

Exploring religiosity's effects on altruistic behaviour

Lu Zhao¹

¹Department of Psychology, University of British Columbia

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Abstract

Previous research has found that a person's altruism is related to religiosity. This study attempted to tease apart whether this finding is due to religion itself or other factors related to religiosity. This study asked participants to donate money towards a friend and charity using a cold pressor task. This task involved asking participants to put their hand in ice cold water, once for the friend and once for the charity. The longer a participant could hold their hand in the water, the more money they earned for the recipient. Because the task was painful, it was an altruistic act for participants to hold their hand in the water. We then used the Moral Foundations Questionnaire (Graham, Haidt, & Nosek, 2009) to study the four different moral foundations people use to make moral judgements. The study found that the relationship between religiosity and altruism was actually related to the moral foundation of concern about purity and highly correlated with religiosity. Furthermore, the relationship between purity/sanctity and altruism was mediated by in-group/loyalty and authority/respect. Therefore, this study suggests that it is not religiosity that influences altruistic behaviour, but rather the moral foundations that religious people score highly on.

Keywords: *religiosity, altruism, moral foundations, beliefs*

A person walking on any street in Canada will inevitably see panhandlers, who she will then try to brush past. This same person may willingly give money to one of her friends. Why would she refuse to donate money to someone who probably desperately needs money, but would gladly give the donation to a friend, who is probably a lot less desperate? Because the friend has a much closer social distance with her than the panhandler and social distance can affect altruistic action.

Social Distance and Altruism

Altruism is defined as the willingness to help another at a cost to oneself. There are many factors that affect one's altruistic level including social distance, which is one of the most ubiquitous influences on altruism. Regardless of a person's level of religiosity, people will be more willing to help someone who is socially closer to them than someone who is more socially distant. The relationship between social distance and altruism is known as the altruism curve, which states

that there is an inverse correlation with altruism and social distance (Rachlin & Jones, 2008). Therefore, according to this curve, both religious and non-religious people will be more willing to perform an altruistic act for their friends than for charities, even though objectively speaking; the charity may need the help more.

Religiosity and Altruism

Historical Background. One of the major factors that influence the altruism slope is religiosity, the level of religious belief that a person possesses. All major religious texts explicitly encourage altruism, therefore, the stronger a person's religious belief, the more the person should be altruistic (Batson, Schoenrade, & Ventis, 1993). In fact, Pichon, Boccato, and Saroglou's study (2007) shows that the link between religion and altruism is so firmly entrenched in people's belief system that even when individuals are primed with a positive concept of religion, they become more altruistic. In the last couple of decades, psychology has begun to test whether the belief in the positive effects of religion is warranted (e.g. Ahmed, 2009; Batson et al. 1989). Does scientific research agree with this idea that religious belief promotes altruism? Results have been decidedly mixed (e.g., Ahmed, 2009; Pichon et al., 2007).

Studies that found a correlation between religiosity and altruism. Studies using self-report measures, have found a weak positive link between religiosity and altruism (e.g., Piazza & Glock, 1979). Researchers have also found a reliable, positive link between religious service attendance and frequent praying and altruistic behaviour such as charitable donations and volunteerism (Brooks, 2003). These differences in altruism between religious and non-religious people

remain even after controlling for possible, alternative factors such as marriage status, age, and income. On the surface then, it seems that the idea that religious belief promotes altruistic behaviour is correct; however, there is a small complication in this interpretation.

Studies that found religiosity sometimes positively affect altruism. Other research has found a positive correlation between religiosity and social desirability – the tendency for people to project an overly favourable self-image in evaluative contexts (Trimble, 1997). Religiosity predicts greater altruism when reputation-related egoistical motivation has been activated in the believer and in within-group situations (Batson et al., 1989). This egoistical motivation relates back to the positive correlation between religiosity and social desirability discussed earlier. If performing or appearing to perform the altruistic behaviour would promote a good self-image in the eyes' of the participant or observers, than religiosity predicts a greater level of altruism. This means that it is possible that religiosity does *not* predict greater altruistic behaviour, just greater *reported* altruistic behaviour, which may or may not be a true reflection of the believer's behaviour. Together, these studies suggest that it is the desire to *appear* altruistic that explains the relationship between religiosity and altruism, not an actual desire to *be* altruistic.

However, it is *not* always about appearances, as religiosity *does* predict altruistic behaviour in within-group contexts. Religious people behave more altruistically to in-group members than non-religious people. One reason is that religious belief enhances within-group interpersonal trust. With greater trust, the chances of altruistic behaviour within the group increases

(Norenzaya & Shariff, 2008; Berg, Dickhaut, & McCabe, 1995). This type of altruism is known as “parochial altruism” (Choi & Bowles, 2007). Yet, it also has a dark side: increased parochial altruism is correlated with discriminatory and unhelpful behaviour towards out-group members (Hunsberger & Jackson, 2005).

Moral Foundations Theory and Religiosity

The research above has shown that religiosity has a complicated relationship with altruism. One factor that affects religiosity's effects on altruism is who is being helped. Another factor is the moral foundations that people use to make moral judgements. These foundations can be defined using the Moral Foundations Theory created by Graham, Haidt, and Nosek (2009). According to the theory, there are five functions of these moral foundations: harm/care, fairness/reciprocity, in-group/loyalty, authority/respect, and purity/sanctity. Religious people are more likely to use three of these foundations, known as the “bonding foundations”: in-group/loyalty, authority/respect, and purity/sanctity. In-group/loyalty and authority/respect have been found in other literature to influence altruistic behaviour, while purity/sanctity has been found to influence in-group/loyalty and authority/respect.

“Help your friends.” In-group/loyalty is defined as concerns related to obligations of group membership such as self-sacrifice for the group and preference towards the group, in other words, in-group bias (Haidt, Graham, & Joseph, 2009). Religious people tend to score higher on in-group bias. This leads them to be more helpful towards in-group members and possess stronger loyalty to the group. This loyalty can be observed in

areas such as scoring higher on nationalism (Eislinga, Felling, & Peters, 1990). The flip side of this is that when faced with groups that are different from them, religious people tend to be discriminatory. Previous studies done by Allport and Ross (1967) have found religion to be positively correlated with most or all types of prejudice. This leads religious people to be less altruistic towards out-group members. Studies have found that when faced with people who are different from them, such as people who are homosexual, religious people were much less willing to help (Pichon & Saroglou, 2009). This difference in attitudes towards in-group and out-group members can be summed up in studies that show that religious people highly value benevolence, a pro-social trait in relation to interpersonal interactions, universalism, which includes a broader openness to all people, is not so highly endorsed by religious people (Schwartz & Huisman, 1995). Therefore, people who score higher on the in-group/loyalty score should be more altruistic towards their friends than charity.

“Give help to the needy.” This in-group bias is complicated by the fact that religious people also tend to score higher on the authority/respect scale. Authority/respect is defined by Haidt and his colleagues (2009) as concerns related to social order and hierarchical relationships such as obedience and respect as moral imperatives. Therefore, someone who scores higher on this scale, all other things being equal, may more strongly believe that that obedience to authority is a moral imperative. Religious people tend to score higher on this scale. One of the reasons they score higher is that religion socializes people to conform to rules and the orders of authorities (Donahue & Benson, 1995). Thus, they are more likely to obey

those they consider authorities, such as religious commandments, which encourage charitable behaviour (Batson et al., 1993). This would suggest that religious people should be more altruistic towards charities than non-religious people. However, previous research on political stances, conservatives versus liberals, found that individuals who score high on conservatism, which is highly correlated with religiosity (Jonathan, 2008) also score higher on the authority/respect scale, and are less altruistic overall (e.g., Carey & Paulhus, 2010). Therefore, non-religious people should be more likely donate to people than religious people.

"They tell me that they're disgusting." In-group/loyalty and authority/respect are influenced by the purity/sanctity foundation. Purity/sanctity relates to concerns about the purity of the body and spirit. In relation to religious doctrine, this would express itself in areas such as concern for chastity, temperance, control of one's desires (Haidt et al., 2009). A person who behaves or possesses a trait that is not considered "pure" evokes disgust from others. This type of disgust is called sociomoral disgust (Beck, 2006) and it is in response to the person who possesses the undesirable action or trait. Which behaviours and traits are considered undesirable are defined by cultural factors, such as religious authorities (Beck, 2006). The people who invoke this type of disgust are generally categorized as members of an out-group, and, in turn, not worthy of charitable help (Nussbaum, 2001). Consequently, those who are considered not pure, as defined by authorities, are considered to be less worthy of help because they become more distant out-group members. People who score higher on the purity/sanctity scale, who tend to be

religious people because they tend to use more purity metaphors (Beck, 2006), should score higher on in-group/loyalty and authority/respect.

Hypothesis

Hypothesis #1. Based on the literature cited above, we predict that religiosity will predict a greater difference in donations towards friends compared to charity. Specifically, we predict that the more religious someone is, the more they will donate to friends, as opposed to charity.

Hypothesis #2. Furthermore, we predict that the relationship between religiosity and altruism will be mediated by the three bonding moral foundations: in-group/loyalty, authority/respect, and purity/sanctity. We predict that the relationship between religiosity and altruism is actually the relationship between religiosity and purity/sanctity, which is mediated by in-group/loyalty and authority/respect.

Hypothesis #3. Finally, we predict that the effects of in-group/loyalty and authority/respect on altruism will be opposite of each other, whereby in-group loyalty will lead to more altruism and authority/respect will lead to less altruistic behaviours.

Method

Participants

The 39, participants (77% females; East Asian 54%, 13% European, 8% South Asian, and 26% "other") were all undergraduate students at the University of British Columbia who were taking at least one psychology course. Among the participants, 64% were religious. They participated in

exchange for half a credit that they could then apply to their grade in a psychology course.

Independent Variables

Moral foundations questionnaire (MFQ).

Created by Graham and colleagues (2009), the MFQ had 32 statements divided into two sections and was designed to measure five scales: harm/care, fairness/reciprocity, in-group/loyalty, authority/respect, and purity/sanctity. Each scale measured a possible purpose for moral judgment. The five foundations were correlated with different explicit and implicit political ideology $|\beta| = .16$ to $.52$, $p < .001$. In-group/loyalty, authority/respect, and purity/sanctity were positively correlated with conservatism ($|\beta| = .17$ to $.34$, $p < .001$). The Cronbach's alphas for these foundations are $.71$ (in-group), $.64$ (authority), and $.76$ (purity).

The first section of the MFQ asked, "When you decide whether something is right or wrong, to what extent are the following considerations relevant to your thinking?" and listed 16 statements to which participants indicated their relevance on a six-point scale. Statements included "whether or onto someone suffered emotionally" and "whether or not someone acted unfairly" (1 = *Not at all relevant*, 6 = *Extremely relevant*). The second section asked participants to indicate their agreement on a six-point scale to 16 statements. Items included "compassion for those who are suffering is the most crucial virtue" and "it is better to do good than to do bad" (1 = *Strongly disagree*, 6 = *Strongly agree*).

Right wing Authoritarian scale (RWA scale).

We then used the five-point RWA scale that was shortened by Zakrisson (2005) to 15-

items. The new scale lost a small amount of reliability (Cronbach's alpha) compared to the original 30 item RWA scale, (.86 vs. .72). However, the new scale still reliably measured all the items that the original RWA scale measured: conventionalism, authoritarian aggression, and authoritarian submission. Seven items on the scale were reverse-scored. Items included "our country needs a powerful leader, in order to destroy the radical and immoral currents prevailing in society today" and counter-balanced items such as "our country needs free thinkers, who will have the courage to stand up against traditional ways, even if this upsets many people" (1 = *Strongly disagrees*, 6 = *Strongly agree*). Larger overall scores indicated more conservative and less liberal orientations, whereas smaller scores indicate more liberal and less conservative orientations.

Ten item personal inventory (TIPI). A ten-item scale created by Gosling, Rentfrew, and Swann Jr. (2003) was used to measure the Big Five personality dimensions (i.e., extraversion, agreeableness, conscientiousness, emotional stability, and openness to expression). The TIPI asked participants to rate their agreement to statements about their own personality on a five-point scale. Half of the statements were reverse-scored. Statements included "I see myself as: extraverted, enthusiastic" and "I see myself as: dependable, self-disciplined" (1 = *Strongly disagree*, 5 = *Strongly agree*). This scale was highly correlated with the original Big-Five Inventory ($r = .65$ to $.87$, $p < .01$). The Cronbach's alphas ranged from $.45$ to $.73$.

Belief in a just world (BJW). Created by Lerner (1980), the BJW contains 15 items which test belief in a just world. Scoring

highly on the BJW indicates that people believe that those who have unfortunate event happen to them deserved it, thus, high scores identify individuals who participate in victim blaming. Participants were asked how much they agreed with each item on a five-point scale. Items included "I feel that a person's efforts are noticed and rewarded" and "I feel that the world treats people fairly" (1 = *Strongly disagree*, 5 = *Strongly agree*).

Demographics. On the last page of the questionnaire package, we asked participants to indicate their age, years they have spoken English, gender, number of family members, primary ethnic heritage, political orientation, and level of religious belief. Both the political orientation and religiosity questions were on a five-point scale. The political orientation ranged from 1 = *very liberal* to 5 = *very conservative* and religiosity ranged from 1 = *not at all religious* to 5 = *very religious*.

Dependent Variable

Level of altruism. The level of altruism was measured by the amount of money participants earned for their friend and charity. They earned the money with the cold pressor task. The cold "pressor" was a cooler filled with water, which was cooled by ice packs. Participants were asked to put their hands in the cold pressor twice, once for friend using one hand and once for charity using the other hand. The longer they kept their hand in the water, the more money they earned. The total amount they earned was dependent on how long they held their hand in the water on either round. If the longest they held their hand in the water was under a minute, then the total amount they earned was \$10, and if they longest was at the maximum of five minutes,

they earned a total of \$20. The amount increased by \$5 per minute. The money was split between the conditions depending on the difference between the times in the two conditions. For every 60 seconds difference, the longer lasting condition earned \$5 more. For example, if a person held on for one minute in the charity condition and three and a half minutes for the friend condition, then they earned \$20 in total with \$5 to charity and \$15 to the friend.

Procedure

Participants were placed in front of a computer where they entered a unique identification code. The computer randomly determined if they started with the personality questionnaires or the cold pressor task. During the personality questionnaires component, participants filled out the questionnaires listed above, including demographics, on the computer and went on to the cold pressor task. When the participant got to the cold pressor task, the research assistant explained to the participants that they would earn money for their friend and charity. The research assistant showed participants the Canadahelps.com website to convince participants that the charities were real and that they were really earning money for charity. The computer randomly decided whether the participants earned money for the friend or for charity first. If it was the friend condition, participants were asked to write the name of a close friend, who was not a relative or significant other, onto a white envelope. Participants then performed the cold pressor task, once for the friend and once for charity. At the end of the study, the amount of money they earned for the friend was placed in the envelope for them to give to their friend. The money they earned for charity was given to them in the form of an

Table 1. Regression of religiosity, RWA total score, and politics on time difference

	B	Std. Error	β	t	p
Constant	-51.236	81.655		-.627	.534
Religiosity	32.064	15.602	.403	2.055	.047
RWA Total	-.876	34.305	-.005	-.026	.980
Politics	-5.820	15.925	-.060	-.365	.717

electronic gift certificate for Canadahelps.com that was emailed to them at the end of the day.

Results

We first calculated altruism preferences for the friend condition by finding the time difference between the friend and charity. Then we did a regression with political stance, Right Wing Authoritarianism (RWA) score, and religiosity with the time difference between the friend and charity cold pressor task as the dependent variable. We used political stance, RWA score, and religiosity because previous research has found a relationship between them (e.g., Graham, Haidt, & Nosek, 2008). We wished to confirm that religiosity was driving the relationship between these three factors and altruism. The regression found only religion to be significant, $\beta = .40$, $p = .047$ (see Table 1).

Hypothesis #1: Religiosity will predict a greater difference in donations towards friends compared to charity

We did a repeated measures ANOVA and controlled for the order of the tasks, cold pressor or questionnaire first and friend or charity first. The ANOVA looked at the religiosity, friend time, and charity time. There was a significant relationship between religiosity and time according to Wilk's Lambda, $F = 14.10$, $p = .001$ (see Figure 1).

Therefore, religiosity was correlated with how much time participants were willing to keep their hand in the cold pressor for the two recipients.

Hypothesis #2: The relationship between religiosity and altruism is mediated by the three bonding moral foundations.

We did a regression with religiosity, time difference, and the Moral Foundations Questionnaire to see if any of the moral foundations had a significant relationship with religiosity and time difference in keeping the hand in the cold pressor task for friend vs. charity. We found that in-group/loyalty had a significant relationship



Figure 1. Interaction between religiosity and time spent on friend and charity.

between religiosity and time difference, $\beta = .61$, $p = .027$. Also, authority/respect had a significant relationship between religiosity and time difference, $\beta = -.64$, $p = .039$. Mediation analysis was performed to test whether in-group/loyalty and authority/respect mediated the relationship between religiosity and time difference. They were not significant. For authority/respect, $b = -11.11$, $z = -1.43$, $p = .15$, bootstrapping $CI_{.95}[-32.12, -.29]$, or for in-group/loyalty, $b = 18.10$, $z = 1.83$, $p = .067$, bootstrapping $CI_{.95} [.90, 61.32]$.

But, religiosity was strongly correlated with purity, $r = .50$, $p = .002$. Therefore, mediation was again performed to test whether in-group/loyalty and authority/respect mediated the relationship between purity and time difference. It did, for the authority/respect path, $b = -33.81$, $z = -2.03$, $p = .042$, bootstrapping $CI_{.95}[-87.44, -4.62]$, and for in-group/loyalty, $b = 34.24$, $z = 2.31$, $p = .021$, bootstrapping $CI_{.95}[4.09, 104.43]$ (see Figure 2). This suggests that the factor that was driving the correlation between religiosity and altruism was purity/sanctity.

This relationship was mediated by in-group/loyalty and authority/respect. In-group/loyalty mediated a positive correlation between purity/sanctity and altruism and authority/respect mediated a negative correlation. This explains why the original test to see if they mediated the relationship religiosity and altruism were not significant. These opposing effects are about the size and opposite of each other, therefore, they cancel and when looking at their effects together, so it appears that they have no effect. However, when the two

factors are separated, it becomes clear that both do affect the relationship between religiosity and altruism.

Hypothesis #3: The effects of in-group/loyalty and authority/respect on altruism will be opposite of each other

Simple effects for both in-group/loyalty and authority/respect were calculated to see their effects on the time for friends and charities. None of the correlations were significant; however, most show a significant trend. Friend times were not affected by in-group/loyalty, $p = .89$, and decreased as authority/respect increased, $r = -.21$, $p = .24$. Charity times decreased as in-group/loyalty increased, $r = -.22$, $p = .20$, and as authority/respect increased, $r = -.21$, $p = .23$.

The length of time participants kept their hand in the cold pressor for a friend was not affected by how high participants scored on the in-group/loyalty scale. However, there was a negative correlation between the time and authority/respect. The higher participants scored on the authority/respect scale, the less time they kept their hand in the water. The length of time participants kept their hand in the cold pressor for charity was correlated with both factors. As participant scores for both scales increased, the time they kept their hand in the water decreased.

Discussion

We discovered a very interesting relationship between levels of religious belief and altruistic behaviour. These findings suggest that it is not religious belief that influences altruism, but rather the

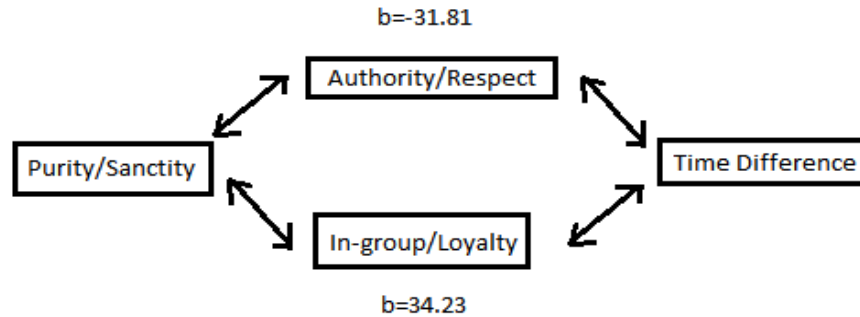


Figure 2. Mediation between purity/sanctity and time difference.

functions of moral judgment that religious people share. Religious people score highly on purity/sanctity, which this study found to correlate with altruism. Higher scores on this purity/sanctity scale signify that individuals put more moral weight on the purity of a person or group.

As Beck (2006) suggests this could be due to many religions using purity metaphors. Or, it could be that people who are more easily disgusted are more conservative (Inbar, Pizarro, & Bloom, 2009), which would predict that they would also be more religious. Purity/sanctity was positively correlated with in-group/loyalty and authority/respect. Therefore, people who put more moral weight on purity, also have greater in-group bias due to the fact that they view their own group as being pure and out-group members as being impure. Widening the gap between in-group and out-group members, out-group members become not just strangers, but *disgusting* strangers. Seeing strangers as disgusting tends to cause people to view others as less human and less worthy of help. Also, people who are highly concerned with purity will look to authorities, including religious authorities, to tell them what is pure and what is not. Religious authorities, since they use a lot of purity metaphors, probably also

increase the people's concerns about the morality of purity (Beck, 2006). It should be pointed out that the relationships between purity with in-group/loyalty and authority/respect were found using mediation, consequently, they can only be seen as correlations, not causations.

Both in-group/loyalty and authority/respect effected how much time was spent on friends and charity in the cold pressor task. In-group/loyalty stretched out the distance between friends and charity as it did not affect friend time and decreased charity time. However, there was no correlation between stronger in-group bias and more altruistic behaviour towards friends. In-group bias *was* correlated with behaving less altruistically towards charities, which are considered out-groups. The reason in-group bias does not increase altruism towards friends is probably explained by the effects of authority/respect. Authority/respect decreased the time spent on friends and charity because it caused the altruism slope to become steeper. Hence, even if the social distance between the helper and helped was the same for a religious and non-religious helper, the helped would gain less altruistic behaviour from the religious helper than the non-religious helper. This agrees with

previous research done by Carey and Paulhus (2010) that conservatism, which is correlated with obedience to authority, and decreased altruism. As indicated by the results, people who score higher on in-group/loyalty and authority/respect provide less help towards charities than toward friends.

Implications

There are several important implications of this study. Importantly, this study suggests that it is not religiosity itself that influences altruism, but rather the moral functions of moral judgments related to religion. Therefore, if society wishes to encourage more altruistic behaviour in group contexts, it would probably not be most helpful to encourage different moral functions of moral judgment. Also, these findings suggest that if a charity is looking for donations from a religious person or group, it should emphasize the similarities between the charity and people they are close to.

Considering the moral foundations that are driving the relationship between religiosity and altruism, people might be tempted to suggest that society should encourage religious belief because it encourages altruism. However, religious driven altruism does have costs. Religious people are more altruistic toward in-group members because of in-group bias than non-religious people, but in-group bias is linked with parochial altruism (Choi & Bowles, 2007). This means that believers are less helpful and more discriminatory towards outgroup members (e.g., Hunsberger & Jackson, 2005). This might not have been a problem in earlier societies, which were more homogeneous, but it does pose a big problem in modern societies such as Canada, where most people in society will be out-group members to the believer, non in-

group members. Furthermore, religious people's altruistic behaviour towards out-group members is influenced by who their authorities tell them is worthy of help. Considering that this study has provided evidence that religiosity does not promote altruism and may in fact create prejudice and division between groups, nations might wish to be careful when encouraging religion in case it has negative, rather than positive effects. We would also like to clearly state that we are not suggesting that religion is a negative influence or that it should be discouraged. We would only like to point out that research, including our study, suggests that some people might benefit from religious based altruism, but most are victims of it.

The effect of religious salience also suggests that should society wish to use religious belief to increase altruism, it needs to ensure that religion is always salient. When it is, studies have found that the religious people are more helpful than non-religious people (e.g., Sosis & Ruffle, 2003). However, an alternative explanation could be that it is not the religious salience, but the public ritual participation which encourages altruistic behaviour (Norenzaya & Shariff, 2008). Given the uncertainty of what is driving the increased altruism, religious salience or public ritual participation, more research in this area should be conducted.

Our study found that it was the moral foundations, not religiosity itself, that influenced altruistic behaviour. In large, modern secular societies, such as Canada, it is possible for secular moral authorities to replace religious influence on altruism because secular authorities can promote the same moral foundations as religiosity (Norenzaya & Shariff, 2008). Future research should aim to understand what types of

moral judgments predict greater altruism to help secular moral authorities influence a more universal altruism in society and avoid the negative consequences of religious driven altruism.

Limitations

There are several limitations to the study. The main limitation is that there was only one question relating to religiosity that participants completed, which did not allow for much differentiation of religious belief. Also, there were very few participants, 21 of whom were East Asians and all who were undergraduates. As religious belief *does* change with age (Kenrick, in press) *and* interacts with ethnicity (Chatters, Taylor, Bullard, & Jackson, 2009), our results are less generalizable to the general population. Also, the operational definition for altruism in this study was one-time donation behaviour. Thus, the relationships found in this study might not generalize to other types of altruistic behaviour. For example, studies have found that sustained altruistic behaviour, such as volunteering, has a greater positive relationship with religion than spontaneous altruistic behaviour, such as donation (Benson et al., 1980).

Furthermore, this study evaluated the donation behaviour using the cold pressor task where ethics bound the participants from keeping their hand in the water for more than five minutes. We found ceiling effects among some participants, suggesting that we might have found more variance if we had permitted participants to participate in the task for longer than five minutes. There were also participants who kept their hand in the water for a very short time (less than 30 seconds). The difference in time for those who experienced the ceiling effect and for those who could barely keep their hand in the water suggests that there might be an

individual difference in pain tolerance. Pain tolerance might have confounded the time differences between friend and charity. In future studies, pain tolerance should be pre-tested to ensure that all participants have similar levels of tolerance. Furthermore, the maximum time for the task should be increased or the water made colder to eliminate ceiling effects.

Future Directions

As stated above, future studies should try to tease apart various aspects of religious belief to isolate which aspects are relevant to which type of moral functioning. Also, studies may want to compare other groups that share the same moral foundations, such as minority ethnic groups, and see if they share similar altruism patterns as religious people. Previous studies have shown that minority ethnic groups who score highly on in-group/loyalty and authority/respect show similar altruism patterns for donations (e.g., Amponsah-Afuwape, Myers, & Newman, 2002), but I am not aware of any studies that directly compare minority ethnic groups and religious groups to study how similar the groups are. Also, it would be interesting to tease apart the differences among the different groups of non-religious people. Are atheists different from agnostics and spiritual people? Some studies have suggested atheists follow similar altruistic patterns as spiritual people (e.g., Dillon, Wink, & Fay, 2003). These future studies could build and expand the intriguing results found in the current study.

Declaration of Conflicting Interests

The author declared they have no conflicts of interests with respect to their authorship or the publication of this article.

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