In Search of "Religion Proper": Intrinsic Religiosity and Coalitional Rigidity Make Opposing Predictions of Intergroup Hostility Across Religious Groups

Ian Grant Hansen[1] and Andrew Ryder[2]

Abstract

In two cross-cultural studies, we examined the relationship between intrinsic religiosity (IR; inwardly held religious devotion), coalitional rigidity (CR; a rigid adherence to the superiority of the norms and beliefs of one's own group), and intergroup hostility (IH; morally impugning or wishing persecution on members of other groups). For Study 1, we analyzed a number of single-item interview questions in a data set collected from 10,068 people in 10 nations. For Study 2, we conducted our own surveys in two multicultural samples: Vancouver, Canada, and Kuala Lumpur, Malaysia. In all 18 religious subsamples from both studies, there were null or negative independent relationships between IR and some form of IH, and null or positive independent relationships between CR and such hostility. The results suggest that this pattern of prediction, which has previously been found in North American Christian samples, generalizes cross-culturally.

Keywords

religion, cross-cultural, rigidity, prejudice, authoritarianism, fundamentalism

> All [religious texts] are in perverse agreement on one point of fundamental importance . . . "respect" for other faiths, or for the views of unbelievers, is not an attitude that God endorses.
>
> —Sam Harris (2004, p. 13)

> The basenesses so commonly charged to religion's account are . . . not chargeable to religion proper, but rather to religion's wicked practical partner, the spirit of corporate dominion. And the bigotries are . . . chargeable to religion's wicked intellectual partner, the spirit of dogmatic dominion.
>
> —William James (1902/1982, p. 337).

Oppression, collective violence, and other forms of intolerant intergroup hostility (IH) remain depressingly commonplace in the 21st century. Nevertheless, most societies have developed in an increasingly tolerant direction, which potentially suggests collective human moral progress (Pinker,

[1]York College, Jamaica, NY, USA
[2]Concordia University, Montreal, Québec, Canada

Corresponding Author:
Ian Grant Hansen, York College, 94-20 Guy R. Brewer Blvd., Jamaica, NY 11451, USA.
Email: ihansen@york.cuny.edu

2011; Wellman, 1998). As relatively tolerant societies usually have more secular structures than the societies that predated them, continuing adherence to religious beliefs among ordinary people often provokes blame for IH in these societies and in the world. The opening quotation by Sam Harris reflects this dim view of religion's compatibility with tolerant pluralist civilization.

One difficulty with evaluating whether religious belief deserves blame for the persistence of IH is the variety of meanings people associate with religion. There is as much variation in practices that might be called "religion" as there is in practices that might be called "marriage." Despite this variation, there may be some cross-culturally recurrent patterns in how "religious" attitudes and practices relate to other psychological inclinations, including IH.

For instance, the opening quotation by James (1982/1902) suggests that religion's basic essence, "religion proper," is linked to other inclinations—corporate and dogmatic dominion— with the potential to motivate intolerance. There is already much published evidence suggesting that measures approximating "corporate and dogmatic dominion" (e.g., authoritarianism, fundamentalism, dogmatism) are correlated, as James would expect, with measures of both specifically Christian and more general religiosity (e.g., Duck & Hunsberger, 1999; Tsang & Rowatt, 2007; Watson et al., 2003). Moreover, there is also much published evidence suggesting that corporate and dogmatic dominion predict more serious forms of intolerance and prejudice (summarized most thoroughly in Altemeyer, 1981, 1988, 1996). And yet James imagines a "religion proper" that is potentially blameless of this intolerance, in spite of religion's correlation with key predictors of intolerance (corporate and dogmatic dominion).

Some empirical evidence already supports James's intuition. In predominantly Christian North American samples, researchers have found that when simple, devotional forms of religiosity (e.g., Christian orthodoxy, intrinsic religiosity [IR]) are included as simultaneous predictors with more coalitional or rigidity-related variables (e.g., authoritarianism, fundamentalism) in multiple regression, they make opposing predictions of prejudice[1] (Kirkpatrick, 1993; Laythe, Finkel, Bringle, & Kirkpatrick, 2002; Laythe, Finkel, & Kirkpatrick, 2001; Perry, Paradies, & Pedersen, 2015; Shen, Haggard, Strassburger, & Rowatt, 2013). The authoritarianism and fundamentalism in these studies predicted prejudice positively, whereas the more basic forms of religiosity predicted prejudice negatively. Other studies (e.g., Duriez, Fontaine, & Hutsebaut, 2000; Johnson et al., 2011; Morrison, Morrison, & Borsa, 2014) have found IR or some other conceptually-related basic religiosity variable to be unrelated to certain measures of prejudice when controlling for variables of the authoritarian–fundamentalist–dogmatist type. Also, even within the authoritarianism construct, the facet of it related to authoritarian aggression (rather than the submission and conventionality more associated with religion) has been found to be most relevant to predicting prejudice (Johnson, Labouff, Rowatt, Patock-Peckham, & Carlisle, 2012).

These findings, however, may suggest only that James had a perceptive intuition of religious dynamics in his own culture. Is this Jamesian pattern—religion correlated with "dominion" and yet itself unrelated or negatively related to bigotry—also evident in other cultures outside of the North American Christian milieu? Replication is a hallmark of good science and has become increasingly valued in personality and social psychology in recent years (Nosek, Spies, & Motyl, 2012). Cross-cultural replication is arguably even more valuable, as it addresses external validity as well as reliability concerns. A number of psychological processes and relationships found reliably in Western cultures have not replicated well across cultures (for a review, see Henrich, Heine, & Norenzayan, 2010).

In matters of religion, in fact, nonreplication may be more rule than exception, given the wide diversity of the cultural worldviews and practices labeled "religion." Regarding tolerance, for instance, some cross-religious comparisons show statistically significant mean differences congruent with common conceptions of how religions differ (e.g., Clobert, Saroglou, & Hwang, 2015; Clobert, Saroglou, Hwang, & Soong, 2014). We might reasonably expect that correlations between religion-relevant inclinations will be as cross-culturally variant as mean-level manifestations of

these inclinations. However, it is also possible that some worldview-associated psychological inclinations, in spite of attracting highly diverse cultural beliefs and practices, have an identifiable cross-contextual character. Psychologically "basic," or core, features of these inclinations may be strong determiners of their relationships to other core inclinations—stronger determiners than the culturally acquired beliefs and practices that attach to any of these inclinations.

Researchers might describe the core psychological inclination that most readily attracts a wide variety of religious beliefs as something like a propensity to self-transcendence with particular receptivity to supernatural ideation and discourse. For succinctness, however, we are content to use the shorthand phrase "religiosity" to describe this inclination. "Coalitional rigidity" (CR) inclinations and "IH" inclinations might also attract a wide variety of beliefs and practices, some of them religious. CR (thematically comparable with James's "corporate and dogmatic dominion") refers to the cluster of attitudes and inclinations associated with authoritarian, dogmatic, fundamentalist, or exclusivist views. IH (close to what James calls "baseness and bigotry") refers to attitudes and inclinations favoring oppression, violence, or intolerance toward those of other groups.

Widely diverse beliefs and practices could attach themselves to any of these three worldview-associated inclinations, but a belief-neutral perspective would de-emphasize worldview differences when explaining relationships between them. An argument from this perspective might proceed as follows. The supernatural-oriented inclination to self-transcendence ("religiosity") inclines people to vulnerable and precarious self-sacrifice to divine priorities (see, for example, Huebner & Hauser, 2011). Automatic processes that narrow the domain of this vulnerability may involve adopting coalitionally rigid inclinations like authoritarianism and exclusivity as a kind of protective parochial shell (Kirkpatrick, 1999). The upshot would be focusing most of one's self-sacrifice on benefiting one's in-group, not outsiders (Galen, 2012; Norenzayan & Shariff, 2008).

The coalitional ground laid by this existential defense may even at times motivate more concrete and consequential offense (oppression, intolerance, violence) under conditions of perceived threat. Yet the transcendent-supernatural inclination itself may be, if anything, inclined to shun violence and oppression and instead embrace tolerance, as kindness toward outsiders might be considered a kind of self-transcendent sacrifice to the divine (Douglas, 1994). According to this view, then, the findings of Laythe, Finkel, Bringle, & Kirkpatrick (2002); Laythe, Finkel, and Kirkpatrick (2001); Perry et al. (2015); and Shen et al. (2013) might reflect culturally widespread patterns—what Norenzayan and Heine (2005) call "existential universals"—rather than specifically Christian ones. Whether they reflect true human universals is beyond the scope of our analysis, but we extend our analytic scope at least to selected practitioners of some influential world religions.

Addressing this research question requires clarity about the constructs and measurements, so we provide brief reviews of the three major constructs of interest below. We consider Allport and Ross's (1967) IR to most closely approximate the concept of religiosity in which we are interested. IR, originally conceived of as religiosity that is inwardly held and central to one's life (e.g., Allport, 1959), arguably reflects a basic and widely occurring component of religious inclination and commitment.[2]

CR, as noted, is the core construct shared by measures like Right-Wing Authoritarianism (RWA; Altemeyer, 1981, 1988, 1996), Religious Fundamentalism (RF; Altemeyer & Hunsberger, 1992), Dogmatism (DOG; Altemeyer, 1996), and Religious Exclusivity (RE; Hansen, Jackson, & Ryder, 2015). These measures may be reliably associated with IR (e.g., Duck & Hunsberger, 1999; Tsang & Rowatt, 2007; Watson et al., 2003) but are not synonymous with it. Coalitional rigidity, as the name implies, suggests a glorification of one's own collectively bounded culture, beliefs, and traditions; a fear of ideas, individuals, and groups that may threaten one's culture; and a rigid overestimation of the potential truth value of one's own cultural/religious/ideological beliefs compared with those of others. CR, like other inclinations describable in "religious" terms, is not necessarily religious *per se* but may instead reflect culturally widespread patterns of

epistemic defensiveness that happen to attract religious beliefs. We expect that nonreligious ideological beliefs (e.g., culturally defensive pro-capitalist or pro-socialist attitudes) can also attach to CR inclinations.

IH, in contrast to CR, is more about active and potentially aggressive dislike for people of other worldviews, rather than mere disavowal of the alternative worldviews themselves or mere glorification of one's own worldview. For our purposes, IH involves a constellation of hostile inclinations, including scapegoating people with other worldviews; treating people with other worldviews as wicked, morally doomed, and worthy of shunning; advocating that people with other worldviews be denied fundamental civil rights; or expressing satisfaction at violence done to people of other worldviews.

Can Religiosity Relate Negatively to IH in Spite of Its Association With CR?

To the extent IR reliably predicts CR, and CR reliably predicts IH (at least prejudice), it is somewhat plausible that IR would also relate positively to IH. Contradicting this inference, however, is the evidence already cited suggesting that religiosity is a negative independent predictor of prejudice when CR variables are controlled (Laythe, Finkel, Bringle, & Kirkpatrick, 2002, Laythe, Finkel, & Kirkpatrick, 2001; Perry et al., 2015; Shen et al., 2013). There is also evidence that IR is often a null and occasionally a negative zero-order correlate of prejudice—though sometimes positive as well (see Batson, Schoenrade, & Ventis, 1993; Donahue, 1985; Hall, Matz, & Wood, 2010, for detailed discussions). In addition, there is a substantial literature linking religiosity to prosociality (Saroglou, 2012), though religious prosociality is predominantly directed toward one's coreligionists (Galen, 2012; Norenzayan & Shariff, 2008).

There is also some experimental evidence suggesting that basic religiosity can have tolerant effects. Some findings suggest that religiosity (at least the kind most conceptually overlapping with IR) is a potentially direct causal attenuator of prejudice and IH (Clingingsmith, Khwaja, & Kremer, 2008; Ginges, Hansen, & Norenzayan, 2009, Study 3; Hansen et al., 2015, Study 3; Jonas & Fischer, 2006, Study 2); a direct elicitor of allocentrism (Preston, 2013); or an orientation that moderates intolerant causal processes such that distinctively religious individuals do not show the intolerant effect found in less religious populations (Dechesne et al., 2003; Norenzayan, Dar-Nimrod, Hansen, & Proulx, 2009). Also, religious framing can make mortality salience—which usually induces prejudiced worldview defense—result in allocentric effects (Norenzayan & Hansen, 2006, Studies 3 and 4; Rothschild, Abdollahi, & Pyszczynski, 2009).

Yet there are a number of other experimental studies that suggest making God or a religious orientation salient *increases* negative attitudes toward outgroups (Blogowska, Saroglou, & Lambert, 2013; Johnson, Rowatt, & LaBouff, 2010, 2012; Ramsay, Pang, Shen, & Rowatt, 2014). The discrepancy in these findings may relate to the degree to which basic processes of "religiosity" are entwined with more rigid authoritarian and dogmatic attitudes in any sample population. Other inclinations likely to vary across contexts may also moderate the effects of religion primes—leading them to have one effect in one sample and another affect in others. For instance, Van Tongeren, McIntosh, Raad, and Pae (2013) found that religion primes increased intercultural tolerance only among those already high in IR. Also, the relationship of religiosity to prejudice has been shown to vary by the type of prejudice examined (e.g., proscribed vs. non-proscribed prejudice; Batson et al., 1993).

Disentangling Religiosity From CR

Although the zero-order relationship between religiosity (particularly IR) and prejudice may vary widely by the sample, measures, and type of prejudice examined, religiosity disentangled

from the confound of CR may show a more consistent pattern of prediction—as either a null or negative predictor of IH. This pattern may be manifest not only across samples with different zero-order correlations but across different religious cultures as well.

To investigate this possibility, we present two studies addressing our research question across diverse religious settings. We are thus treating religious group as a measure of cross-cultural variance, consistent with the recommendations of A. B. Cohen (2009). Each of our studies tests weak and strong versions of the Jamesian hypothesis in these settings. The weak version is that researchers will consistently fail to find evidence that IR ("religion proper") positively predicts IH ("baseness and bigotry") when controlling for CR ("corporate and dogmatic dominion"). The strong version is that IR will in fact tend to show a *negative* association with IH once controlling for CR (there may occasionally be a negative zero-order correlation also, but the relationship should be more consistently negative with CR controlled).

We address our hypotheses first in a large archival data set covering 10 countries and a range of religious beliefs and practices, and then in two multicultural, multireligious samples in Kuala Lumpur, Malaysia, and Vancouver, Canada. In both cases, we begin by considering the overall heterogeneous sample to properly evaluate our weak hypothesis with a sufficient degree of power. We then consider the extent to which the general pattern repeats across more homogeneous subgroups to address whether it represents a plausible "existential universal" (Norenzayan & Heine, 2005).

Study 1

For Study 1, we reanalyzed a data set that Ginges and colleagues (2009, Study 4) had previously used in a cross-cultural investigation of religion's relationship to "parochial altruism," a combination of IH with willingness to sacrifice for one's own group. The authors examined a general measure of parochial altruism in samples of Hindus in India, Jews in Israel, Protestants in the United Kingdom, Catholics in Mexico, Eastern Orthodox in Russia, and Muslims in Indonesia. They found that, averaged across these diverse samples, collective attendance at religious services positively predicted parochial altruism, while prayer frequency was a null predictor.

In our reanalysis of this data set, we examined prayer's relationship to the particularly "parochial" aspect of parochial altruism as it most directly reflects IH. Ginges and colleagues (2009) measured parochial altruism by the simultaneous endorsement of two statements, one expressing a willingness to die for one's God or beliefs, and one scapegoating people of other religions for the world's problems. For the present study, we examined only the scapegoating statement as the criterion variable of interest, as it is possible to be willing to die for one's beliefs and not be hostile toward outgroups (e.g., Martin Luther King, Gandhi). The exact wording of this item was, "I blame people of other religions for much of the trouble in this world." We also examined the entire sample, rather than the specific subgroups chosen by Ginges and colleagues, dividing participants into new subsamples based on religious affiliation (e.g., Orthodox Christians, Hindus). We did, however, retain Ginges and colleagues' binary division of responses to the variables of interest, because generally these responses could not be arranged ordinally and because bimodal distributions were common.

Method

Sample. We obtained the data set for Study 1 from a 2003 to 2004 survey conducted by the British Broadcasting Corporation (BBC).

Participants. The BBC commissioned a British polling agency, ICM Associates, to partner with professional polling agencies in each country surveyed to conduct either telephone or face-to-face interviews with participants in their native language. ICM selected participants in all

countries to be representative of either the national population or the population of its most populous major metropolitan areas.

ICM Associates interviewed 10,068 participants (49% male, 51% female). These participants resided in 10 countries: India (10%), Indonesia (10.3%), Israel (9.9%), Lebanon (10.1%), Mexico (9.9%), Nigeria (9.9%), Russia (9.9%), South Korea (9.9%), the United Kingdom (9.9%), and the United States (10.0%). The data set did not list exact ages of participants, but 20% were between 18 and 24, 23% between 25 and 34, 20% between 35 and 44, 17% between 45 and 54, and 20% above 55. The majority of the participants reported affiliation to a religious identity, sorted into eight broad categories: Muslim (19.5%), Protestant Christian (16.6%), Catholic Christian (16.3%), Hindu (10.0%), Jewish (8.6%), Orthodox Christian (8.3%), other Christian (3.5%), and Buddhist (2.5%). In addition, almost one in 10 participants reported no religious affiliation (9.1%), and some participants either reported another religion not covered by the survey or refused to answer this question (3.5%).

Measures. We measured all variables of interest in a binary way: belief in God ("I have always believed in God" or "I believe in God but have not always" vs. other response), prayer frequency ("regularly" vs. other response), RE (agree that "My God [beliefs] is the only true God [beliefs]" vs. other response), and religious scapegoating (agree that "I blame people of other religions for much of the trouble in this world" vs. other response). As previously noted, this binary measurement conformed to the previous analyses of Ginges and colleagues (2009). This analysis was necessary in part because responses other than the target response often could not be intuitively ordinally arranged. For instance, the item measuring prayer frequency, "Would you say that you pray . . . ?" had the following as possible responses "Regularly"; "Only occasionally, at times of crisis"; "Only occasionally at special religious events"; "At religious festivals during the course of a normal year"; "Never"; and "Don't know."

We considered prayer frequency and belief in God as markers of the same kind of "basic" religiosity measured by IR, and so hereafter refer to these variables as IR variables. Although it is possible to express both belief and prayer communally, it is also common to manifest them inwardly. In a separate study (Hansen, Jackson & Ryder, 2015, Study 3), which the authors conducted in part to examine the relationship between the BBC survey religious items and various validated scales, Hoge's (1972) Intrinsic Religious Motivation (IRM) scale was correlated with both belief in God and prayer frequency, both rs > .54, both ps < .001.

We considered exclusivity as an important aspect of CR insofar as the declaration of one's beliefs as the "only true beliefs" epistemically excludes other beliefs by implying they are untrue or only partially correct. Unfortunately, the data set did not allow us to consider other aspects of CR. We considered religious scapegoating to be the most content valid measure of IH. Blaming people of a certain worldview for the problems in the world implies group-based moral condemnation, and historically such condemnation can lead to persecution, or even killing.

Analyses. We analyzed the relationship between IR, CR, and IH both for the overall data set (n = 10,068) and for religious subsamples. Our analyses used binary logistic regressions, because the dependent measure was a dichotomous variable. For the full sample, we report results for (a) zero-order analyses, (b) analyses controlling for the other major predictor of interest (RE for IR variables, IR variables for RE), and (c) analyses controlling also for attendance at religious services and other demographic variables (sex, age, work type, and national gross domestic product [GDP] per capita).

Results and Discussion

In binary logistic regression, odds ratios (ORs) between 0 and 1 indicate negative relationships (greater odds in the denominator than in the numerator), ORs greater than 1 indicate positive

relationships, and ORs not significantly different from 1 indicate null relationships. In the full sample, both belief in God and regular prayer (which, as a two-item index had adequate reliability; Cronbach's α = .65) were negatively related to scapegoating zero-order: for belief in God, OR = .66, $p < .001$ (Wald coefficient = 49.86, 95% confidence interval [CI] for OR = [0.59, 0.75]); for prayer frequency, OR = .69, $p < .001$ (Wald coefficient = 58.78, 95% CI for OR = [0.63, 0.76]). The odds were reduced further when controlling for RE: for belief in God, OR = .55, $p < .001$ (Wald coefficient = 69.50, 95% CI for OR = [0.48, 0.64]); for prayer frequency, OR = .64, $p < .001$ (Wald coefficient = 72.16, 95% CI for OR = [0.58, 0.71]). These results support our strong hypothesis.

Exclusivity was unrelated to scapegoating zero-order, OR = 1.01, $p = .78$, but was positively associated with scapegoating when controlling for either belief in God, OR = 1.32, $p < .001$ (Wald coefficient = 20.22, 95% CI for OR = [1.17, 1.49]), or for prayer frequency, OR = 1.23, $p < .001$ (Wald coefficient = 13.34, 95% CI for OR = [1.10, 1.37]). When controlling for all variables (including religious attendance, age, sex, work type, and GDP per capita), the overall pattern of effects remained: for belief in God, OR = 0.59 (95% CI = [0.51, 0.69]); for prayer frequency, OR = 0.65 (95% CI = [0.57, 0.73]); and for exclusivity, $1.25 < ORs < 1.37$, $ps < .001$.

The unexpected null zero-order relationship between CR (exclusivity) and IH (scapegoating) is likely explainable by the negative zero-order relationship between IR and IH, combined with the positive relationship between IR and exclusivity. Both belief in God and prayer frequency were strong predictors of exclusivity: for belief in God, OR = 19.43 (95% CI = [16.90, 22.34]); for prayer frequency, OR = 6.02 (95% CI = [5.50, 6.60]), both $ps < .001$. IR positively predicted CR in every religious subsample also: for prayer as predictor, $1.97 < OR < 8.22$, all $ps < .01$; for belief in God as predictor, $1.86 < OR < 35.38$, maximum $p = .11$, all other $ps < .001$.

If exclusivity is strongly positively related to IR and the latter is negatively related to IH, this pattern of relationships can potentially obscure zero-order detection of any independent positive relationship between CR and IH—an example of statistical suppression (J. Cohen & Cohen, 1975; Conger, 1974). In contrast to the zero-order findings, the multiple regression findings suggest a more intuitive pattern of results consistent with common findings in the psychology of religion literature. That is, IR negatively predicted IH when controlling for CR, and CR positively predicted IH when controlling for IR.

Across religious subsamples, IR consistently failed to positively predict IH, supporting at least our weak hypothesis. The pattern of results was, moreover, consistent with our strong hypothesis, though not always at conventional levels of statistical significance. Figure 1 shows the ORs and 95% CIs for belief in God and exclusivity as simultaneous predictors of scapegoating in each of the religious subsamples. Figure 2 shows these results for prayer frequency and exclusivity.

With regard to prediction of scapegoating, all subsamples' ORs for exclusivity were nominally above the line of "no difference" (one in this case), whereas those for belief in God and prayer frequency were, with two exceptions, all nominally below that line. This pattern suggests that there was no specific religion driving the results found in the overall sample. The pattern of prediction appears detectable in most religious subsamples, though subsample results were not consistently statistically significant.

The results of Study 1 suggest that IR has a negative relationship with religious scapegoating—a form of IH—in spite of the positive independent relationship between RE and scapegoating. However, the measures employed by ICM Associates for Study 1 did not allow us to assess multi-item measures of IR, CR, or IH. Griffin, Gorsuch, and Davis (1987) found that IR was positively correlated with religiously based prejudice when using multi-item measures of both, so it is possible that the zero-order negative relationship found between IR and IH in Study 1 derives from using the specific single-item measures from the BBC study. In Study 2, we assumed control over the wording of the questions and the gathering of the data, and thus could address these concerns.
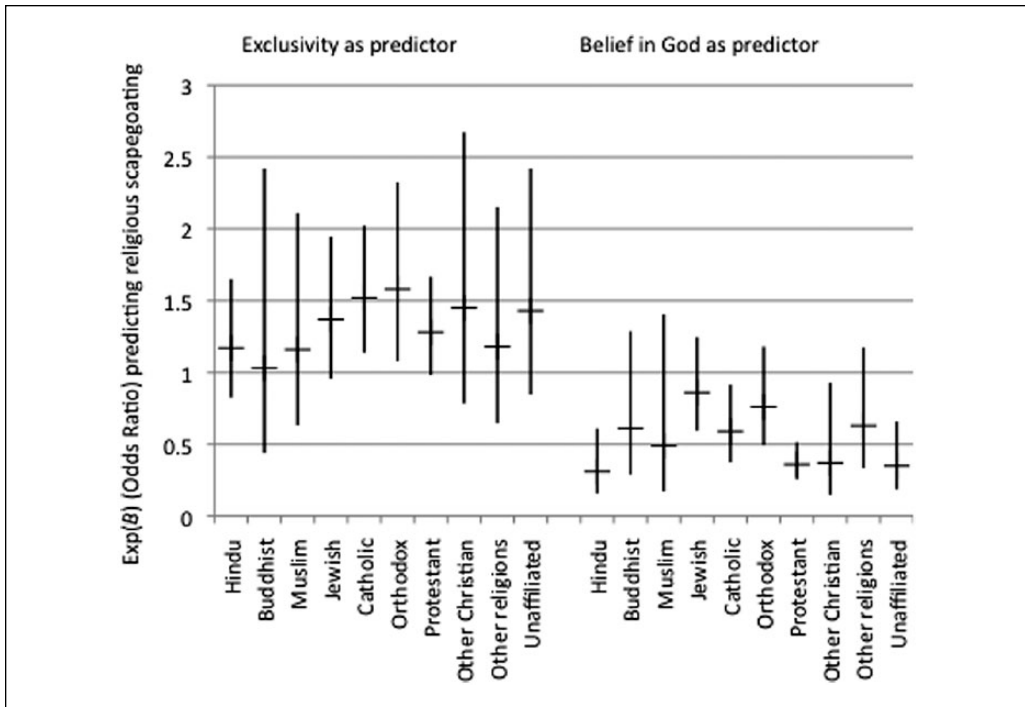
Figure 1. Odds ratios and 95% confidence intervals for belief in God and exclusivity simultaneously predicting religious scapegoating (Study 1).
Note. Each Exp(*B*) or odds ratio depicted represents the degree to which being religiously exclusive or believing in God increases (makes greater than 1) or decreases (makes less than 1) the odds of religious scapegoating when both religious exclusivity and belief in God are predictors in the same binary logistic regression. The results are presented by religious subsample.

Study 2

We conducted Study 2 in two multicultural multireligious samples, one from Kuala Lumpur, Malaysia, and another from the University of British Columbia in Vancouver, Canada. The corresponding author and one collaborator designed the materials and directed the recruitment of participants for both samples of this study.

Overview of the Samples

Participants in both samples completed measures of IR, as well as authoritarianism, fundamentalism, dogmatism, and RE (the latter four comprising CR). Both studies also included some common measures of IH, with potential targets of hostility being either individuals of differing religious groups or an individual embodying religious pluralism (a multireligious individual). The Vancouver sample also included measures of opposition to the civil and political rights for people of other religions, feelings of joy rather than sadness at the thought of killing people of other religions, and belief in the Divinity-endorsed goodness of "killing the wicked."

Both samples for Study 2 included a target story that set the context for measuring IH. As well, both samples in Study 2 were substantially similar in the constructs and variables analyzed, and variations in content were not of great theoretical significance. Therefore, we describe the distinguishing features of each sample briefly, and then present the parallel results of the studies together to highlight their theoretical convergence. For Sample B, we also present the results for the unique IH dependent variables included in that sample.
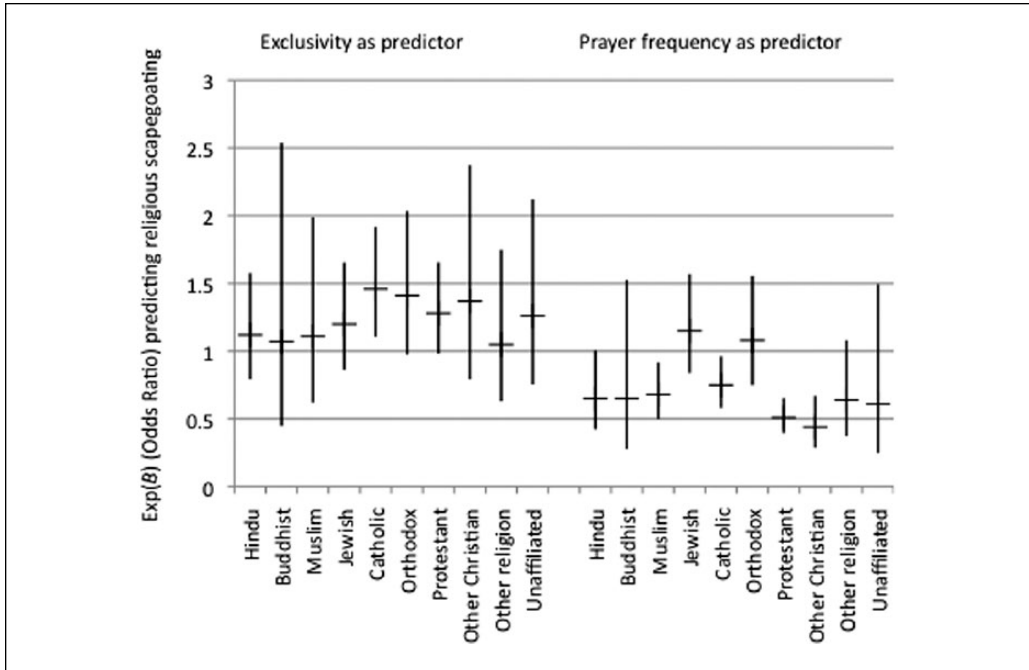
Figure 2. Odds ratios and 95% confidence intervals for prayer frequency and exclusivity simultaneously predicting religious scapegoating (Study 1).
Note. Each Exp(*B*) or odds ratio depicted represents the degree to which being religiously exclusive or praying frequently increases (makes greater than 1) or decreases (makes less than 1) the odds of religious scapegoating when both religious exclusivity and prayer frequency are predictors in the same binary logistic regression. The results are presented by religious subsample.

Sample A overview. We gathered Sample A from Kuala Lumpur, Malaysia, a relatively conservative non-Western country. Malaysia's population is a plurality of Malays (all legally Muslims), a large proportion of Chinese (mostly Buddhists and with many Christians also), and a smaller but still substantial proportion of Indians (vast majority of Tamil ethnicity and religiously Hindu).

Sample B overview. We gathered Sample B from a liberal, multireligious, multicultural environment: the University of British Columbia in Vancouver, Canada. Statistics Canada's General Social Survey finds that 44% of British Columbians have no religious affiliation, making it the least religious province in Canada (Pew Research Center, 2013), and thus one of the least religious places in North America.

Method

Sample A participants. One hundred ninety-two participants completed the study for eight Malaysian Ringgit: 138 women, 49 men, and five unidentified; 131 Chinese, 34 Malay, 12 Tamil/Indians, and 15 mixed or unidentified; and 81 Buddhists, 48 Christians, 41 Muslims, 11 Hindus, and 11 other, unidentified, or indicating "no religion." The mean age was 23. We recruited participants in various locations, primarily universities, throughout Kuala Lumpur.

Sample B participants. One hundred ninety-four psychology undergraduates from the University of British Columbia completed the study for academic credit. Participants were 128 women, 64 men and 2 not reporting; 109 East Asians, 53 Caucasians, and 32 other or unidentified; 77 indi-

cating lack of religious belief or affiliations, 71 Christians, 24 Buddhists, and 22 other or unidentified. The mean age was 20.

Procedure. Participants in both samples read an edited condensation of several chapters of Martel's (2001) *Life of Pi*, with particular focus on the religious development of the main character Piscine Patel (Pi for short), and his commitment to a religious life that integrated the teachings of Hinduism, Christianity, and Islam. The edited version included several characters who later in the questionnaire packet served as targets of judgment and affective projection: Pi himself, a Hindu Pandit, a Muslim Imam, a Christian priest, and Pi's nonreligious parents. All characters in the story were portrayed with some sympathy, though the Pandit, Priest, and Imam were shown to be contentious with each other. The story was intended to provide a concrete context for inquiring about religious attitudes, particularly as regards religious pluralism. Potential targets of IH included either the characters of the story themselves (e.g., Pi, the Pandit) or the religious groups represented in the story (e.g., multireligious people, Hindus). The full text of the story is available on request from the corresponding author.

Design and measures. The main predictor variables of interest were IR and CR (dogmatism, authoritarianism, fundamentalism, and RE). The main criterion measures of interest, designed to measure IH, were Religion-Based Moral Antipathy (RBMA; Samples A and B), Religion-Based Aggressive Antipathy (RBAA; Sample B only), Religion-Based Political Intolerance (RBPI; Sample B only), and Religiously Framed Moral Violence (RFMV; Sample B only). Table 1 lists sample scale items, notes on measurement, and internal reliability statistics in each sample. For most scales, we measured belief in the truth value of each scales' statements on a 1 (*totally untrue*) to 9 (*totally true*) scale, though for some we had other more idiosyncratic 1 to 9 measures, fitting the content of the statements.

We adapted some of our measures from previously validated scales—Hoge's (1972) IRM scale, Altemeyer's (1999) RWA scale, Altemeyer's (1996) DOG scale, Altemeyer and Hunsberger's (1992) RF scale, and Sullivan, Pierson, and Marcus's (1992) Political Intolerance Scale. We also developed new scales for the purposes of Study 2: the RE scale, the RBMA scale, the RBAA scale, and the RFMV scale.

Three items measuring RBMA were held in common between Samples A and B—one assessing positive or negative feelings toward the characters, one assessing willingness to let the characters teach one's friends and family, and one assessing expectations of heaven or hell for the characters assuming an immediate hypothetical death after the story takes place (a bomb going off killing them all). In Sample B, participants also rated the story characters on how "wicked (evil, bad)" versus how "righteous (good)" they perceived them to be, and assessed also whether participants believed the characters would have good or bad experiences after death. For reporting the parallel results between Samples A and B, we used only the three common RBMA items. For reporting the results for all of Sample B's IH scales, we used the five-item measure of RBMA.

Multiple regression analyses. We conducted linear regressions in the combined sample (A and B together) and in each sample separately, predicting their common measure of IH: the three-item measure of RBMA. In Sample B (the Vancouver sample), we also conducted regressions predicting the five-item measure of RBMA, as well as RBPI, RBAA, and RFMV. For Sample B, we also performed a regression on an aggregate measure of IH: the arithmetic mean of RBMA, RBPI, RBAA, and RFMV. The summary measures of these four scales had reasonable internal reliability (Cronbach's α = .71).

The main focus of our analyses was on the independent relationship between IR and IH, and between CR and IH, when IR and IH were simultaneous predictors. Each regression thus included

Table 1. Scale Classification, Number of Scale Items, Sample Items and Notes, and Internal Reliability Statistics (Cronbach's α), in Sample A and Sample B.

Scale	SC	#SI	Sample items and notes	SA α	SB α
IRM	IR	10	"Nothing is as important to me as serving the Divine as best I know how." (protrait) "It doesn't matter so much what I believe as long as I lead a moral life." (contrait)	.81	.91
RWA	CR	30	"Our society will be destroyed someday if we do not smash the perversions eating away at our moral fiber and traditional beliefs." (protrait) "People should pay less attention to the old traditional forms of moral and religious guidance, and instead develop their own personal standards for what is moral and immoral." (contrait)	.83	.89
DOG	CR	20	"I am so sure I am right about the important things in life, there is no evidence that could convince me otherwise." (protrait) "It is best to be open to all possibilities, and ready to re-evaluate all your beliefs." (contrait)	.85	.87
RE	CR	18	"Only one religion is true; the other religions are false." (protrait) "If you are kind and loving, you will be close to salvation no matter what religion you believe or practice." (contrait)	.89	.94
RF	CR	20	"Finally and ultimately, there are only two kinds of people in the world: the Righteous, who will taste Divine reward; and the rest who will not." (protrait) "It is silly to think people can be divided into 'the Good' and 'the Evil.' Everyone does some good, and some bad things." (contrait)	.87	.93
RBMA-A&B	IH	15	"Refer to the following scale to indicate how you feel about each character in the story." [1 = *extremely positive*; 9 = *extremely negative*] (protrait) "If you ruled the world and could easily punish people who did not do as you told them, whom would you forbid from talking about their beliefs to your friends and family and to others in your religious group?" [1 = *definitely not forbidden*; 9 = *definitely forbidden*] (protrait)	.76	.85
RBMA-B only	IH	25	Additional items not included in RBMA-A&B: "How wicked (evil, bad) and how righteous (good) do you think each character is in the story?" [1 = *extremely righteous*; 9 = *extremely wicked*] (protrait) "Do you think that each character will have good or bad experiences after they die?" [1 = *totally good (experience after death)*; 9 = *totally bad (experience after death)*] (protrait)	NA	.92
RBPI-B only	IH	30	"_____ should have their phone conversations secretly listened to by your government." (protrait) "_____ should be allowed to teach in public schools." (contrait) Targets: People who believe and practice three religions at once, Hindus, Christians, Muslims, nonreligious people.	NA	.96
RBAA-B only	IH	10	[Participants imagine a hypothetical scenario in the story in which a bomb goes off and all the characters are killed.] "How sad or joyous do you think the Divine would feel at the killing of each character—in other words, how much do you think each character deserved to be killed? Assume that the Divine is not joyous to see a righteous person killed." "How sad or joyous would you feel at the killing of each character?" [1 = *extremely sad (to see the person killed)*; 9 = *extremely joyous (to see the person killed)*] (both items protrait)	NA	.96
RFMV-B only	IH	4	"It is good to kill a wicked person." (protrait) "The Divine sometimes calls on the righteous to kill the wicked." (protrait)	NA	.77

Note. SC = scale classification; #SI = number of scale items; SA = Sample A; SB = Sample B; IRM = Intrinsic Religious Motivation; IR = intrinsic religiosity; RWA = Right-Wing Authoritarianism; CR = coalitional rigidity; DOG = Dogmatism; RE = Religious Exclusivity; RF = Religious Fundamentalism; RBMA-A&B = Religion-Based Moral Antipathy, based on items shared between Samples A and B; IH = intergroup hostility; RBMA-B only = Religion-Based Moral Antipathy, the measure used in Sample B only; RBPI = Religion-Based Political Intolerance; RBAA = Religion-Based Aggressive Antipathy; RFMV = Religiously Framed Moral Violence.

as predictors IRM (our IR measure) and an aggregate CR measure (the arithmetic mean of RWA, DOG, RF, and RE scales; Cronbach's αs = .83 in Sample A and .87 in Sample B).

Results and Discussion

We combined the common items of Samples A and B, including demographics, into one data set. We report the results of the combined sample below, along with individual sample results.

Religion-Based Moral Antipathy. IR had a positive zero-order correlation with RBMA in the combined sample, $r(382) = .35$, $p < .001$; Sample A (Kuala Lumpur), $r(192) = .24$, $p < .001$; and Sample B (Vancouver), $r(190) = .23$, $p = .001$. However, when controlling for the aggregate measure of CR, the relationship between IR and RBMA was significantly negative in the combined sample, $\beta = -.18$, $S_\beta = .06$, $t(379) = -2.83$, $p = .005$. It was also nominally but not significantly negative in Sample A by itself, $\beta = -.11$, $S_\beta = .09$, $t(189) = -1.27$, $p = .20$, *ns*; and significantly negative in Sample B by itself, $\beta = -.24$, $S_\beta = .08$, $t(187) = -2.78$, $p < .01$. CR was also positively correlated with RBMA in the combined sample, yet became an even stronger positive predictor of RBMA when controlling for IR in multiple regression, from $r(384) = .57$ to $\beta = .71$ in the combined sample; from $r(192) = .44$ to $\beta = .52$ in Sample A; and from $r(192) = .51$ to $\beta = .68$ in Sample B; all *p*s $< .001$.

The combined sample results identified above remained significant even after controlling for sample (A vs. B), sex, age, nationality (North America and Europe vs. other nation), ethnicity (East Asian vs. Other), and religion (Buddhist, Christian, Muslim, Unaffiliated, and Other, ordered by RBMA rank). IR independently predicted RBMA (negatively) with these added controls, $\beta = -.17$, $S_\beta = .06$, $t(361) = -2.70$, $p = .007$, as did CR (positively), $\beta = .71$, $S_\beta = .06$, $t(361) = 11.17$, $p < .001$. Together, IR and CR accounted for 35% of the variance in RBMA. None of the demographics remained as independent predictors, all *p*s $> .13$. This is noteworthy in part because sample, ethnicity, religion, and country were all significant zero-order correlates of RBMA, $.12 < r$s $< .37$, all *p*s $< .05$.

These results suggest that CR and IR not only made opposing predictions of IH (RBMA), but together IR and CR fully mediated any zero-order demographic differences in RBMA. The results also suggest that CR and IR both obscured zero-order evidence of each other's independent relationships to RBMA. IR had a negative independent relationship with RBMA that was not evident from the zero-order correlations, and CR had a stronger positive relationship with RBMA than was evident from the zero-order correlations. These results parallel those of Study 1, in which IR had a more strongly negative relationship to scapegoating than a zero-order analysis detected, and exclusivity had a positive relationship to scapegoating that the zero-order analysis did not detect.

Figure 3 shows the unstandardized regression coefficients (*b*) and 95% CIs for IR and CR as predictors of RBMA in the two samples, and in all religious subsamples with *n*s greater than 15 (Buddhists, Christians, Muslims, and others in Sample A, and Christians, Unaffiliated, Buddhists, and others in Sample B). Figure 3's results parallel those shown for Study 1 in Figures 1 and 2. With regard to prediction of RBMA, all subsamples' unstandardized regression coefficients (*b*s) for CR were nominally above the line of "no difference" (0 in this case), whereas those for IR were, with one exception, all nominally below that line. As in Study 1, this suggests that there was no specific religion driving the results found in the overall sample. The pattern of prediction appears detectable in most religious subsamples, though subsample results were usually not statistically significant.

Other IH measures. Table 2 shows the zero-order and independent relationships of IR and CR to the four measures of IH measured only in Sample B (Vancouver)—measures that, in aggregate, were quite definitively relevant to IH (see Table 1). The independent positive relationship between
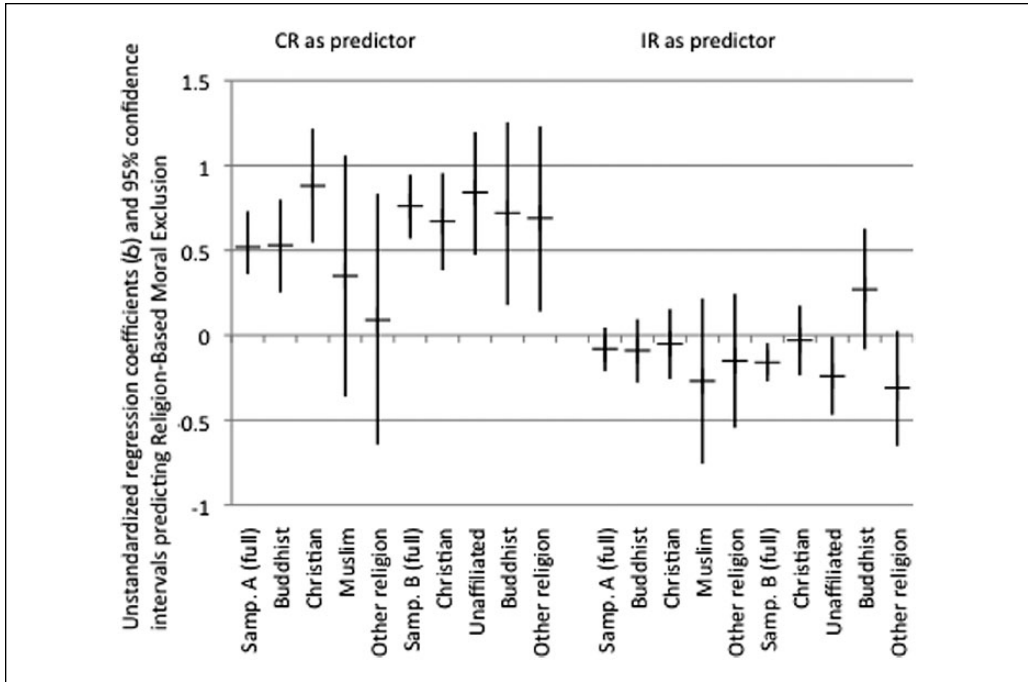
Figure 3. Unstandardized regression coefficients (*b*s) and 95% confidence intervals for Intrinsic Religious Motivation and an aggregate CR measure predicting RBMA (Samples A and B, Study 2).
Note. Each unstandardized regression coefficient depicted represents the degree to which CR or IR is positively (greater than 0) or negatively (less than 0) related to RBMA when both CR and IR are predictors in the same linear regression. The results are presented by religious subsample. RBMA = Religion-Based Moral Antipathy; CR = coalitional rigidity; IR = intrinsic religiosity.

CR and these IH variables was very strong. The independent negative relationship between IR and the aggregate measure of IH was also quite strong, at least compared with the other Study 2 analyses. The substantial negative independent relationships found between IR and these measures of IH support our strong hypothesis. Also, similar to the combined samples analysis, CR and IR both obscured zero-order evidence of each other's independent relationships to these measures of IH.

Figure 4 shows the unstandardized regression coefficients (*b*s) and 95% CIs for the aggregate measure of IH in the full Vancouver sample (Sample B) and in each religious subsample. Similar to Figures 1 to 3, there was an effect such that all *b*s for IR predicting IH were nominally below the line of no difference (0 in this case), whereas all *b*s for CR predicting IH were above that line, and to a statistically significant degree.

In sum, as in Study 1, CR had a positive independent relationship with IH whereas IR had a negative independent relationship, and this pattern of "opposing prediction" held—at least nominally—in all religious subsamples. These results support the strong hypothesis in the combination of samples, particularly with regard to the IH measures of Sample B. The results were at least supportive of the weak hypothesis in the religious subsamples.

Correlation and suppression in the results. As was the case in Study 1, there seemed to be statistical suppression in Study 2, this time with IR positively related to IH zero-order, but negatively related in regressions controlling for CR. This suppression effect is a likely function of the fact that, as in Study 1, IR was a strong positive zero-order predictor of CR in Sample A, $\beta = .68$, $t(190) = 12.93$; and in Sample B, $\beta = .69$, $t(190) = 13.16$, both ps $< .001$. IR thus accounted for a

Table 2. Relationship of IR and CR to IH Measures, Zero-Order and When Controlling for the Other Construct (Study 2, Sample B), With VIFs From Regression Results.

Predictor	Moral antipathy	Political intolerance	Aggressive antipathy	Moral violence	Aggregate IH
IR zero-order (r)	.26***	.15*	−.02	−.12	.07
IR controlling for CR (β)	−.25** (VIF = 1.90)	−.27** (VIF = 1.84)	−.37*** (VIF = 1.93)	−.45*** (VIF = 1.90)	−.46*** (VIF = 1.90)
CR zero-order (r)	.56***	.45***	.26***	.18*	.47***
CR controlling for IR (β)	.74*** (VIF = 1.90)	.63*** (VIF = 1.84)	.51*** (VIF = 1.93)	.48*** (VIF = 1.90)	.79*** (VIF = 1.90)

Note. Multiple regressions producing VIFs below 4 are not considered at risk of multicollinearity, a statistical artifact that can sometimes cloud the interpretability of regression coefficients. IR = intrinsic religiosity; CR = coalitional rigidity; IH = intergroup hostility; VIFs = variance inflation factors.
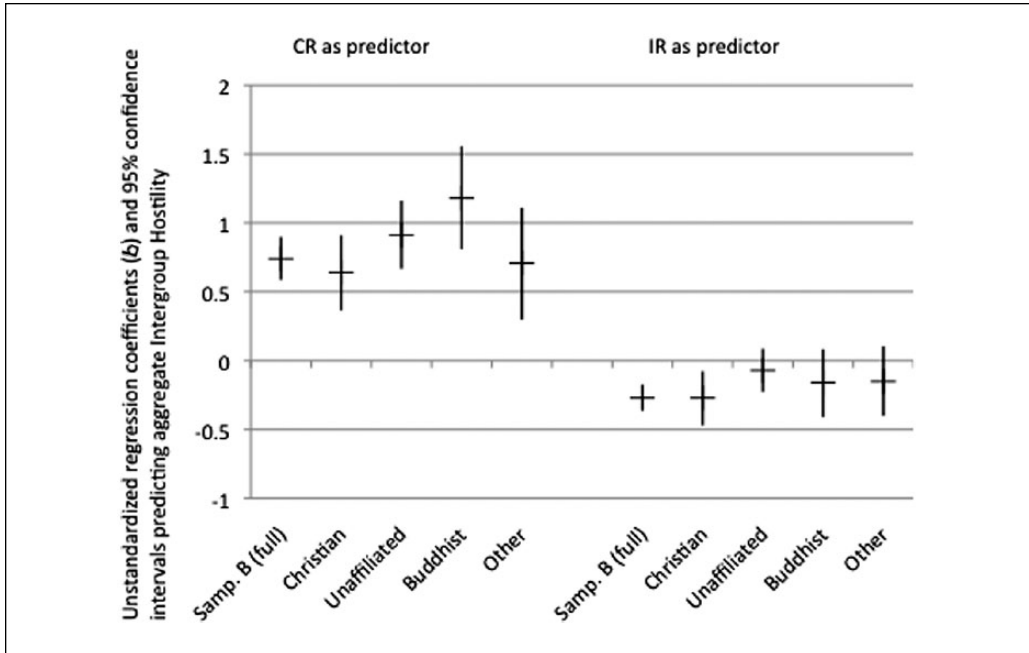*p < .05. **p < .01. ***p < .001.

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Figure 4. Unstandardized regression coefficients (*b*s) and 95% confidence intervals for Intrinsic Religious Motivation and an aggregate CR measure predicting an aggregate measure of IH (Sample B and religious subsamples, Study 2).

Note. Each unstandardized regression coefficient depicted represents the degree to which CR or IR is positively (greater than 0) or negatively (less than 0) related to aggregate IH when both CR and IR are predictors in the same linear regression. The results are presented by religious subsample. CR = coalitional rigidity; IH = intergroup hostility; IR = intrinsic religiosity.

little less than half of CR's variance. IR positively predicted CR in every religious subsample of Samples A and B also, $.39 < \beta s < .79$, maximum $p = .01$; all other ps $< .001$.

Although it is a default heuristic in the social sciences to consider highly correlated variables to reflect the same underlying construct, the fact that IR and CR consistently make opposing predictions of IH speaks strongly against treating IR and CR as identical. The predictive relationship between IR and CR might be called an "odd couple" correlation. Such correlations are not uncommon in the psychological literature, including cross-cultural psychology. For example, Allik and Realo (2004) found that measures of individualism and social capital in U.S. states were strongly *positively* correlated, $r(50) = .76$, in spite of plausible theoretical expectations that they could be inversely correlated. Moreover, there are precedents in the personality literature for highly correlated constructs making opposing predictions. For example, Chmielewski, Bagby, Markon, Ring, and Ryder (2014) found that "Openness to Experience" and "Intellect," two correlated aspects of "Openness" in the Five-Factor Model, make opposing predictions of Schizotypal Personality Disorder—predictions that are further strengthened when the other aspect is controlled.

Examining different components of CR. Our measure of CR included scales that were more explicitly framed in religious terms—Religious Fundamentalism and Religious Exclusivity—as well as scales framed in more religion-neutral terms—DOG and RWA. Although there was very high internal reliability among the four summary measures comprising CR, there is some reason to

Table 3. Relationship of IR, RF/RE, RWA, and DOG to the Three-Item Measure of RBMA, Zero-Order and in Multiple Regression.

Predictor	RBMA Sample A	RBMA Sample B	RBMA combined samples
IR zero-order (*r*)	.24**	.23**	.35***
RF/RE zero-order (*r*)	.42***	.47***	.53***
RWA zero-order (*r*)	.28***	.40***	.48***
DOG zero-order (*r*)	.38***	.47***	.52***
IR multiple regression (β)	−.11	−.23*	−.17**
RF/RE multiple regression (β)	.33**	.38***	.35***
RWA multiple regression (β)	.10	.10	.17**
DOG multiple regression (β)	.18†	.29***	.26***

Note. IR = intrinsic religiosity; RF/RE = Religious Fundamentalism/Religious Exclusivity; RWA = Right-Wing Authoritarianism; DOG = dogmatism; RBMA = Religion-Based Moral Antipathy.
†*p* < .1. *p* < .05. **p* < .01. ***p* < .001.

Table 4. Relationship of IR, RF/RE, RWA, and DOG to RBMA; Five-Item Measure, RBPI, RBAA, RFMV, and a Summary Measure of RBIH; Analyses in Sample B Only.

Predictor	RBMA (five-item)	RBPI	RBAA	RFMV	RBIH
IR zero-order (*r*)	.26***	.15*	−.02	−.12	.07
RF/RE zero-order (*r*)	.52***	.37***	.20**	.12	.38***
RWA zero-order (*r*)	.42***	.49***	.24**	.33***	.49***
DOG zero-order (*r*)	.51***	.37***	.29***	.09	.41***
IR regression (β)	−.26**	−.22*	−.36***	−.40***	−.42***
RF/RE regression (β)	.47***	.19†	.21†	.15	.31**
RWA regression (β)	.06	.38***	.12	.45***	.35***
DOG regression (β)	.31***	.15†	.27**	−.06	.22**

Note. IR = intrinsic religiosity; RF/RE = Religious Fundamentalism/Religious Exclusivity; RWA = Right-Wing Authoritarianism; DOG = dogmatism; RBMA = Religion-Based Moral Antipathy; RBPI = Religion-Based Political Intolerance; RBAA = Religion-Based Aggressive Antipathy; RFMV = Religiously Framed Moral Violence; RBIH = Religion-Based Intergroup Hostility.
†*p* < .1. *p* < .05. **p* < .01. ***p* < .001.

examine these measures as relatively independent predictors, given the presence or absence of explicitly religious wording in the items composing each scale.

Table 3 shows CR and IR scales predicting the three-item measure of RBMA across and within the two samples. Table 4 shows these scales predicting the component and summary measures of Religion-Based IH in Study 2. For both analyses, we combined the RF and RE Scales into one summary scale to reduce multicollinearity. RF and RE were extremely highly correlated in both Sample A, *r*(190) = .79, and Sample B, *r*(191) = .80, accounting for approximately 64% of each other's variance.

The results in both tables suggest that the various forms of CR all made independent positive contributions to predicting IH. Fundamentalism/exclusivity contributed primarily to moral antipathy; dogmatism contributed primarily to moral and aggressive antipathy; and authoritarianism contributed primarily to political intolerance and moral violence. It is noteworthy that the most explicitly religious form of CR, RF/RE, was a significant independent predictor of only one form of IH: RBMA.

General Discussion

Our research identified an existential universal (see Norenzayan & Heine, 2005) by which, across religious cultures, IR has an "odd couple" relationship with CR when predicting IH. In two studies with religiously mixed samples, none of them majority Christian, CR and IR were positively related—and related in every religious subsample, including those commonly associated with lower CR (e.g., Buddhists). Nevertheless, each construct predicted IH in opposing ways when controlling for the other: CR was a consistent null or positive predictor of IH, and IR was a consistent null or negative predictor. When sample size was sufficiently large (e.g., using the full sample of Study 1, or the combined samples of Study 2), these respective positive and negative relationships were statistically significant.

With regard to cultural variation, the full sample pattern for CR was nominally replicated in every religious subsample across studies. The full sample pattern for IR was nominally replicated in almost every religious subsample. These findings suggest that our strong hypothesis is plausible: that across cultural contexts, IR is negatively related to IH when controlling for CR. We recommend that researchers focusing on specific religious subgroups seriously consider the strong hypothesis when designing future studies. Our findings at the very least support our weak hypothesis: that across cultures, IR is not positively related to IH when controlling for CR.

Our findings also go beyond those of the existing literature, which document similar suppressor variable effects only in predominantly North American Christian samples, often using more parochial measures of religiosity such as Christian Orthodoxy. We use a more ecumenical construct—IR—and document its potential for tolerance among 10 nations spanning four continents, and also in multicultural liberal Vancouver and multicultural conservative Kuala Lumpur.

If examining IR's predictive value without controlling for CR, or CR's predictive value without controlling for IR, then both variables appear considerably less reliable as predictors than they do when examining both at once while controlling for the other. We note that IR and IH had a negative zero-order relationship in Study 1 but a positive zero-order relationship in Study 2, illustrating unreliability regarding this kind of zero-order correlation. As noted earlier, previous reviews have found similar unreliability in such correlations (e.g., Batson et al., 1993). In addition, CR had a null zero-order relationship with IH in Study 1, but a positive one in Study 2.

There are many possible explanations for such mixed findings, and in our case, they might relate to use of single-item measures (Study 1) versus multi-item measures (Study 2), using general population samples (Study 1) versus predominantly student samples (Study 2), or different means of measuring the constructs between the two studies. More important, in our view, is the *consistency* between these quite distinct samples and methods when measuring both IR and CR as simultaneous independent predictors of IH in multiple regression.

Therefore, our recommendation to all researchers who investigate the psychological and behavioral correlates of religiosity or CR variables (the latter being relevant to research of both religion and political ideology) is to measure IR and CR together in the same study and to always examine their independent relationships in multiple regression. For the odd couple pattern to reach statistical significance in any one sample, a large sample size may be needed. For those interested in replicating our findings, we recommend an *n* of at least 200 and controlling for at least three CR variables (e.g., authoritarianism, fundamentalism, and dogmatism).

Is the Variation Across Religious Groups Meaningful?

In addition to replicating previous findings (i.e., Laythe, Finkel, Bringle, & Kirkpatrick, 2002, Laythe, Finkel, & Kirkpatrick, 2001; Perry et al., 2015; Shen et al., 2013) in Christian groups using diverse samples and methods, we also offer the first evidence of this pattern with samples in which Christians are not a supermajority of participants. As Figures 1 through 4 show,

religious subsamples varied to some degree in the statistical significance of their results, but varied little in magnitude or direction of the relationship. The full sample patterns also do not appear to be meaningfully driven by the subgroups among which we obtained significant results. More importantly, the vast majority of religious subsamples show IR on the negative side of the line of no difference when CR is controlled.

Paradoxes of Religious Prosociality

Whenever statistical "suppression" is discovered (see J. Cohen & Cohen, 1975), its paradoxical effects call for some explanation. How is it possible for two variables to be positively correlated, and yet make opposing predictions of some third variable? And to the extent such a pattern is statistically possible, why does it hold in the specific case of IR and CR predicting IH?

Some evidence relevant to this question comes from Shariff and Norenzayan (2007). The authors found that subtly primed experimental reminders of basic religiosity (e.g., words like "spirit" and "divine" embedded in scrambled sentences) dramatically increased prosocial giving toward strangers. Because the strangers in these studies (all gathered from multicultural, multireligious Vancouver) could theoretically have been of any religion, race, ethnicity, or ideology, there may be something inherently all-embracing about the mind-set elicited by the religious primes (see also Preston, 2013). It is also possible that the "religious" primes may, like any "religious" measure, tap into a culturally widespread psychological process that can also be elicited among the nonreligious (see Galen, 2012, pp. 888-889). In any case, a tendency toward generalized indiscriminate prosociality may underlie some of the antiprejudice and antiviolence effects of "religion proper" found in the literature and in the present studies.

The inherent dangers of indiscriminate prosociality may also explain why basic religiosity processes tend to be empirically shadowed by CR. In the religion-priming conditions of the Shariff and Norenzayan (2007) studies, the modal response of participants was to anonymously give half of their money away to strangers, who could offer no reward and who might even be inclined to use the money against the givers' ideological and religious interests. Similarly, Huebner and Hauser (2011) found that religiously committed individuals were disproportionately represented among those expressing willingness to die for the sake of "a small number of unknown strangers" (p. 73). Such behavior, although admirable, does not appear to conform to norms of either economic or evolutionarily "rationality"; indeed, there appears to be something potentially self-endangering about religious (or religious-like) prosociality.

Yet religions, in practice, tend to do an adequate job of not letting their prosociality get too far out of hand. Batson et al. (1993) cataloged a number of studies finding that the religious are not particularly more forgiving, charitable, or morally heroic than the nonreligious, and Galen (2012) concurred that stereotypes of religious prosociality largely exceed any actual prosociality difference between the religious and nonreligious. Even in Shariff and Norenzayan (2007), personality-level differences in religiosity were minor or null predictors of prosocial giving.

Most religions, in practice, are grounded in parochial commitments, even when presenting a public image of all-embracingness (Galen, 2012; Norenzayan & Shariff, 2008). As we speculated earlier, perhaps inclinations to CR—characterized by rigid moral dichotomies, traditionalist antihedonism, and social conservatism—have grown up around basic religiosity as a kind of protective parochial shell. That is, CR might offer adaptive limits to generalized prosociality through parochial quality control. Those who have demonstrably lived up to certain cultural, moral, and ideological standards are more likely to be treated as worthy of prosociality; the rest are potentially outside the circle of moral inclusion. Kirkpatrick (1999) posited that coalitionally rigid inclinations like fundamentalism and authoritarianism might even have once been adaptive for some portion of the human species.

Another alternative explanation relates to the fact the world religions we examined are all what might be called "civilizational" religions. Civilizational religions have adherents in a number of different countries and ethnic groups, and a great deal of within-group ideological variation by sect. Perhaps the most intolerant and homogeneous sects of the civilizational religions we examined would show only positive independent relationships between IR and IH, even when controlling for CR. Yet civilizational religions in general should often demonstrate the "odd couple" correlation pattern given the peace that they have necessarily made with pluralism. Uniting diverse ethnic and national groupings under one religious worldview requires some degree of intercultural tolerance. We encourage future research to investigate these inevitably speculative explanations.

Limitations and Future Directions

The present studies are limited by their fundamentally correlational nature. Multiple regression reduces but does not eliminate the possibility of making spurious causal inferences from the relationships found, and it offers no clues on causal directions. As we have noted, other researchers' experimental investigations of religion primes on tolerance measures have gone some way to addressing causal questions. They still yield inconsistent findings in aggregate, though, an inconsistency comparable with findings regarding zero-order correlations between religiosity and prejudice. We advise researchers who conduct future experimental studies to also measure and take into account the relationship between IR and CR, as religion primes may produce different effects depending on whether the two variables are highly correlated or very loosely related.

Also, our two studies were not suitable for examining more fine-grained categories of religious grouping (e.g., Sunni vs. Shi'a Islam, Mahayana vs. Theravada Buddhism; Mexican vs. French vs. Irish Catholicism), and some religious traditions—most notably indigenous ones—were not represented at all. It is possible that our results generalize only to religious traditions that are historically associated with globally influential nations and empires. Researchers should consider addressing these neglected perspectives when designing future studies.

Finally, we have not examined two common measures of religiosity from the psychology of religion literature: extrinsic religiosity (Allport & Ross, 1967) and Quest religiosity (Batson & Ventis, 1982). A. B. Cohen and Hill (2007) have already shown the relationship between extrinsic religiosity and IR to be cross-culturally variant, but cultural variations in regard to Quest religiosity are relatively unexplored. Researchers have often found Quest religiosity to be negatively correlated or uncorrelated with prejudice zero-order (see Batson et al., 1993). IR is known to be orthogonal to Quest zero-order (Batson et al., 1993), but perhaps together CR and IR would independently predict Quest the same way they predict tolerance generally, negatively and positively, respectively. Future research may investigate whether this relationship can be found, and whether it is cross-culturally reliable.

Conclusion

The analysis we have used in these studies suggests that, cross-culturally, IR *per se* is either unrelated or negatively related to intolerant and violent attitudes. To detect the religious potential for tolerance, it is often necessary to examine IR independently of the CR variables that correlate with it. Vindicating James, "religion proper," measured as IR, appears to be both theoretically and empirically separable from CR. In multiple regression, IR either fails to predict or negatively predicts IH, and CR consistently positively predicts IH. In addition, the tolerant potential of IR does not appear confined within any particular religion.

Moreover, in both studies, the relationship between CR and IH usually grew stronger when IR was statistically controlled, suggesting that IR may "take the edge off" of CR. To the extent CR

is an inescapable fact of human psychology for at least some share of the population at any one time, tolerance might best be served if such rigidity continues to be shadowed by IR. Also, to the extent declines in religiosity are likely to grow on the material soil of increased human development (Norris & Ingelhart, 2011), such post-religiosity may be most likely to manifest tolerance if it is closely shadowed by epistemically open all-embracingness (the opposite of CR).

To bring this discussion back to Jamesian terms, if people are going to be tempted by corporate and dogmatic dominion anyway, they might still reduce their potential for baseness and bigotry by ensuring that their devotion to religion proper always exceeds their inclination to corporatist dogmatism. And if people are going to slough off religion proper anyway, they might reduce their potential for baseness and bigotry by ensuring that their resistance to corporatist dogmatism always exceeds their rejection of religious openness. This way of understanding worldview differences offers some hope for those endeavoring to magnify tolerance across diverse worldviews. Prioritizing one part of a pair of correlated worldview inclinations should be less existentially disruptive than completely abandoning one's entire worldview, and more consistent with the live-and-let-live ethos of tolerance.

Notes

1. In other words, a study might include either Fullerton and Hunsberger's (1982) Christian Orthodoxy Scale or Allport & Ross's (1967) intrinsic religiosity (IR) or something similar as a measure of basic religiosity or religious devotion (i.e., "basic" among Christians), and basic religiosity thus measured could be expected to negatively predict prejudice when controlling for a rigidity variable like Right-Wing Authoritarianism. By Christian orthodoxy, we do not mean Eastern/Russian/Greek Orthodox Christianity, but rather a measure of supposedly foundational Christian beliefs, like those in the Nicene Creed.
2. Extrinsic and Quest religiosity are alternative (and orthogonal) conceptions of religiosity (see, for example, Batson, Schoenrade, & Ventis, 1993) but are less reliably associated with traits typically considered "religious" (see, for example, A. B. Cohen & Hill, 2007). Also IR measures typically have stronger psychometric properties relative to measures of extrinsic and Quest religiosity (e.g., Altemeyer, 1996; Trimble, 1997). As such, IR is the preferred measure of basic religiosity in the literature.

References

Allik, J., & Realo, A. (2004). Individualism-collectivism and social capital. *Journal of Cross-Cultural Psychology*, *35*, 29-49.

Allport, G. W. (1959). Religion and prejudice. *Crane Review*, *2*, 1-10.

Allport, G. W., & Ross, J. M. (1967). Personal religious orientation and prejudice. *Journal of Personality and Social Psychology*, *5*, 432-443.

Altemeyer, R. A. (1981). *Right-wing authoritarianism*. Winnipeg, Canada: University of Manitoba Press.

Altemeyer, R. A. (1988). *Enemies of freedom: Understanding right-wing authoritarianism*. San Francisco, CA: Jossey-Bass.

Altemeyer, R. A. (1996). *The authoritarian specter*. Cambridge, MA: Harvard University Press.

Altemeyer, R. A. (1999). Right-wing authoritarianism [1990 version]. In J. P. Robinson, P. R. Shaver, & L. S. Wrightsman (Eds.), *Measures of political attitudes* (Vol. 2., pp. 104-106). Toronto, Ontario, Canada: Academic Press.

Altemeyer, R. A., & Hunsberger, B. (1992). Authoritarianism, religious fundamentalism, quest, and prejudice. *International Journal for the Psychology of Religion*, *2*, 113-133.

Batson, C. D., Schoenrade, P., & Ventis, L. (1993). *Religion and the individual*. New York, NY: Oxford University Press.

Batson, C. D., & Ventis, L. (1982). *The religious experience: A social-psychological perspective*. New York, NY: Oxford University Press.

Blogowska, J., Saroglou, V., & Lambert, C. (2013). Religious prosociality and aggression: It's real. *Journal for the Scientific Study of Religion*, *52*, 524-536.

Chmielewski, M., Bagby, R. M., Markon, K., Ring, A. J., & Ryder, A. G. (2014). Openness to experience, intellect, schizotypal personality disorder, and psychoticism: Resolving the controversy. *Journal of Personality Disorders*, *28*, 483-499.

Clingingsmith, D. L., Khwaja, A. I., & Kremer, M. (2008, April). *Estimating the impact of the Hajj: Religion and tolerance in Islam's global gathering* (HKS Working Paper No. RWP08-022). Retrieved from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1124213

Clobert, M., Saroglou, V., & Hwang, K. (2015). Buddhist concepts as implicitly reducing prejudice and increasing prosociality. *Personality and Social Psychology Bulletin*, *41*, 513-525.

Clobert, M., Saroglou, V., Hwang, K., & Soong, W. (2014). East Asian religious tolerance—A myth or a reality? Empirical investigations of religious prejudice in East Asian societies. *Journal of Cross-Cultural Psychology*, *45*, 1515-1533.

Cohen, A. B. (2009). Many forms of culture. *American Psychologist*, *64*, 194-204.

Cohen, A. B., & Hill, P. C. (2007). Religion as culture: Religious individualism and collectivism among American Catholics, Jews and Protestants. *Journal of Personality*, *75*, 709-742.

Cohen, J., & Cohen, P. (1975). *Applied multiple regression/correlation analysts for the behavioral sciences*. New York, NY: Wiley.

Conger, A. J. (1974). A revised definition for suppressor variables: A guide to their identification and interpretation. *Educational and Psychological Measurement*, *34*, 35-46.

Dechesne, M., Pyszczynski, T., Arndt, J., Ransom, S., Sheldon, K. M., van Knippenberg, A., & Janssen, J. (2003). Literal and symbolic immortality: The effect of evidence of literal immortality on self-esteem striving in response to mortality salience. *Journal of Personality and Social Psychology*, *84*, 722-737.

Donahue, M. J. (1985). Intrinsic and extrinsic religiosity: Review and meta-analysis. *Journal of Personality and Social Psychology*, *48*, 400-419.

Douglas, M. (1994). The stranger in the Bible. *European Journal of Sociology*, *35*, 283-298.

Duck, R., & Hunsberger, B. (1999). Religious orientation and prejudice: The role of religious proscription, right-wing authoritarianism and social desirability. *International Journal for the Psychology of Religion*, *9*, 157-179.

Duriez, B., Fontaine, J. R. J., & Hutsebaut, D. (2000). A further elaboration of the Post-Critical Belief Scale: Evidence for the existence of four different approaches to religion in Flanders-Belgium. *Psychologica Belgica*, *40*, 153-181.

Fullerton, J. T., & Hunsberger, B. (1982). A unidimensional measure of Christian orthodoxy. *Journal for the Scientific Study of Religion*, *21*, 317-326.

Galen, L. W. (2012). Does religious belief promote prosociality? A critical examination. *Psychological Bulletin*, *138*, 876-906.

Ginges, J., Hansen, I., & Norenzayan, A. (2009). Religion and support for suicide attacks. *Psychological Science*, *20*, 224-230.

Griffin, G. A., Gorsuch, R. L., & Davis, A. L. (1987). A cross-cultural investigation of religious orientation, social norms, and prejudice. *Journal for the Scientific Study of Religion*, *26*, 358-365.

Hall, D. L., Matz, D. C., & Wood, W. (2010). Why don't we practice what we preach? A meta-analytic review of religious racism. *Personality and Social Psychology Review*, *14*, 126-139.

Hansen, I. G., Jackson, V., & Ryder, A. (2015). *Religion and liberty: Cross-national and experimental investigations*. Unpublished manuscript, Department of Behavioral Sciences, York College, City University of New York.

Harris, S. (2004). *The end of faith: Religion, terror and the future of reason*. Los Angeles, CA: W.W. Norton.

Henrich, J., Heine, S. J., & Norenzayan, A. (2010). The weirdest people in the world? *Behavioral & Brain Sciences*, *33*, 61-135.

Hoge, D. R. (1972). A validated Intrinsic Religious Motivation scale. *Journal for the Scientific Study of Religion*, *11*, 369-376.

Huebner, B., & Hauser, M. D. (2011). Moral judgments about altruistic self-sacrifice: When philosophical and folk intuitions clash. *Philosophical Psychology*, *24*, 73-94.

James, W. (1982). *The varieties of religious experience*. New York, NY: Penguin Books. (Original work published 1902)

Johnson, M. K., Labouff, J. P., Rowatt, W. C., Patock-Peckham, J. A., & Carlisle, R. D. (2012). Facets of right-wing authoritarianism mediate the relationship between religious fundamentalism and attitudes toward Arabs and African Americans. *Journal for the Scientific Study of Religion*, *51*, 128-142.

Johnson, M. K., Rowatt, W. C., Barnard-Brak, L. M., Patock-Peckham, J. A., LaBouff, J. P., & Carlisle, R. D. (2011). A mediational analysis of the role of right-wing authoritarianism and religious fundamentalism in the religiosity–prejudice link. *Personality and Individual Differences*, *50*, 851-856.

Johnson, M. K., Rowatt, W. C., & LaBouff, J. P. (2010). Priming Christian religious concepts increases racial prejudice. *Social Psychological & Personality Science*, *1*, 119-126.

Johnson, M. K., Rowatt, W. C., & LaBouff, J. P. (2012). Religiosity and prejudice revisited: In-group favoritism, out-group derogation, or both? *Psychology of Religion and Spirituality*, *4*, 154-168.

Jonas, E., & Fischer, P. (2006). Terror management and religion: Evidence that intrinsic religiosity mitigates worldview defense following mortality salience. *Journal of Personality and Social Psychology*, *91*, 553-567.

Kirkpatrick, L. A. (1993). Fundamentalism, Christian orthodoxy, and intrinsic religious orientation as predictors of discriminatory attitudes. *Journal for the Scientific Study of Religion*, *32*, 256-268.

Kirkpatrick, L. A. (1999). Toward an evolutionary psychology of religion and personality. *Journal of Personality*, *67*, 921-951.

Laythe, B., Finkel, D., Bringle, R. G., & Kirkpatrick, L. A. (2002). Religious fundamentalism as a predictor of prejudice: A two-component model. *Journal for the Scientific Study of Religion*, *41*, 623-635.

Laythe, B., Finkel, D., & Kirkpatrick, L. A. (2001). Predicting prejudice from religious fundamentalism and right-wing authoritarianism: A multiple-regression approach. *Journal for the Scientific Study of Religion*, *40*, 1-10.

Martel, Y. (2001). *Life of Pi*. Orlando, FL: Harcourt.

Morrison, T. G., Morrison, M. A., & Borsa, T. (2014). A legacy of derogation: Prejudice toward Aboriginal persons in Canada. *Psychology*, *5*, 1001-1010.

Norenzayan, A., Dar-Nimrod, I., Hansen, I. G., & Proulx, T. (2009). Mortality salience and religion: Divergent effects on the defense of cultural values for the religious and the non-religious. *European Journal of Social Psychology*, *39*, 101-113.

Norenzayan, A., & Hansen, I. G. (2006). Supernatural belief in the face of death. *Personality and Social Psychology Bulletin*, *32*, 174-187.

Norenzayan, A., & Heine, S. J. (2005). Psychological universals: What are they and how can we know? *Psychological Bulletin*, *131*, 763-784.

Norenzayan, A., & Shariff, A. F. (2008). The origin and evolution of religious prosociality. *Science*, *322*, 58-62.

Norris, P., & Ingelhart, R. (2011). *Sacred and secular: Religion and politics worldwide*. Cambridge, UK: Cambridge University Press.

Nosek, B. A., Spies, J. R., & Motyl, M. (2012). Scientific Utopia: II. Restructuring incentives and practices to promote truth over publishability. *Perspectives in Psychological Science*, *7*, 615-631.

Perry, R., Paradies, Y., & Pedersen, A. (2015). Religious ambivalence: Suppression of pro-social attitudes toward asylum seekers by right-wing authoritarianism. *International Journal for the Psychology of Religion*, *25*, 230-246.

Pew Research Center (2013, June 27). *Canada's changing religious landscape*. Retrieved from http://www.pewforum.org/2013/06/27/canadas-changing-religious-landscape/

Pinker, S. (2011). *Better angels of our nature: Why violence has declined*. New York, NY. Penguin Books.

Preston, J. (2013). Different effects of religion and God on prosociality with the ingroup and outgroup. *Personality and Social Psychology Bulletin*, *39*, 1471-1483.

Ramsay, J. E., Pang, J. S., Shen, M. J., & Rowatt, W. C. (2014). Rethinking value violation: Priming religion increases prejudice in Singaporean Christians and Buddhists. *International Journal for the Psychology of Religion*, *24*, 1-15.

Rothschild, Z. K., Abdollahi, A., & Pyszczynski, T. (2009). Does peace have a prayer? The effect of mortality salience, compassionate values, and religious fundamentalism on hostility toward out-groups. *Journal of Experimental Social Psychology*, *45*, 816-827.

Saroglou, V. (2012). Is religion not prosocial at all? Comment on Galen (2012). *Psychological Bulletin*, *138*, 907-912.

Shariff, A. F., & Norenzayan, A. (2007). God is watching you: Priming God concepts increases prosocial behavior in an anonymous economic game. *Psychological Science*, *18*, 803-809.

Shen, M. J., Haggard, M. C., Strassburger, D. C., & Rowatt, W. C. (2013). Testing the love thy neighbor hypothesis: Religiosity's association with positive attitudes toward ethnic/racial and value-violating out-groups. *Psychology of Religion and Spirituality*, *5*, 294-303.

Sullivan, J. L., Pierson, J. E., & Marcus, G. E. (1982). *Political tolerance and American democracy*. Chicago, IL: University of Chicago Press.

Trimble, D. E. (1997). The Religious Orientation Scale: Review and meta-analysis of social desirability effects. *Educational and Psychological Measurement*, *57*, 970-986.

Tsang, J., & Rowatt, W. C. (2007). The relationship between religious orientation, right-wing authoritarianism, and implicit sexual prejudice. *International Journal for the Psychology of Religion*, *17*, 99-120.

Van Tongeren, D. R., McIntosh, D. N., Raad, J. M., & Pae, J. (2013). The existential function of intrinsic religiousness: Moderation of effects of priming religion on intercultural tolerance and afterlife anxiety. *Journal for the Scientific Study of Religion*, *52*, 508-523.

Watson, P., Sawyers, P., Morris, R. J., Carpenter, M. L., Jimenez, R. S., Jonas, K. A., & Robinson, D. L. (2003). Reanalysis within a Christian ideological surround: Relationships of intrinsic religious orientation with fundamentalism and right-wing authoritarianism. *Journal of Psychology & Theology*, *31*, 315-328.

Wellman, C. (1998). *The proliferation of rights: Moral progress or empty rhetoric?* Boulder, CO: Westview Press.