at all true*) to 5 (*very true*). Responses were averaged to form a single composite scale, with higher scores indicating greater religious fundamentalism. Reliability in the current sample was high ( $\alpha = .93$ ).

### ***Religious orientation\****

Intrinsic and extrinsic religious orientation were measured using the Religious Orientation Scale—Revised (Gorsuch & McPherson, 1989). The full eight-item Intrinsic subscale assessed the extent to which an individual was internally motivated to be religious (e.g., “I try hard to live my life according to my religious beliefs”). In order to minimize study length, I only included single-item measures of the two Extrinsic subscales (personal and social), which were selected based on their correlations with other scale items in previous research. The Extrinsic-personal item assessed an individual’s motivation to be religious for personal benefits (e.g., “What religion offers me most is comfort in times of trouble and sorrow”) and the Extrinsic-social item assessed an individual’s motivation to be religious for social benefits (e.g., “I go to my place of worship because I enjoy seeing people I know there”). All items were rated on scale from 1 (*not at all true*) to 5 (*very true*). Responses to the Intrinsic religiosity subscale were averaged to form a single composite scale, with higher scores indicating greater intrinsic religiosity. Reliability for the Intrinsic religiosity subscale in the current sample was good ( $\alpha = .83$ ).

### ***Multidimensional model of religious identity\****

To assess the ways in which individuals socially identified with their religious group, I adapted items from the Identity Centrality, Private Regard, and Nationalist Ideology subscales from the Multidimensional Model of Racial Identity (MMRI) (Sellers, Smith, Shelton, Rowley, & Shavous, 1998). The MMRI was designed to measure various aspects of racial identification, but

is easily adapted to focus on identification with other social categories. Due to space constraints in this survey, I shortened these scales by selecting a subset of items that I believed to best capture—at face value—the construct of interest. I adapted four items from the Identity Centrality Subscale ( $\alpha = .80$ ) to measure the extent to which a religious identity was core to an individual's self-concept (e.g., “In general, my religion is an important part of my self-image”). I adapted two items from the Private Regard subscale ( $\rho = .95$ )<sup>3</sup> to measure the extent to which an individual held their group membership in a positive light (e.g., “I am proud to belong to my religion”). Finally, I adapted three items from the Nationalist Ideology subscale ( $\alpha = .75$ ) to measure the extent to which an individual wanted his/her religious group to be separate from other religious groups (e.g., “People from my religion should not marry people from other religions”). All items were rated on a scale from 1 (*not at all true*) to 5 (*very true*) and averaged for each subscale, with higher scores indicating a greater endorsement of each specific subscale.

### ***Identity fusion\****

In addition to the MMRI, religious identity was also assessed with a single-item identity fusion measure (Swann, Gomez, Seyle, Morales, & Huici, 2009). This measure assesses how close an individual believes him/herself to be with a particular group. I adapted this measure to focus on religion. This pictorial scale depicted one small circle, representing the self, and one larger circle, representing the religious group, at varying degrees of overlap. At the lower end of the scale (1) the self and the religious group were orthogonal and at the upper end of the scale (5) the self and the religious group were concentric. Thus, higher scores represent greater fusion between the self and the religious group, which indicates a greater degree of religious identity.

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<sup>3</sup> For two item scales,  $\rho$  is provided instead of  $\alpha$  (Eisinga, Te Grotenhuis, & Pelzer, 2013).

**Religious threat\***

I generated four questions to assess whether participants believed their religion and religious beliefs to be threatened. Although these items revolve around a common theme, they were not intended to form a uniform scale. Rather, they were developed to assess different potential aspects of religious threat. Participants were asked to rate, on a scale from 1 (*not at all true*) to 5 (*very true*) their agreement with four statements: (1) “Others respect my religious beliefs,” (2) “My religious freedom is often under attack,” (3) “Religion is under attack in the United States,” and (4) “There should be a separation between church and state.” All items were rated on scale from 1 (*not at all true*) to 5 (*very true*).

**Identity concealment**

Because I was interested in understanding the relations between religious stigma, identity threat, and identity concealment, I asked participants to complete eleven author-generated items pertaining to concealment. These items were intended to measure general comfort with revealing religious identity and beliefs (e.g., “I would prefer that others don’t know my religion”) and comfort in a variety of specific contexts (e.g., “I would not want people at my school or place of work to know my religion”). All items were rated on a scale from 1 (*not at all true*) to 5 (*very true*). Although I had originally conceptualized two dimensions of concealment (religiosity and religious affiliation), my scale loaded highly to a single factor, and as such, I analyze concealment as a single construct. The eleven items were averaged to form a composite identity concealment measure ( $\alpha = .90$ ), with higher scores indicating a greater propensity to conceal one’s religious identity.

**Belonging**

Belonging was measured with a subset of items adapted from Cook et al. (2012) combined with additional author-generated items. This seven-item scale measured belonging in various contexts and domains, including national belonging (e.g., “Right now, I feel like I belong

in the United States”), belonging at work or school (e.g., “Right now, I feel like I belong in my place of work or school”<sup>4</sup>), and general belonging (e.g., “Right now, I feel like others accept me”). Items were rated on a scale from 1 (*not at all true*) to 5 (*very true*). The seven items ( $\alpha = .88$ ) were averaged to form a composite, with higher scores indicating a greater sense of belonging.

### **Belonging uncertainty**

Belonging uncertainty was measured with an adapted three-item Belonging Uncertainty Scale (Walton & Cohen, 2007). Participants were asked to rate their agreement with three statements: (1) Sometimes I feel that I fit in, and sometimes I feel that I don’t fit in, (2) When something good happens, I feel like I really fit in, and (3) When something bad happens, I feel that maybe I don’t fit in. In the original scale, these items reference a specific place to which individuals might feel uncertain about their belonging (e.g., in school). Because I was interested in belonging uncertainty more generally, these references were removed. Items were rated on a scale from 1 (*not at all true*) to 5 (*very true*), with higher average scores indicating greater belonging uncertainty. Reliability for this scale was low ( $\alpha = .40$ ), which was driven by a lack of correlation between the second statement and both the first ( $r = -.05$ ) and third ( $r = .06$ ) statements. Thus, the second statement was dropped and a two-item scale was formed ( $\rho = .68$ ).

### **Outgroup attitudes**

Outgroup attitudes were measured to investigate the relation between participants’ experience of stigma and their degree of outgroup prejudice and to test whether a social identity threat targeting religion would lead individuals to derogate outgroup members. Attitudes were assessed for outgroups that might pose a direct values-threat to people of faith (e.g., religious outgroups, atheists, homosexuals) and for outgroups that should pose less of a religious values-

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<sup>4</sup> Because this sample included adults ranging in age, I attempted to write questions that would equally apply for individuals who were still in school and those who were out of school. Unfortunately, this resulted in a double-barreled question.

threat (e.g., Blacks, immigrants). Established scales were used to measure prejudice towards religion outgroups (i.e., religious tolerance) and anti-Black racism. As described below, author-generated vignettes were used to measure anti-atheist, anti-gay, and anti-immigrant attitudes. I developed these to measure outgroup attitudes in specific, realistic situations in an effort to minimize response biases that can plague measurement of socially sensitive attitudes on self-report scales. Although not of primary focus in this study, I also included a variety of feeling thermometers to measure warmth towards atheists, gays and lesbians, Mormons, Jews, Catholics, Protestants, Muslims, and Scientists.

### ***Religious tolerance***

Religious tolerance was measured with Gallup's Religious Tolerance Index (Winesman, 2004). This five-item scale assesses how respectful and open individuals are to members of other religious traditions (e.g., most religious faiths make a positive contribution to society"). All items were measured on a scale from 1 (*not at all true*) to 5 (*very true*), and were averaged to form a composite, with higher scores representing greater religious tolerance. Reliability in this sample was not very strong ( $\alpha = .62$ ).

### ***Anti-Black racism***

Attitudes towards Blacks were assessed with the eight-item Symbolic Racism 2000 Scale (Henry & Sears, 2002). This scale was used to minimize response biases common with other scales measuring racial attitudes. An example item reads, "How much discrimination against Blacks do you feel there is in the United States today, limiting their chances to get ahead?" In accordance with Henry and Sears (2002), items were rated on either four- or three-point scales, and subsequently standardized on a scale from zero to one (e.g., a 1 on either a four- or a three-point scale became a zero, whereas a two was coded as 0.5 on a three-point scale and on a three-point scale and 0.33 on a four-point scale). Due to an administrative error, one item was dropped from this scale (See Appendix B). The remaining seven items had good reliability ( $\alpha = .80$ ).

### ***Vignettes***

For each vignette, participants read about an individual or individuals who engaged in discriminatory actions against an outgroup member (the targets of discrimination were outgroup members to the actors in the vignettes and to the participants). For example, the anti-atheist vignette described a couple who fired their babysitter for being atheist. The anti-gay vignette described a parent who, after spotting her child's teacher walking into a gay nightclub, called the school's principal to request that her child be reassigned to another teacher. Lastly, the anti-immigrant vignette described the story of a recently fired man who ripped a pro-immigrant poster off of a wall, suspecting that a Mexican immigrant had replaced him.

After reading each vignette, participants answered questions assessing (1) how right and (2) justified they believed the actor to be, and (3) whether participants would, in the same situation, have acted in the same way. These three questions were each answered on a scale from 1 (*not at all true*) to 5 (*very true*) with a score of five representing the most prejudiced response to each item. For example, if participants selected "very true" to all three items, they were indicating that they found the actor(s) to be right and justified in and that they would have acted in the same discriminatory way. Conversely, participants selecting "not at all true" to all three items were indicating that they found the actor(s) to be wrong and unjustified and that they would not have acted in a similar way. Scores were averaged for each outgroup, with a higher score representing greater prejudice towards that group. Reliability was high for the anti-atheist ( $\alpha = .90$ ), anti-gay ( $\alpha = .96$ ), and anti-immigrant ( $\alpha = .91$ ) vignettes.

### **Syllogisms**

A syllogism test was used to measure the effects of religious stereotypes on scientific performance. This test was selected for two reasons. First it has previously been used to assess analytic and intellectual performance in the context of religious identity threat (Rios et al., 2015). Second, the standardized tests that are traditionally used in stereotype threat research might be

inappropriate for use with an adult community sample with more variable educational backgrounds than college students. Participants were asked to solve 15 logic puzzles. For each question, participants were shown two statements and a conclusion. Participants were asked to indicate whether the conclusion presented was the result of good or poor logic. For example, one item read, “No one with a pink nose can be president. All men have pink noses. Therefore no man can be president.” For this item, participants would be correct if they indicated that the conclusion was the result of good logic. Participants were given four minutes to complete the 15 items. This time was selected based on pilot testing to ensure adequate time to complete the items but to ensure that participants felt time pressure when completing the task. Scores were calculated by summing the total number of correct answers.

### **Stigma**

Participants’ perceptions of stigma associated with their own religious group were measured using scales of stigma consciousness and experienced stigma. Although not necessarily a measure of stigma, one additional item was asked to assess whether participants believed their religion to make their life easier or harder. Importantly, these measures were included towards the end of the survey to avoid making religious stigma salient and biasing responses for participants in the control condition.

#### ***Stigma consciousness***

Stigma consciousness was assessed with an adapted version of the 10-item Stigma Consciousness Questionnaire (Pinel, 1999). This scale was used to assess the extent to which individuals believed that they—or their actions—would be seen in light of stereotypes about their religious group. For example, one item read, “When interacting with non-Muslims who know of my religious beliefs, I feel like they view all of my behaviors in terms of the fact that I am a Muslim.” Items were adapted for use with each religious group so that each item referenced the participants’ own religion, and were rated on a scale from 1 (*not at all true*) to 5 (*very true*).

Scores were averaged across all items, with higher scores representing greater stigma consciousness. Reliability in this sample was adequate ( $\alpha = .79$ ).

### ***Experienced stigma***

To measure the extent to which participants believed that they had experienced religious stigma, I adapted six items from the Stigma Scale for Chronic Illness (Rao et al., 2009). For example, one item read, “Because of my religion, I am treated unfairly by others.” Items were rated on a scale from 1 (*not at all true*) to 5 (*very true*), with a higher average score representing greater experienced stigma. Reliability in this sample was high ( $\alpha = .93$ ).

### ***Does religion make life easier or harder?\****

The question above—related to but distinct from stigma—was included with this section to measure whether participants felt like their religion made their lives easier or harder; response options ranged from 1 (*much easier*) to 5 (*much harder*).

### ***Stereotype awareness and beliefs\****

Because I was interested in understanding participants’ awareness of and beliefs about religious stereotypes, I asked participants to complete six author-generated items that assessed these constructs. Specifically, participants were asked whether they believed others to have negative stereotypes about (1) people from their religion, (2) religious people in general, (3) the scientific ability of people from their religion, and (4) the scientific ability of religious people in general. Additionally, (5) participants were asked whether they personally believed that people from their religion were bad at science and (6) people who are more religious are bad at science. These items were not intended to form a uniform scale. All items were rated on a five-point scale from 1 (*not at all*) to (*very much*).

### ***Demographics***

Standard demographic questions were asked. Participants identified their race in their own words using an unconstrained text-box. They also selected all that applied from a standard

list of racial categories traditionally asked in the United States Census that was amended to include additional categories for racial groups that might commonly be associated with Islam (e.g., South/Southeast Asian and Arab).<sup>5</sup> Participants identified their gender as male, female, or other, and age information was obtained by asking participants to select their year of birth. Education level was measured by asking participants to identify their highest completed level of education (1 = less than high school, 2 = high school or equivalent, 3 = some college, 4 = two-year college degree, 5 = four-year college degree, 6 = Master's degree, 7 = doctorate or other terminal degree).

Although not strictly a demographic question, I also asked participants whether, if they wanted to, they would be able to conceal their religious identity. I included this measure of concealability because I reasoned that it would likely impact participants' responses to the identity concealment scale. This item read, "If you wanted to, how easy or hard would it be for you to conceal your religious identity?" Higher scores on this item—rated from 1 (*very hard*) to 5 (*very easy*)—indicated that participants believed their religion to be more concealable.<sup>6</sup>

For exploratory purposes, I collected information about participants' citizenship, country of birth, ZIP Code in which they group up (only for participants from the United States). Additionally, I collected measures of socio-economic status (family income, employment status, and a subjective rating of status that involved participants indicating their own rank compared to the majority of Americans), Body Mass Index (specifically through height and weight), and sexual orientation.

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<sup>5</sup> Based on participants' self-identification, originally included racial groups were amended to form more meaningful and consistent categories. Original choices listed Southeast Asian and Arab. Participants who selected "other" and who indicated—using the text box—that they were South Asian or Middle eastern were re-classified into a combined South/South-East Asian or Arab/Middle Eastern group, respectively.

<sup>6</sup> Original scale-points were 1 (*very easy*) to 5 (*very hard*). These were reversed so that higher scores corresponded to greater concealability.

**Manipulation checks**

Participants were asked to complete three questions that served as manipulation checks. One question asked participants to identify the subject of the news article that they read from a list of four options (attitudes about traffic, religion, politics, and sports). An additional question assessed how believable participants found the news article that they read to be; with response options from 1 (*very unbelievable*) to 5 (*very believable*). Finally, one question asked participants to identify, from a list of four options (intuitive thinking ability, scientific reasoning ability, reading ability, and mathematical ability) what the logic-task that they completed was described as measuring.

## Chapter 3

### Results

#### Demographic distributions across religious groups

Before conducting the planned analyses, I first investigated whether samples from each religious group differed on important demographic variables. I did so to inform my decisions about what variables should be included as covariates in models testing study hypothesis. I compared the gender and racial breakdowns and the mean age, education level, and religiosity between religious groups. These comparisons are detailed below and displayed in Table 3-1.

#### Gender

Results of a Chi-Square test show that there was a significant difference in the gender distribution across religious groups,  $\chi^2(3, N = 972) = 12.49, p = .028$ . As shown in Table 3-1, Catholics tended to have a higher proportion of men and Jews tended to have a higher proportion of women.<sup>7</sup>

#### Race

Because of the racial diversity in this sample and the wide array of multi-racial combinations that participants reported, before checking the racial distribution, I categorized participants into four theoretically informed racial groups based on their self-identification. These included White (mono-racial), two racial minority groups, and an “other” group. A total of 730 participants were categorized as White. The first racial minority group included 104 participants who self-identified with a non-White racial group commonly associated with Islam. Participants who identified as Middle-Eastern/Arab or South/Southeast Asian were grouped in this category. For example, this group would include any participant who identified as Iraqi or

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<sup>7</sup> One participant was excluded from this analysis for identifying their gender as “other.”

Pakistani (Middle-Eastern/Arab) or Indian, or Indonesian (South/Southeast Asian). The second racial minority group included 134 participants who self-identified with a non-White racial group that is not commonly associated with Islam. Participants who identified as Black, Hispanic, Asian (not South/Southeast Asian), or Native American were included in this group. Finally, five participants who identified their race as “other” were grouped together.

Participants who identified themselves as bi- or tri-racial were categorized using an ordered decision process. If participants identified with a racial group classified as an Islam-related racial minority, they were included in that racial group. Of the remaining participants, those who identified with a racial group classified as a non-Islam related racial minority, they were included in that racial group. For example, a participant who identified as Middle-Eastern and Black would be categorized as an Islam-related racial minority, and a participant who identified as Black and White would be classified as a non-Islam-related racial minority. After I categorized all participants into these theoretically informed racial groups, I tested whether members of each religious group differed in their racial proportions.

A Chi-Square test revealed that there was an unequal racial distribution across religious groups,  $X^2(6, N = 968) = 432.37, p < .001$ .<sup>8</sup> Of note, Muslims were more racially diverse than other religious groups, and nearly all participants categorized in the Islam-related racial group were indeed Muslim. Additionally, Jews were the least racially diverse, with almost all identifying as White. Between-religion differences are displayed in Table 3-1.

### **Age**

Results of a one-way ANOVA show that religious groups differed in average age,  $F(3, 970) = 174.08, p < .001$ . The mean age was higher among Jews and lower among Muslims compared to Protestants and Catholics. Between-religion differences are displayed in Table 3-1.

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<sup>8</sup> Five participants were excluded from this analysis because they identified their racial group as “other.”

### Education level

Results of a one-way ANOVA show that religious groups differed in education level,  $F(3, 971) = 19.19, p < .001$ . The mean education level was higher among Jews compared to Muslims, Protestants, and Catholics. Means and between-religion differences are displayed in Table 3-1.

### Religiosity

Results of a one-way ANOVA show that religious groups differed in religiosity,  $F(3, 971) = 41.10, p < .001$ . The mean level of religiosity was lower among Jews and higher among Muslims compared to that among Protestants and Catholics. Means and between-religion differences are displayed in Table 3-1.

Table 3-1: Demographics by religious group.

	Total sample	Muslims <sup>M</sup>	Jews <sup>J</sup>	Protestants <sup>P</sup>	Catholics <sup>C</sup>
<b>Gender</b>					
% Male	42%	44%	35% <sub>C</sub>	42%	48% <sub>J</sub>
% Female	58%	56%	65% <sub>C</sub>	58%	52% <sub>J</sub>
% Other	<1%	<1%	0%	0%	0%
<b>Race</b>					
% White	75%	31% <sub>JPC</sub>	97% <sub>MPC</sub>	88% <sub>MJ</sub>	81% <sub>MJ</sub>
% Not Islam-Related Minority	14%	24% <sub>JPC</sub>	2% <sub>MPC</sub>	11% <sub>MJC</sub>	18% <sub>MJP</sub>
% Islam-Related Minority	11%	43% <sub>JPC</sub>	<1% <sub>M</sub>	<1% <sub>M</sub>	<1% <sub>M</sub>
% Other	<1%	1%	0%	0%	0%
<b>Age</b>					
<i>M</i>	51.47	33.32 <sub>JPC</sub>	61.48 <sub>MPC</sub>	57.44 <sub>MJC</sub>	52.7 <sub>MJP</sub>
<i>SD</i>	18.02	14.01	13.97	14.65	15.52
<b>Education Level</b>					
<i>M</i>	4.35	4.13 <sub>J</sub>	4.96 <sub>MPC</sub>	4.13 <sub>J</sub>	4.18 <sub>J</sub>
<i>SD</i>	1.52	1.53	1.34	1.46	1.55
<b>Religiosity</b>					
<i>M</i>	3.44	3.83 <sub>CJ</sub>	2.93 <sub>MPC</sub>	3.67 <sub>JC</sub>	3.34 <sub>MJP</sub>
<i>SD</i>	1.02	0.79	1.01	1.05	0.97

*Note.* Gender and race proportions between religious groups were compared using chi-squared analyses. “Other” categories for gender and race were excluded from analyses because of small cell sizes. Between-religion comparisons of mean age, education level, and religiosity were conducted using one-way ANOVAs. Subscripts denote significant differences between the group and the subscripted group. For continuous variables, group differences were tested using post-hoc tests. Percentages may not add to 100% due to rounding.

### Analysis plan

Tests of Hypothesis 1, which investigated associations between religion and religiosity, stigma, and psychological outcomes, omitted participants in the experimental condition. Limiting these analyses to participants in the control condition ( $n = 470$ ) allowed for a cleaner investigation of these relations without interference from the threat manipulation. Analyses that correspond to between-condition effects (i.e., Hypotheses 2 and 3) of the social identity threat manipulation were analyzed using the full sample ( $N = 973$ ).

Results were analyzed using a model-building approach. For analyses corresponding to Hypothesis 1, in Step 1, I regressed each self-report stigma measure on religion and religiosity. Where significant, I deconstructed the main effect of religion using three theoretically informed orthogonal contrasts (see Table 3-2) to compare (1) Muslims and Jews to Protestants and Catholics, (2) Muslims to Jews, and (3) Protestants to Catholics. In Step 2, I tested whether the interaction between religion and religiosity improved model fit. In cases where the omnibus interaction effect was significant, I used simple effects tests to probe for differences in the three religion contrasts separately for those high and low in religiosity (i.e., one standard deviation above and below the sample mean). Results investigating the relations between stigma and psychological outcomes were strictly correlational.

For analyses corresponding to Hypotheses 2 and 3, I used a similar model-building approach. In Step 1, I regressed each outcome on religion, religiosity, and condition. Here, only the condition effect was of interest (controlling for religiosity and religion) because I wanted to test whether, collapsed across religious groups and levels of religiosity, the social identity threat affected each of the outcomes. In Step 2, I added all two-way interactions between religion, religiosity, and condition to the model. In this step my interest was specifically whether religion or religiosity moderated the effect of condition (i.e., religion x condition and religiosity x condition). Where the effect of condition was moderated by religion, religiosity, I deconstructed

these interactions using planned contrasts comparing Muslims and Jews to Protestants and Catholics, Muslims to Jews, and Protestants to Catholics and by testing simple effects for those high and low in religiosity (one standard deviation above and below the sample mean). In Step 3, I tested the three-way interaction between religion, religiosity, and condition. Where the omnibus three-way interaction was significant, I deconstructed it using the same the aforementioned between-religion contrast codes and simple effects tests.

I used Cohen's *R* as the primary measure of religiosity. I did so because Cohen's *R* seemed to provide the most holistic measure of religiosity and religious identity, and at face value, I believed it to best capture the construct of religiosity across religious groups.<sup>9</sup>

Because of group differences in demographic variables, I controlled for gender (contrast coded), age (mean centered), and education level (mean centered) in each regression analysis. For analyses in which identity concealment is the dependent variable, I additionally controlled for how concealable participants believe their religious identity to be (mean centered). Race is not controlled for because it is confounded with religion; controlling for race would interfere with meaningful between-religion contrasts. These covariates were included in the all steps of each model. All tests of the additive predictive value of interactions also control for lower-order effects (e.g., two-way interactions control for all main effects, and three-way interactions control for all two-way interactions and main effects).

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<sup>9</sup> Of note, Cohen's *R* was significantly correlated with each of the other religiosity and religious identity scales, including Identity Centrality ( $r = .82$ ), Intrinsic Religiosity ( $r = .84$ ), Extrinsic-personal religiosity ( $r = .58$ ), Extrinsic-social religiosity ( $r = .32$ ), Religious Fundamentalism ( $r = .70$ ), Identity Fusion ( $r = .71$ ), Private Regard ( $r = .65$ ), and Nationalist Ideology ( $r = .34$ ).

Table 3-2: Contrast codes for between-religion comparisons.

Contrast	Muslims	Jews	Protestants	Catholics
Religion Contrast 1	1	1	-1	-1
Religion Contrast 2	1	-1	0	0
Religion Contrast 3	0	0	1	-1

**Hypothesis 1: Do members of religious groups and those who are highly religious differ in religious stigma, and is stigma related to psychological outcomes?**

I hypothesized that religious stigma would be higher among: (1) Muslims and Jews compared to Protestants and Catholics; (2) Muslims, compared to Jews; and (3) people who identify as more religious, regardless of religious group. I investigated these hypotheses on the operationalized measures of stigma: stigma consciousness, experienced stigma.

**Stigma consciousness**

Religious groups significantly differed in stigma consciousness,  $F(3, 462) = 7.95, p < .001, PRE = .04$  (see Figure 3-1 and Table 3-3). Focused contrasts show that Muslims and Jews reported more stigma consciousness than did Protestants and Catholics,  $B = 0.15, F(1, 462) = 20.68, p < .001, PRE = .043$ . Muslims and Jews did not differ from each other in stigma consciousness,  $B = -0.01, F(1, 462) = 0.54, p = .817, PRE < .001$ , nor did Protestants significantly differ from Catholics,  $B = 0.10, F(1, 462) = 1.88, p = .171, PRE = .004$ . A significant effect of religiosity also emerged; the more religious participants were, the greater stigma consciousness they reported,  $B = 0.15, F(1, 462) = 23.50, p < .001, PRE = .048$ .

Adding the two-way interaction between religion and religiosity in Step 2 significantly improved the model fit,  $F(3, 459) = 3.95, p < .008, PRE = .021$  (see Figure 3-1 and Table 3-3). Simple effects tests reveal that for those high in religiosity, Muslims and Jews reported significantly greater stigma consciousness than Protestants and Catholics,  $B = 0.11, F(1, 459) =$

5.78,  $p < .001$ , PRE = .017, and Protestants reported significantly greater stigma consciousness than Catholics,  $B = 0.17$ ,  $F(1, 459) = 8.12$ ,  $p = .005$ , PRE = .017. Muslims and Jews did not differ from each other,  $B = 0.06$ ,  $F(1, 459) = 0.63$ ,  $p = .430$ , PRE = .001. Among those low in religiosity, Muslims and Jews reported significantly greater stigma consciousness than did Catholics and Protestants,  $B = 0.19$ ,  $F(1, 459) = 15.04$ ,  $p < .001$ , PRE = .032, and Protestants did not differ from Catholics low in religiosity in reported stigma consciousness,  $B = -0.06$ ,  $F(1, 459) = 1.13$ ,  $p = .289$ , PRE = .002. Again, Muslims and Jews did not differ from each other,  $B = -0.04$ ,  $F(1, 459) = 0.18$ ,  $p = .668$ , PRE < .001. Hence, results remained the same for the first two contrasts (e.g., comparing Muslims and Jews to Protestants and Catholics and comparing Muslims to Jews). However, for the contrast comparing Protestants to Catholics, significant differences in stigma emerged only among those high in religiosity.

In an ancillary analysis, I tested whether highly religious Protestants differed in stigma consciousness from highly religious Muslims and Jews. Results show that, among those high in religiosity, Protestants did not differ from Muslims and Jews,  $B = 0.01$ ,  $F(1, 459) = 0.17$ ,  $p = .684$ , PRE < .001.

Together, results suggest that stigma consciousness is highest among Muslims and Jews, regardless of their religiosity, and among highly religious Protestants.

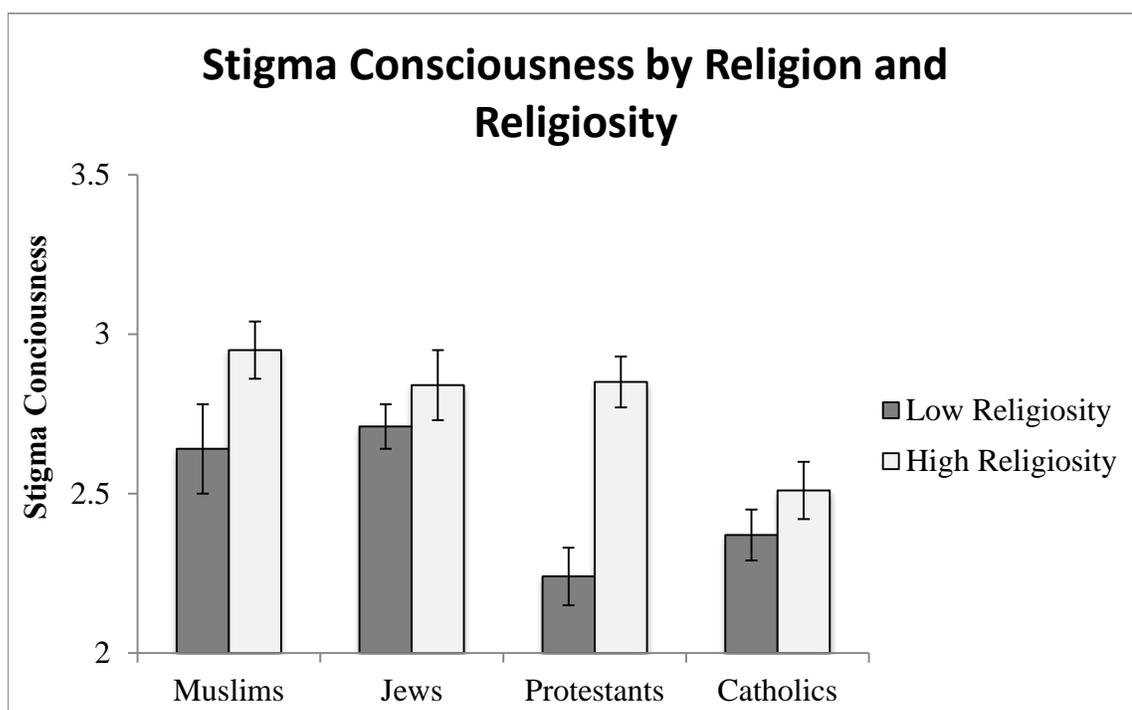


Figure 3-1: Stigma consciousness by religion and religiosity. Values are adjusted means. Model also controlled for age, gender, and education level. Error bars represent  $\pm$  one standard error. Stigma consciousness was measured on a scale from 1 to 5, with higher numbers representing greater stigma consciousness. Means for low and high religiosity are estimated at one standard deviation below and above the sample mean, respectively.

Table 3-3: Results of hierarchical linear regression predicting stigma consciousness for Hypothesis 1.

<i>N</i> = 470	Model 1			Model 2		
	B	SE(B)	PRE	B	SE(B)	PRE
Religiosity	0.15***	0.03	.063***	0.15***	0.03	.045***
Religion	—	—	.042***	—	—	.037***
Contrast 1	0.15***	0.03	.043***	0.15***	0.03	.040***
Contrast 2	-0.01	0.06	<.001	0.01	0.06	<.001
Contrast 3	0.06	0.04	.004	0.06	0.04	.003
Religiosity x Religion	—	—	—	—	—	.021**
Religiosity x Contrast 1	—	—	—	-0.04	0.03	.003
Religiosity x Contrast 2	—	—	—	0.05	0.05	.002
Religiosity x Contrast 3	—	—	—	0.12**	0.04	.018**
Model <i>R</i> <sup>2</sup>		.177***			.198**	
<i>R</i> <sup>2</sup> Change		—			.021**	

*Note:* B = unstandardized regression coefficients, SE(B) = standard error of regression coefficients, PRE = proportional reduction in error. Contrast 1 compares Muslims and Jews (+1) to Protestants and Catholics (-1). Contrast two compares Muslims (+1) to Jews (-1). Contrast 3 compares Protestants (+1) to Catholics (-1). Analyses also control for age, gender, and education level. \*  $p \leq .05$ . \*\*  $p \leq .01$ . \*\*\*  $p \leq .001$ .

### Experienced stigma

Religious groups significantly differed in experienced stigma,  $F(3, 462) = 8.09, p < .001$ ,  $PRE = .041$  (See Figure 3-2 and Table 3-4). Focused contrasts show that Muslims and Jews reported significantly greater experienced stigma than did Protestants and Catholics,  $B = 0.18, F(3, 462) = 23.98, p < .001, PRE = .051$ . Muslims and Jews did not significantly differ from each other in experienced stigma,  $B = 0.08, F(1, 462) = 1.39, p = .239, PRE = .003$ , nor did Protestants and Catholics,  $B = -0.01, F(1, 462) = 0.02, p = .883, PRE < .001$ . A significant effect of religiosity also emerged; the more religious participants were, the more experienced stigma they reported,  $B = 0.15, F(1, 462) = 18.07, p < .001, PRE = .038$ . Adding the two-way interaction between religion and religiosity did not significantly improve the model fit,  $F(3, 459) = 0.62, p = .603, PRE = .003$ . Together, results suggest that experienced stigma was greater among religious minorities compared to Christians, and among those who were more religious, regardless of religious affiliation.

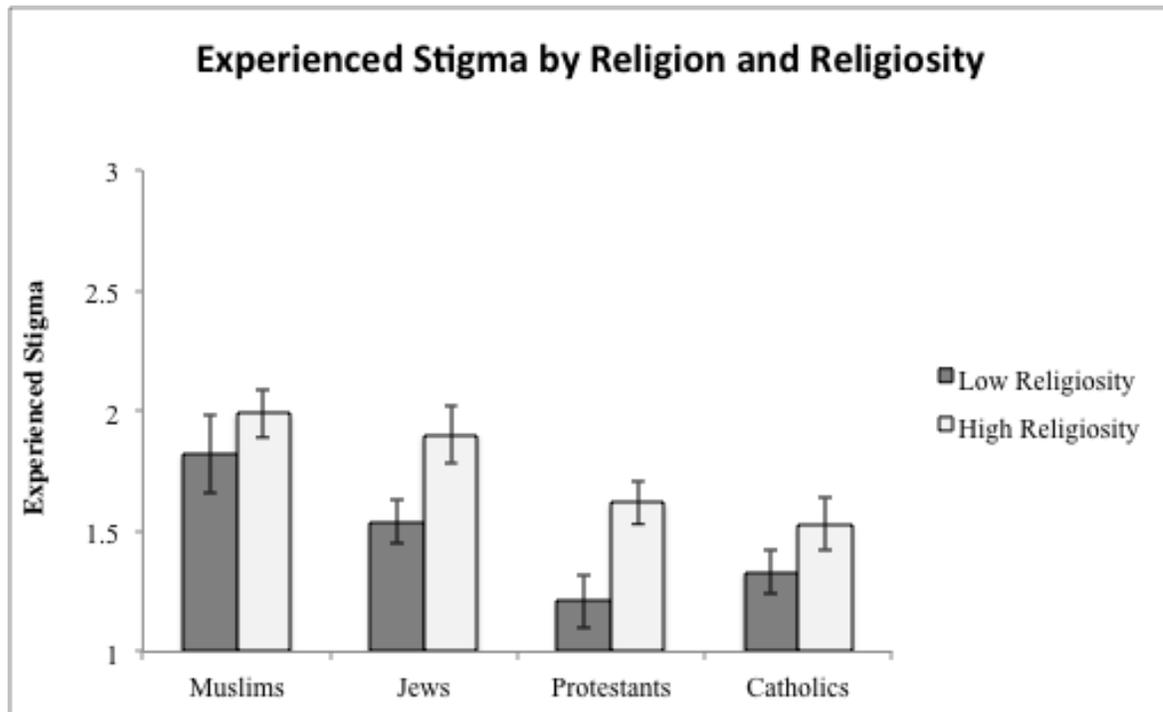


Figure 3-2: Experienced stigma by religion and religiosity. Values are adjusted means. Model also controlled for age, gender, and education level. Error bars represent  $\pm$  one standard error. Experienced stigma was measured on a scale from 1 to 5, with higher numbers representing greater experienced stigma. Means for low and high religiosity are estimated at one standard deviation below and above the sample mean, respectively.

Table 3-4: Results of hierarchical linear regression predicting experienced stigma for Hypothesis 1.

<i>N</i> = 470	Model 1			Model 2		
	B	SE(B)	PRE	B	SE(B)	PRE
Religiosity	0.15***	0.04	.038***	0.14***	0.04	.031***
Religion	—	—	.039***	—	—	.041***
Contrast 1	0.15***	0.04	.049***	0.20***	0.04	.051***
Contrast 2	-0.08	0.07	.003	0.09	0.07	.004
Contrast 3	-0.01	0.05	<.001	-0.01	0.05	<.001
Religiosity x Religion	—	—	—	—	—	.003
Religiosity x Contrast 1	—	—	—	-0.01	0.04	<.001
Religiosity x Contrast 2	—	—	—	-0.05	0.06	.002
Religiosity x Contrast 3	—	—	—	0.05	0.05	.002
Model <i>R</i> <sup>2</sup>		.256***			.259***	
<i>R</i> <sup>2</sup> Change		—			.003	

*Note:* B = unstandardized regression coefficients, SE(B) = standard error of regression coefficients, PRE = proportional reduction in error. Contrast 1 compares Muslims and Jews (+1) to Protestants and Catholics (-1). Contrast 2 compares Muslims (+1) to Jews (-1). Contrast 3 compares Protestants (+1) to Catholics (-1). Analyses also control for age, gender, and education level. \**p* ≤ .05. \*\* *p* ≤ .01. \*\*\* *p* ≤ .001.

**Is self-report stigma related to hypothesized psychological outcomes?**

I hypothesized that individuals who felt or experienced more religious stigma would also (A) report a greater propensity to conceal their religious identity, (B) feel like they belong less and report greater belonging uncertainty, and (C) endorse more negative outgroup attitudes, especially towards values-threatening groups. To test these predictions, I conducted correlational analyses between stigma consciousness and experienced stigma and each of these outcomes (see Table 3-5). Although of less interest, I also include report—in Table 3-5—the relations between the outcome variables.

Results show that higher levels of stigma consciousness were associated with more identity concealment (marginal), lower belonging, more belonging uncertainty, and more negative attitudes towards atheists, gays, and immigrants (see Table 3-5). Additionally, stigma consciousness was related to less religious tolerance. While I did not expect stigma consciousness to predict as strong anti-Black attitudes, a significant negative relation emerged, such that people who were more stigma conscious had less negative attitudes towards Blacks. Similar patterns emerged between self-reported experienced stigma and these outcomes; the only difference was that the marginal association with concealment became significant for experienced stigma (see Table 3-5).

Together, results confirm the hypothesis that people who report feeling and experiencing more religious stigma are more likely to conceal their religion, feel less belonging and more uncertain about their belonging, and to report more negative outgroup attitudes.

Table 3-5: Results of correlational analyses for Hypothesis 1.

<i>N</i> = 470	1	2	3	4	5	6	7	8	9	10
1. Stigma Consciousness	—									
2. Experienced Stigma	.54**	—								
3. Concealment	.09 <sup>+</sup>	.24**	—							
4. Belonging	-.35**	-.45**	-.33**	—						
5. Belonging Uncertainty	.23**	.35**	.25**	-.60**	—					
6. Anti-Atheist Attitudes	.11**	.11*	-.04	-.01	.00	—				
7. Anti-Gay Attitudes	.20**	.21**	-.08	-.06	.03	.55**	—			
8. Anti-Immigrant Attitudes	.09*	.18**	.16**	-.20**	.14**	.30**	.35**	—		
9. Religious Tolerance	-.35**	-.18**	-.17**	.25**	-.14	.21**	-.25**	-.26**	—	
10. Anti-Black Attitudes	-.13**	-.12**	-.02	.10**	-.12	.22**	.25**	.23**	-.09	—

Note: <sup>+</sup>*p* < .01, \**p* < .10, \*\**p* < .001.

**Hypothesis 2: What are the psychological consequences of a social identity threat making religious stigma salient?**

I hypothesized that a social identity threat targeting religion would lead individuals to: (A) report greater stigma consciousness; (B) have a greater propensity to conceal their religious identity; (C) feel like they belong less; and (D) endorse more negative outgroup prejudice—especially against groups that may be perceived as posing a values-threat. These predictions were hypothesized to hold stronger for those who, as predicted in and found by test of Hypothesis 1, perceive themselves to be the most stigmatized (i.e., Muslims and Jews, as well as people who are high in religiosity). I investigated these hypotheses using the same model building approach. Results focus on the effects of condition and the ways in which religion and religiosity moderate this condition effect.

**Stigma consciousness**

Participants in the threat and control conditions did not differ in stigma consciousness,  $B = -0.02$ ,  $F(1, 964) = 1.16$ ,  $p = .282$ ,  $PRE = .001$  (See Figure 3-3 and Table 3-6). When the two-way interactions were added to the model, no significant interactions emerged between religion and condition,  $F(3, 957) = 2.08$ ,  $p = .101$ ,  $PRE = .005$ , or between religiosity and condition,  $F(1, 957) = 2.65$ ,  $p = .104$ ,  $PRE = .002$ .

Adding the three-way interaction between religion, religiosity, and condition marginally significantly improved the model fit,  $F(3, 954) = 2.45$ ,  $p = .063$ ,  $PRE = .006$  (See Figure 3-3 and Table 3-6). Focused contrasts show that this three-way interaction was significant only for the contrast comparing Muslims to Jews,  $B = -0.09$ ,  $F(1, 954) = 7.23$ ,  $p = .007$ ,  $PRE = .008$ . Simple effects tests show that highly religious Jews reported greater stigma consciousness in the threat than control condition,  $B = 0.20$ ,  $F(1, 954) = 16.71$ ,  $p < .001$ ,  $PRE = .006$ . However, for Jews low in religiosity, there was no effect of condition,  $B = -.04$ ,  $F(1, 954) = 0.54$ ,  $p = .462$ ,  $PRE = .001$ .

There was no effect of condition for Muslims, either high in religiosity,  $B = -.07$ ,  $F(1, 954) = 1.35$ ,  $p = .245$ ,  $PRE = .001$ , or low in religiosity,  $B = 0.09$ ,  $F(1, 954) = 0.99$ ,  $p = .320$ ,  $PRE = .001$ . Of note, when the three-way interactions were added to the model, the two-way interaction between condition and religion became significant. However, none of the focused contrasts significantly interacted with the effect of condition (see Table 3-6).

Together, results suggest that the threat condition selectively led highly religious Jews to report greater stigma consciousness.

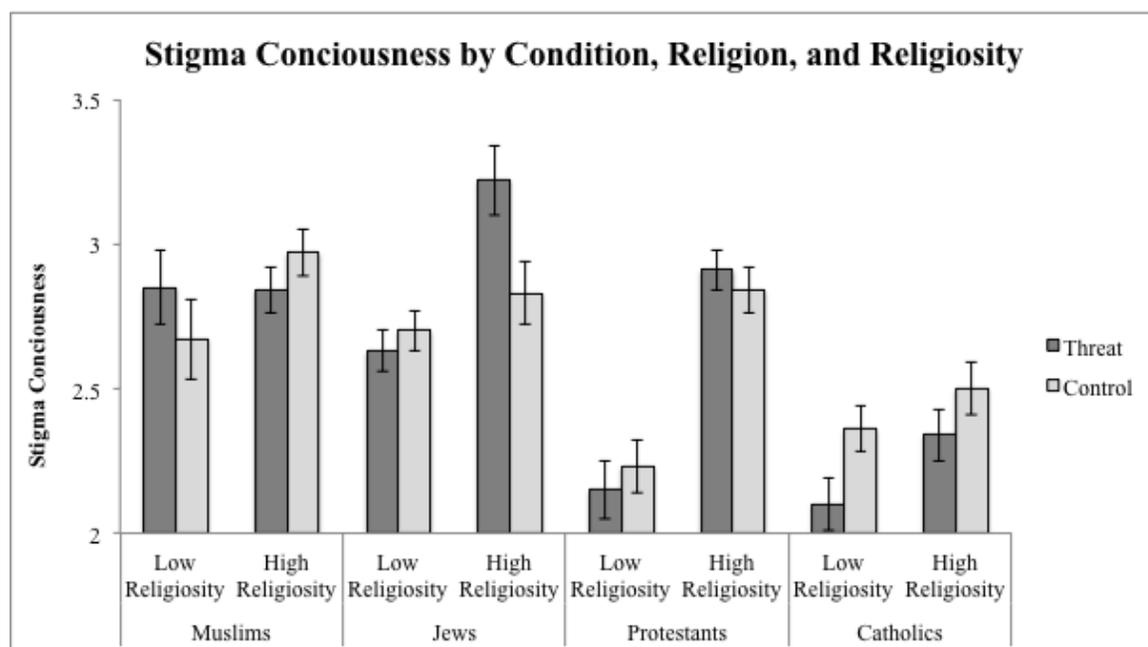


Figure 3-3: Stigma consciousness by condition, religion and religiosity. Values are adjusted means. Model also controlled for age, gender, and education level. Error bars represent  $\pm$  one standard error. Stigma consciousness was measured on a scale from 1 to 5, with higher numbers representing greater stigma consciousness. Means for low and high religiosity are estimated at one standard deviation below and above the sample mean, respectively.

Table 3-6: Results of hierarchical linear regression predicting stigma consciousness for Hypothesis 2.

N = 973	Model 1			Model 2			Model 3		
	B	SE(B)	PRE	B	SE(B)	PRE	B	SE(B)	PRE
Condition (Cond.)	-0.02	0.02	.001	-0.03	0.02	.001	-0.01	0.02	<.001
Religiosity	0.18	0.02	.060***	0.17	0.02	.051***	0.17	0.02	.052***
Religion	-	-	.070***	-	-	.070***	-	-	.072***
Contrast 1 (C1)	0.18	0.03	.062***	0.20	0.02	.070***	0.21	0.02	.072***
Contrast 2 (C2)	-0.03	0.04	<.001	-0.00	0.04	<.001	-0.01	0.04	<.001
Contrast 3 (C3)	0.12	0.03	.015***	0.10	0.03	.012***	0.10	0.03	.012***
Cond. x Religiosity	-	-	-	0.04	0.02	.003	0.03	0.02	.001
Cond. x Religion	-	-	-	-	-	.005	-	-	.007*
Cond. x C1	-	-	-	0.03	0.02	.002	-0.03	0.03	.005
Cond. x C2	-	-	-	-0.04	0.03	.001	0.05	0.03	.001
Cond. x C3	-	-	-	0.05	0.03	.003	0.05	0.03	.003
Religiosity x Religion	-	-	-	-	-	.018***	-	-	.018***
Religiosity x C1	-	-	-	-0.05	0.02	.005*	-0.05	0.02	.004*
Religiosity x C2	-	-	-	-0.05	0.04	.002	-0.05	0.04	.002
Religiosity x C3	-	-	-	0.12	0.03	.017***	0.12	0.03	.017***
Cond. x Religiosity x Religion	-	-	-	-	-	-	-	-	.006
Cond. X Religiosity x C1	-	-	-	-	-	-	-0.01	0.02	<.001
Cond. X Religiosity x C2	-	-	-	-	-	-	-0.09	0.04	.008**
Cond. X Religiosity x C3	-	-	-	-	-	-	0.01	0.03	<.001
Model $R^2$			.185***			.211***			.217***
$R^2$ Change			-			.026***			.006

Note: B = unstandardized regression coefficients, SE(B) = standard error of regression coefficients, PRE = proportional reduction in error.

Contrast 1 compares Muslims and Jews (+1) to Protestants and Catholics (-1). Contrast two compares Muslims (+1) to Jews (-1). Contrast 3 compares Protestants (+1) to Catholics (1). Analyses also control for age, gender, and education level. \* $p \leq .05$ . \*\* $p \leq .01$ . \*\*\* $p \leq .001$ .

### Identity concealment

Participants in the threat condition reported a marginally greater propensity to conceal their religious identity,  $B = 0.04$ ,  $F(1, 960) = 2.74$ ,  $p = .098$ ,  $PRE = .003$  (see Figure 3-4 and Table 3-7). When the two way interactions were added to the model, no significant interaction emerged between condition and religion,  $F(3, 953) = 0.48$ ,  $p = .699$ ,  $PRE = .001$ , or between condition and religiosity,  $F(1, 953) = 0.16$ ,  $p = .693$ ,  $PRE < .001$ . Adding the three-way interaction between condition, religion, and religiosity did not significantly improve the model fit,  $F(3, 950) = 1.78$ ,  $p = .149$ ,  $PRE = .005$ . Of note, however, when the three-way interactions were added to the model, the main effect of condition became significant, suggesting that, collapsed across religion and for a person with average religiosity, the threat condition led to greater concealment,  $B = 0.06$ ,  $F(1, 950) = 5.35$ ,  $p = .021$ ,  $PRE = .006$

Although the two- and three-way interactions were not significant, visual inspection of results suggested that the effect of condition may have been especially strong for highly religious Jews. Simple effects tests among Jews confirmed this. Highly religious Jews in the threat condition reported a significantly greater propensity to conceal their religious identity than highly religious Jews in the control condition,  $B = 0.22$ ,  $F(1, 950) = 6.33$ ,  $p = .012$ ,  $PRE = .007$ . No condition effect emerged among Jews low in religiosity,  $B = 0.01$ ,  $F(1, 950) = 0.05$ ,  $p = .819$ ,  $PRE < .001$ .

Together, results suggest that, while the threat manipulation marginally increased identity concealment on average across participants, it particularly affected highly religious Jews.

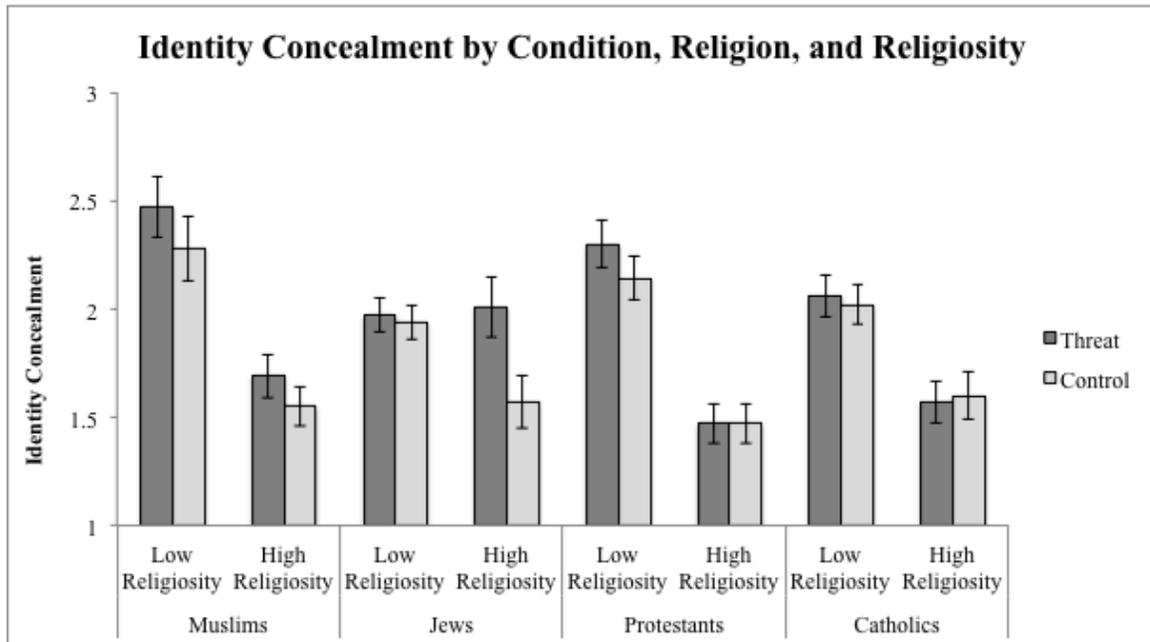


Figure 3-4: Identity concealment by condition, religion and religiosity. Values are adjusted means. Model also controlled for age, gender, education level, and concealability. Error bars represent  $\pm$  one standard error. Identity concealment was measured on a scale from 1 to 5, with higher numbers representing greater concealment. Means for low and high religiosity are estimated at one standard deviation below and above the sample mean, respectively.

Table 3-7: Results of hierarchical linear regression predicting concealment for Hypothesis 2.

N = 971	Model 1			Model 2			Model 3		
	B	SE(B)	PRE	B	SE(B)	PRE	B	SE(B)	PRE
Condition (Cond.)	0.04	0.03	.003	0.04	0.02	.003	0.06	0.03	.006*
Religiosity	-0.25	0.03	.079***	-0.26	0.03	.080***	-0.26	0.03	.081***
Religion	-	-	.004	-	-	.005	-	-	.005
Contrast 1 (C1)	0.02	0.03	.001	0.05	0.03	.007*	0.05	0.03	.004
Contrast 2 (C2)	-0.08	0.05	.004	0.07	0.05	.004	0.06	0.05	.002
Contrast 3 (C3)	0.01	0.04	<.001	0.02	0.04	.002	0.02	0.03	<.001
Cond. x Religiosity	-	-	-	0.01	0.03	<.001	0.01	0.03	<.001
Cond. x Religion	-	-	-	-	-	.001	-	-	.004
Cond. x C1	-	-	-	0.03	0.02	.001	0.04	0.03	.002
Cond. x C2	-	-	-	0.00	0.04	<.001	-0.02	0.04	<.001
Cond. x C3	-	-	-	0.01	0.03	<.003	-0.01	0.04	<.001
Religiosity x Religion	-	-	-	-	-	.018***	-	-	.003
Religiosity x C1	-	-	-	0.03	0.03	.001	0.04	0.03	.002
Religiosity x C2	-	-	-	-0.14	0.04	.013***	-0.15	0.04	.014***
Religiosity x C3	-	-	-	-0.07	0.03	.005*	-0.07	0.03	.005*
Cond. x Religiosity x Religion	-	-	-	-	-	-	-	-	.005
Cond. X Religiosity x C1	-	-	-	-	-	-	0.04	0.03	.002
Cond. X Religiosity x C2	-	-	-	-	-	-	-0.06	0.04	.002
Cond. X Religiosity x C3	-	-	-	-	-	-	-0.01	0.03	<.001
Model $R^2$			.152***			.172***			.177***
$R^2$ Change			-			.020**			.005

Note: B = unstandardized regression coefficients, SE(B) = standard error of regression coefficients, PRE = proportional reduction in error.

Contrast 1 compares Muslims and Jews (+1) to Protestants and Catholics (-1). Contrast two compares Muslims (+1) to Jews (-1). Contrast 3 compares Protestants (+1) to Catholics (1). Analyses also control for age, gender, education level, and concealability. \* $p \leq .05$ . \*\* $p \leq .01$ . \*\*\* $p \leq .001$ .

## Belonging

Participants' sense of belonging did not vary as a function of condition,  $B = 0.02$ ,  $F(1, 964) = 0.46$ ,  $p = .500$ ,  $PRE < .001$  (see Figure 3-5 and Table 3-8). When the two-way interactions were added to the model, no significant interaction emerged between religion and condition,  $F(3, 957) = 1.81$ ,  $p = .144$ ,  $PRE = .005$ , or between religiosity and condition,  $F(1, 957) = 0.18$ ,  $p = .669$ ,  $p < .001$ . Adding the three-way interactions to the model also did not improve the model fit,  $F(3, 954) = 0.39$ ,  $p = .763$ ,  $PRE = .001$ .

Together, results suggest that participants' sense of belonging was not affected by the threat manipulation.

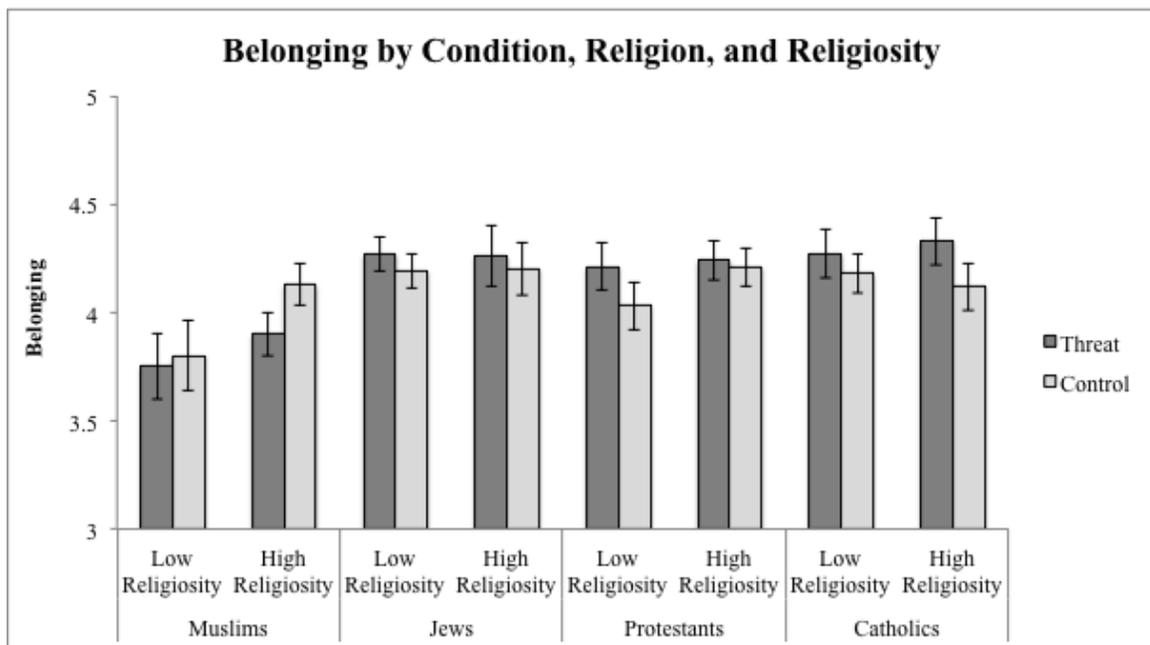


Figure 3-5: Belonging by condition, religion and religiosity. Values are adjusted means. Model also controlled for age, gender, and education level. Error bars represent  $\pm$  one standard error. Belonging was measured on a scale from 1 to 5, with higher numbers representing greater belonging. Means for low and high religiosity are estimated at one standard deviation below and above the sample mean, respectively.

Table 3-8: Results of hierarchical linear regression predicting belonging for Hypothesis 2.

N = 973	Model 1			Model 2			Model 3		
	B	SE(B)	PRE	B	SE(B)	PRE	B	SE(B)	PRE
Condition (Cond.)	0.02	0.03	<.001	-0.02	0.03	<.001	0.02	0.02	<.001
Religiosity	0.04	0.03	.002	0.04	0.03	.002	0.04	0.03	.002
Religion	-	-	.015***	-	-	.015***	-	-	.015***
Contrast 1 (C1)	-0.06	0.03	.005*	-0.07	0.03	.007*	0.07	0.03	.006*
Contrast 2 (C2)	-0.16	0.05	.013***	-0.17	0.05	.012***	-0.17	0.05	.012***
Contrast 3 (C3)	0.03	0.04	.001	-0.03	0.04	.001	-0.03	0.04	.001
Cond. x Religiosity	-	-	-	-0.01	0.03	<.001	-0.01	0.03	<.001
Cond. x Religion	-	-	-	-	-	.005	-	-	.004
Cond. x C1	-	-	-	0.03	0.02	.002	-0.04	0.03	.002
Cond. x C2	-	-	-	-0.04	0.03	.001	-0.05	0.04	.002
Cond. x C3	-	-	-	0.05	0.03	.003	-0.01	0.04	<.001
Religiosity x Religion	-	-	-	-	-	.002	-	-	.002
Religiosity x C1	-	-	-	0.02	0.03	<.001	0.02	0.03	<.001
Religiosity x C2	-	-	-	0.06	0.04	.002	0.06	0.04	.002
Religiosity x C3	-	-	-	0.03	0.04	.001	0.03	0.04	.001
Cond. x Religiosity x Religion	-	-	-	-	-	-	-	-	.001
Cond. X Religiosity x C1	-	-	-	-	-	-	-0.01	0.03	<.001
Cond. X Religiosity x C2	-	-	-	-	-	-	-0.02	0.04	<.001
Cond. X Religiosity x C3	-	-	-	-	-	-	-0.03	0.04	.001
Model $R^2$			.159***			.167***			.168***
$R^2$ Change			-			.008			.001

Note: B = unstandardized regression coefficients, SE(B) = standard error of regression coefficients, PRE = proportional reduction in error.

Contrast 1 compares Muslims and Jews (+1) to Protestants and Catholics (-1). Contrast two compares Muslims (+1) to Jews (-1). Contrast 3 compares Protestants (+1) to Catholics (1). Analyses also control for age, gender, and education level. \* $p \leq .05$ . \*\* $p \leq .01$ . \*\*\* $p \leq .001$ .

## Negative outgroup attitudes

### *Anti-atheist attitudes*

Participants in the threat and control conditions did not differ in their attitudes towards atheists,  $B = -0.00$ ,  $F(1, 964) = 0.01$ ,  $p = .918$ ,  $PRE < .001$ . However, when the two-way interactions were added to the model, a significant interaction emerged between religion and condition,  $F(3, 956) = 3.68$ ,  $p = .012$ ,  $PRE = .009$  (See Figure 3-4 and Table 3-9). Simple effects tests show that for Protestants, anti-atheist attitudes were higher in the threat than control condition,  $B = 0.18$ ,  $F(1, 956) = 6.34$ ,  $p = .012$ ,  $PRE = .007$ . Conversely, among Catholics, anti-atheist attitudes were marginally lower in the threat than control condition,  $B = -0.14$ ,  $F(1, 956) = 3.81$ ,  $p = .051$ ,  $PRE = .004$ . No simple effect of condition emerged for Jews,  $B = -.08$ ,  $F(1, 956) = 1.20$ ,  $p = .273$ ,  $PRE = .001$ , or for Muslims,  $B = 0.00$ ,  $F(1, 956) = 0.00$ ,  $p = .966$ ,  $PRE < .001$ . The two-way interaction between condition and religiosity was not significant  $F(1, 956) = 2.51$ ,  $p = .113$ ,  $PRE = .003$ . Adding the three-way interactions between religion, religiosity, and condition did not improve the model fit,  $F(3, 953) = 1.08$ ,  $p = .358$ ,  $PRE = .003$  (See Figure 3-5 and Table 3-9).

Together, results suggest that the threat manipulation selectively led Protestants to endorse more anti-atheist attitudes, but counter to my hypothesis, also led Catholics to endorse less anti-atheist attitudes.

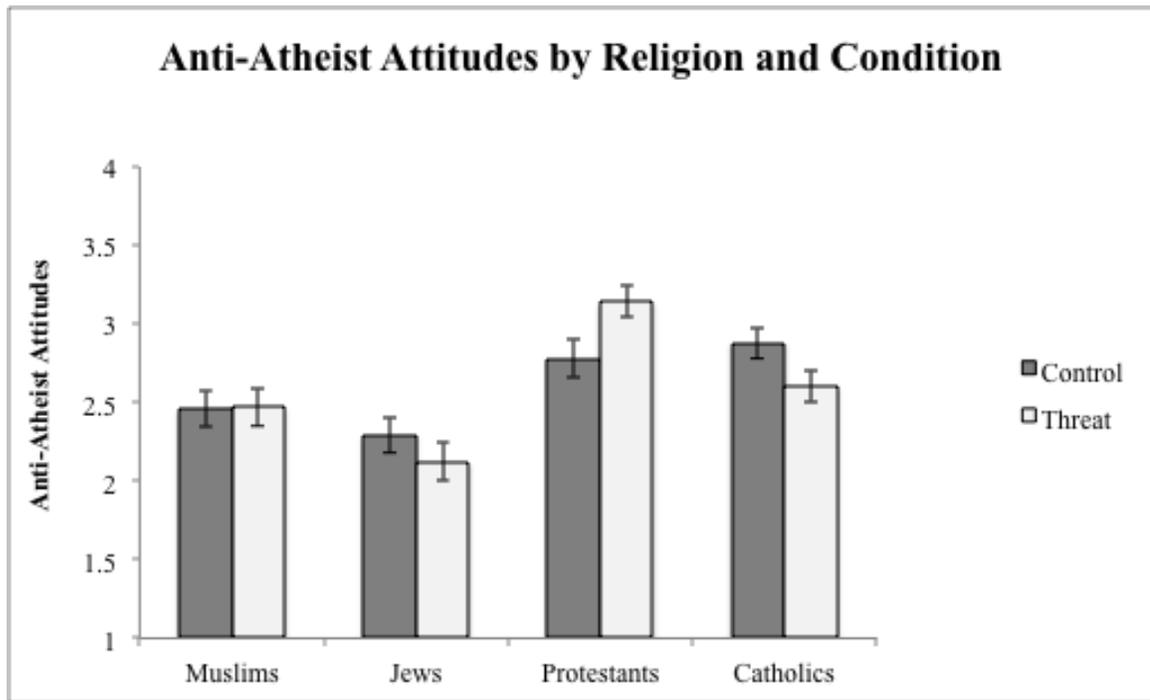


Figure 3-4: Anti-atheist attitudes by condition and religion. Values are adjusted means. Model also controlled for age, gender, and education level, religiosity, and all two-way interactions between religion and religiosity and condition and religiosity. Error bars represent  $\pm$  one standard error. Anti-atheist attitudes were measured on a scale from 1 to 5, with higher numbers representing more negative attitudes.

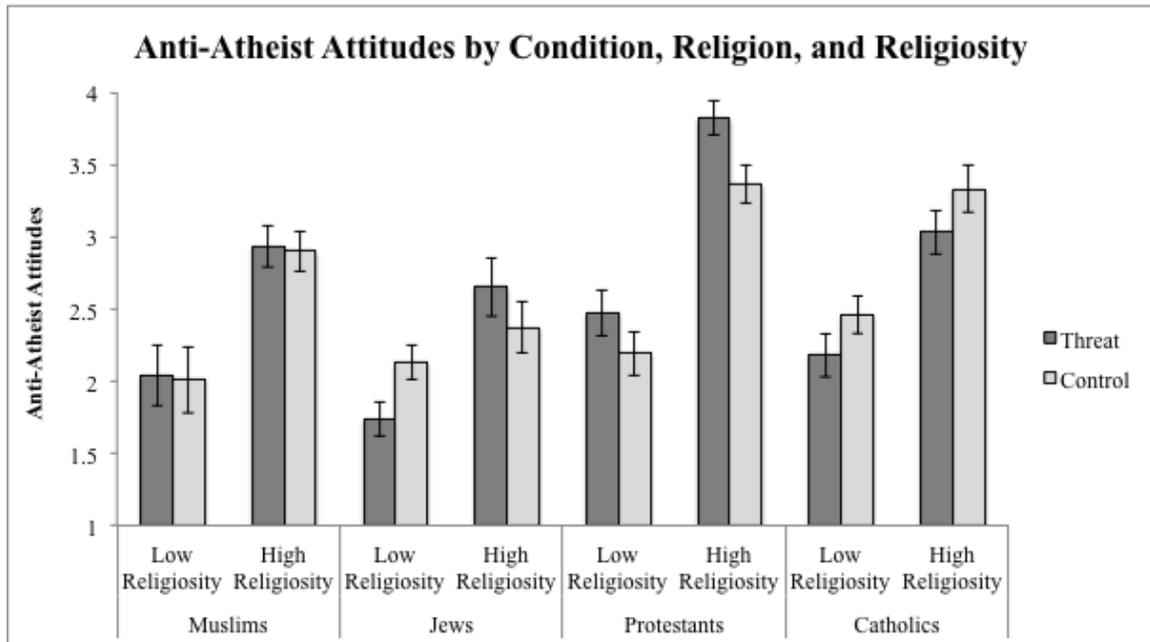


Figure 3-5: Anti-atheist attitudes by condition, religion, and religiosity. Values are adjusted means. Model also controlled for age, gender, and education level. Error bars represent  $\pm$  one standard error. Anti-atheist attitudes were measured on a scale from 1 to 5, with higher numbers representing more negative attitudes. Means for low and high religiosity are estimated at one standard deviation below and above the sample mean, respectively.

Table 3-9: Results of hierarchical linear regression predicting anti-atheist attitudes for Hypothesis 2.

N = 973	Model 1			Model 2			Model 3		
	B	SE(B)	PRE	B	SE(B)	PRE	B	SE(B)	PRE
Condition (Cond.)	-0.00	0.04	.120***	-0.01	0.04	<.001	0.01	0.04	<.001
Religiosity	0.44	0.04	.120***	0.44	0.04	.116***	0.44	0.04	.117***
Religion	-	-	.046***	-	-	.043***	-	-	.041***
Contrast 1 (C1)	-0.26	0.04	.045***	-0.26	0.04	.042***	-0.26	0.04	.041***
Contrast 2 (C2)	0.09	0.07	.002	0.13	0.07	.004	0.12	0.07	.003
Contrast 3 (C3)	0.14	0.05	.009**	0.11	0.05	.005*	0.11	0.05	.004*
Cond. x Religiosity	-	-	-	0.06	0.04	.003	0.05	0.04	.002
Cond. x Religion	-	-	-	-	-	.009*	-	-	.009*
Cond. x C1	-	-	-	-0.03	0.04	.001	-0.01	0.04	<.001
Cond. x C2	-	-	-	0.04	0.05	.001	0.03	0.06	<.001
Cond. x C3	-	-	-	0.16	0.05	.010**	0.17	0.05	.011***
Religiosity x Religion	-	-	-	-	-	.002	-	-	.002
Religiosity x C1	-	-	-	-0.09	0.04	.006	-0.08	0.04	.005*
Religiosity x C2	-	-	-	0.08	0.06	.002	0.07	0.06	.002
Religiosity x C3	-	-	-	0.09	0.05	.004	0.10	0.05	.004
Cond. x Religiosity x Religion	-	-	-	-	-	-	-	-	.003
Cond. X Religiosity x C1	-	-	-	-	-	-	0.03	0.04	.001
Cond. X Religiosity x C2	-	-	-	-	-	-	-0.08	0.06	.002
Cond. X Religiosity x C3	-	-	-	-	-	-	0.03	0.05	<.001
Model $R^2$			.205***			.229***			.232***
$R^2$ Change			-			.024***			.003

Note: B = unstandardized regression coefficients, SE(B) = standard error of regression coefficients, PRE = proportional reduction in error.

Contrast 1 compares Muslims and Jews (+1) to Protestants and Catholics (-1). Contrast two compares Muslims (+1) to Jews (-1). Contrast 3 compares Protestants (+1) to Catholics (1). Analyses also control for age, gender, and education level. \* $p \leq .05$ . \*\* $p \leq .01$ . \*\*\* $p \leq .001$ .

### *Anti-gay attitudes*

Participants in the threat and control conditions did not differ in anti-gay attitudes,  $B = -0.03$ ,  $F(1, 963) = 0.74$ ,  $p = .390$ ,  $PRE = .001$  (see Figure 3-6 and Table 3-10). When the two-way interactions were added to the model, no interaction emerged between religion and condition,  $F(3, 956) = 1.18$ ,  $p = .316$ ,  $PRE = .003$ , or between religiosity and condition,  $F(1, 956) = 0.48$ ,  $p = .488$ ,  $PRE = .001$ . Additionally including the three-way interactions between religion, religiosity, and condition did not significantly improve the model fit,  $F(3, 953) = 0.30$ ,  $p = .824$ ,  $PRE = .001$ . Together, results suggest that anti-gay attitudes were not affected by the threat manipulation.

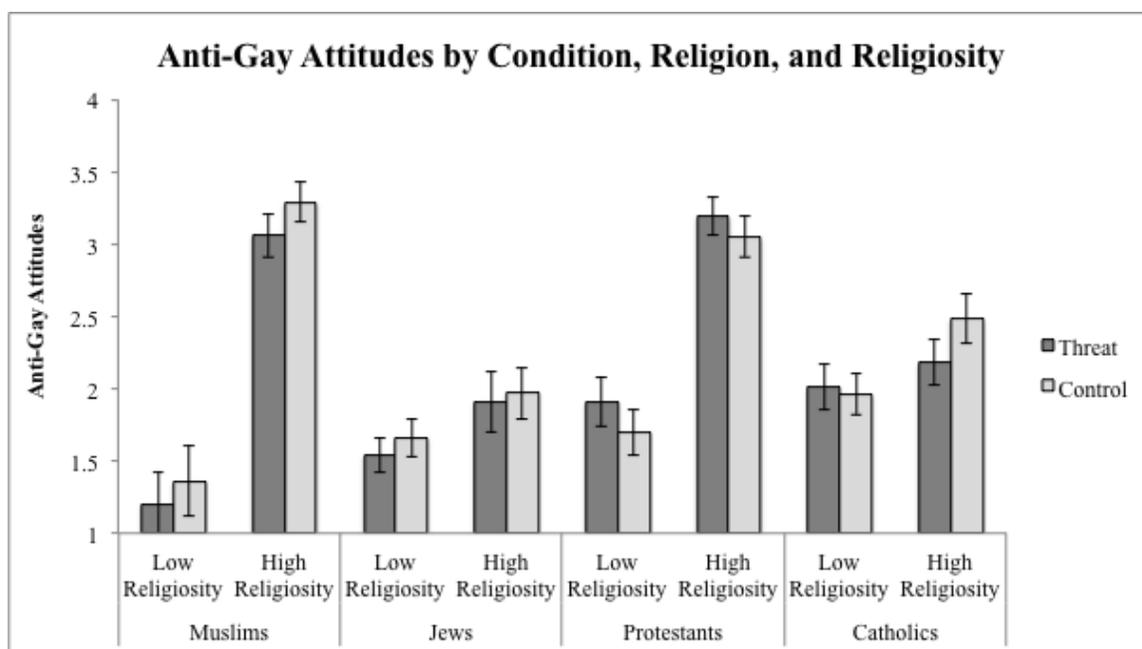


Figure 3-6: Anti-gay attitudes by condition, religion, and religiosity. Values are adjusted means. Model also controlled for age, gender, and education level. Error bars represent  $\pm$  one standard error. Anti-gay attitudes were measured on a scale from 1 to 5, with higher numbers representing more negative attitudes. Means for low and high religiosity are estimated at one standard deviation below and above the sample mean, respectively.

Table 3-10: Results of hierarchical linear regression predicting anti-gay attitudes for Hypothesis 2.

N = 973	Model 1			Model 2			Model 3		
	B	SE(B)	PRE	B	SE(B)	PRE	B	SE(B)	PRE
Condition (Cond.)	-0.03	0.04	.001	-0.03	0.04	.001	-0.03	0.04	.001
Religiosity	0.44	0.04	.109***	0.48	0.04	.126***	0.48	0.04	.125***
Religion	-	-	.024***	-	-	.027***	-	-	.027***
Contrast 1 (C1)	-0.09	0.04	.005*	-0.16	0.04	.014***	-0.16	0.04	.014***
Contrast 2 (C2)	0.26	0.07	.014***	0.23	0.07	.010**	0.23	0.07	.010**
Contrast 3 (C3)	0.17	0.06	.010**	0.16	0.05	.009**	0.15	0.05	.008**
Cond. x Religiosity	-	-	-	-0.03	0.04	.001	-0.03	0.04	<.001
Cond. x Religion	-	-	-	-	-	.003	-	-	.001
Cond. x C1	-	-	-	-0.05	0.04	.002	-0.04	0.04	.001
Cond. x C2	-	-	-	-0.01	0.06	<.001	-0.03	0.06	<.001
Cond. x C3	-	-	-	0.07	0.05	.002	0.08	0.05	.002
Religiosity x Religion	-	-	-	-	-	.045***	-	-	.002
Religiosity x C1	-	-	-	0.07	0.04	.003	0.07	0.04	.003
Religiosity x C2	-	-	-	0.39	0.06	.040***	0.38	0.06	.039***
Religiosity x C3	-	-	-	0.23	0.05	.020***	0.03	0.05	.021***
Cond. x Religiosity x Religion	-	-	-	-	-	-	-	-	.001
Cond. X Religiosity x C1	-	-	-	-	-	-	0.03	0.04	<.001
Cond. X Religiosity x C2	-	-	-	-	-	-	0.02	0.06	<.001
Cond. X Religiosity x C3	-	-	-	-	-	-	0.03	0.05	<.001
Model $R^2$			.217***			.266***			.267***
$R^2$ Change			-			.049***			.001

Note: B = unstandardized regression coefficients, SE(B) = standard error of regression coefficients, PRE = proportional reduction in error.

Contrast 1 compares Muslims and Jews (+1) to Protestants and Catholics (-1). Contrast two compares Muslims (+1) to Jews (-1). Contrast 3 compares Protestants (+1) to Catholics (1). Analyses also control for age, gender, and education level. \* $p \leq .05$ . \*\* $p \leq .01$ . \*\*\* $p \leq .001$ .

*Anti-immigrant attitudes*

Anti-immigrant attitudes did not differ as a function of condition,  $B = 0.01$ ,  $F(1, 964) = 0.04$ ,  $p = .842$ ,  $PRE < .001$  (see Table **3-11**). When the two-way interactions were added to the model, no significant interaction emerged between religion and condition,  $F(3, 957) = 0.22$ ,  $p = .886$ ,  $PRE = .001$ . However, a significant interaction emerged between religiosity and condition,  $F(1, 957) = 4.29$ ,  $p = .039$ ,  $PRE = .004$  (see Figure **3-7** and Table **3-11**). Simple effects tests show that, among those high in religiosity, there was no significant effect of condition,  $B = -0.06$ ,  $F(1, 957) = 1.86$ ,  $p = .173$ ,  $PRE = .002$ . However, among those low in religiosity, participants in the threat condition reported marginally more anti-immigrant attitudes than did those in the control condition,  $B = 0.07$ ,  $F(1, 957) = 2.75$ ,  $p = .098$ ,  $PRE = .003$ . Adding the three-way interactions between religion, religiosity, and condition did not significantly improve the model fit,  $F(3, 954) = 0.38$ ,  $p = .768$ ,  $PRE = .001$  (see Figure **3-8** and Table **3-11**).

Together, results suggest that, if the threat manipulation exerted any effect on anti-immigrant attitudes, it may have selectively led individuals low in religiosity to endorse more anti-immigrant attitudes, yet this pattern was not significant.

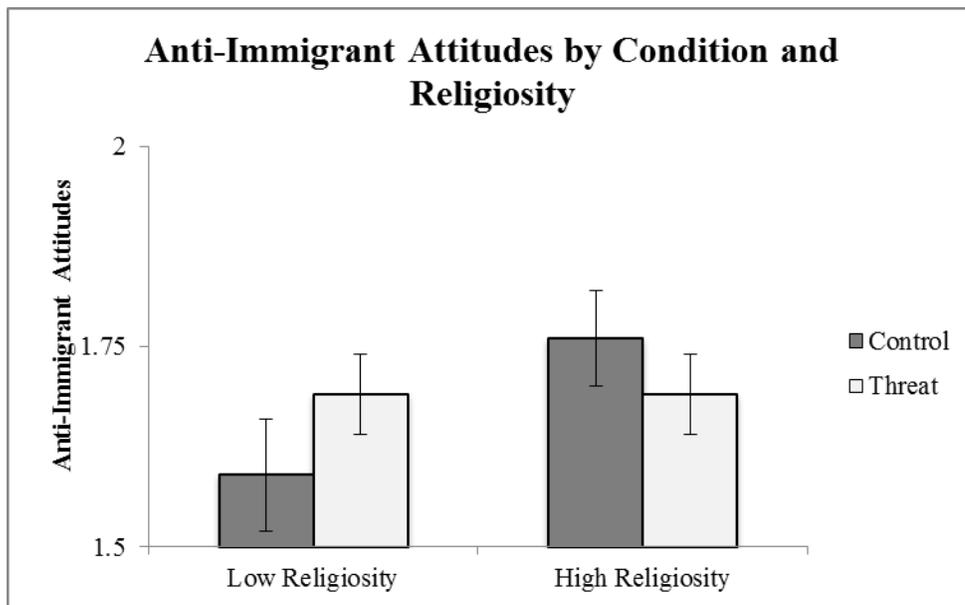


Figure 3-7: Anti-immigrant attitudes by condition and religiosity. Values are adjusted means. Model also controlled for age, gender, and education level. Error bars represent  $\pm$  one standard error. Anti-immigrant attitudes were measured on a scale from 1 to 5, with higher numbers representing more negative attitudes. Means for low and high religiosity are estimated at one standard deviation below and above the sample mean, respectively.

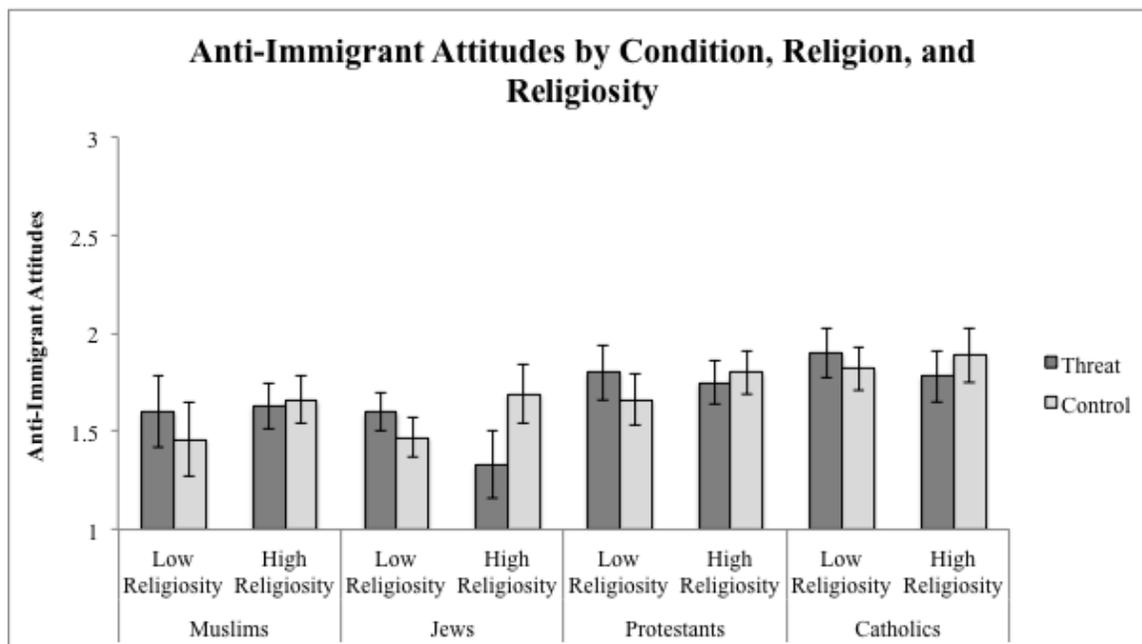


Figure 3-8: Anti-immigrant attitudes by condition, religion, and religiosity. Values are adjusted means. Model also controlled for age, gender, and education level. Error bars represent  $\pm$  one standard error. Anti-immigrant attitudes were measured on a scale from 1 to 5, with higher numbers representing more negative attitudes. Means for low and high religiosity are estimated at one standard deviation below and above the sample mean, respectively.

Table 3-11: Results of hierarchical linear regression predicting anti-immigrant attitudes for Hypothesis 2.

N = 973	Model 1			Model 2			Model 3		
	B	SE(B)	PRE	B	SE(B)	PRE	B	SE(B)	PRE
Condition (Cond.)	0.01	0.03	<.001	0.01	0.03	<.001	-0.00	0.03	<.001
Religiosity	0.02	0.03	<.001	0.02	0.03	<.001	0.01	0.03	<.001
Religion	-	-	.014**	-	-	.015**	-	-	.015**
Contrast 1 (C1)	-0.11	0.03	.013**	-0.12	0.03	.013***	0.12	0.03	.013***
Contrast 2 (C2)	0.03	0.06	<.001	0.03	0.06	<.001	0.03	0.06	<.001
Contrast 3 (C3)	-0.05	0.04	.001	-0.05	0.04	.001	-0.05	0.04	.001
Cond. x Religiosity	-	-	-	-0.07	0.03	.004*	-0.06	0.03	<.004
Cond. x Religion	-	-	-	-	-	.001	-	-	.001
Cond. x C1	-	-	-	-0.00	0.03	<.001	-0.01	0.03	<.001
Cond. x C2	-	-	-	0.03	0.05	.001	0.04	0.05	.001
Cond. x C3	-	-	-	0.02	0.04	<.001	0.01	0.04	<.001
Religiosity x Religion	-	-	-	-	-	.001	-	-	.001
Religiosity x C1	-	-	-	0.01	0.03	<.001	0.01	0.03	<.001
Religiosity x C2	-	-	-	0.03	0.05	<.001	0.03	0.05	<.001
Religiosity x C3	-	-	-	0.02	0.04	<.001	0.02	0.04	<.001
Cond. x Religiosity x Religion	-	-	-	-	-	-	-	-	.001
Cond. X Religiosity x C1	-	-	-	-	-	-	-0.02	0.03	<.001
Cond. X Religiosity x C2	-	-	-	-	-	-	0.04	0.05	.001
Cond. X Religiosity x C3	-	-	-	-	-	-	0.01	0.04	<.001
Model $R^2$			.044***			.049***			.050***
$R^2$ Change			-			.005			.001

Note: B = unstandardized regression coefficients, SE(B) = standard error of regression coefficients, PRE = proportional reduction in error. Contrast 1 compares Muslims and Jews (+1) to Protestants and Catholics (-1). Contrast two compares Muslims (+1) to Jews (-1). Contrast 3 compares Protestants (+1) to Catholics (1). Analyses also control for age, gender, and education level. \* $p \leq .05$ . \*\* $p \leq .01$ . \*\*\* $p \leq .001$ .

### Religious tolerance

Participants in the threat and control conditions did not differ in religious tolerance,  $B = -0.02$ ,  $F(1, 964) = 0.65$ ,  $p = .420$ ,  $PRE = .001$ . When the two-way interactions were added to the model, a significant interaction emerged between religion and condition,  $F(3, 957) = 3.48$ ,  $p = .015$ ,  $PRE = .010$  (see Figure 3-9 and Table 3-12). Simple effects show that, among Jews, participants in the threat condition reported marginally higher religious tolerance than those in the control condition,  $B = .07$ ,  $F(1, 957) = 2.82$ ,  $p = .094$ ,  $PRE = .003$ . However, among Muslims, participants in the threat condition reported significantly lower religious tolerance than those in the control condition,  $B = -0.12$ ,  $F(1, 957) = 8.09$ ,  $p = .005$ ,  $PRE = .008$ . No significant simple effects emerged for Protestants,  $B = 0.01$ ,  $F(1, 957) = 0.06$ ,  $p = .805$ ,  $PRE < .001$ , or for Catholics,  $B = -.03$ ,  $F(1, 957) = 0.41$ ,  $p = .524$ ,  $PRE < .001$ . The two-way interaction between religiosity and condition was also non-significant,  $F(1, 957) = 0.85$ ,  $p = .356$ ,  $PRE = .001$ .

Adding the three-way interaction between religion, religiosity, and condition significantly improved the model fit,  $F(3, 954) = 4.48$ ,  $p = .004$ ,  $PRE = .013$ . This three-way interaction was significant for the contrast comparing Muslims and Jews to Protestants and Catholics, and marginally significant for each of the other between-religion contrasts (see Figure 3-10 and Table 3-12). To break down these interactions, I separately examined simple effects tests of condition for those who were high and low in religiosity within of each religious group.

For Jews, simple effects tests show that, among those high in religiosity, there was no difference by condition,  $B = -0.07$ ,  $F(1, 954) = 0.99$ ,  $p = .320$ ,  $PRE = .001$ , but for those low in religiosity, participants in the threat condition reported greater religious tolerance compared to those in the control condition,  $B = 0.10$ ,  $F(1, 954) = 5.35$ ,  $p = .021$ ,  $PRE = .006$ .

For Muslims, simple effects tests show that participants in the threat condition reported marginally less religious tolerance than those in the control condition both for participants high in

religiosity,  $B = -0.09$ ,  $F(1, 954) = 3.09$ ,  $p = .079$ ,  $PRE = .003$ , and those who were low in religiosity,  $B = -0.15$ ,  $F(1, 954) = 3.42$ ,  $p = .065$ ,  $PRE = .004$ .

For Catholics, simple effects tests show that, among those high in religiosity, participants in the threat condition reported marginally higher religious tolerance than those in the control condition,  $B = 0.11$ ,  $F(1, 954) = 3.25$ ,  $p = .072$ ,  $PRE = .003$ , but among those low in religiosity, participants in the threat condition reported significantly less religious tolerance than those in the control condition,  $B = -0.14$ ,  $F(1, 954) = 6.54$ ,  $p = .011$ ,  $PRE = .007$ .

For Protestants, simple effects tests show that there was no effect of condition among participants who were high,  $B = 0.03$ ,  $F(1, 954) = 0.42$ ,  $p = .515$ ,  $PRE < .001$ , or low,  $B = -0.01$ ,  $F(1, 954) = 0.05$ ,  $p = .823$ ,  $PRE < .001$ , in religiosity.

In sum, results suggest that the threat manipulation led Muslims (regardless of their religiosity) and Catholics low in religiosity to report less religious tolerance. In contrast, the threat manipulation led Jews who were low in religiosity and Catholics who were high in religiosity to report greater religious tolerance.

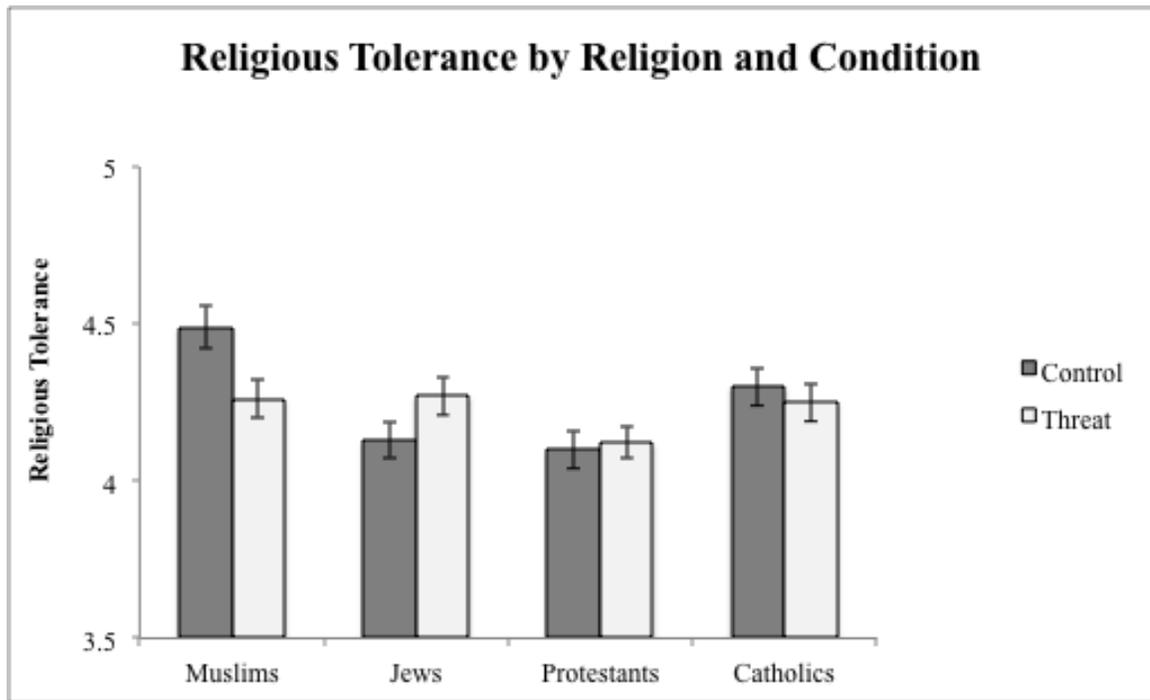


Figure 3-9: Religious tolerance by condition and religion. Values are adjusted means. Model also controlled for age, gender, education level, religiosity, and all two-way interactions between religion and religiosity and condition and religiosity. Error bars represent  $\pm$  one standard error. Religious tolerance attitudes were measured on a scale from 1 to 5, with higher numbers representing more religious tolerance.

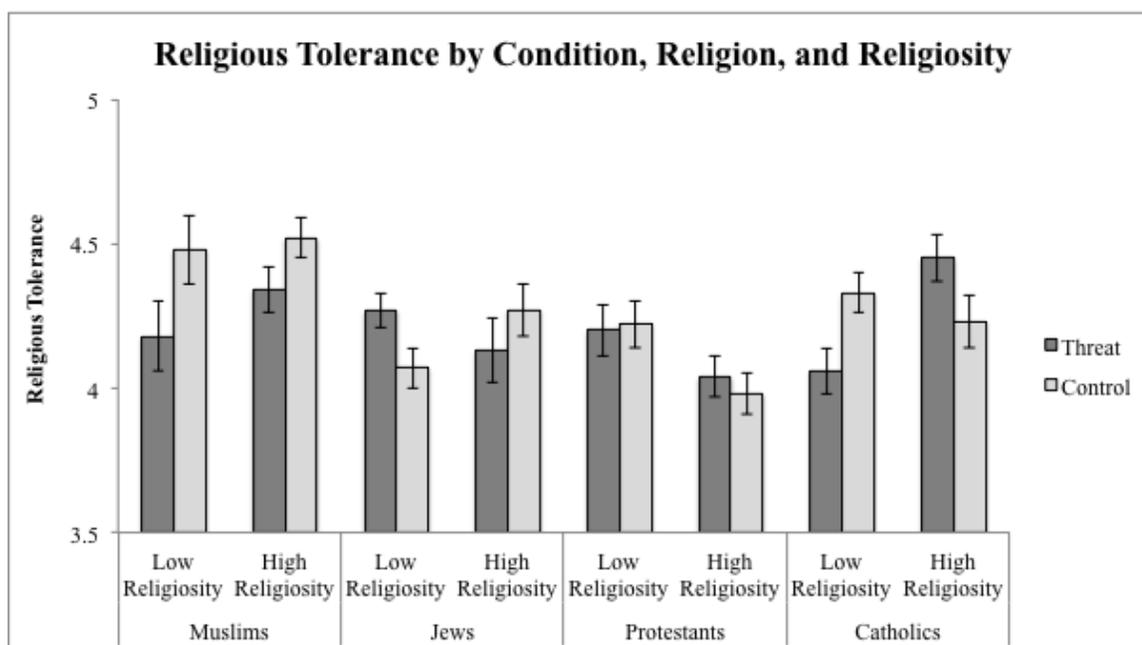


Figure 3-10: Religious tolerance by condition, religion, and religiosity. Values are adjusted means. Model also controlled for age, gender, and education level. Error bars represent  $\pm$  one standard error. Religious tolerance was measured on a scale from 1 to 5, with higher numbers representing more religious tolerance. Means for low and high religiosity are estimated at one standard deviation below and above the sample mean, respectively.

Table 3-12: Results of hierarchical linear regression predicting religious tolerance attitudes for Hypothesis 2.

N = 973	Model 1			Model 2			Model 3		
	B	SE(B)	PRE	B	SE(B)	PRE	B	SE(B)	PRE
Condition (Cond.)	-0.02	0.02	.001	-0.02	0.02	.001	-0.03	0.02	<.001
Religiosity	0.00	0.02	<.001	0.01	0.02	<.001	0.01	0.02	<.001
Religion	-	-	.022***	-	-	.016***	-	-	.016***
Contrast 1 (C1)	0.05	0.02	.007*	0.05	0.02	.005*	0.05	0.02	.005*
Contrast 2 (C2)	0.10	0.04	.008**	0.09	0.04	.006*	0.10	0.04	.007*
Contrast 3 (C3)	-0.09	0.03	.010**	-0.08	0.03	.009**	-0.08	0.03	.008**
Cond. x Religiosity	-	-	-	0.02	0.02	.001	0.02	0.02	.001
Cond. x Religion	-	-	-	-	-	.010*	-	-	.006
Cond. x C1	-	-	-	-0.01	0.02	<.001	-0.03	0.02	.001
Cond. x C2	-	-	-	-0.09	0.03	.010**	-0.07	0.02	.005*
Cond. x C3	-	-	-	0.02	0.03	<.001	0.01	0.03	<.001
Religiosity x Religion	-	-	-	-	-	.010*	-	-	.011*
Religiosity x C1	-	-	-	0.03	0.02	.002	0.02	0.02	.001
Religiosity x C2	-	-	-	0.01	0.03	<.001	0.02	0.03	<.001
Religiosity x C3	-	-	-	-0.08	0.03	.009**	-0.08	0.03	.010**
Cond. x Religiosity x Religion	-	-	-	-	-	-	-	-	.013**
Cond. X Religiosity x C1	-	-	-	-	-	-	-0.05	0.02	.006*
Cond. X Religiosity x C2	-	-	-	-	-	-	0.06	0.03	.003
Cond. X Religiosity x C3	-	-	-	-	-	-	0.05	0.03	.003
Model $R^2$			.054***			.074***			.087***
$R^2$ Change			-			.020**			.013**

Note: B = unstandardized regression coefficients, SE(B) = standard error of regression coefficients, PRE = proportional reduction in error.

Contrast 1 compares Muslims and Jews (+1) to Protestants and Catholics (-1). Contrast two compares Muslims (+1) to Jews (-1). Contrast 3 compares Protestants (+1) to Catholics (1). Analyses also control for age, gender, and education level. \* $p \leq .05$ . \*\* $p \leq .01$ . \*\*\* $p \leq .001$ .

### Symbolic racism

Participants in the threat and control conditions did not differ in symbolic racism,  $B = 0.01$ ,  $F(1, 964) = 1.17$ ,  $p = .280$ ,  $PRE = .001$  (See Figure 3-11 and Table 3-13). When the two-way interactions were added to the model, no significant interactions emerged between religion and condition,  $F(3, 957) = 0.50$ ,  $p = .682$ ,  $PRE = .001$ , or religiosity and condition,  $F(1, 957) = 0.85$ ,  $p = .356$ ,  $PRE = .001$ . Adding the three-way interactions to the model did not improve model fit,  $F(3, 954) = 0.01$ ,  $p = .998$ ,  $PRE < .001$ . Together, results suggest that symbolic racism was not affected by the threat manipulation.

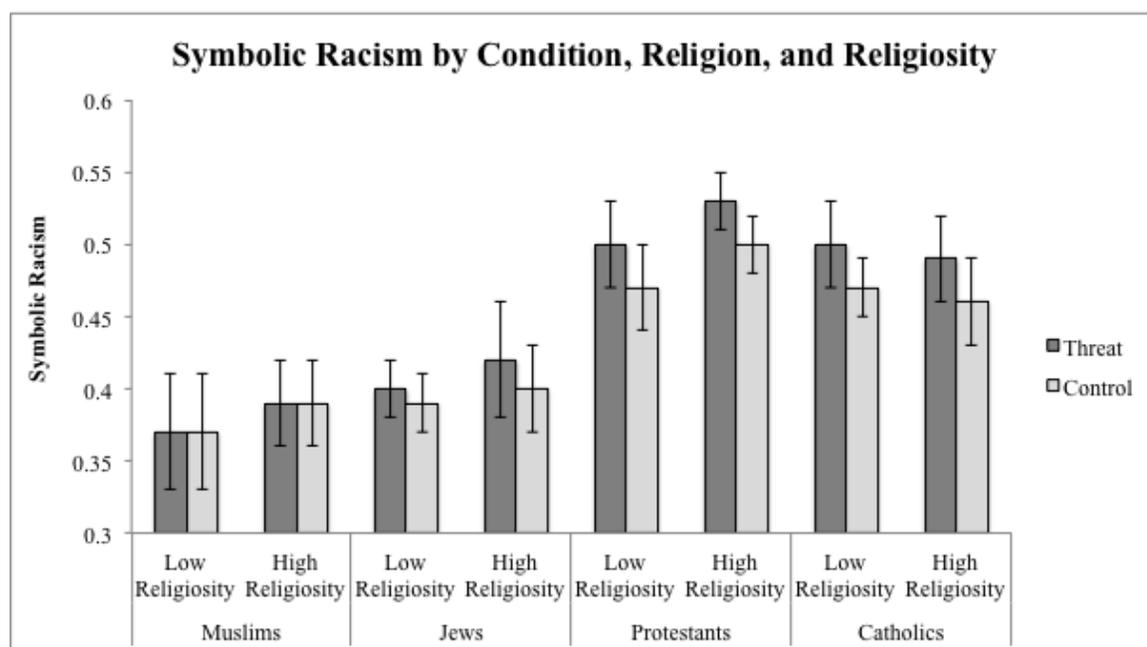


Figure 3-11: Symbolic racism by condition, religion, and religiosity. Values are adjusted means. Model also controlled for age, gender, and education level. Error bars represent  $\pm$  one standard error. Symbolic racism was measured on a scale from 0 to 1, with higher numbers representing more symbolic racism. Means for low and high religiosity are estimated at one standard deviation below and above the sample mean, respectively.

Table 3-13: Results of hierarchical linear regression predicting symbolic racism for Hypothesis 2.

N = 973	Model 1			Model 2			Model 3		
	B	SE(B)	PRE	B	SE(B)	PRE	B	SE(B)	PRE
Condition (Cond.)	0.01	0.01	.001	0.01	0.01	.001	0.01	0.01	.001
Religiosity	0.01	0.01	.002	0.01	0.01	.001	0.01	0.01	.001
Religion	-	-	.049***	-	-	.040***	-	-	.042***
Contrast 1 (C1)	-0.05	0.01	.050***	-0.05	0.01	.043*	-0.05	0.01	.043***
Contrast 2 (C2)	-0.01	0.01	.001	-0.01	0.01	<.001	-0.01	0.01	<.001
Contrast 3 (C3)	0.01	0.01	.002	0.01	0.01	.001	0.01	0.01	.002
Cond. x Religiosity	-	-	-	0.00	0.01	<.001	-0.00	0.01	<.001
Cond. x Religion	-	-	-	-	-	.001	-	-	.001
Cond. x C1	-	-	-	-0.01	0.01	.001	-0.01	0.01	<.001
Cond. x C2	-	-	-	-0.01	0.01	<.001	-0.01	0.01	<.001
Cond. x C3	-	-	-	0.00	0.01	<.001	0.00	0.01	<.001
Religiosity x Religion	-	-	-	-	-	.001	-	-	.001
Religiosity x C1	-	-	-	0.00	0.01	<.001	0.00	0.01	<.001
Religiosity x C2	-	-	-	0.00	0.01	<.001	0.00	0.01	<.001
Religiosity x C3	-	-	-	0.01	0.01	.001	0.01	0.01	<.001
Cond. x Religiosity x Religion	-	-	-	-	-	-	-	-	<.001
Cond. X Religiosity x C1	-	-	-	-	-	-	0.00	0.01	<.001
Cond. X Religiosity x C2	-	-	-	-	-	-	0.06	0.03	<.001
Cond. X Religiosity x C3	-	-	-	-	-	-	0.05	0.03	<.001
Model $R^2$			.089***			.092***			.092***
$R^2$ Change			-			.003			<.001

Note: B = unstandardized regression coefficients, SE(B) = standard error of regression coefficients, PRE = proportional reduction in error. Contrast 1 compares Muslims and Jews (+1) to Protestants and Catholics (-1). Contrast two compares Muslims (+1) to Jews (-1). Contrast 3 compares Protestants (+1) to Catholics (1). Analyses also control for age, gender, and education level. \* $p \leq .05$ . \*\* $p \leq .01$ . \*\*\* $p \leq .001$ .

**Hypothesis 3: Will salient stereotypes about the scientific ability of religious people lead to impaired performance on a science-related test?**

I hypothesized that a stereotype threat would lead people who are religious to underperform on a performance test, which was described for participant in the threat condition as measuring scientific reasoning skills. I also expected this effect to be stronger for Protestants, Catholics, and Muslims, compared to Jews, and for participants who were more religious. I tested these hypotheses by regressing participants' score on a syllogism task on condition, religion, religiosity, and their interactions, controlling for age, gender, and education level. As before, I used a model-building approach.

Participants in the threat and control conditions did not differ in syllogism task-performance,  $B = 0.10$ ,  $F(1, 962) = 1.42$ ,  $p = .234$ , PRE = .001 (see Figure 3-12 and Table 3-14). When the two-way interactions were added to the model, no significant interaction emerged between religion and condition,  $F(3, 955) = 0.53$ ,  $p = .662$ , PRE = .002, or religiosity and condition,  $F(1, 955) = 0.15$ ,  $p = .703$ , PRE < .001. Adding the three-way interactions between condition, religion, and religiosity also did not significantly improve the model fit,  $F(3, 952) = 0.69$ ,  $p = .556$ , PRE = .002.

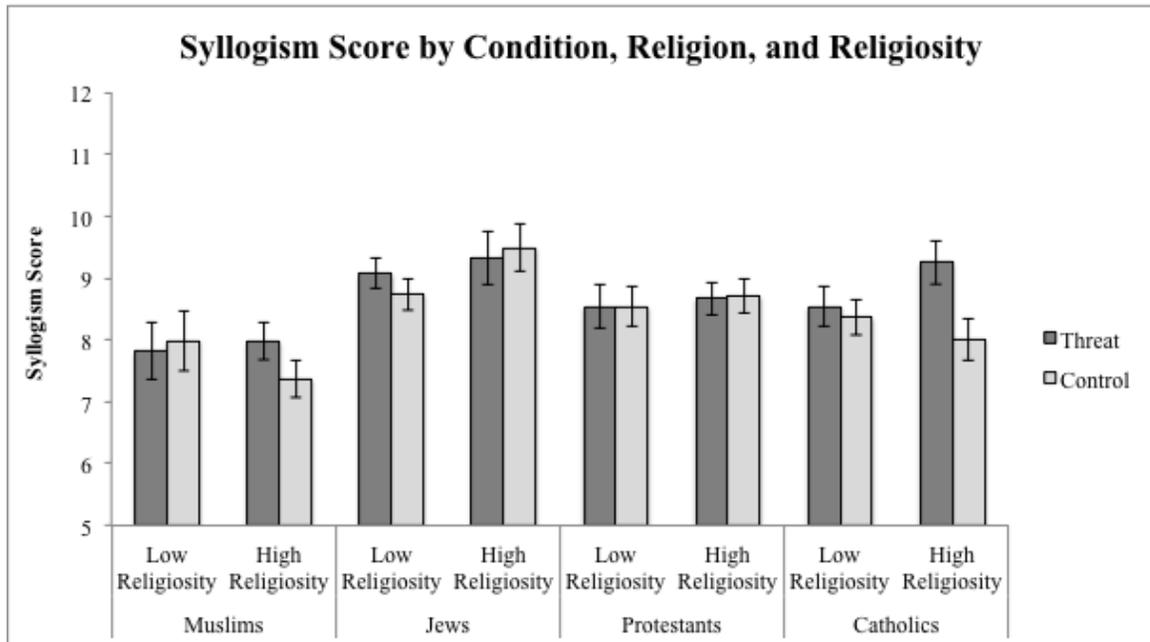


Figure 3-12: Syllogism score by condition, religion, and religiosity. Values are adjusted means. Model also controlled for age, gender, and education level. Error bars represent  $\pm$  one standard error. Possible scores ranged from 0 to 15, with higher numbers representing better performance. Means for low and high religiosity are estimated at one standard deviation below and above the sample mean, respectively.

Table 3-14: Results of hierarchical linear regression predicting syllogism scores for Hypothesis 3.

N = 973	Model 1			Model 2			Model 3		
	B	SE(B)	PRE	B	SE(B)	PRE	B	SE(B)	PRE
Condition (Cond.)	0.09	0.08	.002	0.10	0.08	.002	0.07	0.08	.001
Religiosity	0.07	0.08	.001	0.05	0.08	<.001	0.05	0.08	<.001
Religion	-	-	.023***	-	-	.022***	-	-	.021***
Contrast 1 (C1)	-0.07	0.08	.050***	-0.03	0.09	<.001	-0.03	0.09	<.001
Contrast 2 (C2)	-0.69	0.14	.023***	-0.69	0.15	.022***	-0.68	0.15	.021***
Contrast 3 (C3)	0.07	0.11	<.001	0.08	0.11	.001	0.08	0.11	.001
Cond. x Religiosity	-	-	-	0.00	0.08	<.001	0.02	0.08	<.001
Cond. x Religion	-	-	-	-	-	.001	-	-	<.001
Cond. x C1	-	-	-	0.05	0.08	<.001	0.01	0.08	<.001
Cond. x C2	-	-	-	0.04	0.12	<.001	0.03	0.12	<.001
Cond. x C3	-	-	-	-0.06	0.11	<.001	-0.06	0.11	<.001
Religiosity x Religion	-	-	-	-	-	.003	-	-	.002
Religiosity x C1	-	-	-	0.02	0.08	<.001	0.02	0.08	<.001
Religiosity x C2	-	-	-	-0.19	0.13	.002	-0.18	0.13	.002
Religiosity x C3	-	-	-	0.04	0.11	<.001	0.04	0.11	<.001
Cond. x Religiosity x Religion	-	-	-	-	-	-	-	-	.002
Cond. X Religiosity x C1	-	-	-	-	-	-	0.13	0.08	<.001
Cond. X Religiosity x C2	-	-	-	-	-	-	0.16	0.13	.002
Cond. X Religiosity x C3	-	-	-	-	-	-	-0.02	0.11	<.001
Model $R^2$			.033***			.037***			.038***
$R^2$ Change			-			.004			.001

Note: B = unstandardized regression coefficients, SE(B) = standard error of regression coefficients, PRE = proportional reduction in error. Contrast 1 compares Muslims and Jews (+1) to Protestants and Catholics (-1). Contrast two compares Muslims (+1) to Jews (-1). Contrast 3 compares Protestants (+1) to Catholics (1). Analyses also control for age, gender, and education level. \* $p \leq .05$ . \*\* $p \leq .01$ . \*\*\* $p \leq .001$ .

### Ancillary analyses

#### **Does stigma consciousness predict negative outgroup attitudes above and beyond religious fundamentalism?**

As previously discussed, research on the relation between religiosity and outgroup prejudice has often yielded contradictory results. The dominant hypothesis is that some dimensions of religiosity predict negative outgroup attitudes (e.g., religious fundamentalism), where as other dimensions (e.g., intrinsic religiosity) may predict more pro-social behaviors such as less outgroup prejudice. Despite this advance, less clear are the reasons why these dimensions of religiosity differentially predict outgroup attitudes. In this thesis, I proposed that stigma might play an important but understudied role in explaining the link between religiosity and prejudice. Indeed, I found—in tests of Hypothesis 1—that self-reported stigma was related to negative outgroup attitudes. I further hypothesized that a religious social identity threat would lead individuals to endorse more negative outgroup attitudes, however, results—from Hypothesis 2—were mixed.

I was interested in further probing the relation between stigma and outgroup prejudice. In particular, I wanted to know whether stigma would predict negative outgroup attitudes above and beyond the dimension of religiosity—religious fundamentalism—that has been found to predict such prejudice. Because the vast majority of research on the link between religious fundamentalism and outgroup prejudice has been conducted with Protestants, I limited my investigation to only Protestants. Additionally, because I was interested in using correlational analyses explore the potential additive role of stigma, I used only Protestants in this study's control condition ( $n = 115$ ). To test these effects, I separately regressed each included measure of negative outgroup attitudes on both stigma consciousness, controlling for the effect of religious fundamentalism.

Results show that, above the effect of religious fundamentalism, the more stigma conscious individuals were, the more anti-gay attitudes they endorsed,  $B = 0.46$ ,  $F(1, 112) = 7.29$ ,  $p = .008$ ,  $PRE = .061$ . Stigma consciousness was also significantly related to more negative attitudes towards immigrants,  $B = .33$ ,  $F(1, 112) = 5.22$ ,  $p = .024$ ,  $PRE = .044$ , and a significant predictor of less religious tolerance,  $B = -0.45$ ,  $F(1, 112) = 23.79$ ,  $p < .001$ ,  $PRE = .175$ . However, no significant relation emerged between stigma consciousness and anti-atheist attitudes,  $B = 0.15$ ,  $F(1, 112) = 0.69$ ,  $p = .407$ ,  $PRE = .006$ , or between stigma consciousness and symbolic racism,  $B = -.01$ ,  $F(1, 112) = 0.18$ ,  $p = .672$ ,  $PRE = .002$ .

Together, these results suggest that stigma consciousness may represent an understudied dimension of the relation between religiosity and religious identity and outgroup attitudes. In addition to religious fundamentalism, stigma consciousness may help to further explain this relation.

### **Did the religious social identity threat alter participants' perceptions of religious stereotypes?**

Because the threat condition did not lead to the predicted stereotype threat effect, I wanted to test whether it was successful in altering participants' perceptions of stereotypes about the scientific ability of religious people and of members of their religion. To test this, I separately regressed scores on two questions—one each measuring participants' perceptions of stereotypes about the scientific ability of: (A) religious people in general, and (B) members of their religion—on condition, religion, religiosity, and their interactions, controlling for age, gender, and education level. I used the same model-building approach used elsewhere in this thesis.

Participants in the threat condition were significantly more likely to agree that others believed members of their religious group to be bad at science,  $B = 0.14$ ,  $F(1, 963) = 13.11$ ,  $p < .001$ ,  $PRE = .013$ . When the two-way interactions were added to the model, no significant interaction emerged between religion and condition,  $F(3, 955) = 0.78$ ,  $p = .504$ ,  $PRE = .002$ . A

marginally significant interaction suggested that the effect of condition was stronger for people who were more religious,  $B = 0.06$ ,  $F(1, 956) = 2.72$ ,  $p = .099$ ,  $PRE = .003$ . No three-way interaction emerged between condition, religion, and religiosity,  $F(3, 953) = 1.62$ ,  $p = .183$ ,  $PRE = .004$ .

Further, participants in the threat condition were significantly more likely to agree that others believed that people who were more religious were bad at science,  $B = 0.14$ ,  $F(1, 961) = 12.90$ ,  $p < .001$ ,  $PRE = .013$ . When the two-way interactions were added to the model, no significant interaction emerged between condition and religion,  $F(3, 954) = 0.60$ ,  $p = .617$ ,  $PRE = .002$ . A marginally significant interaction suggested that the effect of condition was stronger among those who were more religious,  $B = 0.07$ ,  $F(1, 954) = 2.96$ ,  $p = .086$ ,  $PRE = .003$ .

A significant three-way interaction also emerged,  $F(3, 951) = 3.40$ ,  $p = .017$ ,  $PRE = .010$ . Simple effects tests show that, among Muslims who were highly religious, participants in the threat condition believed more strongly that others stereotyped the scientific ability of religious people,  $B = 0.41$ ,  $F(1, 951) = 17.16$ ,  $p < .001$ ,  $PRE = .018$ . In contrast, among Muslims who were low in religiosity, participants in the threat condition trended to believe less strongly that others stereotypes the scientific ability of religious people,  $B = -.21$ ,  $F(1, 951) = 1.80$ ,  $p = .181$ ,  $PRE = .002$ . Among Jews, there was no significant effect of condition for those high in religiosity,  $B = 0.16$ ,  $F(1, 951) = 1.37$ ,  $p = .241$ ,  $PRE = .001$ , or for those low in religiosity,  $B = -0.03$ ,  $F(1, 951) = 0.14$ ,  $p = .711$ ,  $PRE < .001$ . Among Protestants, there was no effect of condition for those high in religiosity,  $B = 0.09$ ,  $F(1, 951) = 0.91$ ,  $p = .340$ ,  $PRE = .001$ , however, those low in religiosity expressed greater agreement with the statement,  $B = 0.25$ ,  $F(1, 951) = 4.73$ ,  $p = .030$ ,  $PRE = .005$ . Finally, among Catholics, the threat condition led those who were more religious to agree more strongly with the statement,  $B = 0.24$ ,  $F(1, 951) = 4.22$ ,  $p = .040$ ,  $PRE = .004$ . However, no significant effect emerged for those Catholics low in religiosity,  $B = 1.00$ ,  $F(1, 951) = 0.90$ ,  $p = .343$ ,  $p = .001$ .

Together, results show that participants in the threat condition were more likely to believe that others held negative stereotypes about the scientific ability of members from participants' own religious group. Additionally, the threat manipulation differentially affected some groups' perceptions of stereotypes about scientific ability of people who are religious, in general.

## Chapter 4

### Discussion

I conducted this research to address two aims. First, I wanted to better understand for whom religion is a source of stigma and social identity threat. Second, I wanted to explore the consequences of stigma and socially identity threats as they affect people who are religious and who belong to different religious groups. Below, I summarize this study's findings as they relate to each of these two aims, and explore both this study's limitations as well as potential avenues for future research.

#### **Is religion a source of stigma, and if so, for whom?**

I hypothesized that Muslims and Jews would feel more stigmatized on the basis of their religious identity compared to Protestants and Catholics. I also hypothesized that people who are more religious would report feeling more stigmatized than people who are less religious, and that this would be especially true for Protestants, for whom stereotypes about people who are religious may be most pertinent. I tested these hypotheses by exploring the correlational relations between religion and religiosity and two psychological constructs that I believed to represent religious stigma (e.g., stigma consciousness and experienced stigma). I also examined the relation between stigma and its expected outcomes (e.g., identity concealment, belonging and belonging uncertainty, and outgroup attitudes). To avoid any interference with the experimental manipulation of identity threat, I used only participants in this study's control condition to explore these relations.

Consistent with my hypotheses, Muslims and Jews reported greater stigma consciousness and experienced stigma compared to Protestants and Catholics. Also as predicted, participants who were more religious reported more stigma consciousness and experienced stigma. Of note,

religiosity was a particularly strong predictor of stigma consciousness for Protestants; highly religious Protestants reported similar levels of stigma consciousness to that of religious minorities. Taken together, these results provide important evidence that stigma differentially affects individuals who belong to different religious groups and who are religious. Further, it suggests that even members of traditionally privileged majority groups—in this case Protestants—can still feel stigmatized on the basis of their beliefs.

I expected that religious stigma would also be associated with negative psychological consequences. In particular, I hypothesized that individuals who felt more stigmatized on the basis of their religion would: (1) report a greater propensity to conceal their religious identity, (2) feel less belonging and report greater belonging uncertainty, and (3) endorse more negative outgroup attitudes, especially towards values-threatening groups. Results were consistent with these hypotheses, suggesting that religious stigma may carry psychological consequences that can negatively affect psychological wellbeing and intergroup relations. However, given the correlational nature of these findings, they cannot be interpreted as evidence of a causal relation between stigma and these outcomes. To better understand these relations, I experimentally manipulated the salience of religious stigma and investigated whether, and for whom, religious stigma, when salient, would be consequential.

### **What are the consequences of a religious social identity threat?**

To investigate the causal relation between stigma and psychological outcomes, I experimentally manipulated the salience of religious stigma by delivering a religious social identity threat. I hypothesized that this threat would lead individuals to report: (1) more stigma consciousness, (2) a greater propensity to conceal their religious identity, (3) less belonging, and (4) more negative attitudes towards values-threatening outgroups. I expected these effects to be stronger for those who, as found in tests of Hypothesis 1, felt the most stigmatized. I also predicted (5) that making stereotypes about the scientific ability of people who are religious

salient would lead to a stereotype threat effect. I expected this effect to be stronger for Muslims, Protestants, and Catholics, compared to Jews, and for people who were more religious. To test these hypotheses, I randomly assigned participants to read either an article that made negative stereotypes about members from their religious group salient (threat condition) or that was about an unrelated subject (control condition). Results provide mixed support for these hypotheses.

On the outcomes of stigma consciousness and identity concealment, the threat manipulation produced the hypothesized effects for highly religious Jews. When threatened, these participants reported more stigma consciousness and a greater propensity to conceal their religious identity. Also, across religions, participants in the threat condition were marginally more likely to conceal their religious identity. However, overall results did not indicate condition differences in stigma consciousness or identity concealment for Muslims, Jews lower in religiosity, Protestants, or Catholics.

One possible explanation for these results may be that the threat manipulation was most meaningful to Jews. Although Jewish Americans may not experience prejudice on a daily basis, awareness of historic discrimination against their religious group may have made Jews especially susceptible to threat. Hence, for Jews, the threat may have indicated a realistic shift in participants' perceptions of hostility towards Jews. In contrast, Muslim Americans may not have experienced such a shift in response to threat. Muslims may struggle with prejudice on a more daily basis. As such, despite it being believable, the threat manipulation may have presented nothing new. On the flip side, Protestants and Catholics may have found the manipulation to be less realistic. Hence, they may have brushed it off and been unaffected.

Additionally, it seems possible that the option to conceal a religious identity may have been most available or advantageous for Jews. Given the fact that a large portion of Muslims in this study identified with Islam-related racial groups, they may have found it less possible to conceal their religious identity. Even if they found it possible, they might be desensitized or

acclimated to the stigma associated with being identified as Muslim. Further, concealment may not make as much sense for Protestants and Catholics given their majority-group status; they already “fit in” to the dominant religious groups. However, for Jews, who were overwhelmingly White in this sample, concealment may have represented a more viable option; by concealing, they may be able to pass as Christian. Despite group differences, it is important to note that the threat manipulation trended to lead members of each religious group to report a greater propensity to conceal. It may be that the measure of concealment and or the methods in this study did not fully capture this effect. More research is needed to understand whether and for whom identity threat may lead to more concealment. Additionally, more research is needed to elucidate why the social identity threat may have especially affected highly religious Jews.

Participants’ sense of belonging was not affected by the social identity threat manipulation. One possible explanation for this result is that the measured construct of belonging may have been too broad or too disconnected from individuals. I believed that national and civic belonging would be affected by stigma and identity threat. However, the majority of research on belongingness is tied more closely to individuals’ proximal environments (e.g., Cook et al., 2012). It is possible that participants’ macro sense of belonging may be less malleable than more context-specific belonging. If this is true, a more narrowly tailored social identity threat may also be needed to alter perceptions of belonging. For example, there may be particular contexts in which members of different religious groups might feel less belonging. As an example, we might expect Muslims to feel threatened and less belonging in an airport, given stereotypes about Muslims and terrorism. However, this context might be less threatening for Protestants, who might feel less belonging in a science domain, where they are more prone to stereotypes. I opted to deliver a threat manipulation that was not tied to religion-specific threatening contexts in this study so that members of all of the religious groups would see the same article. However, future

research might investigate how social identity threats in these more specific stereotype-relevant contexts affect belonging.

Additionally, it may be that participants' sense of belonging was buffered by the fact that they completed this study in the comfort of their own home (or wherever they chose), with few consequences. No matter their reaction to threat or responses to survey items, they knew that their lives would quickly return to normal after completing the study. The lack of contextual validity may have made the threat feel too distant to really impact people in their proximal environments. Hence, future research might use ecological momentary assessment or other methods that can maximize the external validity of the social identity threat and its consequences.

Although results suggest that people who feel more stigmatized endorse more negative outgroup attitudes, results provided inconsistent evidence about the ways in which social identity threats targeting religion may affect outgroup attitudes. As expected, the social identity threat appears to have been more influential in affecting attitudes towards values-threatening groups than non values-threatening groups. However, the patterns by which the threat manipulation affected these attitudes towards values-threatening groups were relatively inconsistent. For example, Protestants under threat showed the predicted effect of endorsing more negative attitudes towards atheists. However, this effect did not manifest for other religious groups. And for Catholics, the threat actually led to less negative attitudes towards atheists. Even within religious groups, these effects were inconsistent. For example, Protestants' attitudes towards gays and religious outgroups were not affected by condition. Similarly inconsistent patterns emerged within the Muslim, Jewish, and Catholic samples; within each religious group, the effects of the threat manipulation varied for each outgroup. One interesting note, however, is that—in some cases—the social identity threat led towards more favorable outgroup attitudes. This pattern suggests that for some groups (in this study Jews and low religiosity Catholics), feeling targeted may actually lead towards more empathy with other targeted groups. Future

research should investigate when, for whom, and for which outgroups religious identity threat may lead to more or less tolerance. Whereas social identity threat may differentially lead to the endorsement of negative outgroup attitudes, one alternative explanation is that the experimental manipulation of threat might not have been strong or realistic enough to elicit the expected effects. Additionally, it is possible that participants in the threat condition caught on to the purpose of the outgroup attitude questions and exhibited a form of reactance (e.g., they may have attempted to avoid appearing biased). Ultimately, these explanations are unsatisfying.

Although the effect of condition was inconsistent in predicting outgroup attitudes, stigma was a relatively consistent predictor of negative outgroup attitudes. Of note, ancillary analyses show that the relation between stigma and negative outgroup attitudes manifested even when controlling for religious fundamentalism (i.e., the belief that there is one literal religious truth that must be totally followed), the dimension of religiosity believed to be the best predictor of outgroup prejudice. This result suggests that people who feel stigmatized on the basis of their religion may respond by derogating others. Given this, I would have expected the social identity threat manipulation, which made stigma salient, to have lead participants to endorse more negative outgroup attitudes. While this hypothesis was supported in some cases, inconsistent patterns of results leave open the question as to whether a causal relation exists between stigma and the endorsement of outgroup prejudice. More research is needed to better understand whether social identity threat and stigma may causally affect outgroup attitudes.

Finally, this research does not find the predicted stereotype threat effect that would lead individuals who are religious to underperform on science-related tasks. Importantly, it should be noted that this research was not a direct replication of Rios et al. (2015) who found such effects. In their research, which was conducted with only Christian students, participants' religious group was threatened. For example, they told Christian students that Christians tended to underperform on tests of scientific reasoning. In contrast, in the current research, I threatened people by telling

participants in the threat condition that people who are religious tend to underperform on tests of scientific reasoning.

This distinction may be important for a couple of reasons. First, my manipulation may have lacked a strong enough group component to elicit threat. Unlike a Christian identity, being religious or not being religious falls on a spectrum. Even participants who are more religious may not readily identify themselves with a defined group of individuals who are also religious. Hence, the threat may have felt less personal. Second, it is possible that identification as religious or not may be more malleable than identification with a religious denomination. Research suggests that, when threatened, individuals may seek to distance themselves from their threatened group (e.g., Pronin, Steele, & Ross, 2004). Given the malleability of religion as a social identity (i.e., identification with others high or low in religiosity), individuals under threat may have a relatively easy time distancing themselves from the stereotyped group. If this is true, we might expect to see individuals to identify as less religious after a threat and thus be less worried about confirming or being influenced group stereotypes. However, I am unable to test this hypothesis in the present study because I only measured religious identification before the delivery of the social identity threat.

Additionally, it should be noted that the vast majority of stereotype threat research has been conducted with a much younger sample than that included in this study. Whereas test performance is a relevant metric to youth, adults may be less concerned about their ability to perform highly. Unlike students, adults may often be more settled into their jobs and lives, and poor performance on a science test would be of little consequence. Thus, it is possible that adults in this sample recognized, but were not concerned with relevant stereotypes. This explanation is consistent with the finding that—even given the more broad nature of the stereotype threat—participants in the threat condition reported believing more strongly that others stereotyped the

scientific ability of members of their religious group. In sum, more research is needed to investigate the boundary conditions of the stereotype-threat effects observed by Rios et al. (2015).

Importantly, this study has numerous limitations. Here, I outline a few of these. First, although it would have been preferable to collect a representative sample that would allow me to generalize more broadly to Americans from different religious groups, the costs of doing so would have been prohibitive. Hence, the descriptive findings of this study must be interpreted with caution [and in fact there are some pretty significant demographic differences]. Second, in the interest of maintaining consistency in experimental procedures to compare identity threat experiences between-religious groups, I was not able to provide more tailored threats for each religious group. Given the different nature of stereotypes that affect members of different faith groups, more tailored threats may have helped to better understand how threats affect individuals in their real lives (e.g., a threat to Christians in a science domain). Third, the placement of stigma items at the end of the survey limited my ability to investigate mediational relations through self-reported stigma.

However, these limitations are balanced by numerous advantages to this study's design. By sampling roughly equal numbers of Muslims, Jews, Protestants, and Catholics, I was able to compare stigma and the effects of a social identity threat across religious groups. This research is the first to do so with a broad sample of participants from across the United States. As such, it provides important insights into the experiences of Americans from different religious backgrounds. Further, by delivering a consistent threat manipulation to members of each religious group, I was able to confidently compare the consequences of a religious social identity threat across religious denominations. Had I delivered I delivered more tailored threats emphasizing different stereotypes for each religious group, I would have been unable to ascertain whether observed effects were indicative of group differences or a result of differences in the delivery of threat. Finally, although I was interested in understanding the potential role of stigma

as a mediator of the relation between religiosity and psychological outcomes, I chose to sacrifice this ability. Had I measured stigma before I measured psychological outcomes, I would have undermined the integrity of this study's control condition by making stigma salient to all participants. I believed that between-condition comparisons would provide a better test of the causal relation between stigma and psychological outcomes than mediation.

### **Conclusion**

This research provides evidence that religion can be a source of stigma. Of note, such stigma is not limited to members of religious minority groups, but can also affect individuals who belong to majority groups. Further, this research demonstrates that religiosity itself can be stigmatized, and that this stigma can affect individuals regardless of their affiliation. Further, this study provides important evidence for the association between religious stigma and numerous negative psychological outcomes. However, inconsistent evidence about the causal relations between stigma and these outcomes leaves open the question as to whether, how, and when religious stigma might directly affect individuals. Although more research is needed to understand these consequences, this research indicates that stigma and identity threat can affect people who are religious. On a broader note, this research may have important implications for how we understand religion as a social identity. Researchers have dedicated less time to the study of religion as a targeted social identity compared to race, gender, and sexual orientation. Yet, just like those other social identities, a religious social identity and the stigma associated with it, are worthy of study.

With increasing debate about religious tolerance, hate crimes directed towards religious minorities, and claims of a war on religious freedom made by those who many perceive to be privileged, it is important that we seek to understand the ways in which many people feel targeted on the basis of their faith. By gaining an understanding of the perspectives of people who feel

that their religious group and or beliefs are stigmatized, the better chance we have to address and mitigate the consequences of religious intolerance.

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## Appendix A

### Condition Manipulation Articles

#### Threat for Muslims

Growing Number of Americans Dislike Muslims - WSJ

# THE WALL STREET JOURNAL.

U.S. News

## Growing Number of Americans Dislike Muslims

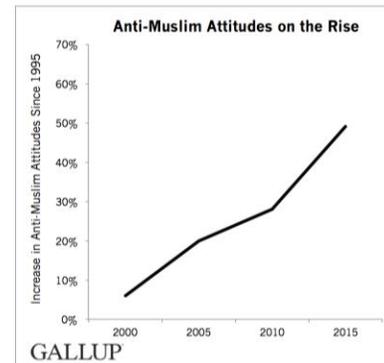
Anti-Muslim attitudes have grown by nearly 50% in the past 20 years

By **Mark Clarens**

April 23, 2015 7:34 p.m. ET

Washington, D.C. — More Americans than ever hold unfavorable attitudes towards Muslims, leading to increased discrimination against Muslims in work and employment settings. This finding, released last week by Gallup, adds to the growing number of public opinion polls that suggest that anti-Muslim attitudes are on the rise. They also suggest that despite anti-discrimination laws, Muslims are increasingly at risk of not being hired or being passed over for promotions because of their religion and their religious beliefs.

“There is a clear trend,” explained George Lancing, Ph.D., who conducted the poll for Gallup, “We have tracked public opinion about Muslims for the last 20 years. Since 1995, when we first started collecting the data, anti-Muslim attitudes have grown by nearly 50%.”



To conduct the poll, Lancing surveyed more than 3,000 Americans from across the country. Poll respondents were interviewed over telephone and asked to answer a variety of questions about their attitudes towards Muslims.

When asked why she did not like Muslims, Marge Howell, of Minnesota, shared, “I am uncomfortable around them. I feel like they bring their religion into everything that they do.” Another respondent, Dean Burton, from New Jersey, said, “There is something about them that makes me feel uneasy.” Courtney Sloan, of Michigan, offered, “America would be a better place if there weren’t as many Muslims here. I wish they weren’t in my workplace or in my neighborhood.” These concerns were shared by many of those polled, who tended to view Muslims as aggressive, narrow-minded, judgmental, and hypocritical. Another respondent who wished to remain anonymous offered, “As a hiring manager, I often consider whether someone with a Muslim background would be the best fit for our jobs. I don’t really think that there is a place for Islam in the workplace.”

According to Lancing, “Muslims are more and more likely to face bias in places of employment and they are increasingly discriminated against.”

This data comes on the heels of another Gallup report suggesting that Americans believe people who are religious to be unscientific and illogical. He added, “What role does religion have in a world with modern science?” As Lancing explained, people who believe in God often perform poorly on tests of scientific reasoning and lack the critical thinking skills needed for many jobs.

## Threat for Jews

Growing Number of Americans Dislike Jews - WSJ

# THE WALL STREET JOURNAL.

U.S. News

## Growing Number of Americans Dislike Jews

Anti-Jewish attitudes have grown by nearly 50% in the past 20 years

By **Mark Clarens**

April 23, 2015 7:34 p.m. ET

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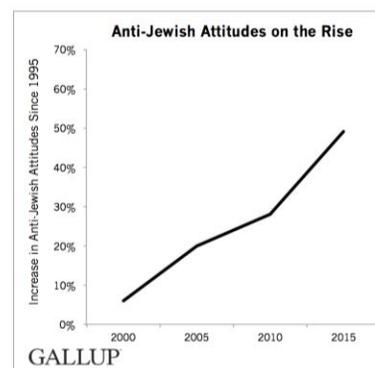
“There is a clear trend,” explained George Lancing, Ph.D., who conducted the poll for Gallup, “We have tracked public opinion about Jews for the last 20 years. Since 1995, when we first started collecting the data, anti-Jewish attitudes have grown by nearly 50%.”

To conduct the poll, Lancing surveyed more than 3,000 Americans from across the country. Poll respondents were interviewed over telephone and asked to answer a variety of questions about their attitudes towards Jews.

When asked why she did not like Jews, Marge Howell, of Minnesota, shared, “I am uncomfortable around them. I feel like they bring their religion into everything that they do.” Another respondent, Dean Burton, from New Jersey, said, “There is something about them that makes me feel uneasy.” Courtney Sloan, of Michigan, offered, “America would be a better place if there weren’t as many Jews here. I wish they weren’t in my workplace or in my neighborhood.” These concerns were shared by many of those polled, who tended to view Jews as aggressive, narrow-minded, judgmental, and hypocritical. Another respondent who wished to remain anonymous offered, “As a hiring manager, I often consider whether someone with a Jewish background would be the best fit for our jobs. I don’t really think that there is a place for Judaism in the workplace.”

According to Lancing, “Jews are more and more likely to face bias in places of employment and they are increasingly discriminated against.”

This data comes on the heels of another Gallup report suggesting that Americans believe people who are religious to be unscientific and illogical. He added, “What role does religion have in a world with modern science?” As Lancing explained, people who believe in God often perform poorly on tests of scientific reasoning and lack the critical thinking skills needed for many jobs.



## Threat for Protestants

Growing Number of Americans Dislike Christians - WSJ

# THE WALL STREET JOURNAL.

U.S. News

## Growing Number of Americans Dislike Christians

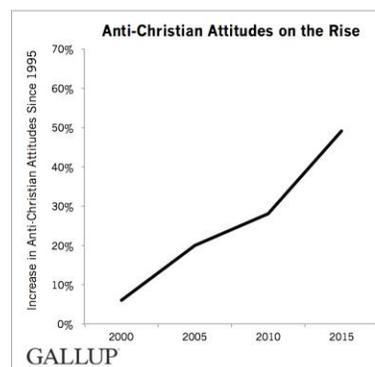
Anti-Christian attitudes have grown by nearly 50% in the past 20 years

By **Mark Clarens**

April 23, 2015 7:34 p.m. ET

Washington, D.C. — More Americans than ever hold unfavorable attitudes towards Christians, leading to increased discrimination against Christians in work and employment settings. This finding, released last week by Gallup, adds to the growing number of public opinion polls that suggest that anti-Christian attitudes are on the rise. They also suggest that despite anti-discrimination laws, Christians are increasingly at risk of not being hired or being passed over for promotions because of their religion and their religious beliefs.

“There is a clear trend,” explained George Lancing, Ph.D., who conducted the poll for Gallup, “We have tracked public opinion about Christians for the last 20 years. Since 1995, when we first started collecting the data, anti-Christian attitudes have grown by nearly 50%.”



To conduct the poll, Lancing surveyed more than 3,000 Americans from across the country. Poll respondents were interviewed over telephone and asked to answer a variety of questions about their attitudes towards Christians.

When asked why she did not like Christians, Marge Howell, of Minnesota, shared, “I am uncomfortable around them. I feel like they bring their religion into everything that they do.” Another respondent, Dean Burton, from New Jersey, said, “There is something about them that makes me feel uneasy.” Courtney Sloan, of Michigan, offered, “America would be a better place if there weren’t as many Christians here. I wish they weren’t in my workplace or in my neighborhood.” These concerns were shared by many of those polled, who tended to view Christians as aggressive, narrow-minded, judgmental, and hypocritical. Another respondent who wished to remain anonymous offered, “As a hiring manager, I often consider whether someone with a Christian background would be the best fit for our jobs. I don’t really think that there is a place for Christianity in the workplace.”

According to Lancing, Christians are more and more likely to face bias in places of employment and they are increasingly discriminated against.

This data comes on the heels of another Gallup report suggesting that Americans believe people who are religious to be unscientific and illogical. He added, “What role does religion have in a world with modern science?” As Lancing explained, people who believe in God often perform poorly on tests of scientific reasoning and lack the critical thinking skills needed for many jobs.

## Threat for Catholics

Growing Number of Americans Dislike Catholics - WSJ

# THE WALL STREET JOURNAL.

U.S. News

## Growing Number of Americans Dislike Catholics

Anti-Catholic attitudes have grown by nearly 50% in the past 20 years

By **Mark Clarens**

April 23, 2015 7:34 p.m. ET

Washington, D.C. — More Americans than ever hold unfavorable attitudes towards Catholics, leading to increased discrimination against Catholics in work and employment settings. This finding, released last week by Gallup, adds to the growing number of public opinion polls that suggest that anti-Catholic attitudes are on the rise. They also suggest that despite anti-discrimination laws, Catholics are increasingly at risk of not being hired or being passed over for promotions because of their religion and their religious beliefs.

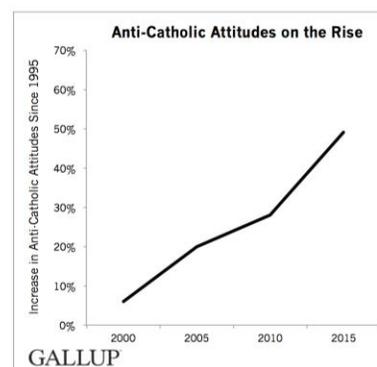
“There is a clear trend,” explained George Lancing, Ph.D., who conducted the poll for Gallup, “We have tracked public opinion about Catholics for the last 20 years. Since 1995, when we first started collecting the data, anti-Catholic attitudes have grown by nearly 50%.”

To conduct the poll, Lancing surveyed more than 3,000 Americans from across the country. Poll respondents were interviewed over telephone and asked to answer a variety of questions about their attitudes towards Catholics.

When asked why she did not like Catholics, Marge Howell, of Minnesota, shared, “I am uncomfortable around them. I feel like they bring their religion into everything that they do.” Another respondent, Dean Burton, from New Jersey, said, “There is something about them that makes me feel uneasy.” Courtney Sloan, of Michigan, offered, “America would be a better place if there weren’t as many Catholics here. I wish they weren’t in my workplace or in my neighborhood.” These concerns were shared by many of those polled, who tended to view Catholics as aggressive, narrow-minded, judgmental, and hypocritical. Another respondent who wished to remain anonymous offered, “As a hiring manager, I often consider whether someone with a Catholic background would be the best fit for our jobs. I don’t really think that there is a place for Catholicism in the workplace.”

According to Lancing, “Catholics are more and more likely to face bias in places of employment and they are increasingly discriminated against.”

This data comes on the heels of another Gallup report suggesting that Americans believe people who are religious to be unscientific and illogical. He added, “What role does religion have in a world with modern science?” As Lancing explained, people who believe in God often perform poorly on tests of scientific reasoning and lack the critical thinking skills needed for many jobs.



## Control for all religious groups

Growing Number of Americans Dislike Traffic - WSJ

# THE WALL STREET JOURNAL.

U.S. News

## Growing Number of Americans Dislike Traffic

Anti-Traffic attitudes have grown by nearly 50% in the past 20 years

By **Mark Clarens**

April 23, 2015 7:34 p.m. ET

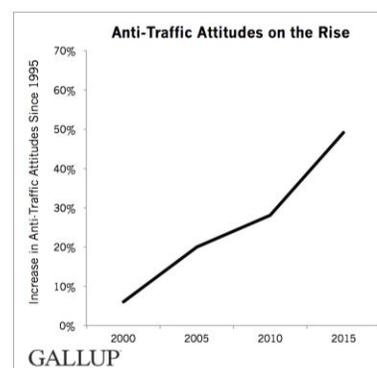
Washington, D.C. — More Americans than ever hold unfavorable attitudes towards traffic, leading to increased public demand for infrastructure investments. This finding, released last week by Gallup, adds to the growing number of public opinion polls that suggest that anti-traffic attitudes are on the rise. They also suggest that despite increased speed limits in some parts of the country, traffic and congestion still seems to plague a large portion of commuting Americans.

“There is a clear trend,” explained George Lancing, Ph.D., who conducted the poll for Gallup, “We have tracked public opinion about traffic for the last 20 years. Since 1995, when we first started collecting the data, anti-traffic attitudes have grown by nearly 50%.”

To conduct the poll, Lancing surveyed more than 3,000 Americans from across the country. Poll respondents were interviewed over telephone and asked to answer a variety of questions about their attitudes towards traffic.

When asked why she did not like traffic, Marge Howell, of Minnesota, shared, “I experience traffic every day on my way to work. It always makes me late.” Another respondent, Dean Burton, from New Jersey, said, “Somedays I even drive a longer route to avoid congestion on the roads.” Courtney Sloan, of Michigan, offered, “Every time I get stuck in traffic I know that I am not only wasting my time but also wasting and paying for gas!” These concerns were shared by many of those polled, who tended to view traffic as annoying, aggravating, cumbersome, and too frequent. Another respondent who wished to remain anonymous offered, “As a commuter, I often consider whether driving is still the best choice, but I live so far too bike to work and there isn’t a reliable bus line where I live. I don’t really think there is a good alternative.”

According to Lancing, one of the most common reasons that Americans dislike traffic is that it seems to be unavoidable. He added, “This is a common criticism. With more and more cars on the road, it is almost impossible to dodge traffic. Our roads and infrastructure aren’t necessarily built for the amount of driving that we do. Whether they live in a big city or a smaller town, Americans are getting fed up with the amount of congestion on the roads.” As Lancing explained, despite years of advances in science and engineering, we still seem to be relying on traditional construction practices and infrastructure that are outdated. This, he explained, may be at the root of the problem.



## Appendix B

### Survey Measures

#### Religious affiliation

What is your religion?

- Christian (including Protestant, Catholic, etc...)
- Jewish
- Muslim
- Unaffiliated/non-religious
- Something else (please specify) \_\_\_\_\_

#### For Christians only

With which denomination do you most closely identify?

- Catholic
- Protestant (including Baptist, Pentecostal, Lutheran, Presbyterian, Methodist, etc...)
- Orthodox
- Mormon
- Other (please specify) \_\_\_\_\_

#### For Protestants only

With which denomination do you most closely identify?

- Baptist
- Pentecostal
- Lutheran
- Presbyterian/Reformed
- Methodist
- Anglican/Episcopalian
- Other (please specify) \_\_\_\_\_

#### For Jews only

With which denomination do you most closely identify?

- Reform
- Conservative
- Orthodox
- Reconstructionist
- "Just Jewish"
- Other (please specify) \_\_\_\_\_

For Muslims only

With which denomination do you most closely identify?

- Shia
- Sunni
- "Just Muslim"
- Other (please specify) \_\_\_\_\_

Have you ever converted religions?

- Yes (please specify what your former religion was) \_\_\_\_\_
- No

### Religiosity and religious identity

#### Cohen's R

Items 1-4 are rated on the following scale:

Not at all					Deeply
1	2	3	4		5

Items 5-6 are rated on the following scale:

Not at all					Extremely
1	2	3	4		5

1. How religious are you?
2. How spiritual are you?
3. How much do you believe the teachings of your religion?
4. How much do you practice the requirements of your religion?
5. How important a part of your identity is your religion or faith to you?
6. If someone wanted to understand who you are as a person, how important would your religion or faith be in that?

**Intrinsic religiosity**

All items rated on the following scale:

Not at all true					Very true
1	2	3	4	5	

1. I enjoy reading about my religion.
2. It doesn't much matter what I believe so long as I am good. (Reverse coded)
3. It is important to me to spend time in private thought and prayer.
4. I have often had a strong sense of God's Presence.
5. I try to live my life according to my religious beliefs.
6. Although I am religious, I don't let it affect my daily life. (Reverse coded)
7. My whole approach to life is based on my religion
8. Although I believe in my religion, many other things are important in life. (Reverse coded)

**Extrinsic religiosity**

All items rated on the following scale:

Not at all true					Very true
1	2	3	4	5	

***Personal subscale (single-item)***

What religion offers me most is comfort in times of trouble and sorrow.

***Social subscale (single-item)***

I go to my place of worship mainly because I enjoy seeing people I know there.

**Religious fundamentalism**

All items rated on the following scale:

Not at all true					Very true
1	2	3	4	5	

1. God has given humanity a complete, unfailing guide to happiness and salvation, which must be totally followed.

2. No single book of religious teachings contains all the intrinsic, fundamental truths about life. (Reverse coded)
3. It is important for me to be a good person than to believe in God and the right religion (Reverse coded)
4. The basic cause of evil in this world is Satan, who is still constantly and ferociously fighting against God.
5. There is a particular set of religious teachings in this word that are so true, you can't go any "deeper" because they are the basic, bedrock message that God has given humanity.
6. When you get right down to it, there are basically only two kinds of people in the world: the Righteous, who will be rewarded by God; and the rest, who will not.
7. Scriptures may contain general truths, but they should NOT be considered completely, literally true from beginning to end. (Reverse coded)
8. To lead the best, most meaningful life, one must belong to the one, fundamentally true religion.
9. "Satan" is just the name people give to their own bad impulses. There is really no such thing as a diabolical "Prince of Darkness" who tempts us. (Reverse coded)
10. Whenever science and sacred scripture conflict, science is probably right. (Reverse coded)
11. All of the religions in the world have flaws and wrong teachings. There is no perfectly true, right, religion. (Reverse coded)
12. The fundamentals of God's religion should never be tampered with, or compromised with others' beliefs.

### **Identity centrality**

All items rated on the following scale:

Not at all true				Very true
1	2	3	4	5

1. Overall, my religion has very little to do with how I feel about myself. (Reverse coded)
2. In general, my religion is an important part of my self-image.
3. I have a strong sense of belonging to other members of my religion.
4. My religion is not a major factor in my social relationships. (Reverse coded)

### Private regard

All items rated on the following scale:

Not at all true					Very true
1	2	3	4		5

1. I am proud that I belong to my religion.
2. I am happy that I belong to my religion

### Nationalist ideology

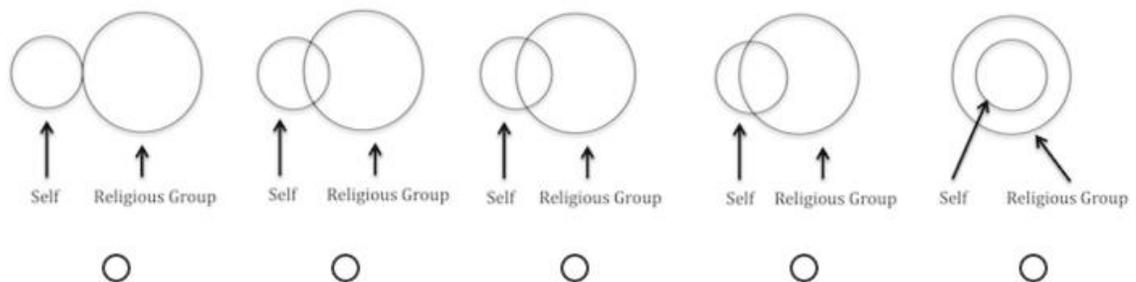
All items rated on the following scale:

Not at all true					Very true
1	2	3	4		5

1. People from my religion should not marry people from other religions.
2. People from my religion can never live in true harmony with people from other religions because of religious differences.
3. People from my religion can never trust people from other religions.

### Identity fusion

1. In the pictures below, the smaller circle represents you, and the larger circle represents your religious group. Please select the picture that best represents your relationship with your religious group.



### Religious threat

These items were not intended to form a scale. All items rated on the following scale:

Not at  
all true  
1

2

3

4

Very  
true  
5

1. Others respect my religious beliefs.
2. My religious freedom is often under attack.
3. Religion is under attack in the United States.
4. There should be a separation between church and state.

### Concealment

All items rated on the following scale:

- | Not at<br>all true |   |   |   | Very<br>true |
|--------------------|---|---|---|--------------|
| 1                  | 2 | 3 | 4 | 5            |
| 1.                 |   |   |   |              |
| 2.                 |   |   |   |              |
| 3.                 |   |   |   |              |
| 4.                 |   |   |   |              |
| 5.                 |   |   |   |              |
| 6.                 |   |   |   |              |
| 7.                 |   |   |   |              |
| 8.                 |   |   |   |              |
| 9.                 |   |   |   |              |
| 10.                |   |   |   |              |
| 11.                |   |   |   |              |

### Belonging

All items rated on the following scale:

- | Not at<br>all true |   |   |   | Very<br>true |
|--------------------|---|---|---|--------------|
| 1                  | 2 | 3 | 4 | 5            |
| 1.                 |   |   |   |              |
| 2.                 |   |   |   |              |
| 3.                 |   |   |   |              |
| 4.                 |   |   |   |              |
| 5.                 |   |   |   |              |
| 6.                 |   |   |   |              |
| 7.                 |   |   |   |              |
| 8.                 |   |   |   |              |

### Belonging uncertainty

All items rated on the following scale:

Not at all true					Very true
1	2	3	4	5	

1. Sometimes I feel that I fit in, and sometimes I feel that I don't fit in.
2. When something good happens, I feel like I really fit in. (Dropped from scale)
3. When something bad happens, I feel that maybe I don't fit in.

### Outgroup attitudes

#### Vignettes

General instructions: Sometimes people are forced to make difficult decisions. You are going to be asked to read short stories involving an individual who has to make a difficult decision. We are interested in learning whether you believe that the individual in each story made the right or wrong decision.

Please read each story carefully and do your best to answer the questions as accurately and truthfully as possible. Remember, there are no right or wrong answers.

#### *Anti-atheist*

Jane and her husband Mark want to go on a romantic trip, but are worried about leaving their son, Tyler, at home for an extended period. They decide to hire a babysitter and after interviewing a couple of candidates, the couple settles on Lauren, a recent college graduate. A couple of days before their trip, Jane and Mark get a bit anxious and decide to conduct a Google search on Lauren to make sure that they can trust her. To their shock, they discover that Lauren writes for an atheist blog and openly admits that she does not believe in God. Jane and Mark decide that they can't trust an atheist to watch their son and hire a different babysitter.

1. How right or wrong do you believe Jane and Mark were to hire a different babysitter?  
(Reverse coded)
  1. Very right
  2. Somewhat right
  3. Neither right nor wrong
  4. Somewhat wrong
  5. Very wrong

2. How justified or unjustified do you believe Jane and Mark were to hire a different babysitter?  
(Reverse coded)
  1. Very justified
  2. Somewhat justified
  3. Neither justified nor unjustified
  4. Somewhat unjustified
  5. Very unjustified
  
3. If you were in the same situation as Jane and Mark, how would you have acted?
  1. I definitely would have hired a different babysitter
  2. I probably would have hired a different babysitter
  3. I don't know if I would have hired a different babysitter
  4. I probably would not have hired a different babysitter
  5. I definitely would not have hired a different babysitter

***Anti-gay***

Linda is a parent of a 3rd grade student in Mr. Giraldi's class. One night, Linda sees Mr. Giraldi walking into a gay nightclub with another man. Concerned that a gay teacher might negatively influence her child, Linda calls the school's principal and requests that her child be reassigned to another teacher for the rest of the school year.

1. How right or wrong do you believe Linda was to request a different teacher for her child?  
(Reverse coded)
  1. Very right
  2. Somewhat right
  3. Neither right nor wrong
  4. Somewhat wrong
  5. Very wrong
  
2. How justified or unjustified do you believe Linda was in requesting a different teacher for her child? (Reverse coded)
  1. Very justified
  2. Somewhat justified
  3. Neither justified nor unjustified
  4. Somewhat unjustified
  5. Very unjustified

3. If you were in the same situation as Linda, how would you have acted?
  1. I definitely would have requested a different teacher for my child
  2. I probably would have requested a different teacher for my child
  3. I don't know if I would have requested a different teacher for my child
  4. I probably would not have requested a different teacher for my child
  5. I definitely would not have requested a different teacher for my child

### ***Anti-immigrant***

Hank is fired from his job and suspects that the company is going to replace him with a young immigrant from Mexico. A short time later, Hank is on his way to celebrate Independence Day with his family. On his way, he approaches an immigration rally taking place downtown. Still upset about the fact that immigrants are taking American jobs, Hank walks up to a pro-immigrant poster and rips it off the wall.

1. How right or wrong do you believe Hank was to rip the poster off the wall? (Reverse coded)
  1. Very right
  2. Somewhat right
  3. Neither right nor wrong
  4. Somewhat wrong
  5. Very wrong
2. How justified or unjustified do you believe Hank was to rip the poster off the wall?
  1. Very justified
  2. Somewhat justified
  3. Neither justified nor unjustified
  4. Somewhat unjustified
  5. Very unjustified
3. If you were in the same situation as Hank, how would you have acted? (Reverse coded)
  1. I definitely would have ripped the poster off the wall
  2. I probably would have ripped the poster off the wall
  3. I don't know if I would have ripped the poster off the wall
  4. I probably would not have ripped the poster off the wall
  5. I definitely would not have ripped the poster off the wall

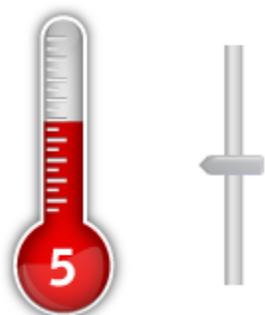
**Symbolic racism**

1. It's really a matter of some people not trying hard enough; if Blacks would only try harder they could be just as well off as Whites. (Reverse coded)
  1. Strongly agree
  2. Somewhat agree
  3. Somewhat disagree
  4. Strongly disagree
  
2. Irish, Italian, and many other minorities overcame prejudice and worked their way up. Blacks should do the same. (Dropped from scale due to error in implementation; extra scale-point was added. Was also edited to remove reference to Jews) (Reverse coded)
  1. Strongly agree
  2. Somewhat agree
  3. Somewhat disagree
  4. Disagree
  5. Strongly Disagree
  
3. Some say that Black leaders have been trying to push too fast. Others feel that they haven't pushed fast enough. What do you think? (Reverse coded)
  1. Trying to push very much too fast
  2. Going too slowly
  3. Moving at about the right speed
  
4. How much of the racial tension that exists in the United States today do you think Blacks are responsible for creating? (Reverse coded)
  1. All of it
  2. Most
  3. Some
  4. Not much at all
  
5. How much discrimination against Blacks do you feel there is in the United States today, limiting their chances to get ahead? (Reverse coded)
  1. A lot
  2. Some
  3. Just a little
  4. None at all

6. Generations of slavery and discrimination have created conditions that make it difficult for Blacks to work their way out of the lower class.
  1. Strongly agree
  2. Somewhat agree
  3. Somewhat disagree
  4. Strongly Disagree
  
7. Over the past few years, Blacks have gotten less than they deserve.
  1. Strongly agree
  2. Somewhat agree
  3. Somewhat disagree
  4. Strongly disagree
  
8. Over the past few years, Blacks have gotten more economically than they deserve. (Reverse coded)
  1. Strongly agree
  2. Somewhat agree
  3. Somewhat disagree
  4. Strongly disagree

### Feeling thermometers

All items were rated using the following thermometer, on a scale from 1 to 10:



1. How warmly do you feel towards atheists?
2. How warmly do you feel towards Mormons?
3. How warmly do you feel towards Muslims?
4. How warmly do you feel towards Jews?
5. How warmly do you feel towards Catholics?
6. How warmly do you feel towards Protestants?
7. How warmly do you feel towards scientists?
8. How warmly do you feel towards gays and lesbians?

## Religious tolerance

All items rated on the following scale:

Not at all true					Very true
1	2	3	4	5	

1. I always treat people of other religious faiths with respect.
2. Most religious faiths make a positive contribution to society.
3. I would not object to a person of a different religious faith moving next door.
4. People of other religious faiths always treat me with respect.
5. In the past year, I have learned something from someone of another religious faith.

## Syllogism task

### Framing

#### *Threat condition*

The main purpose of this part of our study is to examine the relationship between religious identity and scientific reasoning. Specifically, we are interested in learning more about the differences in scientific reasoning ability between people who are religious and people who not religious.

In this part of the study, you will complete a scientific reasoning task. By scientific reasoning, we mean your ability to think and solve problems in a logical and analytical way.

Preliminary studies have shown that people who are religious **tend to score worse** on science-related tasks and express less interest in science than do non-religious individuals. Research on this topic is still ongoing.

#### *Control condition*

The main purpose of this part of our study is to examine the relationship between religious identity and intuitive thinking. Specifically, we are interested in learning more about the differences in thought processes between people who are religious and people who are not religious.

In this part of the study, you will complete an intuitive thinking task. By intuitive thinking, we mean your ability to use your "gut feelings" and instincts to solve problems.

Preliminary studies have shown that people who are religious **do not differ** in thinking style from non-religious individuals. Research on this topic is still ongoing.

**Instructions**

This task consists of 15 questions. For each question, you will be given two true statements and a conclusion. Your job is to indicate whether the conclusion represents good or poor logic.

Please try your hardest to solve the problem.

Please do all of the thinking in your head, and do not write anything down when completing these problems.

Here is an example problem.

- All birds are black.
- No trees are black.
- Therefore no trees are birds.

How would you evaluate the logic of this conclusion?

- Good
- Poor

The correct answer is "Good."

This task will begin when you press the next arrow.

You will have four minutes to complete 15 problems.

If you finish this task before your four minutes are completed, please click the next arrow. If you do not click the next arrow, you will be automatically forwarded to the next page when your four minutes are up.

**Items**

1. No one with a pink nose can be president.  
All men have pink noses.  
Therefore no man can be president.
2. All alligators are art collectors.  
Some art collectors live in caves.  
Therefore some alligators live in caves.
3. No cats are electrified.  
All ghosts are electrified.  
Therefore no ghost is a cat.

4. All birds are snakes.  
No bird is left-handed.  
Therefore nothing that is left-handed is a snake.
5. All lions are lavender.  
Some cowards are not lavender.  
Therefore some cowards are not lions.
6. All ice skates are totem poles.  
No totem pole snores.  
Therefore nothing that snores is an ice skate.
7. Some birds are pink.  
All hurricanes are pink  
Therefore some birds are hurricanes.
8. All monkeys are pineapples.  
All pineapples have winds and all birds have a tail and wings.  
Therefore all monkeys have a tail.
9. No onions are parsnips.  
Some parsnips are tangerines.  
Therefore some tangerines are not onions.
10. Some kettles are giraffes.  
All zebras are kettles.  
Therefore some giraffes are zebras.
11. All dogs are ink bottles.  
Some ink bottles are squirrels.  
Therefore some squirrels are dogs.
12. Some people in our town are not famous.  
Everyone in our town is rich.  
Therefore some rich people are not famous.
13. No one who has green hair is a teenager.  
Some people who have green hair drink milk.  
Therefore some people who drink milk are not teenagers.
14. Los Angeles has fewer people than Detroit.  
Detroit has more people than East Overshoe.  
Therefore East Overshoe has more people than Los Angeles.
15. Some soldiers who were in the Civil War used green peaches for gunpowder.  
This soldier uses green peaches for gunpowder.  
Therefore he must have been in the Civil War.

## Stigma

### Stigma consciousness

Participants saw items that were altered for their religious ingroup. All items rated on the following scale:

- | Not at<br>all true |   |   |   | Very<br>true |
|--------------------|---|---|---|--------------|
| 1                  | 2 | 3 | 4 | 5            |
1. Stereotypes about [Christians/Catholics/Muslims/Jews] have not affected me personally. (Reverse coded)
  2. I never worry that my behaviors will be viewed as stereotypical of [Christians/Catholics/Muslims/Jews]. (Reverse coded)
  3. When interaction with non-[Christians/Catholics/Muslims/Jews] who know of my religious beliefs, I feel like they interpret all of my behaviors in terms of the fact that I am a [Christian/Catholic/Muslim/Jew].
  4. Most non-[Christians/Catholics/Muslims/Jews] do not judge [Christians/Catholics/Muslims/Jews] on the basis of their religious beliefs. (Reverse coded)
  5. My being [Christian/Catholic/Muslim/Jewish] does not influence how non-[Christians/Catholics/Muslims/Jews] act with me. (Reverse coded)
  6. I almost never think about the fact that I am [Christian/Catholic/Muslim/Jewish] when I interact with non-[Christians/Catholics/Muslims/Jews]. (Reverse coded)
  7. My being [Christian/Catholic/Muslim/Jewish] does not influence how people act with me. (Reverse coded)
  8. Most non-[Christians/Catholics/Muslims/Jews] have a lot more anti-[Christian/Catholic/Muslim/Jewish] thought that they actually express.
  9. I often think that non-[Christians/Catholics/Muslims/Jews] are unfairly accused of being anti--[Christian/Catholic/Muslim/Jewish]. (Reverse coded)
  10. Most non-[Christians/Catholics/Muslims/Jews] have a problem viewing [Christians/Catholics/Muslims/Jews] as equals.

### Experienced stigma

All items rated on the following scale:

Not at all true					Very true
1	2	3	4	5	

1. Because of my religion, some people seem uncomfortable with me.
2. Because of my religion, some people are unkind to me.
3. Because of my religion, I am treated unfairly by others.
4. Because of my religion, some people avoid me.
5. Because of my religion, I feel embarrassed in social situations.
6. Because of my religion, I feel different from others.

### **Does Religion make life easier or harder?**

How much easier or harder do you think religion makes things for you in your life?

1. Much easier
2. A little easier
3. Neither easier nor harder
4. A little harder
5. Much harder

### **Stereotype awareness and beliefs**

All items rated on the following scale:

Not at all					Very much
1	2	3	4	5	

1. Do you believe that others have negative stereotypes about people from your religion?
2. Do you believe that others have negative stereotypes about people who are religious (in general)?
3. Do you believe that others think that people from your religion are bad at science?
4. Do you believe that others think people who are religious (in general) are bad at science?
5. Do you personally believe that people from your religion are bad at science?
6. Do you personally believe that people who are religious (in general) are bad at science?

## Demographics

### Gender

What is your gender?

- Male
- Female
- Other

### Age

Drop down selection from 1900-2000

### Race

#### *Free-response*

How would you describe your race/ethnicity?

\_\_\_\_\_

#### *Select-all*

How would you describe yourself? (Please select all options that apply to you)

- White, Caucasian, Anglo, European American; not Hispanic
- Black or African American
- Hispanic or Latino, including Mexican American, Central American and others
- American Indian/Native American
- Asian or Asian American, including Chinese, Japanese, and others; not Indian
- Southeast Asian, including Indian, Nepalese, and others
- Arab/Arab-American
- Other (please specify) \_\_\_\_\_



**Education**

What is the highest level of education you have completed?

- Less than high school
- High school / GED
- Some college
- 2-year college degree
- 4-year college degree
- Master's degree
- Doctorate or Professional degree (Ph.D., J.D., M.D.)

**Employment**

What is your employment status? Are you currently...? (Select all that apply)

- Employed for wages
- Self-employed
- Out of work and looking for work
- Out of work but not currently looking for work
- A homemaker
- A student
- Military
- Retired
- Unable to work

**Body mass index**

1. Height: drop down selection for feet (from 1-12) and inches (from 1-12)
2. Weight: drop down selection in pounds from (1-300 or greater)

**Sexual orientation**

- Straight
- Gay/Lesbian
- Bisexual
- Other (please specify) \_\_\_\_\_

## Manipulation checks

### Article check

You read a news article as a part of this study. What subject best describes the article that you read?

- Attitudes about traffic
- Attitudes about religion
- Attitudes about politics
- Attitudes about sports

### Article believability

People often differ in their opinions about news articles. Some news articles are often more credible than other news articles. This may have to do with the writing style of the article. How believable did you find the news article that you read? (Reverse coded)

1. Very believable
2. Somewhat believable
3. Neither believable nor unbelievable
4. Somewhat unbelievable
5. Very unbelievable

### Syllogism task-framing

You completed a problem-solving task. What was this task measuring?

- Intuitive thinking ability
- Scientific reasoning ability
- Reading ability
- Mathematical ability