Journal of Experimental Social Psychology 73 (2017) 169–179

Contents lists available at ScienceDirect

Journal of Experimental Social Psychology

journal homepage: www.elsevier.com/locate/jesp

Generous heathens? Reputational concerns and atheists' behavior toward Christians in economic games

Colleen M. Cowgill, Kimberly Rios*, Ain Simpson

Ohio University, Department of Psychology, USA

ARTICLE INFO

Keywords:
Stereotypes
Atheists
Religion
Reputational concerns
Ingroup bias
Morality

ABSTRACT

Ample research demonstrates that people are more prosocial toward ingroup than outgroup members, and that religious believers (e.g., Christians) tend to be more prosocial than non-believers (e.g., atheists), in economic games. However, we identify a condition under which ingroup biases in such games are attenuated, focusing on prosociality among *atheists*. Specifically, we argue that atheists (but not Christians) experience unique reputational concerns due to stereotypes that their group is immoral, which in turn affect their behavior toward outgroup partners. Across three studies, when participants in a Dictator Game believed their religious identity was known to their partner, atheists behaved impartially toward ingroup and outgroup partners, whereas Christians consistently demonstrated an ingroup bias. The effects of religious identity on allocations to the outgroup were partially mediated by concerns about being perceived negatively by others and were eliminated by telling participants that their religious identity would be kept anonymous.

Numerous studies have revealed a positive relationship between religion and prosocial behavior (e.g., Everett, Haque, & Rand, 2016; for a review, see Norenzayan et al., 2016). Theories of religious prosociality (e.g., Norenzayan & Shariff, 2008) emphasize the role of reputational concerns in this relationship: Individuals who are particularly concerned with being seen as moral members of the religious ingroup are more likely to behave prosocially. This is at least partly due to the belief in an omnipresent deity who is constantly monitoring humans' social interactions and who threatens to punish norm violators, cheaters, free-loaders, and selfishness in general (Johnson & Bering, 2006; Norenzayan et al., 2016). Accordingly, reminders of God or of one's religion often increase prosocial behavior (Shariff, Willard, Andersen, & Norenzayan, 2016), purportedly by priming believers with reputational concerns under the premise that God is watching.

Importantly, such prosociality is usually confined to those who are perceived to be fellow religious ingroup members—i.e., those who are relatively capable of tracking the actor's moral reputation across time (Galen, 2012; Norenzayan et al., 2016). Indeed, much research has shown that in economic games, people tend to demonstrate an ingroup bias whereby they allocate more money to ingroup than outgroup members (e.g., Balliet, Wu, & De Dreu, 2014; Kramer & Brewer, 1984). Among religious believers, this ingroup bias is exacerbated when people are induced to think about how members of their religion would want them to behave. The reason, presumably, is that religious believers see ingroup affiliation as especially reflective of prosociality and, hence, as a means of alleviating reputational concerns (Preston & Ritter, 2013).

Atheists, unlike religious believers, are thought to be relatively free of such reputational concerns, as they can act without fear of supernatural monitoring or punishment. As members of an arguably less cohesive group (Toosi & Ambady, 2011), atheists may also feel less pressure to favor ingroup over outgroup members. However, might atheists experience a different kind of reputational concern that, under some circumstances, motivates prosociality? Given that atheists are widely stereotyped as possessing fewer morally-relevant characteristics (e.g., Edgell, Gerteis, & Hartmann, 2006; Gervais, 2013), we argue that atheists—but not believers—should be particularly concerned with maintaining a moral reputation in the presence of *outgroup* members who are likely to stereotype them as immoral. Accordingly, we argue that atheists should be concerned with signaling their capacity to be moral – which includes being prosocial (i.e., cooperative and selfless) and trustworthy (see Haidt, 2008) – when interacting with outgroup members.

In this set of studies, we compared atheists' and Christians' behavior toward one another in an economic game in which participants were motivated to establish a reputation as moral, under the premise that they would receive a public "reputation score" prior to playing additional rounds of the game. We loosely based our game design on the Dictator Game, which has been used in much prior research investigating religious prosociality (e.g., Everett et al., 2016; Tan & Vogel,

* Corresponding author at: Department of Psychology, Ohio University, 200 Porter Hall, Athens, OH 45701, USA.
E-mail address: rios@ohio.edu (K. Rios).

http://dx.doi.org/10.1016/j.jesp.2017.06.015
Received 26 November 2016; Received in revised form 21 June 2017; Accepted 22 June 2017
Available online 10 July 2017

2008). However, we modified the game so that participants' concerns for moral reputation were particularly salient. Specifically, participants were led to believe that several rounds of the game would be played, and that their partner would assign a public reputation score for other participants to see.

In contrast to previous research that has focused mainly on the reasons behind religious believers' prosociality (Everett et al., 2016; Shariff, Willard, Muthukrishna, Kramer, & Henrich, 2016), we sought to determine what might motivate prosociality among atheists. We specifically hypothesized that the ingroup bias typically observed in economic games (Balliet et al., 2014; Kramer & Brewer, 1984) would be present among Christians (who should be primarily concerned with whether the *ingroup* perceives them as moral), but not among atheists (who should be concerned with signaling their morality to the *outgroup*). We also hypothesized that atheists' fears of being perceived negatively by outgroup (Christian) partners would mediate these effects. Such results would advance understanding of why and under what circumstances identifying as *atheist* (versus Christian) influences prosocial behavior, as well as when ingroup biases do and do not emerge. They would also shed light on how atheists respond to negative stereotypes about their group.

We chose Christians as the focal outgroup for several reasons. First, Christians represent the religious majority in the U.S., currently constituting approximately 70.6% of the entire U.S. population, whereas non-Christian religious adherents in total represent only around 5.9% (Pew Research Center, 2014a, 2014b). Hence, focusing on Christians as outgroup members offers the greatest scope to generalize findings to the broader social fabric of U.S. society. Moreover, because Christians represent a majority, this allowed us to juxtapose our core hypothesis (i.e., atheists are prosocial toward Christians because they fear being perceived as immoral) against the competing hypothesis that atheists are simply trying to please members of a dominant majority group. Finally, due to their relative emphasis on religious belief over religious practice, Christians are particularly likely to hold anti-atheist prejudice, compared to Jews and Hindus (Hughes, Grossmann, & Cohen, 2015). Thus, atheists in the U.S. might experience particularly strong concerns about their ingroup's moral reputation when interacting with Christians, relative to other groups. In the General Discussion, we elaborate on what we might predict for other religious ingroup-outgroup contexts.

1. Negative stereotypes of atheists

In the U.S., the pervasive stereotype of atheists is that they are immoral. For a person to establish a moral reputation, one must be able to demonstrate to others that s/he is a trustworthy and reliable cooperation partner who is capable of suppressing selfishness for the sake of others (Haidt, 2008). Accordingly, atheists are judged as immoral insofar as they fail to signal to others a capacity to be selfless, trustworthy, and cooperative (e.g., Simpson & Rios, in press) – in other words, a capacity to be prosocial (Norenzayan & Shariff, 2008). For example, people believe that a description of an individual who lies and steals is more representative of atheists (and rapists, with no significant difference between atheist/rapist attributions) than other religious groups (e.g., Christians, Jews, Muslims; Gervais, Shariff, & Norenzayan, 2011). This negative stereotype of atheists is potentially quite potent, as morality is a central dimension on which people form judgments of other individuals and groups (Brambilla, Sacchi, Rusconi, Cherubini, & Yzerbyt, 2012; Cottrell, Neuberg, & Li, 2007; Goodwin, Piazza, & Rozin, 2014; Ybarra, Chan, & Park, 2001). Indeed, people are less willing to vote for an atheist Presidential candidate than for a Black or gay Presidential candidate, suggesting that these stereotypes translate into actual discriminatory behaviors toward atheists (Franks & Scherr, 2014).

Although the existence of negative stereotypes about atheists as immoral is well documented, no research has examined how atheists behave in response (but for research on atheists' attitudinal and emotional reactions, see Doane & Elliott, 2015; Hammer, Cragun, Hwang, & Smith, 2012). This is a critical question to address because atheists are increasing in prevalence in the U.S. and throughout the world (Pew Research Center, 2014a, 2014b), yet they continue to be frequent targets of pejorative and openly accepted stereotypes. Some research has shown that group members who are aware of the possibility of being negatively stereotyped react by attempting to contradict others' perceptions of their group. For example, Asian Americans for whom the stereotype of their group as "un-American" has been made salient subsequently emphasize their participation in American cultural practices (Cheryan & Monin, 2005). Similarly, men whose masculinity has been called into question subsequently display more physical aggression (Bosson, Vandello, Burnaford, Weaver, & Wasti, 2009) and claim to possess more stereotypically masculine attributes (Cheryan, Cameron, Katagiri, & Monin, 2015). These stereotype-defying behaviors emerge in intergroup interactions as well: When interacting with a different-race partner, African Americans tend to self-promote in order to dispel the stereotype that their group is incompetent, whereas White Americans tend to ingratiate themselves in order to dispel the stereotype that their group is racist (Bergsieker, Shelton, & Richeson, 2010).

The above research on compensatory reactions to negative ingroup stereotypes suggests that in intergroup contexts, atheists might be especially motivated to bolster their moral reputations. Importantly, however, such findings would also (1) introduce a condition under which atheists exhibit prosocial behavior, in contrast to previous research that has largely emphasized the *religion*-prosociality relationship; and (2) shed light on when ingroup biases (e.g., in economic games) might *not* emerge.

2. Religion, prosociality, and ingroup biases

Following previous research on religious identity and prosocial behavior (e.g., Decety et al., 2015; Everett et al., 2016; Shariff & Norenzayan, 2007), we examine atheists' behavior in an economic game whereby participants must decide how much money to allocate to an anonymous partner who has no say in the matter. Specifically, participants are told that they are about to play a "trust game" with a partner,[1] are given a hypothetical or real sum of money (e.g., 5 coins), and must indicate how much of the money they would like to give to their partner versus keep for themselves. They are also told that they will be assigned a "reputation score" by their partner, and that this game will repeat multiple times. In economic games similar to this (e.g., Dictator Game, Prisoner's Dilemma, Ultimatum Game; Balliet et al., 2014; Kramer & Brewer, 1984; Yamagishi & Mifune, 2008), individuals tend to demonstrate an ingroup bias whereby they allocate more resources to members of their own group than to the outgroup.

In addition to the ingroup bias often found in economic games, accumulative evidence supports a general association between religiosity and prosocial giving, often regardless of the recipient's group membership (for a review, see Norenzayan et al., 2016). Several studies have shown that people high in religiosity (e.g., Everett et al., 2016) or believers who have been exposed to religious concepts (for a review, see Shariff et al., 2016) tend to allocate more money to their partners than do people low in religiosity or believers who have not been exposed to religious concepts. Critically, though, a recent experiment demonstrated *lower* levels of resource allocation in an economic game among religious believers (e.g., Christians, Muslims) than among atheists (Decety et al., 2015; but see Shariff et al., 2016), which raises the question of when atheists will and will not behave prosocially in such

[1] Technically, the game was not about trust or trustworthiness, per se, but about the signaling of moral reputation. We referred to the game as a "trust game" as this was a practical way to increase the likelihood that participants would be concerned with their moral reputation and expected generosity when playing the game.

situations.

Some work on the boundary conditions of religion and prosociality has examined whether there are differences between prosocial behavior toward the ingroup versus outgroups. For instance, Preston and Ritter (2013) showed that religious believers who were reminded of their religion (e.g., Christian) subsequently allocated more resources to ingroup than outgroup members, presumably because they were induced to think about divisions between their own and other groups. By contrast, other research has found no differences in religious believers' prosociality as a function of whether the target is a religious ingroup or outgroup member (Everett et al., 2016). Notably, however, in none of these prior studies did participants believe that their own group membership (e.g., as Christian or atheist) would be revealed to the target (e.g., the other person in the Dictator Game; Everett et al., 2016). Therefore, Christians' potential concerns about how they would be seen by fellow ingroup members (Galen, 2012; Norenzayan et al., 2016) and atheists' potential concerns about how they would be seen by outgroup members (Gervais, 2013) were likely not salient. In the present studies, we investigate how atheists and Christians behave in an economic game when they both know their partner's religious identity and think their partner knows their own religious identity, and are told that their partner would assign them a "reputation score" that would be visible to other (actually fictitious) players in subsequent rounds of the game.

Based on our prior discussion of atheists' potential motives to disconfirm negative stereotypes, we propose that atheists who are paired with outgroup (i.e., Christian) partners and hence who face reputational concerns will *not* exhibit an ingroup bias, due to their desire to signal that they are morally reputable. By contrast, Christian participants should demonstrate the typical pattern of favoring their ingroup over the outgroup (Balliet et al., 2014; Kramer & Brewer, 1984).

3. The present research

We conducted three studies to examine atheists' and Christians' monetary allocations toward ingroup versus outgroup members in an economic game. Intergroup context was manipulated in Studies 1–2 by randomly assigning participants to play an economic game (described as a "trust game" in order to make salient moral reputational concerns), in which they had to allocate a sum of money (hypothetical in Study 1, real in Study 2) to either an ingroup or outgroup partner. To highlight the concerns about preserving one's moral reputation in the game, participants were told their partner would give them a "reputation score" that would be visible to partners in subsequent rounds. Participants were also told that they would be randomly assigned to either distribute or receive the funds, and that their role in the game would switch each time the game was repeated. Finally, participants were told that the rounds of the game would conclude without warning, leaving the final split of funds as the way the money would ultimately be distributed between the two players. These game instructions were designed to maximize the desire of participants to maintain a positive "reputation score" by acting fairly throughout the game. We chose this game design instead of a game such as the Prisoner's Dilemma to ensure that observed effects would be driven primarily by how participants thought their partners might perceive them, rather than by attempts to strategize based on what participants thought their partners might do. We predicted that Christians, but not atheists, would allocate more money to ingroup than outgroup partners. We also predicted that atheists would present themselves as more moral to outgroup partners than would Christians (Study 2).

In Study 3, we assigned all participants to play the aforementioned game (but now *all* participants played with an outgroup partner), using real money as in Study 2, and we manipulated corresponding reputational concerns by informing participants that their religious affiliation would be either known or unknown to their partner (see Yamagishi & Mifune, 2008). By doing so, we were able to investigate whether atheists would no longer exhibit heightened prosociality toward outgroup partners once their atheist identity was concealed, and hence once they no longer faced the threat of being judged for their behavior based on their group membership. We also measured participants' concerns about how their partner in the game perceived them, operationalized via Fear of Negative Evaluation (adapted from Leary, 1983). We hypothesized that atheists (but not Christians) would give more to the outgroup when their partner knew versus did not know their group membership, and that greater Fear of Negative Evaluation among atheists in the partner-aware condition would drive these effects.

An a priori power analysis using the G*Power program indicated that 199 participants were needed in a 2 × 2 design to detect a small-to medium-sized effect ($d = 0.20$, 80% power). To account for exclusions and a possible imbalance between the numbers of Christian and atheist participants (indeed, atheists represent roughly only 3% of the U.S. population; Pew Research Center, 2014a, 2014b), we aimed to recruit 300 self-identified Christians and atheists for Study 1 and 250 for Study 2. (Our sample size for Study 2 was slightly smaller because we anticipated running an additional experiment and did not want to exhaust the atheist participant pool on Mechanical Turk.) Because we collected our data for Study 1 using the Qualtrics panel service, which enables researchers to recruit a specified number of participants with particular demographic characteristics, we achieved a 50–50 split of Christian and atheist participants in this study. However, there were fewer atheist participants in our participant pool for Study 2 – which was conducted on Mechanical Turk – than we had anticipated (though notably, we still obtained at least 40 atheists per cell in this study). For this reason as well as to bolster our power for the mediation analysis, in Study 3 we increased our targeted sample size to 600. All measures, manipulations, and exclusions are reported for each study (see also Supplementary Materials file).

4. Pilot data

We have argued that atheists, although free of reputational concerns emerging from beliefs in a watchful God or pressure to be loyal to their ingroup, might experience reputational concerns due to stereotypes that they are immoral. Hence, it is necessary to first establish that atheists are aware of these societal stereotypes of their group. To do so, we recruited 96 individuals from Amazon's Mechanical Turk (26 atheists, 40 Christians, 30 agnostic/unaffiliated) to participate in a pilot study. Specifically, we asked participants to indicate, on a scale from 0 (*not at all*) to 100 (*extremely*), the extent to which (1) they believed most Americans, and (2) they personally, felt distrust toward five different religious groups (Christians, atheists, agnostics, Jews, and Muslims). We focused on distrust because it is a central component of moral reputation (Cottrell et al., 2007), as well as a primary predictor of anti-atheist prejudice (Gervais et al., 2011).

A 3 (participant religion: Christian vs. atheist vs. agnostic/unaffiliated) × 5 (target group: Christians vs. atheists vs. agnostics vs. Jews vs. Muslims) mixed-model ANOVA with repeated measures on the target group factor and perceptions of most Americans' feelings as the dependent variable revealed only a main effect of target group, $F(4372) = 52.91$, $p < 0.001$, $\eta_p^2 = 0.36$. The interaction between target group and participant religion was not significant, $F(8372) = 1.64$, $p = 0.11$, $\eta_p^2 = 0.03$. Paired-samples *t*-tests comparing atheists to each of the other target groups revealed that participants perceived atheists ($M = 50.81$, $SD = 32.51$) to be distrusted more than Christians ($M = 21.64$, $SD = 21.85$), $t(95) = 7.09$, $p < 0.001$, Jews ($M = 37.42$, $SD = 27.61$), $t(95) = 5.05$, $p < 0.001$, and agnostics ($M = 35.21$, $SD = 28.77$), $t(95) = 4.50$, $p < 0.001$, but distrusted less than Muslims ($M = 67.27$, $SD = 28.60$), $t(95) = -6.04$, $p < 0.001$. Thus, regardless of their own religious identity, participants were generally aware that atheists are considered less trustworthy than most other religious and non-religious groups (i.e., Christians, Jews, and agnostics).

5. Study 1

Study 1 served as an initial test of whether ingroup bias (here, the tendency to allocate more money to ingroup than outgroup members in an economic game) would be present among Christians, but attenuated or even absent among atheists, when intergroup reputational concerns are salient. Participants were randomly assigned to play the game with a hypothetical partner who was either an ingroup or outgroup member. They learned that they would receive a reputation score based on the first round of play, which would be visible to other players in an unspecified number of subsequent rounds.

5.1. Method

5.1.1. Participants and design

Three hundred and two U.S. residents (107 men, 195 women; M_{age} = 42.08, SD = 16.92) were recruited through Qualtrics, a company that fields surveys for researchers who seek participants with specific characteristics. Qualtrics recruits participants from multiple sources, including several market research panels and specialized recruitment campaigns, and is able to target individuals with particular demographic characteristics as well as to ensure that their samples are as close to nationally representative as possible. Qualtrics also employs IP address checks and digital fingerprinting to ensure the integrity of the data collected. For the present study, we requested that Qualtrics collect data from equal numbers of Christians and atheists. Thus, to be eligible for the study, potential participants must have self-identified as either Christian or atheist in a demographic questionnaire administered before the experiment.

One participant was omitted for completing the study in less than three minutes, suggesting that s/he may have skimmed the detailed instructions for the game. Additionally, four statistical outliers in the analysis, whose studentized deleted residual scores on the monetary allocation dependent measure were > 2.8, were excluded. Of the remaining 297 participants retained in the final sample, 147 identified as atheist and 150 identified as Christian. Participants were randomly assigned to either the outgroup partner condition (n = 149) or the ingroup partner condition (n = 148).

5.1.2. Procedure and materials

All materials were administered online. After reporting their religious affiliation from a list of options, participants who identified as Christian or atheist were redirected to the full study. They read that the purpose of the study was to test the relationship between religion and behavior in decision-making games, prior to completing a five-item measure of Belief in God (e.g., "What is the general importance of God in your life?" Preston & Epley, 2005). Participants' responses to these items were averaged (M = 5.37, SD = 4.20 out of 11; α = 0.99) and were included as a covariate in all analyses, as some previous research has found that level of religiosity – over and beyond categorical religious affiliation (e.g., Christian) – can affect behavior in economic games (Decety et al., 2015; Everett et al., 2016; Tan & Vogel, 2008). (See Supplementary Materials for the results of each study without including religiosity as a covariate.)

Participants were then asked to imagine that they had been paired up with another person to play the game, described to them as a "trust game" to highlight potential reputational concerns. Specifically, a reward of five dimes would be divided between themselves and their partner, and each player would be randomly assigned the role of either "Proposer" or "Responder." The Proposer would choose how to divide the dimes, and the Responder would have to accept the division. However, to maximize the importance of preserving one's moral reputation in the game, participants in this study were told that the Responder would give a "reputation score" to the Proposer, which would be visible to subsequent players; and that the game would be repeated for an unspecified number of rounds with different partners and roles, with the last round determining how the five dimes would actually be divided.

All participants learned that their partner knew of their identity as Christian or atheist. Additionally, they were randomly assigned to learn that their partner had identified as either Christian or atheist. Based on this information as well as their own affiliation, they were classified as either being in the ingroup partner condition (i.e., they and their partner were both Christians or both atheists) or the outgroup partner condition (i.e., they were Christian but their partner was atheist, or vice versa). Immediately after receiving this information, all participants read that they had been assigned the role of "Proposer" and were instructed to indicate how many of the five dimes they would keep for themselves versus give to their partner. The amount of money given to their partner constituted the dependent measure.

5.2. Results

We predicted that Christian participants would allocate more money to ingroup than outgroup partners (i.e., Christians would demonstrate an ingroup bias), but that this effect would be attenuated or absent among atheist participants. The presumed reason is that in intergroup contexts, atheists – but not Christians – should be concerned about refuting the stereotype of their group as immoral. To test these predictions, we submitted the number of dimes participants allocated to their partner to a 2 (religious affiliation: Christian vs. atheist) × 2 (partner group membership: ingroup vs. outgroup) between-subjects ANCOVA controlling for belief in God. All means reported below are covariate-adjusted. (See Supplementary Materials for the results of this study, as well as Studies 2 and 3, without belief in God as a covariate.)

In addition to a main effect of partner group membership, such that participants gave more dimes to ingroup partners (M = 2.70, SE = 0.08, 95% CI: 2.55–2.85) than to outgroup partners (M = 2.35, SE = 0.08, 95% CI: 2.21–2.50), $F(1293) = 10.42$, $p = 0.001$, $\eta_p^2 = 0.03$, the hypothesized interaction between religious affiliation and partner group membership was significant, $F(1293) = 5.21$, $p = 0.023$, $\eta_p^2 = 0.02$ (see Fig. 1). Simple effects tests revealed that, as predicted, Christians allocated more dimes to ingroup partners (M = 3.05, SE = 0.20, 95% CI: 2.66–3.45) than to outgroup partners (M = 2.46, SE = 0.19, 95% CI: 2.09–2.83), $F(1293) = 15.00$, $p < 0.001$, $\eta_p^2 = 0.05$, whereas atheists did not differ in how many dimes they allocated to ingroup partners (M = 2.35, SE = 0.19, 95% CI: 1.87–2.63) and outgroup partners (M = 2.25, SE = 0.19, 95% CI: 1.97–2.73), $F(1293) = 0.45$, $p = 0.50$, $\eta_p^2 = 0.002$. In other words, the typical ingroup bias observed in such economic games was eliminated among atheist participants. Looking at the interaction another way, Christian participants allocated more dimes to ingroup partners than did atheist participants, $F(1293) = 3.76$, $p = 0.054$, $\eta_p^2 = 0.01$. By contrast, atheist and Christian participants allocated a statistically

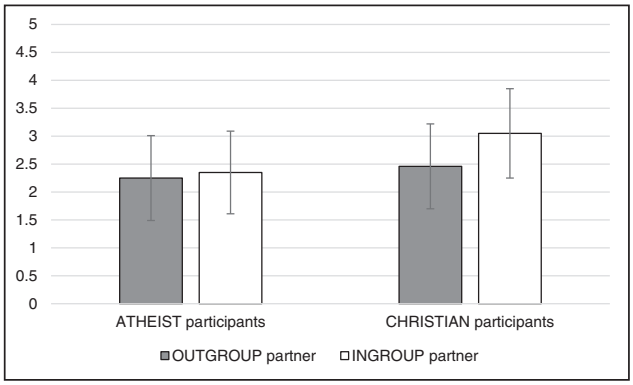


Fig. 1. Monetary allocations as a function of participant religion (Atheist vs. Christian) and partner group membership (outgroup vs. ingroup), Study 1. Bars represent 95% confidence intervals.

equivalent number of dimes to outgroup partners, $F(1293) = 0.38$, $p = 0.54$, $\eta_p^2 = 0.001$.

5.3. Discussion

Using a panel sample that allowed us to recruit equal numbers of Christians and atheists, the results of Study 1 supported our prediction that, when their religious identity is revealed to an outgroup member, atheists, but not Christians, would behave impartially rather than show the ingroup bias typically found in economic games (Balliet et al., 2014; Kramer & Brewer, 1984). Atheists gave equivalently to ingroup and outgroup partners, whereas Christians clearly favored their ingroup. We contend that this effect emerges due to the pervasive stereotype of atheists as immoral, a stereotype that our Pilot Study revealed is familiar to atheists themselves (see also Hammer et al., 2012). In other words, in intergroup contexts, atheists are motivated to preserve their moral reputation by cooperating with outgroup members.

Two alternative possibilities, however, are that atheists are not a particularly cohesive group (and would thus have little motivation toward ingroup favoritism; Toosi & Ambady, 2011), and that atheists (a small numerical minority) are behaving impartially in order to affiliate with Christians (the overwhelming majority in the U.S.) rather than to signal their group's moral reputation. To address the former possibility, in Study 2 we assessed self-presentations of morality (which participants provided to their game partner) as an additional dependent measure, allowing us to more clearly demonstrate a role of reputational concerns. To address the latter possibility, we assessed self-presentations of sociability/warmth, as Christians (but not atheists) are stereotyped as strongly valuing such traits (Rios, Cheng, Totton, & Shariff, 2015). If atheists were simply attempting to affiliate with Christians, they should present themselves as both more sociable/warm and more moral to Christian partners.

Another limitation is that Study 1 used hypothetical money and a hypothetical game partner. Past research investigating the religiosity-prosociality link (see Galen, 2012) reveals important differences between hypothetical and actual behavior. To ensure that the findings in Study 1 were not simply artifacts of the hypothetical nature of the design, we told participants in Study 2 that they would be dividing actual money with an actual game partner.

6. Study 2

6.1. Method

6.1.1. Participants and design

Two hundred and sixty U.S. residents (142 men, 118 women; $M_{age} = 34.33$, $SD = 11.57$; 82.3% White/European American) were recruited from Amazon's Mechanical Turk website and participated in exchange for $0.50. Participants had to self-identify as atheist or Christian in order to be eligible for the study. Seventeen participants who suspected that the "other person" in the game was not real, seven participants who completed the study in less than two minutes, and three outliers whose self-perceived morality scores were > 3 SD below the sample mean were omitted, leaving 233 individuals (151 Christians, 82 atheists) in the final sample. Participants were randomly assigned to learn that they had been paired with either an ingroup partner ($n = 117$) or an outgroup partner ($n = 116$).

6.1.2. Procedure and materials

The procedure was identical to that of Study 1, in that participants were randomly assigned to play with either an ingroup or outgroup partner, who would purportedly assign them a reputation score that would be visible to other (actually fictitious) players in an unspecified number of subsequent rounds. In contrast to Study 1, however, Study 2 included four modifications. First, prior to the game (again described to participants as a "trust game" to increase the salience of reputational concerns), participants completed a measure of religiosity that consisted of three subscales: (1) belief in God (four items; e.g., "I believe in God"; $M = 4.32$ out of 7, $SD = 2.12$, $\alpha = 0.90$; see Gervais & Norenzayan, 2012a); (2) frequency of religious engagement (three items; e.g., "How often do you take part in religious services?" $M = 2.52$ out of 5, $SD = 1.11$, $\alpha = 0.85$; see Huber & Huber, 2012); and (3) importance of religion (two items; e.g., "How important is it for you to be connected with a religious community?" $M = 2.16$ out of 5, $SD = 1.30$, $\alpha = 0.94$). Each subscale significantly correlated with the self-perceived morality measure described below ($rs > 0.18$, $ps < 0.01$), so they were included as covariates in all analyses.

Second, rather than simply imagining playing the game, participants were led to believe that they had actually been matched with another Mechanical Turk worker who was logged onto the study at the same time. They were also told that they would divide a real sum of money (five dimes or the $0.50 listed as compensation for the study on Mechanical Turk) and their decision could determine how much they and their partner were compensated at the end of the study. (As in Study 1, they were led to believe that the game would consist of multiple rounds with various partners, who would be privy to the initial reputation score assigned to the participant after round 1.)

Third, after participants divided the money, they read that as part of an impression formation task, they and their (fictitious) partner would complete a personality questionnaire and evaluate one another according to their responses. Specifically, they rated themselves on the nine traits from Leach, Ellemers, and Barreto (2007), which comprised three different dimensions: *Morality* (honest, trustworthy, sincere), *Sociability* (friendly, warm, likeable), and *Competence* (intelligent, competent, skilled). We were primarily interested in seeing whether atheists would present themselves as more moral to outgroup partners than Christians would, as a central component of anti-atheist prejudice is the perception that atheists are immoral (e.g., untrustworthy; Gervais et al., 2011). Participants rated the extent to which each trait was descriptive of them (1 = *Not at all*, 5 = *Very*), and their responses were averaged into composites for morality ($M = 4.36$, $SD = 0.60$; $\alpha = 0.88$), sociability ($M = 3.95$, $SD = 0.82$; $\alpha = 0.78$), and competence ($M = 4.18$, $SD = 0.63$; $\alpha = 0.80$).

Fourth, because this study involved deception, we included a question prior to debriefing that asked participants to write down, in as much detail as possible, what they thought would happen during the upcoming game. If participants expressed suspicion that their partner was not real or that the game would not continue after the first round, they were removed from analyses.

6.2. Results

We predicted that, as in Study 1, Christian (but not atheist) participants would allocate more dimes to religious ingroup than outgroup partners. We also predicted that atheists, who should be more motivated than Christians to assert that they are in fact moral, may even explicitly present themselves as more moral to Christians than vice versa.

To test these predictions, we first submitted (a) monetary allocations, and then (b) self-presentations of morality, to a 2 (Religion: Christian vs. atheist) × 2 (Partner Group Membership: ingroup vs. outgroup) ANCOVA, controlling for self-presentations of sociability and each religiosity subscale. All reported means are covariate-adjusted.

As noted above, we controlled for religiosity because each subscale was significantly correlated with self-presentations of morality. We controlled for self-presentations of Sociability to address the alternative possibility that atheists simply want to appear warm and friendly, rather than signal morality in particular, to the outgroup. Indeed, in-depth qualitative research (Edgell et al., 2006) as well as quantitative research (Harper, 2007) reveals that Christians stereotype atheists not only as immoral but also as cold and unfriendly. Moreover, atheists tend to be very aware of such stereotypes (e.g., Hammer et al., 2012).

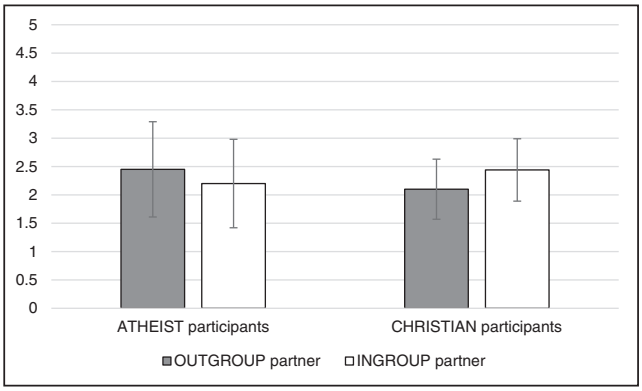


Fig. 2. Monetary allocations as a function of participant religion (atheist vs. Christian) and partner group membership (outgroup vs. ingroup), Study 2. Bars represent 95% confidence intervals.

6.2.1. Monetary allocations

There was a main effect of the "frequency of religious engagement" covariate; participants who reported greater frequency of religious engagement allocated more dimes to their partners, $F(1225) = 7.58$, $p = 0.006$, $\eta_p^2 = 0.03$. The only other significant effect to emerge was the predicted interaction between participant religion and partner group membership, $F(1225) = 4.85$, $p = 0.029$, $\eta_p^2 = 0.02$ (see Fig. 2). Simple effects tests indicated that, replicating Study 1, Christian participants gave more dimes to ingroup partners ($M = 2.44$, $SE = 0.14$, 95% CI: 2.17–2.72) than to outgroup partners ($M = 2.10$, $SE = 0.13$, 95% CI: 1.83–2.36), $F(1225) = 4.67$, $p = 0.032$, $\eta_p^2 = 0.02$. By contrast, atheist participants gave a statistically equivalent number of dimes to ingroup partners ($M = 2.20$, $SE = 0.20$, 95% CI: 1.81–2.59) and outgroup partners ($M = 2.45$, $SE = 0.21$, 95% CI: 2.03–2.87), $F(1225) = 1.31$, $p = 0.25$, $\eta_p^2 = 0.01$. No other simple effects reached significance ($Fs < 1.51$, $ps > 0.22$).

6.2.2. Self-presentations of morality

The only main effect to reach significance was that of the sociability covariate, which positively predicted self-presentations of morality, $F(1225) = 109.58$, $p < 0.001$, $\eta_p^2 = 0.33$. The predicted interaction between participant religion and partner group membership was also significant, $F(1225) = 4.01$, $p = 0.047$, $\eta_p^2 = 0.02$ (see Fig. 3). Decomposition of the interaction revealed that atheist participants presented themselves as more moral to outgroup partners ($M = 4.57$, $SE = 0.11$, 95% CI: 4.36–4.78) than to ingroup partners ($M = 4.34$, $SE = 0.10$, 95% CI: 4.14–4.53), $F(1225) = 4.66$, $p = 0.032$, $\eta_p^2 = 0.02$,[2] whereas Christian participants presented themselves as equally moral to outgroup partners ($M = 4.29$, $SE = 0.07$, 95% CI: 4.16–4.42) and ingroup partners ($M = 4.33$, $SE = 0.07$, 95% CI: 4.19–4.46), $F(1225) = 0.21$, $p = 0.65$, $\eta_p^2 = 0.001$. In additional simple effects tests, atheist participants presented themselves as more moral to outgroup partners than did Christian participants, $F(1225) = 3.76$, $p = 0.054$, $\eta_p^2 = 0.02$, but atheist and Christian participants presented themselves as equally moral to ingroup partners, $F(1225) = 0.002$, $p = 0.96$, $\eta_p^2 = 0.00001$.

6.2.3. Self-presentations of sociability and competence

We sought further evidence that the results thus far were unique to atheists' specific desire to present themselves as more moral rather than a desire to ingratiate themselves *in general* with Christians. Accordingly, we also analyzed whether participant religion and partner group membership interacted to predict self-presentations of sociability and competence. Based on ANCOVAs controlling for self-presentations of morality as well as for the three subscales of religiosity, the two-way interaction did not reach significance for either sociability, $F(1225) = 1.68$, $p = 0.20$, or competence, $F(1225) = 0.28$, $p = 0.60$.

6.3. Discussion

Study 2 largely replicated the findings from Study 1 using a greater degree of experimental realism (because participants believed their partner was real and that they would be dividing actual money). As in Study 1, upon learning that their partner would know of their lack of religious affiliation, atheists behaved impartially, whereas Christians showed the standard pattern of ingroup favoritism. These results held when controlling for self-presentation of sociability (i.e., friendly, warm, and likeable), and there were no effects of religious affiliation and partner group membership on self-presentation of sociability (or competence). As sociability traits feature strongly in the Christian stereotype (Rios et al., 2015), this helps rule out the argument that atheists were simply trying to ingratiate themselves with their Christian partners by presenting themselves as more Christian-like. Moreover, whereas Christians' explicit self-presentations of morality were constant regardless of whether their partner was Christian or atheist, atheists self-presented as more moral with Christian partners than with atheist partners. This helps rule out the argument that atheists, as an arguably less cohesive group, should be unlikely to experience any reputational concerns due to their group membership. If that were the case, atheists would have exhibited equivalent self-presentation scores regardless of their partner's group membership (as, indeed, we found among Christian participants, who are not stereotyped as immoral).

Notably, the significant interaction effect on monetary allocation was driven mainly by Christians' ingroup bias, whereas the interaction effect on self-presentations of morality was driven by atheists' (not Christians') responses. This could be because ingroup bias on monetary allocations is difficult to reverse altogether; after all, atheists' allocations were statistically equivalent across partner group membership, meaning that atheists were essentially impartial. This minor inconsistency across the two analyses limited our ability to test whether self-presentations of Morality would mediate the effects of participant religion and partner group membership on monetary allocations. However, we considered self-presentations of morality to be an additional dependent measure (i.e., a means of rebuking stereotypes about the ingroup) rather than a measure of the underlying psychological mechanism (i.e., reputational concerns).

To directly manipulate and measure reputational concerns, we used a different experimental design in Study 3, the results of which we expected to be driven by atheists. Specifically, we manipulated whether

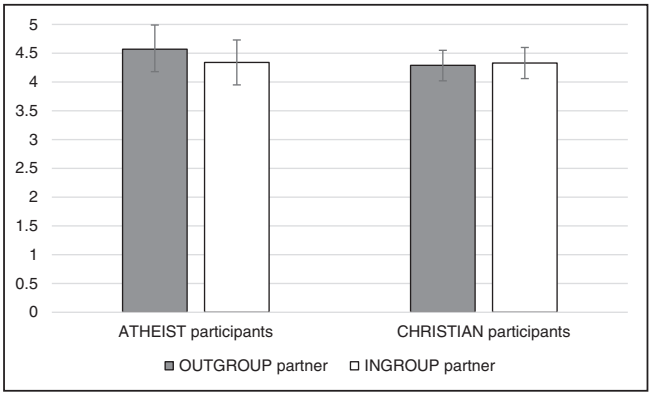


Fig. 3. Self-presentations of morality as a function of participant religion (atheist vs. Christian) and partner group membership (outgroup vs. ingroup), Study 2. Bars represent 95% confidence intervals.

[2] Although this effect was small, morality is among the most desirable and important traits in person perception/evaluation (Goodwin et al., 2014), suggesting that people on average will want present themselves as particularly moral (as indeed we found here: $M = 4.36$ out of 5, $SD = 0.60$). Hence, we contend that even a small effect on self-presentation of such traits is noteworthy.

participants thought their religious affiliation would be revealed to versus withheld from their game partner (see Yamagishi & Mifune, 2008). If atheists' concerns about preserving their ingroup's perceived morality are responsible for the previously obtained results, then atheists should allocate more money to outgroup partners (Christians) when they believe their partner is aware versus unaware of their religious affiliation. Such a manipulation would also constitute evidence against the aforementioned alternative explanation of our findings, namely that atheists are motivated not by the goal to be seen as moral but rather by a goal to ingratiate themselves with the religious majority. This latter motivation—were it to explain our pattern of findings—would be manifest regardless of whether atheists believe their Christian partners are aware of their atheist identity (see Pickett & Brewer, 2001), whereas we predicted that our findings should only emerge when atheists think their atheist identity has been disclosed.

Another change we made in Study 3 was that we directly measured reputational concerns via Fear of Negative Evaluation (Leary, 1983), an assessment of participants' fears that their partners would think negatively of them. We expected that atheists would exhibit a greater Fear of Negative Evaluation – and would in turn allocate more money to their (Christian) partner – when they believed their atheist identity was revealed versus concealed.

Finally, in Study 3 we doubled our targeted sample size to achieve greater statistical power.

7. Study 3

7.1. Method

7.1.1. Participants and design

Six hundred and twenty-one Mechanical Turk workers (272 men, 349 women; M_{age} = 35.72, SD = 12.50; 71.8% White/European American), all U.S. residents self-identifying as either Christian or atheist, participated in exchange for $0.50. Ten participants were excluded for suspecting that their partner and/or the monetary allocations were not real, 32 for failing the partner-awareness manipulation check (described below), 21 for completing the study in less than two minutes, 30 for entering a total number of dimes not equal to five in the monetary allocation task,[3] and four for being statistical outliers on either monetary allocations (i.e., with a studentized deleted residual score of at least 3; n = 2) or Fear of Negative Evaluation (i.e., with a studentized deleted residual score of at least 2.8; n = 2). The final sample thus consisted of 524 individuals (140 atheists, 384 Christians). Participants were randomly assigned to learn that their partner was either aware (n = 257) or unaware (n = 267) of their religious affiliation.

Though not central to our hypotheses, we also collected data from 172 self-identified agnostic participants for comparison purposes. These results are included in the Supplementary Materials.

7.1.2. Procedure and materials

Upon logging into the study, participants completed a five-item measure of Belief in God (Preston & Epley, 2005), which served as a covariate in our analyses. An example item was, "What is the general importance of God in your life?" Participants responded on 11-point scales, and their responses were averaged to form a composite (M = 6.50, SD = 3.96, α = 0.99).

Participants then received the instructions for the game (again described as a "trust game"), which was similar to the game in Study 2 but with two modifications. First, whereas all participants in Studies 1–2 thought their game partner knew whether they identified as Christian or atheist, participants in Study 3 read that their partner would either be aware or unaware of their religious affiliation. In this way, we manipulated reputational concerns among atheists because in the partner-unaware condition, there was no possibility that participants could have been judged through the lens of their (religious) group membership. (All participants were informed of their partner's religious affiliation.) Second, to simplify the design, every participant was paired with an outgroup partner—that is, Christian participants were paired with atheists, and atheist participants were paired with Christians.

Immediately after the partner-awareness manipulation, but before learning their partner's religious affiliation or their own role in the game, participants indicated whether or not their partner would be made aware of their religious affiliation, which served as the manipulation check. Participants in the partner-unaware condition who responded "yes" and participants in the partner-aware condition who responded "no" were omitted from analyses (n = 32, noted above).

Following the monetary allocations, participants completed a nine-item measure adapted from the brief version of the Fear of Negative Evaluation Scale (Leary, 1983). Whereas the original scale assesses chronic concerns about others' impressions of oneself, our measure was designed to assess participants' state-based concerns about how their partner viewed them (e.g., "I'm worried about what my partner will think of me"). After reverse-scoring where necessary, responses were averaged into a composite (M = 2.84, SD = 1.35, α = 0.93).

At the end of the experiment, participants were probed for suspicion and debriefed (i.e., they were told that the game would not take place, and that all participants would be paid the full $0.50).

7.2. Results

We predicted that atheist participants would allocate more dimes to their partners, and report a greater Fear of Negative Evaluation, when their partner was aware relative to unaware of their (non-)religious affiliation. We did not expect Christians to demonstrate these effects, as Christians are not stereotyped as immoral. Moreover, we predicted that Fear of Negative Evaluation would mediate the relationship between (a) the participant religion X partner-awareness condition interaction, and (b) monetary allocations. To test these hypotheses, we first submitted (a) monetary allocations, and then (b) Fear of Negative Evaluation, to a 2 (participant religious affiliation: Christian vs. atheist) × 2 (partner-awareness condition: aware vs. unaware) ANCOVA, controlling for belief in God as in the previous two studies.

7.2.1. Monetary allocations

There was a main effect of partner-awareness condition: Participants allocated more money to partners who were aware (M = 2.27, SE = 0.08, 95% CI: 2.13–2.42) versus unaware (M = 2.05, SE = 0.08, 95% CI: 1.89–2.21) of their (non-)religious affiliation, F(1519) = 4.95, p = 0.027, η_p^2 = 0.01. In addition, there was a main effect of the belief in God covariate, such that participants with higher (relative to lower) belief in God allocated more dimes to their partners, F(1519) = 15.48, p < 0.001, η_p^2 = 0.03. Importantly, these main effects were qualified by a two-way interaction, F(1519) = 3.63, p = 0.057, η_p^2 = 0.01 (see Fig. 4). Simple effects tests revealed that, as predicted, atheist participants gave significantly more dimes to their partners in the partner-aware condition (M = 2.45, SE = 0.16, 95% CI: 2.14–2.75) than in the partner-unaware condition (M = 2.03, SE = 0.17, 95% CI: 1.71–2.36), F(1519) = 5.81, p = 0.016, η_p^2 = 0.01. Christian participants, however, gave an equal number of dimes to their partners in the partner-aware condition (M = 2.10, SE = 0.09, 95% CI: 1.93–2.27) and the partner-unaware condition (M = 2.07, SE = 0.08, 95% CI: 1.91–2.23), F(1519) = 0.10, p = 0.76, η_p^2 = 0.0002. Decomposing the interaction another way, atheists participants gave (marginally) more dimes to their partners than did Christian participants in the partner-aware condition, F(1519) = 3.00, p = 0.084, η_p^2 = 0.01, but not in the partner-unaware condition, F(1519) = 0.04, p = 0.85, η_p^2 = 0.00006.

[3] Due to a programming error in Study 3, participants were allowed to select a total number of dimes (for themselves and their partner) that did not add up to five, which is why this particular exclusion criterion was applied here but not in Studies 1–2.

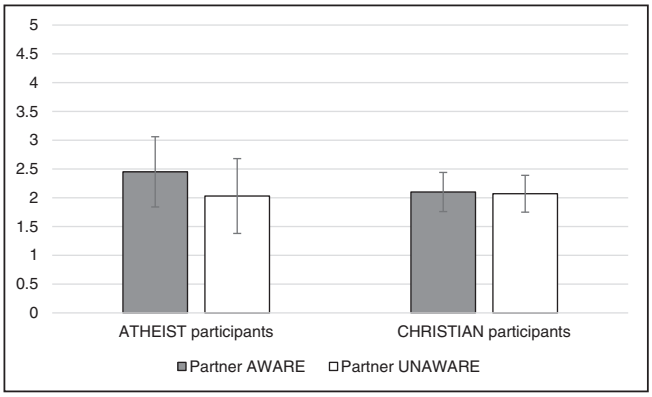


Fig. 4. Monetary allocations as a function of participant religion (atheist vs. Christian) and experimental condition (partner-aware vs. partner-unaware), Study 3. Bars represent 95% confidence intervals.

7.2.2. Fear of negative evaluation

There was a significant main effect of participant religion, such that Christian participants (M = 2.97, SE = 0.08, 95% CI: 2.80–3.13) reported a greater Fear of Negative Evaluation than did atheist participants (M = 2.46, SE = 0.18, 95% CI: 2.11–2.80), $F(1519) = 5.09$, $p = 0.024$, $\eta_p^2 = 0.01$. The only other significant effect to emerge was the predicted interaction between participant religion and partner-awareness condition, $F(1519) = 5.31$, $p = 0.022$, $\eta_p^2 = 0.01$ (see Fig. 5). Decomposition of the interaction revealed that atheist participants indeed exhibited a (marginally) higher Fear of Negative Evaluation in the partner-aware condition (M = 2.65, SE = 0.20, 95% CI: 2.25–3.05) than in the partner-unaware condition (M = 2.26, SE = 0.22, 95% CI: 1.83–2.68), $F(1519) = 3.04$, $p = 0.082$, $\eta_p^2 = 0.01$. By contrast, Christian participants tended to exhibit a *lower* Fear of Negative Evaluation in the partner-aware condition (M = 2.86, SE = 0.11, 95% CI: 2.64–3.08) compared to the partner-unaware condition (M = 3.08, SE = 0.10, 95% CI: 2.87–3.28), $F(1519) = 2.46$, $p = 0.117$, $\eta_p^2 = 0.01$. In additional simple-effects tests, Christian participants had higher Fear of Negative Evaluation scores than did atheist participants in the partner-unaware condition, $F(1519) = 9.53$, $p = 0.002$, $\eta_p^2 = 0.02$, but not in the partner-aware condition, $F(1519) = 0.65$, $p = 0.42$, $\eta_p^2 = 0.001$.

7.2.3. Mediation analysis

Next, we tested whether atheist (but not Christian) participants allocated more dimes to partners who were aware rather than unaware of their (non-)religious identity due to Fear of Negative Evaluation, controlling for belief in God. As noted above, participant religion and partner-awareness condition interacted to predict both monetary allocations (the proposed outcome; $b = 0.39$, $SE = 0.20$, $t = 1.91$, $p = 0.057$) and Fear of Negative Evaluation (the proposed mediator; $b = 0.61$, $SE = 0.26$, $t = 2.30$, $p = 0.022$). Furthermore, there was a significant relationship between Fear of Negative Evaluation and monetary allocations ($b = 0.09$, $SE = 0.03$, $t = 2.59$, $p = 0.010$). Thus, the first three criteria for mediated moderation were met.

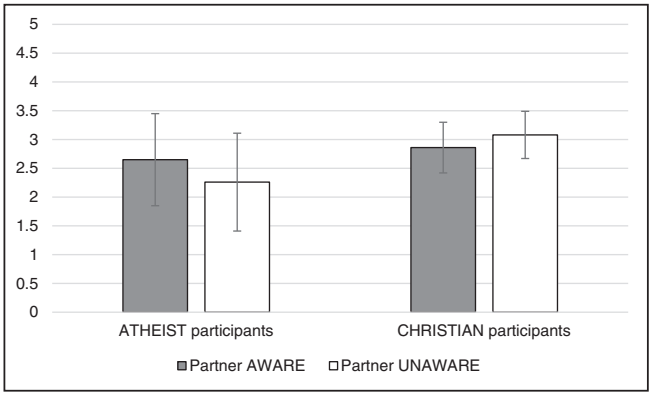


Fig. 5. Fear of Negative Evaluation as a function of participant religion (atheist vs. Christian) and experimental condition (partner-aware vs. partner-unaware), Study 3. Bars represent 95% confidence intervals.

When we regressed monetary allocations onto participant religion, partner-awareness condition, and the two-way interaction term controlling for Fear of Negative Evaluation (and belief in God), the two-way interaction term was reduced to marginal significance ($b = 0.33$, $SE = 0.20$, $t = 1.65$, $p = 0.100$). However, Fear of Negative Evaluation still significantly predicted monetary allocations ($b = 0.09$, $SE = 0.03$, $t = 2.57$, $p = 0.010$). A bootstrapping analysis with 1000 resamples using the PROCESS macro (Hayes, 2013) revealed that Fear of Negative Evaluation indeed partially mediated the relationship between the participant religion X partner-awareness interaction and monetary allocations ($boot = 0.05$, $SE = 0.03$, 95% CI: 0.007 to.14; see Fig. 6). This mediation was significant for atheist participants ($boot = -0.03$, $SE = 0.03$, 95% CI: -0.11 to -0.002), but not for Christian participants ($boot = 0.02$, $SE = 0.01$, 95% CI: -0.001 to 0.06).

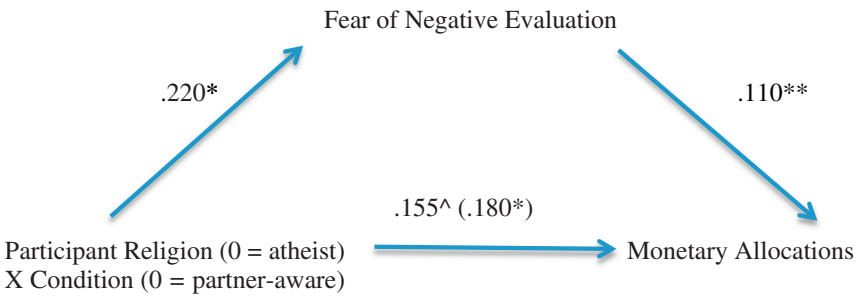
7.3. Discussion

Study 3 provided further evidence that atheists' (relative to Christians') greater monetary allocations to religious outgroup members are driven at least in part by atheists' concerns about being perceived as immoral by the outgroup (Christians). Specifically, atheist participants allocated more money to outgroup (Christian) partners when they believed their atheist identity would be revealed than when they believed it would be concealed. These findings help rule out the alternative possibility that atheists were simply identifying with the religious majority (Christians). If that were the case, then atheists would have given more money to Christian partners no matter whether they thought their atheist identity would be revealed to or concealed from their partner (see Pickett & Brewer, 2001). Finally, and consistent with our predictions, there was a partial mediating role of Fear of Negative Evaluation (FNE), which directly measured reputational concerns in relation to one's partner. Although this mediation may appear weak, it was obtained using a self-reported measure of anxiety; indeed, such measures typically do not produce very strong effects in research on responses to stereotypes about one's ingroup (Schmader, Johns, & Forbes, 2008).

Unexpectedly, we also found that Christians reported significantly higher FNE scores than did atheists. This main effect could be due to Christians' beliefs in the presence of an omniscient God who observes and judges their morally-relevant actions (Gervais & Norenzayan, 2012b). Because of those beliefs, Christians – relative to atheists – may generally be more preoccupied with what others think of them. Notably, though, our results show that atheists are uniquely concerned about outgroup members seeing them as immoral by virtue of their lack of religiosity, and that these concerns are at least partially responsible for atheists' behavior toward their Christian partners in economic games.

8. General discussion

Although much research has examined the link between religion and prosociality toward people in general (Norenzayan et al., 2016; Shariff et al., 2016), fewer studies have considered how religious identity affects prosociality toward ingroup versus outgroup members (but see Everett et al., 2016; Preston & Ritter, 2013), particularly when reputational concerns are salient. To this end, we examined whether the widespread ingroup bias in economic games (Balliet et al., 2014; Kramer & Brewer, 1984) would be obtained among Christians, who face concerns about being loyal to their religious ingroup (Galen, 2012; Preston & Ritter, 2013), but eliminated among atheists, who face concerns about stereotypes that their group is immoral. Specifically, we



** $p \leq .01$; * $p \leq .057$; ^ $p \leq .10$

Fig. 6. Mediation analysis, Study 3 (standardized beta coefficients).

predicted that atheists would attempt to override perceptions of immorality by demonstrating their capacity for prosocial behavior toward Christians – in other words, by being impartial in their monetary allocations to the ingroup and outgroup – and that this effect would be driven by atheists' reputational concerns in intergroup contexts.

The results predominantly confirmed our hypotheses. In our first two studies, using samples from two different sources (Qualtrics panels and Mechanical Turk), Christians demonstrated an ingroup bias but atheists did not. Using an additional dependent measure of self-presentation of morality in Study 2, atheists actually presented themselves as more moral (but not more sociable or competent) to the outgroup than did Christians. Furthermore, in Study 3, atheists – but not Christians – gave more money to outgroup partners when they believed their religious identity was revealed to their partners rather than concealed. That is, when atheists were no longer faced with concerns about being judged in light of negative stereotypes about their group, they were less motivated to debunk these stereotypes by acting in more moral ways.

Though we demonstrated in our pilot study that atheists are stereotyped as untrustworthy (and are aware of this stereotype despite not personally endorsing it), we wanted to more directly test how atheists would be expected to behave in our economic game paradigm. To do so, we recruited 205 Mechanical Turk workers of various religious backgrounds (92 men, 113 women) and described the game – including the reputation score and alleged multiple rounds – to them. We then randomly assigned participants to predict how much money (out of 5 dimes) either a Christian ($n = 95$) or atheist ($n = 110$) target would allocate to either an ingroup ($n = 89$) or outgroup ($n = 116$) partner in the game. The results of a 2 (Christian vs. atheist target) × 2 (ingroup vs. outgroup partner) ANOVA revealed only a main effect of target religion, such that participants expected atheist targets ($M = 1.83$, $SD = 0.88$) to allocate fewer dimes to their partners than Christian targets ($M = 2.08$, $SD = 1.03$), $F(1201) = 4.51$, $p = 0.035$, $\eta_p^2 = 0.02$. The main effect of ingroup/outgroup partner, $F(1201) = 2.87$, $p = 0.092$, $\eta_p^2 = 0.01$, and the two-way interaction, $F(1201) = 2.76$, $p = 0.098$, $\eta_p^2 = 0.01$, were both marginally significant. Thus, atheists are stereotyped not only as immoral in general, but also as less likely to be prosocial in economic games that allegedly involve preserving one's moral reputation.

8.1. Theoretical implications

Our studies extend prior research on religious identity and behavior in economic games by showing that atheists, like Christians, are susceptible to experiencing reputational concerns. However, whereas Christians are primarily concerned about demonstrating their capacity for prosociality toward the ingroup (see Galen, 2012; Preston & Ritter, 2013), atheists – a group widely stereotyped as immoral (Franks & Scherr, 2014; Gervais et al., 2011) – are primarily concerned about demonstrating their capacity for prosociality toward the *outgroup*. Our findings thus cast some doubt on the popular notion that atheists are relatively immoral (Pew Research Center, 2014a, 2014b), and are potentially consistent with evidence (reviewed by Zuckerman, 2009) that, in certain domains, atheists show at least as much of a tendency toward prosocial behavior as do religious believers. For example, atheists are disproportionately *under*represented in U.S. prisons compared to their numbers in the general population. These findings also dovetail with recent research (Decety et al., 2015) showing that children raised in secular households allocate more resources to anonymous partners than do their religious (Christian and Muslim) counterparts (but see Shariff et al., 2016). Our results indicate that under some circumstances – for example, in intergroup interactions where one's reputation is at stake – atheists demonstrate a somewhat ironic tendency to behave in ways that signal their morality to others.

Some scholars (e.g., Gervais, 2013) question whether atheists are perceived (by themselves and/or religious outgroups) as a cohesive group at all. There is indeed some evidence that atheists are rated as lower in cohesiveness than most religious groups, including Christians (Toosi & Ambady, 2011). Yet atheists' cohesiveness, or lack thereof, is unlikely to explain why they allocated more money to the outgroup (Christians) than vice versa. For one, differences in cohesiveness between atheists and Christians would not offer a parsimonious reason for why (supposedly) concealing participants' religious identity from their partners attenuated our results. More importantly, this explanation fails to account for the effects on self-presentations of morality (controlling for self-presentations of sociability) in Study 2, or for the partial mediation by Fear of Negative Evaluation in Study 3.

As mentioned earlier, an alternative explanation for our finding that atheists allocated as much money to Christians as they did to fellow atheists is that atheists are members of a religious minority group. As a result, they may behave impartially in economic games in an attempt to affiliate with a "mainstream" religious majority (Christians). Our data render this explanation unlikely for two primary reasons. First, because the desire to affiliate with a mainstream group pertains to enhancing one's overall likeability, not to morality in particular, we would have observed effects among atheists on both self-presentations of morality and sociability in Study 2. In other words, controlling for self-presentations of sociability would likely have eliminated our findings on self-presentation of morality. Second, atheists gave less money to Christians when they believed their (lack of) religious identity would be concealed rather than revealed to their partner (Study 3). Prior research (e.g., Pickett & Brewer, 2001) has examined motives to identify with majority groups primarily using anonymous questionnaires. Therefore, if this were the mechanism behind our results, then there would have been no differences between atheists in the partner-aware and partner-unaware conditions in Study 3.

Another potential explanation for our findings is that a Christian partner triggers a general desire among participants, regardless of their religious affiliation, to behave or self-present as moral and prosocial (i.e., to appease their partner). However, if this explanation were

correct, then we would have seen no effect of partner awareness in Study 3 – that is, atheists would have given similar amounts to Christian partners regardless of whether they believed that their partner knew vs. didn't know that they were atheist. We likely would have also seen higher self-presentations of sociability (i.e., friendly, warm, and likeable), rather than just of morality, among atheists interacting with Christians compared to atheists interacting with fellow atheists. The collection of results, therefore, supports our contention that atheists' moral behavior is partly motivated by a desire to rectify a stereotype of immorality held by their Christian counterparts but not held by their fellow atheists.

8.2. Future directions

Future research should explore whether atheists' reputational concerns affect their behavior toward religious outgroup members in other contexts, beyond economic games. For example, atheists might sacrifice not just money, but also time and effort, to bolster their ingroup's reputation (e.g., publicly volunteering for charitable organizations). Another possibility is that, similar to White Americans' behavior with African American interaction partners (Bergsieker et al., 2010), atheists will attempt to signal their morality and/or distance themselves from their atheist identity when interacting face-to-face with Christians. They may, for instance, choose to highlight their positive, morality-related traits in interpersonal discussions (similar to the results on self-presentations of morality in Study 2) or behave in a more accommodating manner than they otherwise would. In light of recent evidence that atheists hold an exaggerated stereotype of Christians' endorsements of "binding" moral concerns (i.e., those relating to ingroup loyalty [e.g., patriotism], deferential respect for authorities/tradition, and puritanical decency; Simpson & Rios, 2016), atheists might show greater endorsement of such moral concerns in order to convey their morality to Christians.

It would also be interesting to examine whether similar behaviors would emerge among other religious groups that are stereotyped as immoral in at least some domains (e.g., Muslims, Jews). Despite their stereotype of immorality (like atheists), these groups nonetheless more closely resemble Christians than atheists in several important domains such as tradition, ritual, religious practice, historical religious identity, and (crucially) theistic belief. Thus, they may not show the same magnitude of reputational concerns when paired with Christian partners as atheists do. Additionally, future research should determine whether atheists experience reputational concerns – and behave impartially – with partners who are religious but not Christian. Given that Muslims (who are relatively belief-oriented) demonstrate more anti-atheist prejudice than do Jews and Hindus (who are relatively practice-oriented) (Hughes et al., 2015), atheists may be especially concerned about being stereotyped as immoral by Muslims. However, we would anticipate atheists to show weaker effects in parts of the world where they are more numerous and, perhaps as a consequence, are subjected to fewer negative stereotypes (e.g., Scandinavia; Zuckerman, 2012). Such research would shed more light on the conditions under which religious background produces more prosociality toward the outgroup versus ingroup.

8.3. Conclusion

Taken together, the present studies provide evidence of possible boundary conditions to the commonly obtained ingroup bias (i.e., that people tend to allocate more to ingroup than outgroup members; Balliet et al., 2014; Kramer & Brewer, 1984), using a religious intergroup context (atheists versus Christians). Specifically, our studies demonstrate that in contrast to Christians (who consistently demonstrated an ingroup bias in economic games), atheists attempt to compensate for stereotypes of immorality by allocating resources impartially to religious ingroup and outgroup members (Studies 1–2) and by giving more to Christians when they believe Christians are aware versus unaware of their atheist identity (Study 3). In studies of the relationship between religious identity and prosociality, it is thus critical to recognize that atheists do not necessarily experience fewer reputational concerns than do Christians; rather, they experience different types of concerns. Although atheists (relative to Christians) may care less about how they are judged by the ingroup, their unique motives to be seen as "generous heathens" by the *outgroup* loom at least as large.

Open Practices

The experiments in this article earned Open Materials and Open Data badges for transparent practices. Materials and data for the experiment are available in the repository on the JESP website.

Appendix A. Supplementary material

Supplementary data to this article can be found online at http://dx.doi.org/10.1016/j.jesp.2017.06.015.

References

Balliet, D., Wu, J., & De Dreu, C. K. W. (2014). Ingroup favoritism in cooperation: A meta-analysis. *Psychological Bulletin*, *140*, 156–181.

Bergsieker, H. B., Shelton, J. N., & Richeson, J. A. (2010). To be liked versus respected: Divergent goals in interracial interactions. *Journal of Personality and Social Psychology*, *99*, 248–264.

Bosson, J. K., Vandello, J. A., Burnaford, R. M., Weaver, J. R., & Wasti, S. A. (2009). Precarious manhood and displays of physical aggression. *Personality and Social Psychology Bulletin*, *35*, 623–634.

Brambilla, M., Sacchi, S., Rusconi, P., Cherubini, P., & Yzerbyt, V. Y. (2012). You want to give a good impression? Be honest! Moral traits dominate group impression formation. *British Journal of Social Psychology*, *51* (149-16).

Cheryan, S., Cameron, J. S., Katagiri, Z., & Monin, B. (2015). Manning up: Threatened men compensate by disavowing feminine preferences and embracing masculine attributes. *Social Psychology*, *46*, 218–227.

Cheryan, S., & Monin, B. (2005). "Where are you really from?": Asian Americans and identity denial. *Journal of Personality and Social Psychology*, *89*, 717–730.

Cottrell, C. A., Neuberg, S. L., & Li, N. P. (2007). What do people desire in others? Asociofunctional perspective on the importance of different valued characteristics. *Journal of Personality and Social Psychology*, *92*, 208–231.

Decety, J., Cowell, J. M., Lee, K., Mahasneh, R., Malcolm-Smith, S., Selcuk, B., & Zhou, X. (2015). The negative association between religiousness and children's altruism across the world. *Current Biology*, *22*, 2951–2955.

Doane, M. J., & Elliott, M. (2015). Perceptions of discrimination among atheists: Consequences for atheist identification, psychological and physical well-being. *Psychology of Religion and Spirituality*, *7*, 130–141.

Edgell, P., Gerteis, J., & Hartmann, D. (2006). Atheists as "other": Moral boundaries and cultural membership in American society. *American Sociological Review*, *71*, 211–234.

Everett, J. A. C., Haque, O. S., & Rand, D. G. (2016). How good is the Samaritan, and why? An experimental investigation of the extent and nature of religious prosociality using economic games. *Social Psychological and Personality Science*, *7*, 248–256.

Franks, A. S., & Scherr, K. C. (2014). A sociofunctional approach to prejudice at the polls: Are atheists more politically disadvantaged than gays and blacks? *Journal of Applied Social Psychology*, *44*, 681–691.

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

Gervais, W. M. (2013). In godlessness we distrust: Using social psychology to solve the puzzle of anti-atheist prejudice. *Social and Personality Psychology Compass*, *7*, 366–377.

Gervais, W. M., & Norenzayan, A. (2012a). Analytical thinking promotes religious disbelief. *Science*, *336*, 493–496.

Gervais, W. M., & Norenzayan, A. (2012b). Like a camera in the sky? Thinking about God increases public self-awareness and socially desirable responding. *Journal of Experimental Social Psychology*, *48*, 298–302.

Gervais, W. M., Shariff, A. F., & Norenzayan, A. (2011). Do you believe in atheists? Distrust is central to anti-atheist prejudice. *Journal of Personality and Social Psychology*, *101*, 1189–1206.

Goodwin, G. P., Piazza, J., & Rozin, P. (2014). Moral character predominates in person perception and evaluation. *Journal of Personality and Social Psychology*, *106*, 148–168.

Haidt, J. (2008). Morality. *Perspectives on Psychological Science*, *3*(1), 65–72.

Hammer, J., Cragun, R., Hwang, K., & Smith, J. (2012). Forms, frequency, and correlates of perceived anti-atheist discrimination. *Secularism and Nonreligion*, *1*.

Harper, M. (2007). The stereotyping of nonreligious people by religious students: Contents and subtypes. *Journal for the Scientific Study of Religion*, *46*, 539–552.

Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York: Guilford Press.

Huber, S., & Huber, O. W. (2012). The centrality of religiosity scale (CRS). *Religions*, *3*(3), 710–724.

Hughes, J., Grossmann, I., & Cohen, A. B. (2015). Tolerating the "doubting Thomas": How centrality of religious beliefs vs. practices influences prejudice against atheists. *Frontiers in Psychology*, *6*, 1352.
Johnson, D., & Bering, J. (2006). Hand of God, mind of man: Punishment and cognition in the evolution of cooperation. *Evolutionary Psychology*, *4*(1), 219–233.
Kramer, R. M., & Brewer, M. B. (1984). Effects of group identity on resource use in a simulated commons dilemma. *Journal of Personality and Social Psychology*, *46*, 1044–1057.
Leach, C. W., Ellemers, N., & Barreto, M. (2007). Group virtue: the importance of morality (vs. competence and sociability) in the positive evaluation of in-groups. *Journal of Personality and Social Psychology*, *93*(2), 234.
Leary, M. R. (1983). A brief version of the fear of negative evaluation scale. *Personality and Social Psychology Bulletin*, *9*, 371–375.
Norenzayan, A., & Shariff, A. F. (2008). The origin and evolution of religious prosociality. *Science*, *322*(5898), 58–62.
Norenzayan, A., Shariff, A. F., Gervais, W. M., Willard, A. K., McNamara, R. A., Slingerland, E., & Henrich, J. (2016). The cultural evolution of prosocial religions. *Behavioral and Brain Sciences*, *39*, e1.
Pew Research Center (2014a). Worldwide, many see belief in God as essential to morality. http://www.pewglobal.org/2014/03/13/worldwide-many-see-belief-in-god-as-essential-to-morality/.
Pew Research Center (2014b). America's changing religious landscape. http://www.pewforum.org/2015/05/12/americas-changing-religious-landscape/.
Pickett, C. L., & Brewer, M. B. (2001). Assimilation and differentiation needs as motivational determinants of perceived in-group and out-group homogeneity. *Journal of Experimental Social Psychology*, *37*, 341–348.
Preston, J. L., & Epley, N. (2005). Explanations versus applications: The explanatory power of valuable beliefs. *Psychological Science*, *16*, 826–832.
Preston, J. L., & Ritter, R. S. (2013). Different effects of religion and God on prosociality with the ingroup and outgroup. *Personality and Social Psychology Bulletin*, *39*, 1471–1483.
Rios, K., Cheng, Z. H., Totton, R. R., & Shariff, A. F. (2015). Negative stereotypes cause Christians to underperform in and disidentify with science. *Social Psychological and Personality Science*, *6*, 959–967.
Schmader, T., Johns, M., & Forbes, C. (2008). An integrated process model of stereotype threat effects on performance. *Psychological Review*, *115*, 336–356.
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.
Shariff, A. F., Willard, A. K., Andersen, T., & Norenzayan, A. (2016). Religious priming: A meta-analysis with a focus on prosociality. *Personality and Social Psychology Review*, *20*(1), 27–48.
Shariff, A. F., Willard, A. K., Muthukrishna, M., Kramer, S. R., & Henrich, J. (2016). What is the association between religious affiliation and children's altruism? *Current Biology*, *26*, R699–R700.
Simpson, A., & Rios, K. (2016). How do U.S. Christians and atheists stereotype one another's moral values? *The International Journal for the Psychology of Religion*, *26*, 320–336.
Simpson, A., & Rios, K. (2017). The moral contents of anti-atheist prejudice (and why atheists should care about it). *European Journal of Social Psychology* (in press).
Tan, J. H., & Vogel, C. (2008). Religion and trust: An experimental study. *Journal of Economic Psychology*, *29*, 832–848.
Toosi, N. R., & Ambady, N. (2011). Ratings of essentialism for eight religious identities. *The International Journal for the Psychology of Religion*, *21*, 17–29.
Yamagishi, T., & Mifune, N. (2008). Does shared group membership promote altruism? Fear, greed, and reputation. *Rationality and Society*, *20*, 5–30.
Ybarra, O., Chan, E., & Park, D. (2001). Young and old adults' concerns about morality and competence. *Motivation and Emotion*, *25*, 85–100.
Zuckerman, P. (2009). Atheism, secularity, and well-being: How the findings of social science counter negative stereotypes and assumptions. *Sociology Compass*, *3*, 949–971.
Zuckerman, P. (2012). Contrasting irreligious orientations: Atheism and secularity in the USA and Scandinavia. *Approaching Religion*, *2*(1), 8–20.