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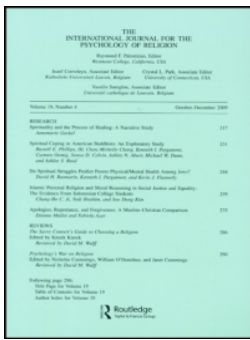
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RESEARCH

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Why Are Protestants More Prosocial Than Catholics? A Comparative Study Among Orthodox Dutch Believers

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ABSTRACT

The present study sheds light on the contentious relation between religions and prosociality by comparing self-reported altruistic and prosocial behavior among a group of Catholic and Protestant believers. We found that denomination was strongly related to strength of religious beliefs, afterlife beliefs, free-will beliefs, and self-reported prosocial behavior. Denominational differences between Catholics and Protestants in self-reported prosociality were mediated by a stronger endorsement of religious beliefs and belief in predestination but were not related to motivational measures of self-esteem. We also found that the *perceived* prosociality (i.e., the extent to which others were perceived as being prosocial) was higher for one's religious ingroup than one's outgroup, and this effect was stronger for Catholics than Protestants. These novel findings provide an integrated perspective on how religious denominations shape prosocial attitudes and behavior.


Introduction

Stereotypes about Catholics and Protestants are widespread. For instance, Catholics are generally viewed as displaying an unquestionable loyalty to the pope and engaging in good deeds primarily as a way to obtain salvation. The notion of “Catholic Guilt” refers to the experience frequently reported by Catholics of feeling guilty about not being able to meet all the demands of one's religion (Sheldon, 2006). Protestants, in contrast, believe in salvation by divine grace alone and are known for being sober and frugal. The so-called protestant work ethic (cf. Weber, 1930) may be considered a prime example of stereotypes about Protestants: They place a strong emphasis on hard work, have a negative attitude toward leisure, typically endorse strong religious and moral beliefs, value independence, and promote an ascetic lifestyle (Furnham, 1990).

The present study focused on denominational differences between Protestants and Catholics in prosocial behavior, that is, any action intended to help others (e.g., by donating money, volunteering, performing civil service, etc.). Several studies have shown that Protestants tend to donate more money to charities (Bekkers & Schuyt, 2008; Zaleski & Zech, 1994) and more frequently engage in prosocial and altruistic behavior (e.g., volunteer work) than Catholics (Bekkers & Wiepking, 2011b; Hoge & Yang, 1994). An intriguing question that follows from these observations is, How can this difference in prosocial behavior between Catholics and Protestants be explained? Here we investigated whether increased prosocial behavior by Protestants is related to specific religious beliefs (i.e., belief in Predestination, afterlife beliefs) or whether it primarily fulfills important motivational functions (i.e., enhancing one's self-esteem). Insight in the different factors contributing to prosocial behavior is important, as it speaks directly to the debate about the potential evolutionary function of religions and religiousness.

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According to evolutionary accounts, religions evolved either as a by-product of other cognitive mechanisms or as an adaptation in response to specific evolutionary challenges (Sosis, 2009). Proponents of the adaptation account of religions often point toward the role they play in fostering cohesion and binding people in moral communities (Alcorta & Sosis, 2005; D. S. Wilson, 2005). For instance, the Christian religion endorses moral, altruistic, and prosocial teachings, as exemplified for instance by story of the Good Samaritan and the Golden Rule (i.e., “Do unto others as you would like them to do to you”). Many studies have provided empirical support for the notion that religions generally foster prosocial behavior (Galen, 2012; Preston, Ritter, & Ivan Hernandez, 2010; Purzycki et al., 2016; Shariff, 2015). For instance, on average, religious believers donate more money to charities (Bekkers & Schuyt, 2008; Bekkers & Wiepking, 2011a), spend more time doing volunteering work (J. Wilson, 2000), and experience stronger social support from their community than nonbelievers (Koenig et al., 1997). Furthermore, recent cross-cultural studies indicate that the relation between prosocial behavior and supernatural belief in gods concerned with morality is widespread across different cultures (Purzycki et al., 2016).

Different psychological explanations have been proposed to account for the effects of religiousness on prosociality—mostly from an evolutionary psychological perspective. First, participation in *religious rituals* and *frequent visits of religious services* may ultimately serve as a costly signal to convey commitment to the community, thereby directly fostering prosocial behavior (Xygalatas et al., 2013). Second, following Karl Marx’s (1844) critique of religion, *belief in an afterlife* may drive prosocial behavior by enhancing one’s motivation to behave well in everyday life to obtain a reward (i.e., heaven) in the hereafter (Atkinson & Bourrat, 2011; Vail et al., 2010). Third, *belief in supernatural punishment*—in this world through divine retributions or in the hereafter (i.e., hell)—may also encourage people to stick to the rules and to behave prosocially (Piazza, Bering, & Ingram, 2011). Relatedly, it has been shown that belief in moralizing gods, that is, gods that reward and punish human behavior, specifically explains the effects of the major religions on prosociality (Norenzayan et al., 2014; Purzycki et al., 2016; Shariff & Norenzayan, 2011).

Whereas these different explanations focus on the ultimate functions of religions (i.e., fostering adaptation and group cohesion), other theorists have focused on the more proximal motivational needs that religions could fulfill. According to this account, prosocial and altruistic behavior by religious participants may serve the psychological function of boosting one’s self-esteem (Sedikides & Gebauer, 2010). The positive psychological effects associated with giving—boosting one’s self-esteem and maintaining a positive self-image (Bekkers & Wiepking, 2011a)—fulfill a basic psychological need that is strongly related to mental and physical well-being (Pyszczynski, Solomon, Greenberg, Arndt, & Schimel, 2004).

In addition, prosocial behavior could also foster one’s self-esteem by fulfilling a *self-signaling function* (as proposed, e.g., in Quattrone & Tversky, 1984). Self-signaling refers to the mechanism whereby people engage in a specific action in order to confirm their beliefs about an underlying disposition or future prospects (Prelec, 2012). Classic studies on self-signaling have shown that people have a motivated tendency to obtain good news about themselves, for instance, by overperforming on a physical exercise task that is thought to be indicative of longevity (Quattrone & Tversky, 1984). Max Weber (1930) was among the first to suggest that the psychological mechanism of self-signaling could provide an explanation for the apparent paradox between Protestants’ belief in Predestination (i.e., the belief in salvation by divine grace alone and that everything on Earth is predetermined by God), on one hand, and the Protestant work ethic and willingness to be prosocial, on the other hand. Weber suggested that Protestants are inclined to perform good deeds “to get rid of the fear of damnation” (p. 115). Thus, even though one may believe good deeds have no causal influence on whether one will go to heaven, Protestants may nevertheless perceive these deeds as a characteristic signal that this is the type of behavior one would expect from a person who is saved. On this account, both the Protestant work ethic and the tendency to engage in prosocial behavior may be considered an example of self-signaling and could serve a motivational need to maintain a positive self-image.

In the present study we investigated whether denominational differences in prosociality between Catholics and Protestants are primarily related to different religious beliefs or whether these differences are related to a stronger motivational process to boost one’s self-esteem (for overview of our theoretical model and constructs, see Figure 1). In support of the role of religious beliefs in shaping prosociality,

several studies have shown that Protestants compared to Catholics endorse stronger beliefs in a soul and afterlife (Li et al., 2012) and believe more strongly in a controlling God (Park, Cohen, & Herb, 1990; Roof & Roof, 1984; Shrauger & Silverman, 1971)—in line with the proposed role of these factors in fostering prosocial behavior (Atkinson & Bourrat, 2011; Norenzayan et al., 2014; Piazza et al., 2011). At the same time, Protestants display a stronger achievement motivation and desire to obtain occupational success (Hood, Hill, & Spilka, 2009), place more emphasis on the moral content of mental states (Cohen & Rozin, 2001), tend to make more internal dispositional attributions (Li et al., 2012), and show a more intrinsic religious motivation compared to Catholics (Cohen, Hall, Koenig, & Meador, 2005). Thus, Protestants may be more inclined to take credit for and obtain a sense of self-esteem from their religiously motivated prosocial behavior, such as volunteering and donating to charities.

Thus in the present study we investigated to what extent differences in prosocial behavior between Protestants and Catholics were predicted either by specific *religious beliefs* or by measures of *self-esteem* (see Figure 1). We included measures related to general religiosity (Jong, Bluemke, & Halberstadt, 2013), afterlife beliefs (Atkinson & Bourrat, 2011), free-will beliefs/belief in Predestination (Baumeister, Masicampo, & DeWall, 2009), belief in a controlling God (Shariff & Norenzayan, 2011), and

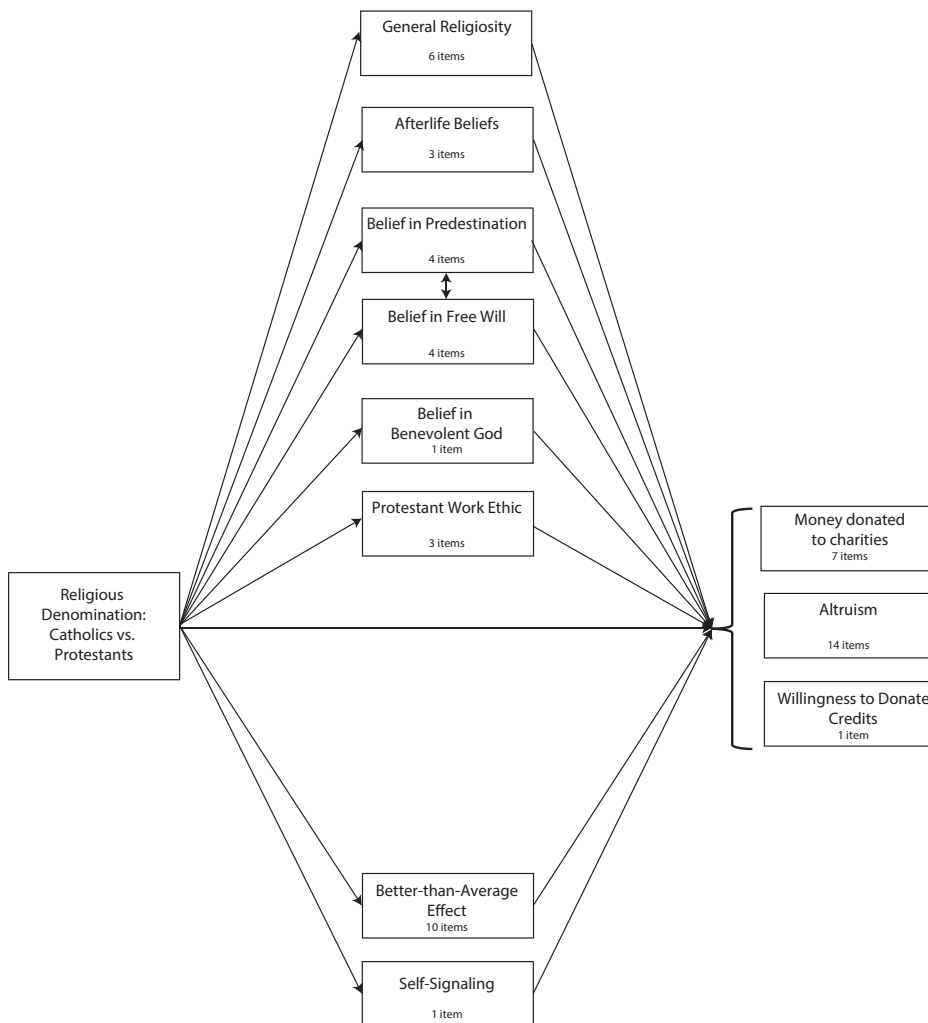


Figure 1. Theoretical model representing the hypothesized relation between the different theoretical constructs and the way in which these constructs were measured.

endorsement of the Protestant work ethic (Furnham, 1990). We additionally asked participants to rate to what extent specific positive traits applied to them (e.g., honest, loyal, etc.) compared to an average member of their religious group, yielding the so-called *better-than-average effect*, which provides a measure of the motivated tendency to enhance one's self-esteem (Sedikides & Gebauer, 2010). In our study we also included a self-signaling task—measuring the extent to which participants act in a way to obtain positive diagnostic information about themselves—following the theoretical suggestion that more prosocial behavior by Protestants may primarily serve a self-signaling function. We focused on self-reported altruism (Rushton, Chrisjohn, & Fekken, 1981) and self-reported donations to different charities (Bekkers & Schuyt, 2008) as measures of prosocial behavior. In addition, we measured participants' willingness to donate research credits as a behavioral measure of prosocial intentions. The hypothesized relation between the different constructs and the different measures that we used in our study are presented in Figure 1. By using network analysis techniques (Borsboom & Cramer, 2013) and mediation analyses (Hayes & Preacher, 2014), we tested whether denominational differences in prosociality between Catholics and Protestants were best predicted by religious beliefs or by motivational/self-esteem measures—as predicted by theoretical accounts of prosocial behavior as serving a self-signaling function for Protestants (Prelec, 2012).

Next to studying denominational differences in prosociality, we also aimed to obtain more insight in perceived prosociality as a function of religious denomination. On one hand, studies have shown that many people endorse an implicit and apparently universal association between being religious and prosociality, such that in most Western cultures religious persons are seen as more prosocial and trustworthy than atheists (Cohen, Siegel, & Rozin, 2003; Gervais, 2014a, 2014b; Gervais, Shariff, & Norenzayan, 2011).¹ This bias has been related to a universal tendency to think that a religion of some kind is necessary for ethics and prosocial behavior (McKay & Whitehouse, 2015). On the other hand, several studies have shown that perceived prosociality differs as a function of group membership: Participants scoring high on religious fundamentalism tended to perceive a religious target group as more moral than low fundamentalists (Galen, Smith, Knapp, & Wyngarden, 2011), and attitudes about religiously motivated actions by theists differed strongly between believers and nonbelievers (Heiphetz, Spelke, & Young, 2015). Rather than simply contrasting believers and nonbelievers, we investigated whether perceived morality also differs as a function of the subordinate level of religious group membership. That is, Protestant and Catholic believers are both part of the superordinate group of Christians, but it could well be that believers from either group perceive their own group to be more prosocial than the other group, that is, akin to the phenomenon of ingroup favoritism or perceived moral superiority of the ingroup (Brambilla, Sacchi, Pagliaro, & Ellemers, 2013; Messick & Mackie, 1989). To investigate the implicit association between group membership and perceived prosociality, we used the representativeness heuristic task (Gervais, 2014a; Tversky & Kahneman, 1983), in which participants were presented with a short vignette describing a person engaging in prosocial and praiseworthy behavior. They were asked to indicate how likely they thought it would be that this person was a Catholic or a Protestant (among other options; for complete task description, see next). By employing this measure we were able to investigate whether our participants displayed (a) a universal association between prosociality and personal religiousness (irrespective of religious denomination) or (b) an association between prosocial behavior and religiousness that is more pronounced for one's ingroup. Based on previous findings indicating that Protestants rate various immoral scenarios as morally more important (Cohen & Rozin, 2001) and that for Protestants mere thoughts about immoral actions are considered sinful (Cohen et al., 2003), we hypothesized that Protestants in particular would show a stronger ingroup bias, that is, perceive Protestants as more prosocial than Catholics.

Although we did not officially preregister our study by using the Open Science Framework (<https://osf.io/>), we note that we submitted all hypotheses and study material prior to conducting the study to the Ethics website of the University of Amsterdam (<https://www.lab.uva.nl/lab/ethics>), which also contains a time-stamped version of our study material and the planned analyses. Also, all study materials and the full data set are available online (i.e., in the appendix and as supplementary online material).

¹For cultural traditions favoring religious practice over belief, see Cohen et al. (2003).

Methods

Participants

The study was conducted in collaboration with research agency Motivation (Amsterdam, the Netherlands; <http://www.motivaction.nl/en>), which has access to a large panel of participants ($N > 100,000$) that is representative of the general population in Dutch society. A total of 404 people (188 men) participated in our study; their mean age was 54.4 years (age range = 18–70, $SD = 12.6$). Participants received credits they could use to buy presents or gift vouchers in an online shop.

In the Netherlands, many people—especially those in older generations—still consider themselves members of a religious organization, although they do not actively participate or consider themselves religious (Hart, 2014). For our current research purposes, we were primarily interested in recruiting highly religious Protestant and Catholic participants, to be able to investigate which specific religious beliefs would underlie the increased prosociality among Protestants. Therefore, before the start of the study, participants completed three screening questions to determine whether they were eligible to participate in the study: (a) “To what extent do you consider yourself religious?” on a scale ranging from 1 (*not at all*) to 5 (*very much*); (b) “To what extent do you believe in God or a supernatural being?” on a scale ranging from 1 (*not at all*) to 2 (*very much*); and (c) “Do you consider yourself a member of a church or religious community?” using a yes-or-no response option. If participants indicated that they were part of a religious community, they were asked to specify their church or community.

Participants were allowed to participate in the study only if they met all of the following conditions: They responded with a score of 4 or higher to the first two questions, and they considered themselves a member of a church and they attended a church that was part of a predefined list of churches/communities that are considered prototypical Catholic or Calvinist.² Through these checks we ensured that all participants were active believers and not only “passive members” of a specific church or denomination. Participants who did not meet the criteria based on the screening questions were excluded from participation. In addition, in this way we were able to recruit specifically Calvinist participants (rather than the more general category of Protestant believers), as this selective group strongly endorses belief in Predestination—which is relevant to assess the possibility of prosocial behavior as self-signaling.

Study materials

The different questions and items that were used in this study are included in the supplementary online material. The items used in the main study were developed and selected based on two pilot studies (for full material and data of these studies, see the supplementary online material): The first pilot study involved religious participants recruited through a Calvinist fraternity/sorority student organization ($N = 31$; 12 men; M age = 20.5 years, $SD = 1.68$), and for the second pilot study ($N = 54$; 24 men; M age = 30.0 years, $SD = 12.34$) religious participants were recruited via the snowball method by using mailing lists. In the pilot studies we started out by using full scales to measure different aspects of religiosity (e.g., intrinsic vs. extrinsic; belief in Predestination; belief in free will, etc.). Based on these studies and the feedback obtained from the participants, different scales were developed and unreliable or unclear items were removed from the scales. The rationale for using abbreviated versions of each scale was that in the main study, participants had only limited time available to complete all questions.

²Participants from the following denominations were included as Calvinists: Gereformeerde Gemeente; Christelijke Gereformeerde Kerken; Gereformeerde Kerken Vrijgemaakt; Protestantse Kerk Nederland–Gereformeerde Bond; Protestantse Kerk Nederland–Confessioneel; Hersteld Hervormde Kerk; Voortgezette Gereformeerde Kerken in Nederland; Nederlands Gereformeerde Kerken; Oud Gereformeerde Gemeenten in Nederland; Gereformeerde Kerken Nederland. Participants from the following denominations were included as Catholics: Rooms-Katholieke Kerk; Oud-Katholieke kerk.

All scales used in the main study are described next and were completed using a 5-point Likert scale ranging from 1 (*not at all*) to 5 (*very much*), or 1 (*I completely disagree*) to 5 (*I completely agree*), unless otherwise indicated. In our study, the variables could be classified according to four general categories: (a) demographic variables, (b) religiosity variables, (c) self-signaling and self-esteem variables, and (d) prosociality measures. Each of the different measures used for each category is described next.

Demographic variables

Demographic information (i.e., information about gender, age, education, and socioeconomic status of the participants) was directly obtained from the database of Motivaction.

Religiosity measures

General religiosity was measured with six items, derived from the Supernatural Belief Scale (Jong et al., 2013) and the “intrinsic items” from the Intrinsic/Extrinsic Religiosity Scale (Gorsuch & McPherson, 1989; e.g., “My faith is important to me”), which were combined into a single scale (Cronbach’s $\alpha = .80$; $M = 4.08$, $SD = .70$; range = 2.50–5.00).

Afterlife beliefs were measured using three self-constructed items (e.g., “I believe that people go to heaven after they die”) and combined in a single scale ($\alpha = .67$; $M = 3.70$, $SD = .81$; range = 1.33–5.00).

Belief in a benevolent God (vs. belief in a punishing God) was measured using a single item, asking participants to indicate whether they believed that God had the best intentions with humanity as a whole.

Belief in predestination was measured by using four items related to whether participants believed in the notion that God may have elected specific persons (e.g., “Man proposes, but God disposes”; $\alpha = .77$; $M = 3.44$, $SD = .82$; range = 1.00–5.00).

Belief in free will was measured by using four items derived from the Belief in Free Will Scale (Rakos, Steyer, Skala, & Slane, 2008; e.g., “Free will is a basic part of human nature”), which were combined in a single scale ($\alpha = .77$; $M = 4.30$, $SD = .58$; range = 2.25–5.00).

Protestant work ethic was measured using three items derived from the Protestant-Work-Ethic Scale (Li et al., 2012; e.g., “Our society would have fewer problems if people had less leisure time”) and were combined into a single scale ($\alpha = .64$; $M = 3.50$, $SD = .65$; range = 2.00–5.00).

Self-signaling task and self-esteem measures

Self-signaling was measured by using a task in which participants were first presented with diagnostic information about the relation between specific behavior and an outcome (Quattrone & Tversky, 1984; Shafir & Tversky, 1992). In our study we used a “seek-the-difference” task, and participants were told that the number of differences observed in this task (within a limited amount of time) was positively related to prosociality: The more differences people observed, the more prosocial they typically are. Next participants were offered the opportunity to view two pictures (that contained 23 differences) for 10 s, and they were required to report how many differences they observed. As 10 s is too short to observe all differences in the picture, any overestimation in the amount of differences observed could be taken as evidence for a self-signal to see oneself as prosocial.

As a general measure of *enhancing one’s self-esteem* (Sedikides & Gebauer, 2010) we used a task to measure the better-than-average effect (Alicke, Klotz, Breitenbecher, Yurak, & Vredenburg, 1995). Participants were first presented with a list of 10 adjectives (e.g., *cooperative*, *friendly*, *trustworthy*) and were asked to indicate how attractive they considered each of the traits, ranging from 1 (*not desirable at all*) to 5 (*very desirable*; $\alpha = .88$; $M = 4.34$, $SD = .42$; range = 2.30–5.00). This measure was included to ensure that participants indeed perceived the traits to be attractive and desirable. Next they were required to indicate to what extent they rated themselves on each of the traits compared to an average member of their religious community, of similar age and gender (1 = *less*

than average person in my community; 5 = more than average person in my community; α of combined items = .92; $M = 3.54$, $SD = .54$; range = 2.00–5.00).

Prosocial behavior measures

Our main analysis focused on three measures of prosocial behavior: willingness to donate research credits, self-reported altruistic behavior, and self-reported prosocial behavior. *Willingness to donate* was measured by asking participants whether they would be willing to donate (some of) the credits they earned through their participation in the study to a charity. They were asked how many (percentage-wise) of their credits they would be willing to donate and to which charity they would like to donate, from a list of 12 possible charities (all nonreligious), or participants could indicate their own preferred organization.

Self-reported altruistic behavior was measured by using 14 items, derived from the Self-Report Altruism Scale (Rushton et al., 1981; e.g., “I have donated goods or clothes to a charity”), and participants indicated how often they had engaged in the behavior described over the last year, ranging from 1 (*more than once a week*) to 6 (*never*). The items were combined into a single Altruistic Behavior Scale ($\alpha = .68$); removal of items did not increase the alpha, and therefore we decided to keep all 14 items.

Self-reported prosocial behavior was measured by asking participants whether over the past year they had donated to charities in one of the following domains: (a) Church and faith, (b) Health, (c) International help, (d) Environmental protection, (e) Education and research, (f) Sports and recreation, (g) Societal organizations (Bekkers & Schuyt, 2008). If participants indicated that they had donated money, they were asked to which specific charity they donated and how much money they approximately donated over the past year (1 = less than €5, 2 = €5–10, 3 = €11–15, 4 = €16–25, 5 = €26–50, 6 = €51–100, 7 = €101–200, 8 = more than €200, 9 = I don’t know). We analyzed the *total amount of money* donated by summing the minimal amount associated with each response option for all different charities (e.g., If participants indicated response option 3, we defined this as 11 Euros). In addition, we selectively focused on the amount of money donated to religious charities in order to obtain a direct measure of parochial prosocial behavior effects (Galen, 2012; Shariff, 2015). In line with previous research conducted in the Netherlands (Bekkers & Schuyt, 2008), we did not explicitly distinguish between Catholic and Protestant charities, but instead we asked whether participants had donated to a religious charity in general. From the responses to the open questions, it became apparent that most participants associated religious charities with their own denomination.

In addition to the measures described here, we also included a 10-item *Impression Management* scale to measure socially desirable responding (Paulhus, 1984). Unfortunately, the reliability of the Impression Management scale was too low (α of combined items = .16; removal of ambiguous items did only marginally improve the reliability but not to an acceptable level, $\alpha < .52$), for inclusion in the analysis (DeVellis, 2016). The reason for the low reliability of the Social Desirability scale may be that the items comprised both socially (un)acceptable behaviors (e.g., “I always behave politely, even to people who are not very friendly.”) and general moral statements endorsed by Christianity (e.g., “If I could avoid it, I would never watch a sexually explicit program.”), with which most participants would agree anyway because of their faith.³

³Next to the measures described here, the following items were included in the survey as well, to further characterize the differences between Catholics and Protestants (see the appendix for full study material): *Belief in dualism* was measured by using a visual representation of two circles representing “body” and “mind” (similar to the often used “Inclusion of Other in the Self” scale; cf. Aron, Aron, & Smollan, 1992); belief in a so-called porous theory of mind, consisting of five items related to mind perception. *Self-esteem* was measured by using a single item with a continuous visual analog scale (Robins, Hendin, & Trzesniewski, 2001; i.e., “I have a lot of self-esteem”); *locus of control* was measured using a single item (i.e., “Do you consider yourself to be the actor in or the director of your life?”; Rutjens, van Harreveld, & van der Pligt, 2010); *belief in an all-knowing God* and *belief in a controlling god* were measured with two additional items.

Representativeness heuristic task

Implicit intuitions about the relation between religion and prosocial behavior were measured by using a modified version of the classical representativeness heuristic task (Gervais, 2014a; Tversky & Kahneman, 1983). Participants were presented with a short vignette, describing Anna:

As a child Anna already was very attentive to other people and children: she liked to share and on Christmas she delivered Christmas arrangements to the elderly. As she grew older, Anna got more and more involved in volunteering work at different organizations. Many of her friends see Anna as a role model of how they would like to be.

Next, participants were required to answer the question, “What is more likely?” and they were given two options: “(1) Anna is a librarian; (2) Anna is a librarian and is a”

For the second answer alternative, different groups of participants were presented with different options (in a between-subjects design, so every participant always only received one of the following conjunctions): “Anna works in a library and is (A) a Catholic, (B) a Protestant, (C) a Calvinist, (D) a humanist, or (E) an atheist.” The conjunction fallacy is reflected in people’s tendency to rate the conjunction (i.e., answer 2) as more likely than the single description (i.e., answer 1), and this fallacy has been shown to reflect an implicit measure of people’s attitudes and stereotypes (Gervais, 2014a; Tversky & Kahneman, 1983).

Results

Descriptive statistics: Differences between Catholics and Protestants

In a first analysis, we directly compared Catholic to Protestant participants on the demographic variables, the religiosity variables, the self-esteem variables, and the prosociality measures. As can be seen in the upper part of Table 1, there were slightly more women among our Protestant participants, though this difference was not significant, $\chi^2(1) = 1.7, p = .19$. Catholic participants were somewhat older compared to Protestant participants, $t(402) = 4.9, p < .001$, but both groups were matched for level of education and socioeconomic status.

Table 1 shows that, as expected, Protestants scored higher on almost all religiosity questions than Catholics. We ran separate analyses of variance with denomination as independent variable and the different religiosity items as dependent variable—while controlling for multiple comparisons. We found that Protestants scored *higher* than Catholics on general religiosity, $F(1, 402) = 110.2, p < .001, \eta^2 = .22$; afterlife beliefs, $F(1, 402) = 54.8, p < .001, \eta^2 = .12$; belief in a benevolent God, $F(1, 402) = 31.0, p < .001, \eta^2 = .07$; and belief in Predestination, $F(1, 402) = 11.4, p < .001, \eta^2 = .03$. In contrast, as expected, we found that Protestants scored *lower* than Catholics on belief in free will, $F(1, 402) = 16.6, p < .001, \eta^2 = .04$. Surprisingly, we did not find a difference between Catholics and Protestants on the Protestant work ethic measure ($F < 1, ns$).

With respect to the self-esteem measures, we found that Protestants compared to Catholics showed a somewhat reduced better-than-average effect, $F(1, 372) = 4.9, p = .028, \eta^2 = .013$, and tended to report fewer differences in the self-signaling task, $F(1, 372) = 3.2, p = .076, \eta^2 = .01$. These findings indicate that Catholics tended to have higher self-esteem/a stronger motivation to keep a positive image of themselves than Protestants. No differences were found between both groups for the desirability ratings of personality traits.

With respect to the prosociality measures, as can be seen in Table 1, Protestants compared to Catholics tended to donate more money overall, $F(1, 402) = 22.7, p < .001, \eta^2 = .05$. In addition, when looking specifically at donations made to religious organizations, Protestants indicated donating more money than Catholics, $F(1, 238) = 20.2, p < .001, \eta^2 = .08$ (see the lower part of Table 1). No differences were observed between Catholics and Protestants on self-reported altruistic behavior and willingness to donate research credits ($F < 1, ns$).

When examining the open-ended questions regarding to which religious charities participants donated, the answers confirmed that most participants indicated donating money to their own

Table 1. Demographic variables, religiosity measures, personality measures and prosocial behavior measures for Catholic and Protestant participants.

	Catholics ^a	Protestants ^b
Demographics		
Gender (no. female)	87	114
Age**	57.4 (10.3)	51.4 (14.0)
Education (range = 1–3)	1.8 (.7)	1.8 (.7)
SES (range = 1–5)	2.7 (1.1)	2.6 (1.0)
Religiosity measures		
General religiosity** (range = 1–5)	3.8 (.6)	4.4 (.6)
Afterlife beliefs** (range = 1–5)	3.4 (.7)	4.0 (.8)
Benevolent God** (range = 1–100)	82.6 (21.5)	92.5 (13.3)
Belief in predestination** (range = 1–5)	3.3 (.8)	3.7 (.9)
Belief in free will** (range = 1–5)	4.4 (.5)	4.2 (.6)
Protestant work ethic (range = 1–5)	3.5 (.6)	3.5 (.7)
Self-esteem measures		
Desirability of positive traits (range = 1–5)	4.3 (.5)	4.4 (.4)
Better-than-average effect* (range = 1–5)	3.6 (.6)	3.5 (.5)
Self-signaling measure (no. of differences)	3.2 (2.2)	2.8 (1.7)
Prosocial behavior measures		
Altruistic behavior (range = 1–6)	2.2 (.5)	2.2 (.5)
% of credits willing to donate	35.8 (33.9)	35.9 (34.2)
Total amount of money donated to charities**	76.3 (130.7)	149.3 (174.3)
Total amount of money donated to Christian charities**	68.7 (72.2)	116.5 (86.9)

Notes. SES = socioeconomic status.

^a*n* = 203. ^b*n* = 201.

p* < .05; *p* < .001.

Table 2. Data from the representativeness heuristic task according to whether the target was described as Protestant, Catholic, Calvinist, humanist, or atheist and separately for Catholic and Protestant participants.

Target	Protestant	Catholic	Calvinist	Humanist	Atheist
Catholic participants					
No fallacy	30 (71%)	13 (31%)	29 (76%)	9 (23%)	39 (95%)
Fallacy	12 (29%)	29 (69%)	9 (24%)	31 (77%)	2 (5%)
Total	42	42	38	40	41
Protestant participants					
No fallacy	14 (35%)	20 (50%)	16 (37%)	16 (40%)	32 (84%)
Fallacy	26 (65%)	20 (50%)	27 (63%)	24 (60%)	6 (16%)
Total	40	40	43	40	38

church (e.g., “Church offertories” or the name of a pastor from their church) or a related organization from their own religious denomination.

Correlation analyses

Because of the many different measures we included in our study, we present a visualization of the correlations between the different variables in [Figure 2](#), by using network analysis techniques (Borsboom & Cramer, 2013). Basically the correlation network provides a graphical representation of the correlations between the different variables, represented according to a clustering algorithm determining which variables grouped most strongly together (see [Figure 2](#)). The “nodes” (i.e., circles in the figure) represent the different variables that we measured in our study, and the “edges” (i.e., the lines in the figure) represent the relation between the variables. Green lines represent positive correlations, and red lines negative correlations between variables; the thickness of the lines represents the strength of the correlation. The graph’s threshold was at $r > .10$.

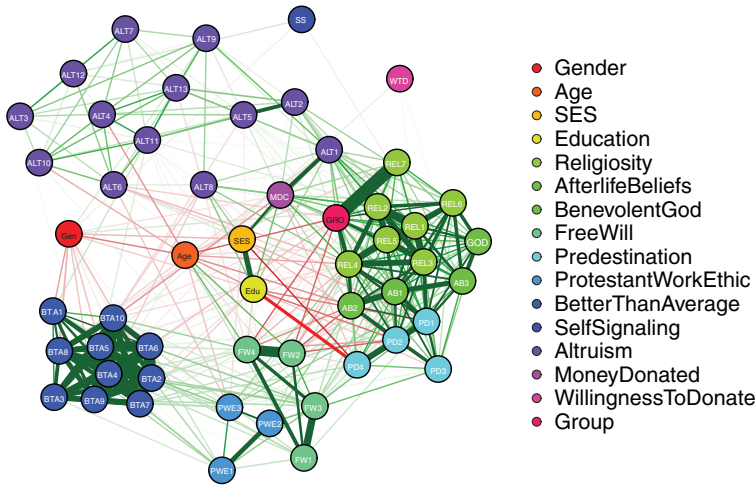


Figure 2. Correlation network representing the relation between the different variables that were included in the study, by using a clustered layout. *Note.* The different items that were measured in the study are represented as circles. Green lines represent positive correlations between variables and red lines negative correlations; the thickness of the line represents the strength of the correlation. Items related to a similar theoretical construct are presented in the same color. SES = socioeconomic status.

As expected, variables related to the same underlying construct (i.e., religiosity, self-esteem, prosociality) were positively correlated, and variables within the same cluster often were also highly correlated. As can be seen, denomination (i.e., Catholics vs. Protestants) was strongly related to religiosity (with Protestants being more religious than Catholics), to belief in afterlife (with Protestants endorsing more strongly the belief that some people go to heaven when they die than Catholics), and to free will beliefs (with Catholics believing more in free will than Protestants).

Mediation analyses

Following our theoretical model that denominational differences in prosociality would be mediated by religious beliefs and self-esteem measures, we conducted two separate mediation analysis by first including the religiosity variables as mediators and next the self-esteem measures (Hayes & Preacher, 2014).

As can be seen in [Figure 3](#), the relation between denomination and self-reported prosocial behavior was fully mediated by general religiosity and belief in predestination, as reflected by a significant mediation effect, $F(7, 396) = 7.77, p < .001$, adjusted $R^2 = .11$. These findings indicate that denominational differences between Catholics and Protestants in prosocial behavior are explained by individual differences in strength of religious beliefs (indirect effect = $-.116$), confidence interval $[-.164, -.081]$, and belief in predestination (indirect effect = $.023$), confidence interval $[.009, .045]$. Protestants endorse these beliefs to a stronger extent than Catholics, and these beliefs are in turn related to differences in prosocial behavior. Controlling for the demographic variables in the model did not change these results.

Based on our theoretical model we hypothesized that differences in prosociality between Catholics and Protestants would be mediated by our self-esteem measures. However, the self-esteem measure and the self-signaling task did not significantly mediate the observed relation between denomination and prosocial behavior (see [Figure 3](#)).

Representativeness heuristic: Perceived prosociality of own and other denominations

Finally, we focused on the outcomes of the representativeness heuristic task. For this analysis we investigated whether the conjunction fallacy differed as a function of the religious denomination of the participant (i.e., Catholic vs. Protestant) and the target category (i.e., Catholic, Protestant,

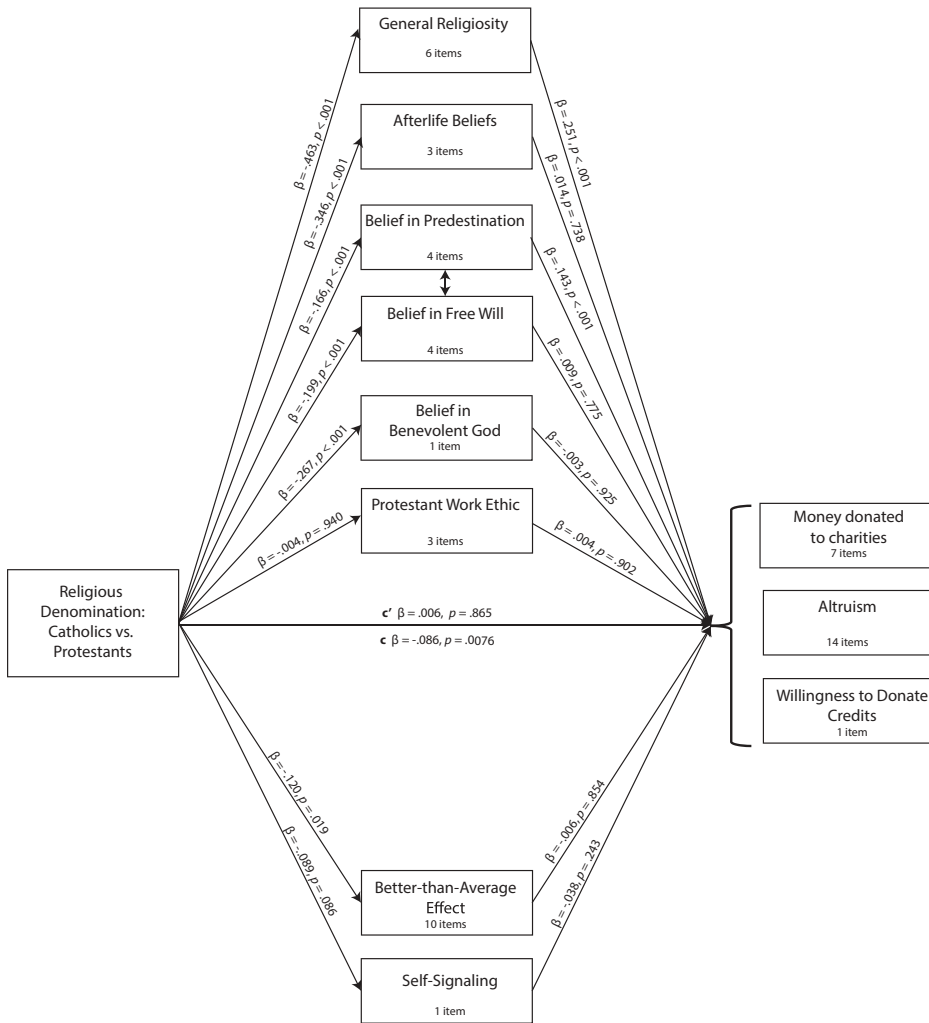


Figure 3. Mediation analysis representing the relation between Denomination and Prosociality with the religiosity measures and the self-esteem measures as mediators.

Calvinist, humanist, atheist). As can be seen in Table 2, the conjunction fallacy differed as a function of target (i.e., Catholic, Protestant, humanist, atheist) and the religious background of the participant (i.e., Catholic or Protestant), $\chi^2(4) = 71.3, p < .001$.

Post hoc comparisons indicated that Catholics committed the conjunction fallacy more often for Catholic (69%) compared to Protestant targets (29%), $\chi^2(1) = 13.8, p < .001$, but Protestants did not differ in committing the conjunction fallacy for Protestant (65%) compared to Catholic targets (50%), $\chi^2(1) = 1.8, p = .26$. Similarly, Catholics committed the conjunction fallacy more often for Catholic (69%) compared to Calvinist targets (24%), $\chi^2(1) = 16.5, p < .001$, but Protestants did not differ in making the conjunction fallacy for Calvinist (63%) compared to Catholic targets (50%), $\chi^2(1) = 1.4, p = .24$. Both Catholic and Protestant participants showed a similar pattern in making the conjunction fallacy when judging humanist and atheist targets: Catholics more often committed the conjunction fallacy for humanists (77%) compared to atheists (5%), $\chi^2(1) = 44.2, p < .001$, and Protestants also more often committed the conjunction fallacy for humanists (60%) compared to atheists (16%), $\chi^2(1) = 57.1, p < .001$. These findings indicate that (a) both Protestants and Catholics perceived nonreligious targets as less prosocial than religious targets and (b) only Catholic

participants tended to perceive targets from the own religious denomination as more prosocial than targets from a different religious denomination.

Discussion

In the present article we aimed to shed light on the relation between religiousness and prosocial behavior by investigating whether denominational differences in prosociality were primarily related to religious beliefs or to self-esteem measures. We found significant differences between Catholics and Protestants on our religiosity and self-reported prosociality measures. Protestants scored higher on general religiosity, believed more strongly in an afterlife and in a benevolent God, believed more strongly in predestination, and believed less in free will—thereby replicating earlier studies that have reported differences between Protestants and Catholics on these variables (Cohen, Pierce, et al., 2005; Li et al., 2012; Rutjens, van Harreveld, van der Pligt, van Elk, & Pyszczynski, 2016).

In line with previous findings we found that Protestants scored higher on self-report measures of prosocial behavior (i.e., the total amount of money donated to charities) than Catholics (Bekkers & Schuyt, 2008; Bekkers & Wiepking, 2011b; Hoge & Yang, 1994; Zaleski & Zech, 1994)—also when looking selectively at donations to religious charities, in line with the parochial view of religious prosociality (Preston et al., 2010). Contrary to our initial hypothesis, we did not find evidence that denominational differences in prosocial behavior were related to our measures of self-esteem and self-signaling. Thus, our findings do not support the theoretical notion that the stronger prosociality by Protestants compared to Catholics may subserve a self-signaling function to boost one's self-esteem (Prelec, 2012). Although religious beliefs may have important motivational functions to maintain a positive self-image, religiously motivated prosocial behavior apparently does not fulfill this need. Of course, the absence of an effect on our self-esteem measures could be related to our measures not directly capturing into self-esteem as subserving prosocial behavior—this could especially be the case for our newly developed self-signaling task, as the better-than-average measure has been used before in other studies (Sedikides & Gebauer, 2010).

Instead, we found that our religiosity measures mainly explained denominational differences in prosociality: Protestants considered themselves more religious, and these differences were in turn related to increased prosociality. The effects of religiosity on prosocial behavior likely reflects that religious beliefs typically involve prosocial attitudes and values (Saroglou, Pichon, Trompette, Verschueren, & Dernelle, 2005) and that church visit directly fosters prosociality (e.g., donating to church offertory; cf. Bekkers & Schuyt, 2008). At the same time, Protestants believed more strongly in Predestination (i.e., the notion that one can obtain salvation through divine grace alone and that one's fate is determined by God), and a stronger belief in Predestination was in turn negatively related to prosociality. Previous studies have suggested that disbelief in free will reduces helping (Baumeister et al., 2009) and that religiously motivated deeds are judged as being less moral (Gervais, 2014b); the underlying mechanism could be that belief in fate or belief in external sources of morality leads to passivity (Norenzayan & Lee, 2010). Thus, these findings show that multiple variables mediate the relation between religious denomination and donating money to charities, thereby highlighting the multifaceted nature of religiously driven prosociality.

We also found that the amount of money donated was strongly related to general religiosity and socioeconomic status (see Figure 2): Participants scoring high on general religiosity and socioeconomic status reported donating more money and donating to more different charities than participants scoring low on these measures. Previous studies have shown that Protestants compared to Catholics are more highly educated and have a higher socioeconomic status (Jackson, Fox, & Crockett, 1970; van Hoorn & Maseland, 2013), which are factors that may directly contribute to donating money. However, in our study the groups of Protestant and Catholic participants were matched for demographic variables, and in all our analyses we directly controlled for effects of socioeconomic status on donating money.

In contrast to our expectations, we did not find differences between both groups on the Protestant work ethic measure (Cavalcanti, Parente, & Zhao, 2007; Modrack, 2008). This could be related to the fact that the population we tested consisted mostly of older Catholics and Protestants, who all tended

to place less emphasis on “saving money for later,” for instance. The directionality of our effects on the self-signaling task and the better-than-average measures was also contrary to what we expected; Catholics tended to score higher than Protestants on these measures. The difference between Protestants and Catholics on these self-signaling measures may be related to a process of religion as self-enhancement (Sedikides & Gebauer, 2010). Previous studies have indicated that Catholics tend to be religious for more extrinsic reasons (e.g., taking part in festivities; social support) than Protestants (Cohen, Pierce, et al., 2005; Park et al., 1990) and accordingly for Catholics religion may be viewed as a “means to an end” (e.g., as a source of self-esteem), whereas for Protestants religion may be an end in itself.

Although previous studies have related the effects of religion on prosociality primarily to belief in a punishing God (Atkinson & Bourrat, 2011; Purzycki et al., 2016; Shariff & Norenzayan, 2011; Yilmaz & Bahçekapili, 2016), we found that Protestants (who donated more money) believed more strongly in a benevolent (vs. a punishing God) than Catholics. This finding is in line with more recent studies also showing that a benevolent view of God is associated with helping and benevolence toward outgroups (Johnson, Li, Cohen, & Okun, 2013; Johnson, Okun, & Cohen, 2015), suggesting that perceptions of God and Jesus may serve as a role model for moral behavior. Still, we note that we did not explicitly ask participants about more negative aspects of their God image (Braam et al., 2008), which could still play a role in shaping moral and prosocial behavior (e.g., fear of hell).

By using an adapted version of the conjunction fallacy (Gervais, 2014a; Tversky & Kahneman, 1983), we observed that both Protestant and Catholic participants more often attributed prosocial behavior to a religious target than to an atheist target. As such, this study extends previous findings regarding the relation between perceived morality and religion, but instead of focusing on negative scenarios (e.g., necrobstantiality, torture; cf. Gervais, 2014a) the present study focused on prosocial target descriptions. Important to note, we also found that perceived morality differed as a function of both one’s own religious denomination and the target group: Catholics tended to commit the conjunction fallacy more often when the outgroup member was presented as being Protestant rather than Catholic. This finding also runs contrary to our expectations, as previous studies have indicated that Protestants are particularly prone to showing a strong ingroup bias when evaluating concerns about morality in general (Cohen & Rozin, 2001; Cohen et al., 2003), although those studies did not directly contrast Protestant with Catholic participants. Whereas previous studies have shown that even atheists perceive atheists as being immoral, the present findings suggests that group membership affects the perceived morality and prosociality of other groups (Brambilla & Leach, 2014; Brambilla, Sacchi, Rusconi, Cherubini, & Yzerbyt, 2012), even when using an implicit measure, such as the representativeness heuristic task. The finding that Catholics tended to perceive ingroup members as more prosocial than outgroup members converges with the finding that Catholics scored higher on the self-signaling and the better-than-average measures, reflecting that Catholics may be more inclined to maintain a positive view of their own group.

One obvious limitation of the present study is that we relied entirely on self-report measures of religiosity, self-esteem, and prosocial behavior. As such, our study is subject to the general criticism on self-report measures, pertaining to issues of self-presentational concerns (Fisher & Katz, 2000) and discrepancies between reported and actual behavior (Baumeister, Vohs, & Funder, 2007). We did not find evidence for denominational differences on the willingness to donate actual money or research credits to charities. This finding echoes more recent concerns, indicating that the observed relation between religiousness and prosociality may be restricted to self-report measures rather than actual behavioral measures (Galen, 2012; Shariff, 2015). Although it has been argued that experimental techniques such as religious priming might provide a solution to this problem (Willard, Shariff, & Norenzayan, 2016), methodological concerns (i.e., researcher and publication bias) severely limit the conclusions that can be drawn based on these studies (van Elk et al., 2015). Still, we note that the directionality of the effects that we reported is comparable to previous studies in which actual behavior (e.g., actual donations to religious charities) was measured (Bekkers & Schuyt, 2008; Bekkers & Wiepking, 2011b)—thereby increasing the confidence in the ecological validity of our measurements. We note that research conducted in other countries has yielded similar

differences between Protestants and Catholics in terms of philanthropy and volunteering work (Berger, 2006; Chaves, 2002; Hoge & Yang, 1994; Wilhelm, Rooney, & Tempel, 2007), suggesting that our findings may extend beyond the Netherlands as well.

Conclusions

Religions have been proposed to serve an adaptive function by fostering prosocial behavior, by binding people in moral communities (Alcorta & Sosis, 2005; D. S. Wilson, 2005), and by fulfilling motivational needs for self-esteem (Sedikides & Gebauer, 2010). However, the specific function that a religion serves differs between denominations, placing more or less emphasis on different beliefs and practices (Purzycki et al., 2016). In the present study we found that denominational differences in endorsement of religious beliefs and belief in predestination were related to prosociality. In addition, both Catholics and Protestants perceived religious targets as more prosocial than non-religious targets, whereas only Catholics specifically perceived their own ingroup to be more prosocial. These findings are in line with the view that one's religious denomination (even though distal) shapes one's fundamental views, beliefs, and judgments about prosociality (Cohen, 2009).

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