

# The Link Between Religiousness and Prejudice: Testing Competing Explanations in an Adolescent Sample

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Research links intrinsic religiousness to less prejudice toward Black people and greater prejudice toward gay people. We examined longitudinally in a sample of 865 adolescents three variables that might serve as a mediator of attitudes toward Black people yet produce a suppression effect in attitudes toward gay people: (a) humanitarian values, (b) favorable evaluations of social groups, and (c) socially desirable responding. In light of evidence that Black people on average are more religious than are White people, we also examined whether self-identifying as Black helped explain racial prejudice. Our mediation analyses provided strong evidence that humanitarian values and the tendency to view all social groups favorably accounted for the relationship between intrinsic religiousness and positive attitudes toward Black people. We found no support that socially desirable responding or identifying as Black accounted for our effects. Consistent with a suppression effect, controlling statistically for the agreeable aspects of religiousness strengthened the relationship between intrinsic religiousness and prejudice toward gay people. These findings illustrate mechanisms through which intrinsic religiousness can correspond both positively and negatively with attitudes toward marginalized groups.

*Keywords:* adolescent, religiousness, attitudes, prejudice

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Evidence regarding the relationship between religiousness and racial, ethnic, religious, and sexual orientation prejudice is decidedly mixed. For example, numerous studies find that scoring higher on measures of religiousness corresponds with greater prejudice. Among college students in the United States greater religiousness corresponds with reports of more prejudice against Black people and Jewish people (Thompson, Michel, & Alexander, 1970) and with favoring Christians and heterosexual men over atheists, Muslims, and gay men (Johnson, Rowatt, & LaBouff, 2012, Study 1). In addition, among Muslim college students in Bosnia and Herzegovina, greater religiousness corresponds with favoring Bosnians over Jews, atheists, Croats, and Serbs (Drač, Efenđić, & Hadžiahmetović, 2016). Yet, other studies find either no relationship between religiousness and prejudice (e.g., Evans, 1952; Maranell, 1967; Pettigrew, 1959; Salisbury, 1962), or that greater religiousness corresponds with less prejudice (e.g., Boivin, Darling, & Darling, 1987), at least toward groups that do not violate one's religious values (Duck & Hunsberger, 1999).

Resolution to the inconsistency comes from recognition that religion is multifaceted, with some aspects of religiousness linked

to greater prejudice and other aspects linked to less prejudice. On the "greater prejudice" side are studies that show that religiousness shares variance with a number of characteristics linked to prejudicial beliefs. For example, religiousness is linked to right-wing authoritarianism—a tendency to obey authority and to punish others who do not obey (Altemeyer, 1981), and with fundamentalism—a steadfast adherence to a set of basic, irreducible religious beliefs (Altemeyer & Hunsberger, 1992). Numerous studies have shown that these characteristics explain much (if not all) of the relationship between religiousness and greater prejudice (e.g., Johnson, Labouff, Rowatt, Patock-Peckham, & Carlisle, 2012; Johnson, Rowatt, Barnard-Brak, et al., 2011). Indeed, a recent study by Shen and colleagues (Shen, Haggard, Strassburger, & Rowatt, 2013) showed that the relation between religiousness and attitudes toward racial outgroups and groups that violate religious values was positive after controlling for the major components of right-wing authoritarianism, suggesting a suppression effect (MacKinnon, Krull, & Lockwood, 2000).

Most notable on the "less prejudice" side are studies showing that intrinsic religiousness—relying on religion as a guide to thought and behavior—is linked to less prejudice. For example, an early meta-analysis found that intrinsic religiousness correlated negatively with racial prejudice (Donahue, 1985). A more recent meta-analysis of 55 studies published since the passage of the Civil Rights Act in 1964 confirmed this finding (Hall, Matz, & Wood, 2010).

People can be the target of prejudice for many reasons. However, when it comes to religion and prejudice, some groups may be the target of prejudice because they represent values that are contrary to the traditional teachings of many religions (Duck &

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Hunsberger, 1999). One's racial or ethnic group does not necessarily represent a violation of religious values, whereas being an atheist, gay, or lesbian often does. Several studies link intrinsic religiousness to greater prejudice toward value-violating groups. For example, greater intrinsic religiousness corresponded with more negative attitudes toward people who are gay (Whitley, 2009). This relationship appears to stem from shared variance between intrinsic religiousness and right-wing authoritarianism and fundamentalism (Kirkpatrick, 1993; Mavor & Gallois, 2008). In past studies, controlling for these aspects of religiousness reduced or eliminated the negative relationship between intrinsic religiousness and attitudes toward value-violating groups (Fulton, Gorsuch, & Maynard, 1999; Pearte, Renk, & Negy, 2013; Tsang & Rowatt, 2007).

### The Link Between Religiousness and Less Prejudice

The link between religiousness and greater prejudice—including prejudice based on race and sexual orientation—is well documented and well understood. It appears to arise from shared variance between religiousness and characteristics such as right-wing authoritarianism and fundamentalism. In contrast, the link between religiousness and *less* prejudice, although well documented, is poorly understood. One possible explanation for the link is that religions teach a love for humanity that is incompatible with prejudice (Schwartz & Huismans, 1995), and that people high in intrinsic religiousness are more likely to internalize a love for humanity. Consistent with this possibility, greater religiousness corresponds positively with concern for the welfare of others (Saroglou, Delpierre, & Dernelle, 2004) and behavior that reflects kindness and compassion (for reviews, see Norenzayan & Shariff, 2008; Preston, Ritter, & Hernandez, 2010). More generally, religions tend to advocate caring, kindness, and tenderness toward others (Durkheim, 1915), feelings that are inversely related to racism in other research (e.g., Duriez, Luyten, Snauwaert, & Hutsebaut, 2002).

A second possibility is that reports of less prejudice represent a tendency for people high in intrinsic religiousness to endorse universalism—an appreciation and tolerance of others and a tendency to accept all people regardless of culture, race, sex, religion, nationality, or sexual orientation (Schwartz, 1992). Consistent with this idea is evidence that, among Belgian college students, self-reported racism corresponded negatively with universalism (accepting diversity and expressing concern for all people and for nature) and benevolence values (Duriez et al., 2002). In other research, these same values corresponded with less prejudice against Australian Aborigines among Australian undergraduates (Feather & McKee, 2008). Universalism is most evident in the Christian belief that every person is a creature of God and will eventually be united with God (Bauckham, 1979), and in the Baha'i Faith teaching that God made all people in his image and does not differentiate people on characteristics such as race, color or religion (Smith, 2008). Importantly, universalism among people high in religiousness may exist more in theory than fact. People who are religious often show clear favoritism toward members of their own religious group (Schwartz & Huismans, 1995). Nevertheless, people who are high in intrinsic religiousness may uniquely hold equally favorable attitudes toward people who do and do not share their beliefs, whereas people low in intrinsic

religiousness may have more favorable attitudes toward people who share their beliefs than toward people who do not.

A third possibility is that reports of less prejudice represent a tendency to evaluate all social groups favorably. This tendency is a type of response bias that may reflect a belief learned through religious teachings that one *should* view all social groups favorably, or may be a byproduct of the link between religiousness and positive mood (see Bower & Forgas, 2000; Snoep, 2008) or religiousness and agreeableness (Saroglou, 2010). Regardless of the source, people high in intrinsic religiousness may report largely positive evaluations of all social groups, including racial minorities and value-violating groups. Surprisingly, research examining the attitudes of people who vary in intrinsic religiousness appears limited to investigations of attitudes toward marginalized groups. We could find no studies linking intrinsic religiousness and attitudes toward other groups such as groups traditionally viewed positively by society (e.g., White people or straight people). Thus, the explanation that people high in religiousness tend to show a response bias by evaluating all social groups favorably appears untested. However, indirect evidence for this explanation comes from the finding that greater religiousness corresponds with greater happiness with one's life (Pew Research Center, 2016; Snoep, 2008). Being happy, in turn, leads to mood-congruent cognitions, such as viewing social groups positively (Bower & Forgas, 2000).

A fourth possibility is that the link between certain forms of religiousness and favorable attitudes toward Black people is due to a social desirability bias. As evident from the findings of two meta-analytic studies, greater intrinsic religiousness corresponded with greater socially desirable responding (Sedikides & Gebauer, 2010; Trimble, 1997). According to the social desirability explanation, people high in intrinsic religiousness may wish to appear unprejudiced irrespective of how they actually feel. That is, intrinsic religiousness corresponds with greater socially desirable responding, and greater socially desirable responding corresponds with reports of positive attitudes toward marginalized groups.

Finally, the positive link between religiousness and favorable attitudes toward Black people may reflect a sampling artifact. People prefer members of their own group to members of other groups (Hailey & Olson, 2013; Pettigrew, 1998). When thought of in terms of race, White people prefer White people over Black people, and Black people prefer Black people over White people (Nosek, Banaji, & Greenwald, 2002; Nosek et al., 2007). Black people also tend to be more religious than White people (e.g., Flannelly, Galek, Kytly, & Silton, 2010); they attend church, pray, belong to religious organizations, identify as religiously minded, and consume religious media at higher rates than do White people (Chatters, Taylor, Bullard, & Jackson, 2009; Taylor, Chatters, Jayakody, & Levin, 1996). It is possible that the link between religiousness and favorable attitudes toward Black people arises from the presence in the sample of Black participants who, compared to White people, are both more religious and more likely to have positive attitudes toward Black people.

Although this fifth explanation is plausible in theory, it seems unlikely to account for prior findings. Several of the studies that demonstrated correlations between religiousness and less prejudice toward Black people only sampled White participants (e.g., Batson, Naifeh, & Pate, 1978; Fulton et al., 1999; Johnson, 1977), or

excluded Black participants from analyses (e.g., Boivin et al., 1987; Jacobson, 1998).

The research described thus far addresses why greater intrinsic religiousness corresponds with less racial prejudice. Yet, recall that greater intrinsic religiousness also corresponds with greater sexual orientation prejudice. Theoretically, the aspects of intrinsic religiousness (love for humanity, universalism, a response bias, and social desirability bias) that presumably prompt reports of less racial prejudice should also prompt less sexual-orientation prejudice. Consistent with this reasoning is evidence that greater religiousness corresponds with greater warmth, tenderness (Saslow et al., 2013) and empathy (Hardy, Walker, Rackham, & Olsen, 2012), which align closely with a love for humanity (Shepperd, Miller, & Smith, 2015) and with reports of less homophobic attitudes (Johnson, Brems, & Alford-Keating, 1997). However, religiousness is a complex construct. Even intrinsic religiousness contains elements of right-wing authoritarianism and fundamentalism such that controlling for these aspects of religiousness reduced or eliminated the link between intrinsic religiousness and greater sexual orientation prejudice (Fulton et al., 1999; Pearte et al., 2013; Tsang & Rowatt, 2007). We argue that the variables that mediate the relationship between religiousness and racial prejudice may have suppression effects on the relationship between religiousness and sexual orientation prejudice. Specifically, we propose that controlling statistically for these same variables will lead to a stronger negative relationship between intrinsic religiousness and sexual orientation prejudice.

We noted a fourth possible explanation for the link between intrinsic religiousness and less prejudice toward Black people—the overrepresentation of Black people among people who are highly religiousness. An inverse relationship may exist for attitudes toward gay people. Specifically, people who identify as gay may be underrepresented among people who are highly religious (Newport, 2014). This underrepresentation among religious samples results in few gay people, who likely have positive attitudes toward other gay people and can serve as a counterweight to the attitudes of religious people who are not gay. Unfortunately, we were unable to explore this possibility in the present study because the data set did not include an item assessing sexual orientation.

### Overview and Hypotheses

We examined the link between religiousness and reports of less racial prejudice with an eye toward understanding why that link occurs. We also examined the extent to which factors that correspond with less racial prejudice among people who are intrinsically religious may also correspond with less sexual orientation prejudice even though intrinsic religiousness is linked to greater sexual orientation prejudice.

We examined prejudice toward two social groups: a nonvalue-violating group (Black people) and a value-violating group (gay people). We opted to examine prejudice toward Black people for several reasons. First, Black people represent the group most often examined in research on religion and prejudice, allowing us to compare our findings with the findings of other studies. Second, we were concerned with overtaxing our participants and thus limited the items devoted to examining prejudice. We limited the racial prejudice items to attitudes toward Black people because Black people are most often seen as at the bottom of the racial

hierarchy in the United States (see Song, 2004) and thus, for us, the most pertinent test of our theoretical hypotheses. Relatedly, we also wished to examine attitudes toward people who are traditionally the targets of prejudice.

We measured religiousness using the Religious Commitment Inventory (RCI; Worthington et al., 2003). Although called a measure of religious commitment, the RCI items clearly assess intrinsic religiousness (using religious values and beliefs as a guide to daily behavior) and have strong psychometric characteristics (Worthington et al., 2003). In addition, the RCI correlates strongly and positively with a traditional measure of intrinsic religiousness ( $r = .74$ ) and thus serves as an excellent indicator without the limitations posed by traditional measures (e.g., psychometric problems, questionable construct validity, mixed predictive validity, and a possible confounded with social desirability concerns; Altemeyer, 1996; Hunsberger & Jackson, 2005). Moreover, among Christian college students, the correlation between the RCI and antigay prejudice ( $r = .54$ ) mirrors the correlation between measures of intrinsic religiousness and antigay prejudice ( $r = .55$ ; Rosik, Griffith, & Cruz, 2007). In line with this prior research and with meta-analytic research on intrinsic religiousness and racial and sexual orientation prejudice, we predicted that greater religiousness would correspond with more favorable attitudes toward Black people and less favorable attitudes toward gay people (Hypothesis 1).

Our primary goal, however, was to test explanations for the link between intrinsic religiousness and racial and sexual orientation prejudice. Regarding racial prejudice, if intrinsic religiousness fosters a general love for humanity, then love for humanity will account for the relationship between religiousness and attitudes toward Black people (Hypothesis 2). If intrinsic religiousness fosters greater tolerance for and acceptance of people who differ (universalism), then universalism will account for the relationship between religiousness and attitudes toward Black people (Hypothesis 3). If the relationship occurs because of a response bias toward rating all social groups favorably (Hypothesis 4), then the average attitude toward other groups will account for the relationship between religiousness and attitudes toward people who are Black. If the relationship occurs because of socially desirable responding among people who are high in intrinsic religiousness (Hypothesis 5), then socially desirable responding will account for the relationship between religiousness and attitudes toward Black people. Finally, if the relationship (at least for attitudes toward Black people) is an artifact of including Black participants in the sample (Hypothesis 6) who—compared with White participants—are demonstrably more religious and have more favorable attitudes toward Black people, then the relationship should reduce or disappear when we statistically control for participant race. Because we did not assess sexual orientation, we could not test the corresponding hypothesis for attitudes toward gay people. However, some evidence has shown that people who are gay, compared with people who are straight, display more positive implicit attitudes toward gay people (Banse, Seise, & Zerbes, 2001; Jellison, McConnell, & Gabriel, 2004).

Earlier we noted evidence that controlling statistically for right-wing authoritarianism and fundamentalism eliminated or reversed the relationship between religiousness and prejudice. These findings provide preliminary evidence for a suppression effect. We predicted that controlling for the more benevolent aspects of



religiousness would lead to an even more negative relationship between religiousness and attitudes toward gay people (Hypothesis 7). It may even lead to a negative correlation between religiousness and attitudes toward Black people, given that intrinsic religiousness has both positive and negative components and controlling statistically for the positive components leaves only the negative components.

Our study examined the attitudes of adolescents, which is important for two reasons. First, religion plays a central role in the lives of most Americans, with 89% of Americans reporting a belief in God or a universal spirit (Gallup, 2009; Pew Forum on Religion & Public Life, 2014). In addition, prejudice toward Black people (Nosek et al., 2007) and toward people who are gay (Nosek et al., 2007) remains a chronic problem in the United States. Understanding why religiousness is sometimes linked to less prejudice could provide insights into approaches to reducing prejudice. At no time might this understanding be more important than during adolescence, a period in which social information is particularly influential because of the formation and salience of social identities (Bar-Tal & Teichman, 2005).

Second, we know little about adolescents' attitudes about race and sexual orientation, and what we do know is decades old (e.g., Bullock, 1978; Lombardi, 1963; Riordan, 1978; Scott & McPartland, 1982; Useem, 1976). To be sure, some studies in the last decade have examined prejudice in adolescents and have generally shown that, similar to adults, adolescents favor their own and high status groups more than they favor out-groups or low status groups (Hailey & Olson, 2013; Raabe & Beelmann, 2011; Smith, Shepperd, Miller, & Graber, 2016). However, we know of no research that has examined the relationship between religiousness and attitudes toward Black Americans and gay people in noncollege adolescents. Our study addresses these gaps in the literature.

## Method

### Participants

We describe responses from the last three of six waves of data collection in a 3-year longitudinal study of religiousness and adolescent behavior. Participants in the larger study completed surveys every six months beginning in their freshman year of high school. We administered the attitude measures that are central to the present study during waves 4, 5 and 6, hereafter referred to as Time 1, Time 2, and Time 3.

For the larger study, we sent invitations to parents of approximately 12,000 high school freshmen in central and north-central Florida. The invitation described the purpose of the study and invited their child to participate. We sent web addresses and personal passwords to 2,128 adolescents who sent us signed consent forms. Of the 1,428 adolescents who logged into the study website, six were ineligible because of their year in school and three more withdrew without completing the wave 1 survey leaving an initial sample of 1,419 adolescents. For Time 1 of our study, 1,082 adolescents responded to our measure of religiousness ( $M_{\text{age}} = 16.04$ ,  $SD = 0.57$ ; 444 males, 470 females, four declined to indicate their sex, 164 missing data). For Time 3, 984 adolescents responded to the attitudes toward Black people outcome measure ( $M_{\text{age}} = 17.10$ ,  $SD = 0.56$ ; 444 males, 476 females, four declined to indicate their sex, 60 missing data), and 963 adoles-

cents responded to the attitudes toward gay people outcome measure ( $M_{\text{age}} = 17.09$ ,  $SD = 0.565$ ; 426 males, 475 females, three declined to indicate their sex, 59 missing data).

Our sample at Time 1 consisted of 894 White American, 116 Black American, 35 Asian American or Pacific Islander, 8 Native American, 7 Indian American, 33 biracial, 63 other racial identity, and 26 who declined to share their racial identity. In addition, 137 participants (11.6%) identified as Hispanic. Adolescents who lacked responses to an outcome for Times 2 or 3 were excluded from the analysis of that outcome. Participants represented 61 different public and private high schools with no school accounting for more than 8.4% of our sample. The vast majority of students came from six counties that ranged in population from 72,000 to 1.2 million people, had a median household income that ranged from \$32,500 to \$48,500, had from 12.0% to 26.4% of residents classified below the poverty line, had from 71.0% to 91.7% of residents identifying as White Americans, and from 5.0% to 22.0% identifying as Black Americans.

Participants received \$15 for completing the Times 1 and 3 survey and \$35 for completing the longer, Time 2 survey. The Institutional Review Board at the University of Florida approved all procedures and measures. The hypotheses were not preregistered.

### Procedure

Participants completed the Time 1–3 measures online via Qualtrics Survey Software, which began in the second half of the sophomore year and ended at the end of the junior year of high school. Qualtrics presented all survey measures in random order. To maintain anonymity, participants provided no identifying information when completing the surveys. Rather, they accessed the survey with a unique code that allowed us to match responses across waves and to identify when a participant had completed a survey and should receive payment. Although it is impossible to be certain about causality with correlational data, one is in a better position to argue for a causal direction if the presumed causal variables occur in time before the presumed outcome measures. We wished to test a path in which religiousness gives rise to various values and beliefs (e.g., love for humanity, universalism) or response tendencies (a social desirability bias, a response bias), which in turn influence evaluations of Black people and gay people. Thus, we examined religiousness at Time 1, responses to our mediators at Time 2, and attitudes toward Black and gay people at Time 3.

### Materials

**Intrinsic religiousness.** We measured intrinsic religiousness at Time 1 with the 11-item Religious Commitment Inventory for Adolescents (RCI-A; Miller, Shepperd, & McCullough, 2013), which was adapted from the Religious Commitment Inventory (RCI-10) (Worthington et al., 2003). The RCI-A assesses religious beliefs and values and is appropriate for adolescents. A typical item reads, "Religious beliefs influence all my dealings in life." with responses assessed using a 5-step scale (1 = *not at all true of me*; 5 = *totally true of me*). We averaged responses to the scale items to form a composite measure with higher scores indicating higher levels of intrinsic religiousness ( $\alpha = .97$ ,  $n = 983$ ).

**Love of humanity.** We assessed love of humanity at Time 2 with six items from the Love of Humanity Scale (Sprecher & Fehr, 2005), which assesses the extent to which people feel love and compassion for others and are motivated to help others in need. Because the reading level for the items was high, we modified the items to make them more accessible to high school students. For example, we modified one item from, “I feel considerable compassionate love for people from everywhere” to “I feel a great deal of caring for all people”. We modified a second item from, “I would rather engage in actions that help others, even though they are strangers, than engage in actions that would help myself”, to instead read, “I would rather help others, even I if don’t know them, than help myself.” The remaining four items were: “When I hear about people I don’t know going through a difficult time, I feel a great deal of caring for them,” “I tend to feel caring toward people, even people I do not know,” “I often have caring feelings toward all people who seem to be in need,” and “If a person is troubled, I usually feel extreme tenderness and caring.” Participants responded using a seven-step scale (1 = *not at all true of me*; 7 = *very true of me*). We averaged responses so that higher scores indicate greater Love of Humanity ( $\alpha = .95$ ,  $n = 1,078$ ).

**Social desirability.** We measured socially desirable responding at Time 2 using the 10-item Marlowe-Crowne Social Desirability Scale (Strahan & Gerbasi, 1972). The scale measures the extent to which people present a desirable image by endorsing items that are true of virtually no one (e.g., “I have never deliberately said something that hurt someone’s feelings.”) and failing to endorse items that are true of virtually everyone (e.g., “There have been occasions when I took advantage of someone.”). The scale presents a dichotomous response format (*True*; *False*) and is useful in assessing socially desirable responding to potentially sensitive survey items, such as social attitudes (Crowne & Marlowe, 1960; Fischer & Fick, 1993; Strahan & Gerbasi, 1972). We coded responses so that 0 indicated a response that was not socially desirable and 1 indicated a socially desirable response. We recoded the last five of the 10 items to reflect this coding and then averaged responses so that higher scores indicate greater socially desirable responding ( $\alpha = .61$ ,  $n = 832$ ).

**Universalism and response bias.** We measured universalism and the tendency to display a response bias at Time 2 with feeling thermometers (0 = *I feel very cold toward \_\_\_\_\_*; 100 = *I feel very warm toward \_\_\_\_\_*). Participants completed thermometer items for eight social groups: Black people, White people, gay people, straight people, rich people, poor people, people with similar beliefs, and people with dissimilar beliefs. We included the last four categories to provide comparison conditions that were not grounded in race or sexual identity. Researchers frequently use thermometer items as a method for quickly measuring attitudes toward social groups in a variety of contexts (e.g., Amodio & Devine, 2006; Henry, Reyna, & Weiner, 2004; Inbar, Pizarro, & Bloom, 2012).

We created a measure of universalism by subtracting responses to the item asking participants how warm they felt toward “people with similar beliefs” from the item asking participants how warm they felt toward “people with dissimilar beliefs.” Presumably, someone high in universalism will display equal warmth toward people with similar and people with dissimilar beliefs, whereas people low in universalism will display greater warmth toward people with similar beliefs than dissimilar beliefs. The difference in responses to these items

ranged from  $-100$  to  $89$ . Of the 859 participants who provided responses to both items, the difference score was negative for 448 participants (indicating warmer feelings toward people with similar than people with dissimilar beliefs), zero for 360 participants (indicating no difference in warmth toward people with similar vs. dissimilar beliefs), and positive for 51 participants (indicating warmer feelings toward people with dissimilar than people with similar beliefs). This last group is peculiar and may represent socially desirable responding (which we examine directly in our statistical analyses by including a measure of social desirability as a predictor), a perception that one’s personal beliefs are problematic, or simply error variance. We opted to keep these participants in the sample because their responses represent a sentiment that is opposite to responses indicative of *low* universalism. We created an aggregate measure of *response bias* by averaging participants’ responses to six of the eight social groups (all social groups except *Black people* and *gay people*;  $\alpha = .87$ ,  $n = 1,026$ ). The correlations among these six items ranged from  $.43$  to  $.69$ . We analyzed responses to the “Black” thermometer item and the “gay” thermometer item both separately and together as our outcome measures.

**Race of the respondent.** We dummy coded as 1 all participants who exclusively identified as Black ( $n = 116$ ) and dummy coded as 0 all participants who did not self-identify in any way as Black ( $n = 1,040$ ). We omitted from analyses 61 participants who either identified as Black biracial (including Black/White biracial), nonspecific biracial, or did not identify their race.

## Data Analysis

Religiousness at Time 1 served as our predictor and attitudes toward Black and attitudes toward gay people at Time 3 served as our outcomes. For analyses examining attitudes toward Black people, we combined all participants who did not identify as Black into one group because our interest was in the link between religiousness and prejudice toward Black people, rather than the attitudes of specific groups toward Black people. We tested five possible explanations for the relationship between religiousness and positive attitudes toward Black people: love of humanity, universalism, response bias, socially desirable responding, and Black racial identity. We also tested whether the first four of these explanations play a role in the relationship between religiousness and negative attitudes toward gay people (i.e., a suppression effect). Although mediation and suppression effects are conceptually distinct, the statistical tests for the two effects are identical (MacKinnon et al., 2000). Thus, we used the same approach to examine our suppression hypotheses in attitudes toward gay people.

We tested the first four explanations simultaneously, using the PROCESS macro (V2) by Hayes (2013) with 5,000 bootstrapped samples. Testing the four mediators/suppressors simultaneously allowed us to examine (a) whether any of the mediators/suppressors were redundant, and (b) whether the four together might fully explain the relationship between religiousness and attitudes toward Black and gay people. The PROCESS macro does not allow for testing dichotomous mediators. We thus tested the fifth explanation in the analysis of attitudes toward Black people by including Black racial identity as a covariate in our regression model. By using Black racial identity as a covariate, we were able to examine whether identifying as Black explained significant variance in each

of the regression paths. We also ran the same analysis without Black racial identity as a covariate, to test whether inclusion of Black identity as a covariate significantly altered any of the regression paths. We standardized all measures prior to running analyses, allowing for standardized regression estimates and confidence intervals.

## Results

### Preliminary Analyses

Table 1 provides the descriptive statistics for all measures. Although not pertinent to our hypotheses, paired *t* tests comparing attitudes toward the different groups (28 pairs, setting  $\alpha = .01$  to guard against the Type I error) revealed significant differences (see Table 1) between groups in all but five comparisons: Black people versus poor people ( $p = .670$ ), White people versus people who share your beliefs ( $p = .600$ ), gay people versus rich people ( $p = .991$ ), gay people versus people who do not share your beliefs ( $p = .472$ ), and rich people versus people who do not share your beliefs ( $p = .124$ ). Overall, participants reported the greatest warmth toward people who were straight, White, and shared their beliefs. They reported the least warmth toward people who were gay, rich, and did not share their beliefs. Attitudes toward poor people and Black people fell decidedly in the middle. For interested readers, we include tables in the [online supplemental materials](#) that depict the mean responses of three racial groups (White, Black, and Asian people) and two ethnic groups (Hispanic and non-Hispanic) to our measures.

Table 2 presents the correlations between our measures. Consistent with Hypothesis 1, greater intrinsic religiousness correlated positively with attitudes toward Black people but negatively with attitudes toward gay people. In addition, love for humanity and the tendency to rate social groups more favorably (our measure of response bias) correlated positively with intrinsic religiousness and with attitudes toward Black and gay people. Universalism correlated positively with attitudes toward gay people and Black people, but was negatively correlated with intrinsic religiousness. Socially desirable responding correlated positively with intrinsic religiousness and attitudes toward Black people, but was uncorrelated with

attitudes toward gay people. Finally, Black racial identity correlated positively with intrinsic religiousness and with attitudes toward Black people.

### Religiousness and Attitudes Toward Black People

Figure 1 displays the mediation model ( $n = 665$ ) for attitudes toward Black people, which includes the predictor (intrinsic religiousness at Time 1), the four potential mediators (all Time 2), and the outcome (attitudes toward Black people at Time 3). Consistent with the zero-order correlation presented in Table 2, the direct path from religiousness to attitudes toward Black people was statistically significant prior to entry of the mediators into the model. After entry of the four mediators, the direct path was reduced but remained significant, indicating partial mediation. The left side of the model reveals a statistically significant path from religiousness to all four potential mediators. Contrary to expectation, the coefficient for the path from intrinsic religiousness to universalism was negative, indicating that greater intrinsic religiousness corresponded with a lower score on our measure of universalism (i.e., less acceptance of people with dissimilar beliefs). We return to this finding in the discussion.

The right side of the model reveals a statistically significant path from love of humanity, universalism, and response bias to attitudes toward Black people, but a nonsignificant path from social desirability to attitudes toward Black people. The confidence intervals depicted in the boxes in Figure 1 for the three statistically significant indirect effects do not contain zero, indicating that all three mediators were statistically significant. The significant indirect paths coupled with the reduction in the direct path from religiousness to attitudes toward Black people provide support for Hypotheses 2 and 4. For social desirability, the confidence intervals for the indirect effect contained zero, indicating that social desirability was not a statistically significant mediator. The total indirect effect was  $B = .068$ ,  $SE = .020$ , 95% CI [.030, .110]. In sum, our findings indicate that, together, love for humanity, universalism and a response bias partially explained the relationship between religiousness and attitudes toward Black people.

We found no support for Hypothesis 6. Identification as Black (which we included as a covariate) was nonsignificant for all outcomes, indicating that racial identification (Black vs. non-Black) did not explain significant variance in any of the mediators or the outcome variable. Although the covariate was not significant, we observed full mediation after its inclusion (i.e., no direct effect of religiousness on attitudes toward Black people after entering our four mediators simultaneously;  $B = 0.073$ ,  $SE = 0.021$ , 95% CI [-0.032, 0.16]). This finding is intriguing and suggests that inclusion of this variable suppressed unreliability in one or more of our other predictors, leading to full mediation of the effect of intrinsic religiousness on our outcome.

### Religiousness and Attitudes Toward Gay People

Figure 2 displays the suppression model ( $n = 654$ ) for attitudes toward gay people. Consistent with the mediation model for attitudes toward Black people, we included the predictor (intrinsic religiousness at Time 1), the four potential mediators (all at Time 2), and the outcome (attitudes toward gay people at Time 3). Consistent with the zero-order correlation presented in Table 2, the

Table 1  
Descriptive Statistics

Study variables	<i>n</i>	<i>M</i>	<i>SD</i>
Religiousness (Time 1)	983	2.68	1.28
Social desirability (Time 2)	832	.48	.20
Love of humanity (Time 2)	1,078	5.16	1.42
Universalism (Time 2)	1,049	-14.20	23.48
Response bias (Time 2)	1,026	80.81	17.60
Attitudes: Rich people	1,077	73.05 <sup>d</sup>	26.12
Attitudes: Poor people	1,072	77.49 <sup>c</sup>	23.77
Attitudes: People with similar beliefs	1,063	86.13 <sup>b</sup>	20.32
Attitudes: People with different beliefs	1,051	72.05 <sup>d</sup>	26.50
Attitudes: Straight people	1,086	89.53 <sup>a</sup>	17.51
Attitudes: White people	1,089	85.82 <sup>b</sup>	19.51
Attitudes toward gay people (Time 3)	963	72.68 <sup>d</sup>	30.06
Attitudes toward Black people (Time 3)	984	77.03 <sup>c</sup>	26.41

Note. For the specific attitude items, means with different superscripts differ at  $p < .01$ .

Table 2  
Correlations

Study variables	Religiousness	Social desirability	Love for humanity	Response bias	Universalism	Black racial identity	Attitude toward Black people
Social desirability	.18**	—	—	—	—	—	—
Love for humanity	.31**	.24**	—	—	—	—	—
Response bias	.13**	.11**	.33**	—	—	—	—
Universalism	-.07*	.11**	.03	.21**	—	—	—
Black racial identity	.22**	.04	.07	.04	-.04	—	—
Attitude toward Black people	.13**	.10**	.23**	.41**	.17**	.12**	—
Attitude toward gay people	-.08*	.03	.24**	.30**	.21**	-.02	.53**

Note. Religiousness measured at Time 1, attitudes toward Black people and gay people measured at Time 3, and all other variables measured at Time 2.  
\*  $p < .05$ . \*\*  $p < .01$ .

direct path from religiousness to attitudes toward gay people was statistically significant prior to entry of the potential suppressors into the model. The left side of the model reveals a positive, statistically significant path from religiousness to each of the four potential suppressors. Once again, the coefficient for the path from intrinsic religiousness to universalism was negative, indicating that greater religiousness corresponded with a lower score on our measure of universalism.

The right side of the model also reveals statistically significant paths from love of humanity, universalism, and response bias to attitudes toward gay people, but a nonsignificant path from social desirability to attitudes toward gay people. Once again, the confidence intervals depicted in the boxes in Figure 2 for the three statistically significant indirect effects did not contain zero, indicating that the three suppressors were statistically significant. For socially desirable responding, the confidence interval for the indirect effect contained zero, indicating that social desirability was not a statistically significant mediator. As with the mediation model for prejudice toward Black people, these findings indicate that, together, love for humanity, universalism, and a response bias explained, at least partially, the relationship between religiousness and attitudes toward gay people.

As we noted at the outset, we lacked an item assessing self-identification as gay, and thus we could not Test Hypothesis 6.

However, examination of the direct path from religiousness to attitudes toward gay people allows us to test Hypothesis 7. As evident in Figure 2, and consistent with Hypothesis 7, the direct path was even more statistically significant after entry of the suppressor variables. The confidence interval for the total indirect effect did not contain zero, indicating a significant difference between the  $c$ -path and  $c'$ -path,  $B = .071$ ,  $SE = .020$ , 95% CI [.033, .111]. This finding suggests that, after controlling statistically for the agreeable aspects of religiousness, greater religiousness was linked to more negative attitudes toward gay people.

### Examining Attitudes Toward Black People and Gay People Simultaneously

Finally, because our two outcomes were correlated ( $r = .53$ ), we conducted a follow-up analysis using structural equation modeling (SEM) in Amos (Version 25.0.0), which allowed our two outcomes to correlate. Constraints on the parameters provided by Amos (e.g., estimates of the specific indirect effects and  $SE$ s) limited the usefulness of Amos as a primary analytic strategy. We thus report the Amos analyses to complement our PROCESS analyses. Obtaining bootstrap 95% confidence intervals in Amos, required that we conduct listwise deletion manually, leaving 703 complete responses. We created parcels of items by averaging

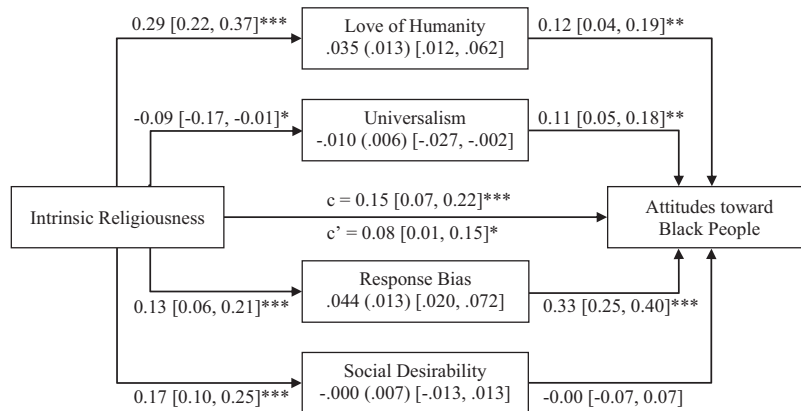


Figure 1. Attitudes toward Black people mediation model ( $n = 665$ ). Religiousness measured at Time 1, attitudes toward Black people measured at Time 3, and all other variables measured at Time 2. Numbers in brackets reflect 95% CI. The values in the boxes represent the standardized coefficients,  $SE$  and 95% CI for the indirect effects involving the mediators. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .



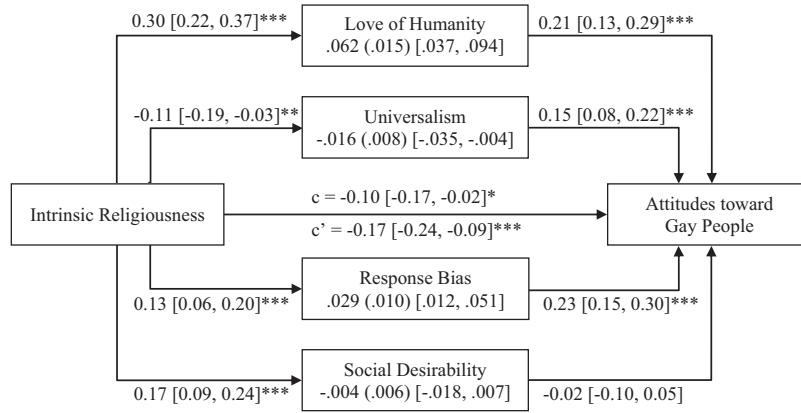


Figure 2. Attitudes toward gay people suppression model ( $n = 654$ ). Religiosity measured at Time 1, attitudes toward gay people measured at Time 3, and all other variables measured at Time 2. Numbers in brackets reflect 95% CI. The values in the boxes represent the standardized coefficients, SE and 95% CI for the indirect effects involving the mediators. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

subsets of scale items (Little, Rhemtulla, Gibson, & Schoemann, 2013). Our justification for parceling and the decisions we made appear in the online supplemental materials. Because the SEM intended to complement our PROCESS analyses, we report only the final mediation model including the a, b, c, and mediation paths (rather than the model progression typically used for nested model testing in SEM). The model fit indices suggest adequate fit for the final mediation model predicting both attitudes toward Black people and attitudes toward gay people,  $\chi^2(86) = 391.28$ , CFI = .95, Tucker–Lewis Index (TLI) = 0.93, RMSEA = 0.07, 95% CI

[.06, .08], standardized root-meansquare residual (SRMR) = 0.10. The total indirect effect for attitudes toward gay people was  $B = .094$ , 95% CI [.049, .143],  $p < .001$ , and the total indirect effect for attitudes toward Black people was  $B = .094$ , 95% CI [.048, .144],  $p < .001$ .

The results (see Figure 3) were identical to when we examined the outcomes separately using PROCESS analyses with the exception that, in the SEM, the c-path was smaller and the c'-path was no longer statistically significant for attitudes toward Black people. These findings demonstrate full mediation of the relationship

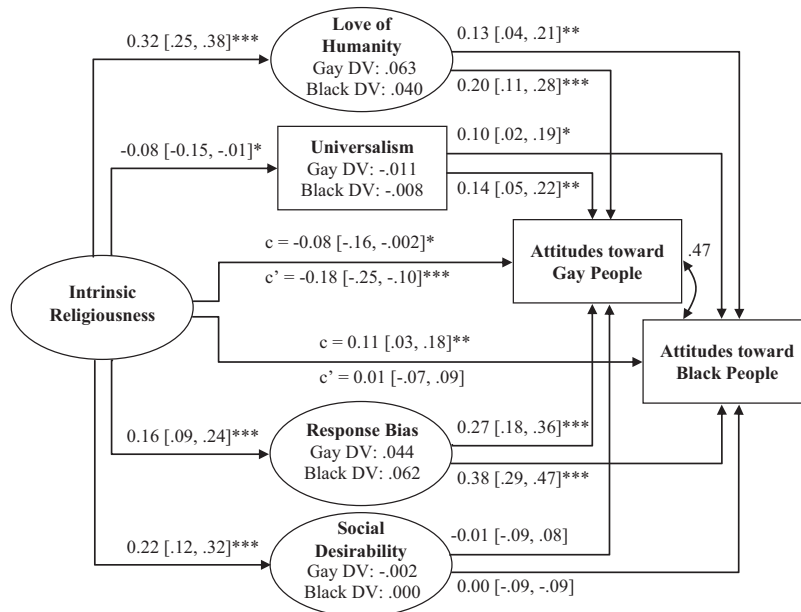


Figure 3. SEM model analyzing both outcomes simultaneously and allowing them to correlate ( $n = 703$ ). Religiosity measured at Time 1, attitudes toward Black people and gay people measured at Time 3, and all mediators measured at Time 2. Numbers in brackets reflect 95% CI. The values in the boxes represent the standardized coefficients, SE and 95% CI for the indirect effects involving the mediators. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . Model includes Black racial identity as a covariate.



between intrinsic religiousness and attitudes toward Black people rather than the partial mediation we observed when we analyzed our two outcomes separately using a PROCESS model. However, the SEM included identification as Black as a covariate. As we noted earlier, including identification as Black as a covariate in the PROCESS analysis also produced full mediation. From this perspective, the results of the two analytic approaches are identical.

### Exploratory Analyses

We conducted several exploratory analyses to test the robustness of our effects. In all cases, these exploratory analyses relied on a subset of the data and any changes from the effects observed in the main analyses may reflect a reduction in statistical power and should be viewed cautiously. The first analysis examined self-identifying as Black versus self-identifying as White as a covariate and eliminated all participants who did not self-identify exclusively as one of these two groups. The second examined self-identifying as Hispanic versus not self-identifying as Hispanic as a covariate. The third examined self-identifying as Catholic versus not self-identifying as Catholic as a covariate, and the fourth examined self-identifying as Protestant versus not self-identifying as Protestant as a covariate. The depictions of these models appear in the [online supplemental materials](#) and we merely summarize the findings here.

The mediation and suppression models we described earlier generally replicated with two exceptions. First, including identification as Black (vs. White), and separately, including identification as Hispanic (vs. not) as a covariate resulted in full mediation in the analysis involving attitudes toward Black people. Put simply, our mediators completely explained the link between intrinsic religiousness and prejudice toward Black when we limit our sample to participants identifying exclusively as Black or White (or as Hispanic vs. not) and then control racial (or ethnic) group. Second, including identification as Protestant (vs. not) as a covariate resulted in a nonsignificant path from religiousness to universalism in the analysis involving attitudes toward Black people. It also resulted in a nonsignificant direct path from religiousness to attitudes toward gay people both before and after inclusion of the suppressors in the model (although all of the indirect paths through the suppressors from religiousness to attitudes toward gay people remained statistically significant). Put simply, participants had less favorable attitudes toward gay people if they were Protestant than if they were not, and this effect completely accounted for the direct relationship between intrinsic religiousness and attitudes toward gay people. Again, we urge caution in interpreting these exploratory analyses.

### Discussion

We tested seven hypotheses. Consistent with prior studies (Donahue, 1985; Hall et al., 2010; Whitley, 2009), we found that greater intrinsic religiousness corresponded with more positive attitudes toward Black people, but with more negative attitudes toward gay people (Hypothesis 1). Mediation analyses revealed no support for the hypothesis that these relationships were due to socially desirable responding (Hypothesis 5). In addition, we found no support for the hypothesis that the effect of religiousness on attitudes toward Black people was an artifact of the sample

including Black people, who, compared with White people, typically are more religious and have more favorable attitudes toward Black people (Hypothesis 6). Instead, we found that the relationship appears to arise from a tendency for people high in intrinsic religiousness to have a stronger love for humanity (Hypothesis 2) to display a bias toward rating all social groups favorably (Hypothesis 4), but to be *lower* in universalism (contrary to Hypothesis 3). These three aspects of religiousness accounted almost entirely for the relationship between intrinsic religiousness and attitudes toward Black people.

An intriguing finding from past research is that controlling for right-wing authoritarianism and fundamentalism sometimes produces a suppressor effect and reverses the sign of the relationship between religiousness and prejudice from negative to positive (Shen et al., 2013). We predicted and observed a parallel finding in our sample (Hypothesis 7). Specifically, when we included the agreeable aspects of religiousness in our model, we observed a stronger negative relationship between intrinsic religiousness and attitudes toward gay people. The fact that the relationship became more strongly negative indicates that religiousness is not uniformly associated with more prejudice toward gay people. Some aspects of religiousness (e.g., a love for humanity, and a response bias) appear linked to positive attitudes toward gay people.

It is noteworthy that our results were opposite to Hypothesis 3. Although greater universalism corresponded with less prejudice, participants who were high in intrinsic religiousness were less likely to endorse universalism. These findings are consistent with evidence that people high in religiousness often discriminate in favor of members of their religious group (Schwartz & Huisman, 1995), suggesting that endorsement of universalism among people high in religiousness exists more in theory than fact, and that their lack of universalism contributes to greater prejudice toward outgroups.

When viewed within the larger literature, our findings deepen our understanding of the seemingly inconsistent relationship between religiousness and prejudice. Religion is a complex construct that has both positive and negative consequences for attitudes toward social groups. The source of the negative consequences of religion for social attitudes is well documented and appears linked to right-wing authoritarianism and fundamentalism (Kirkpatrick, 1993; Mavor & Gallois, 2008). Our study finds that the positive consequences for social attitudes appear linked to greater love for humanity a general tendency to view social groups favorably.

### Strengths and Limitations

Our study had several strengths. First, we recruited a relatively large sample, which strengthens our confidence in the validity of our findings. Large samples provide greater statistical power, thus reducing the likelihood of both the Type I and II error (Bakker, van Dijk, & Wicherts, 2012). Second, we sampled noncollege adolescents, thereby filling a gap in the literature on adolescents' attitudes about race and sexual orientation. Past studies on adolescent prejudicial attitudes are few and dated. Paralleling the findings for other age groups, our studies find that the adolescents in our sample viewed marginalized groups (Black people and gay people) less favorably than they viewed dominant groups (e.g., White people and straight people). Third, we examined multiple explanations for the relationship between intrinsic religiousness and prejudice simultaneously thereby controlling for shared variance between explanations.

Our study also had limitations. First, most respondents in our sample were White/non-Hispanic Christians from north and central Florida, U.S.A. The sample was not randomly selected and may not be representative of adolescents in the United States in general. Thus, our findings may not generalize beyond our sample and may have looked different, if our sample had included more minority and non-Christian adolescents. It is notable, however, that our results were identical when we reran our model after including identification as Hispanic as a predictor. However, our findings deserve replication using minority samples. Second, the items used to assess religiousness referred to “religion” and “faith” without naming any specific religion. As such, all participants could complete the items and were free to interpret the terms as they saw fit. Although this inclusivity can be viewed as a strength of the study, it also necessarily combines religious traditions that are quite different from one another. The inclusivity is further complicated by the fact that people display a remarkable degree of heterogeneity even within one religion, and that religious texts often contain conflicting teachings. Future work would do well to look at the relationship between religiousness and attitudes toward Black people and gay people within more clearly defined religious groups to assess whether our findings replicate and occur via the same mechanisms.

Third, many prospective participants did not respond to our invitations to participate. Inclusion of these nonparticipants may have yielded different results. Fourth, we only examined attitudes toward Black people and gay people. It is unknown whether our findings would extend to attitudes toward other groups (e.g., people who are overweight, Muslims) that are frequently the target of prejudice in the United States. Fifth, our study was correlational, limiting our ability to make causal assertions.

Sixth, we did not include a measure of sexual orientation in our study, which would have allowed a test of the self-identity hypothesis for attitudes toward gay people, parallel to Hypothesis 6 regarding respondent race. It is possible that an ingroup bias, with straight people preferring straight people over gay people and gay people preferring gay people over straight people would explain some of the variance in attitudes toward gay people. Seventh, our study lacked measures of right-wing authoritarianism and religious fundamentalism. Including these measures would have allowed us to test whether the stronger negative relationship between religiousness and prejudice toward gay people that emerged in our mediation analyses was due to the correlation (observed in past studies; Whitley, 2009) between intrinsic religiousness and these aspects of religiousness. Finally, our findings relied on self-reports and it is unknown how well the reports—particularly the link between low prejudice and love for humanity, universalism, and response bias—reflect our participants’ true attitudes and not merely an effort to appear nonprejudiced. Importantly, we observed our effects while controlling for socially desirable responding, suggesting that the possibility that an attempt to appear favorably does not account for our findings. However, the modest reliability of our measure of socially desirable responding may have diminished the strength of our test of this explanation.

### Future Research and Conclusions

The limitations we described suggest several directions worthy of future research. Research on the relationship between religiousness and prejudice is important not just for increasing understand-

ing of humanity, but also for bettering humanity. Religion is a source of good and evil (e.g., Dawkins, 2006). Our findings add to our understanding of when religiousness is associated with more versus less prejudice. An important direction for future research is to investigate whether the agreeable aspects of religiousness translate beyond less prejudicial attitudes into less discriminatory behavior.

Just as important from an interventionist perspective is the need for research that explores whether our emerging understanding of why religiousness is linked to more versus less prejudice suggests paths to decrease prejudice and increase egalitarianism. Such paths might entail discouraging aspects of religiousness that are linked to greater prejudice (i.e., right-wing authoritarianism and fundamentalism) and encouraging aspects of religiousness linked to less prejudice (love for humanity, universalism, and generally favorable attitudes toward social groups) (Hunsberger & Jackson, 2005). How this discouragement/encouragement might manifest remains a challenging question.

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