Love thy Neighbour... or not: Christians, but not Atheists, Show High In-Group Favoritism

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ABSTRACT

Atheists are among the most disliked groups in America, which has been explained in a variety of ways, one of which is that atheists are hostile towards religion and that anti-atheist prejudice is therefore reactive. We tested this hypothesis by using the 2018 American General Social Survey by investigating attitudes towards atheists, Christians, Buddhists, Hindus, Jews, and Muslims. We initially used a general sample of Americans, but then identified and isolated individuals who were atheists, theists, nonreligious atheists, religious theists, and/or theistic Christians. Logically, if atheists were inordinately hostile towards religion, we would expect to see a greater degree of in-group favouritism in the atheist group and a greater degree of out-group dislike. Results indicated several notable findings: 1). Atheists were significantly *more* disliked than any other religious group. 2). Atheists rated Christians, Buddhists, Jews, and Hindus as favourably as they rated their own atheist in-group, but rated Muslims less positively (although this effect was small). 3). Christian theists showed pronounced in-group favouritism and a strong dislike towards atheists. No evidence could be found to support the contention that atheists are hostile towards religious groups in general, and towards Christians specifically, although this may have been a Type II error. If atheist groups do dislike religious groups, then this hypothetical dislike would be significantly *smaller* in magnitude than the dislike directed toward atheists by Christians.

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Mounting evidence shows a widespread mistrust, disgust, perceived immorality, and general antipathy towards atheists in the United States (US; Brown, McKee & Gervais 2018; Edgell et al. 2016; Franks & Scherr 2014; Ritter & Preston 2011), and abroad (Gervais et al. 2017). Beliefs that atheism is harmful and unpatriotic come from the top-down as these beliefs are readily espoused by political leaders. For example, in 2014, as an Alabama senator (and later, Attorney General of the US), Jeff Sessions proclaimed 'I do believe that we are a nation that, without God, there is no truth, and it's all about power, ideology, advancement, agenda, not doing the public service' (Michaelson 2017). Although the presence of in-group favoritism among Christians and out-group bias against atheists in the US is well-established in scholarly literature (Galen et al. 2011; Saroglou, Yzerbyt & Kaschten 2011), very little research has focused on the attitudes of atheists toward religious groups.

To be sure, atheists—like other groups united loosely by a belief system—are not monolithic in their attitudes or biases (Guenther 2014). There are many atheists who engage in interfaith work for greater humanist causes (Guenther & Mulligan 2013). Indeed, research on atheism suggests that this group has lower levels of dogmatism (Uzarevic, Saroglou & Clobert 2017) and presumably, insularity (Zuckerman, Galen & Pasquale 2016)—both traits that may mitigate in-group favoritism. However, findings from international and domestic research illustrate a mixed portrait of atheists' biases: some research suggests atheists feel positively towards Christians (Cowgill, Rios & Simpson 2017), other studies suggest nonbelievers find believers to be highly dogmatic (Saroglou, Yzerbyt & Kaschten 2011), whereas other literature suggests a denigration of non-atheist out-groups, particularly those who may threaten civil liberties or spread illiberal values (Amarasingam. 2010; Brandt & Van Tongeren 2017; Kossowska, Czernatowicz-Kukuczka & Sekerdej 2017; Uzarevic, Saroglou & Muñoz-García 2019).

Due to a dearth of prior research in the US, it remains unclear whether the critical eye toward religious systems held by some atheists results in in-group favoritism toward nonbelievers or out-group bias against religious communities. One exception is regarding anti-Muslim sentiment amongst atheists (and Christians), which previous literature has indicated may be sustained by the belief that a secular society is incompatible with Islam, as well as a racist othering of Middle Eastern cultures. Taken together, the present study contrasts out-group biases and in-group favoritisms of both atheist and religious groups in the US.

THE PERCEIVED (AND REAL) OUT-GROUP BIAS OF ATHEISTS TOWARDS RELIGIOUS GROUPS

Research indicates that atheists are stereotyped as narcissistic and elitist (Imhoff & Recker 2012), angry (Gerteis, Hartmann & Edgell 2019), supportive of dogmatic scientism, and hostile or intolerant of religious

expression (Uzarevic, Saroglou & Clobert 2017). These negative perceptions may be fueled by antitheist writing from well-known—yet controversial—New Atheist thought leaders (Amarasingam & Brewster 2016) and echoed by bestselling books such as *The God Delusion* (Dawkins 2006) and *God is Not Great: How Religion Poisons Everything* (Hitchens 2008) wherein faith and religious practices are positioned as antithetical to humanism and progressive values. In citing Sam Harris—'[w]hen was the last atheist riot? Is there a newspaper anywhere on this earth that would hesitate to print cartoons about atheism for fear that its editors would be kidnapped or killed in reprisal?'—Amarasingam (2010) demonstrates that some atheist people may hold significant in-group favoritism. He further posits that the beliefs (i.e., religion is toxic) outlined in these writings are the result of a fundamental attribution error wherein 'although religious belief is a situational cause of behavior, the New Atheists more often than not treat it as a dispositional or personality defect (575).' Beyond this, religion may pose a symbolic, existential, or real threat to the individual rights of nonbelievers.

In the US, fundamentalist Christian beliefs can be oppositional to women's rights, LGBTQ equality, and support for racial/ethnic minority issues (Warf 2015). Considering that atheists tend to score highly on measures of feminism and support equal rights for marginalized groups (for a review see Zuckerman et al. 2016), they may feel at odds with Christianity in the US, and in turn, 'angry' with Christians (Christina 2012). One recent study by Uzarevic and colleagues (2019) utilized the ideological-conflict hypothesis to argue that there is a prejudicial bias toward anti-liberal and/or mainstream religious groups from nonbelievers in three European countries. While the religious landscape of Europe varies from the US, it is important to note that in this study, atheists *did* display a prejudicial bias against religious groups, including Christians and Muslims. Such a finding suggests that nonbelieving populations may view religious groups as an existential threat to secular society and multiculturalism. Similar research in more religious countries—Poland (Kossowska et al. 2017) and the US (Brandt & Van Tongeren 2017)—found that those who are low in religiosity and/or high in antireligious sentiment tend to hold significant out-group bias toward Christians and other moral conservatives.

Research on meta-stereotypes suggests that nonbelievers may also be negatively impacted by how they *think* religious people perceive them. For example, in one Belgian study nonbelievers assumed that believers saw them as low in honesty and altruism and high in impulsivity and hedonism (Saroglou et al. 2011). In the same study, nonbelievers also perceived religious people as highly dogmatic. Relatedly, one small qualitative study (Doyle 2019) with midwestern undergraduates found that atheist participants tended to believe that they were

more open-minded than their religious counterparts. Also, the atheist participants espoused some in-group favoritism in their beliefs that they 'do not believe in God because they are open-minded and are in some way strong enough to face the realities of life without the 'crutch' of believing in God' (8). It is not a far stretch, therefore, to imagine that this stigma consciousness of atheists and expected rigidity of the religious out-group could promote between-group tensions and animosity.

RELIGIOUS GROUP'S OUT-GROUP BIAS AGAINST ATHEISTS

Doubt that individuals may be ethical or principled without a belief in god(s) has permeated culture since ancient times, and recent research suggests that such attitudes may be present even in largely secular societies (Gervais et al. 2017: 151; Graham & Haidt 2010). A number of theories to explain out-group bias against atheists have been posited. In a recent study, Cook and colleagues (2015) utilized a sociofunctional, threat-based approach to assess the source of anti-atheist stigma with primarily Christian college students; drawing from cultural evolutionary theory, they found that atheists were perceived to pose significantly greater threats to values and elicit greater moral disgust than other stigmatized groups. This may be because atheists are thought to contribute to moral decline when they are stereotyped as not participating in religious prosociality. For Christians in particular, level of anti-atheist stigma may be determined by variability in how caring (Harper 2007) and how destructive to rule of law/faith atheists are believed to be (Simpson & Rios 2017).

Level of endorsement of religiosity may also be a key indicator of in-group favoritism and out-group biases. In one study, participants who were high on religious fundamentalism greatly preferred to affiliate with those who were religious, but those who were low on fundamentalism showed no social preference (Galen et al. 2011). In the same study, however, those that were high in fundamentalism also based the perceived goodness or morality of their target on how religious their target was. A study with undergraduate Christians indicated that some of their animosity toward atheists was related to the belief that nonbelievers were individualistic and 'unable to have faith in response to general world suffering' (Doyle 2019: 8).

Finally, terror management theory may be another useful frame through which to view out-group bias against atheists by religious groups. Atheists, who often do not believe in an afterlife or an inherently meaningful universe, may be existentially threatening to religious groups. One study with religious undergraduates from the US found that when primed with subtle reminders of death, the undergraduates responded with distrust, disparagement, and social distancing toward atheists (Cook, Cohen & Solomon 2015). Regardless of the

reason *why* out-group bias towards atheists exists, its prevalence in research suggests that it is not an artifact of methodology or sample, but a dominant mindset in American society.

SEEMINGLY CONTRADICTORY GOALS OF ATHEIST AND RELIGIOUS GROUPS

Problematically, from a research standpoint at least, is that investigations of atheists tend to involve atheist organizations. While research involving atheist organizations is certainly intriguing, its sampling frame necessitates a person identify as an atheist and actively seek out membership based on this identity. Consequently, organized atheists may be qualitatively different from nonorganized atheists, the latter of whom are not widely studied in a representative fashion. Just as there is more than one type of religious person, atheists are also diverse in their nonbelief: some are active in nonreligious communities, some are apathetic, some are antitheist and interested in spreading religious deconversion (Silver et al. 2014). Organized secular groups are widely variable in their missions and reach (Cragun, Manning & Fazzino 2017), such that some may be facilitators of light social connections via events like picnics or holiday parties (i.e., Sunday Assembly), whereas others may tackle more serious issues like prison reform or climate change (i.e., Society for Ethical Culture). Affiliates of organized nonbelief groups generally favor partaking in charitable and humanitarian efforts rather than proselytizing the merits of atheism, and their preferred tactics tend to be accommodation of religion rather than confrontation (Langston, Hammer & Cragun 2015).

That said, the consolatory, collaborative, and interfaith efforts of secular organizations are rarely publicized. Instead, the higher profile sociopolitical actions and lobbying efforts of prominent atheist advocacy groups (i.e., American Atheists, American Humanist Association) for the separation of church and state tend to garner attention; this selective focus also inadvertently supports beliefs that atheists are pugnaciously embittered against religion, and Christianity in particular. Petitions or lawsuits to remove 'in God we trust' from currency (Stempel 2018) or take down the Ten Commandments from government property (AP 2017) are often met with scorn. In response to a lawsuit to remove a WWI memorial (in the shape of a 40-foot concrete cross at a busy roundabout), Supreme Court justice Neil Gorsuch dismissively scolded the American Humanist Association for being 'offended' by the cross, and the Supreme Court of the United States ruled 7–2 that the memorial did not violate the constitution. Indeed, efforts by atheist groups to maintain the separation of church and state are generally viewed as immature attempts to squelch the expression of religious groups and scrub Christianity out of American culture. Consequently, some atheist groups have often turned to other tactics to raise awareness of

their plight, albeit many of these campaigns for visibility and secular free speech have proved equally controversial and divisive.

Assumptions that atheists are non-joiners or contrarians may arise from the tone of various awareness campaigns. For example, the parodic tone of the Invisible Pink Unicorn or the Flying Spaghetti Monster – atheist 'deities of worship' that were invented to poke fun at the perceived absurdities of religion – may be viewed as deliberately mean-spirited and patronizing by believers. The magnetic 'Darwin Fish' prominently displayed on the car bumpers of some atheists is viewed as a jocular, yet aggressive, response to the 'Jesus Fish' and meant to show support for the theory of evolution rather than intelligent design (Nussbaum 2005). Moreover, The Satanic Temple (officially recognized as a tax-exempt church by the IRS) was founded by nonbelievers in 2013 to illustrate the privileges bestowed upon religious groups in the US (TST 2019); as a result, they provide a deliberately offensive counterpoint to religious freedom arguments used by Christians by erecting statues of Baphomet in public spaces. While such campaigns may garner significant attention for secular groups and raise awareness about important issues, they may also leave believers feeling insulted or patronized. Alongside the antitheist arguments posed by New Atheists, these acts of resistance or parody have become the face of modern atheism.

As discussed previously, clearly not all (or even most) atheists are contrarians, however, the image of the dismissive, angry, or elitist atheist comes from the top-down. The names of key organizations and publications within the secular movement suggest that religion is something bad or ignorant. For example, the *Freedom from Religion Foundation* (religion is something to escape from) and *Skeptic* magazine (implying that the religious are gullible) could plausibly be construed as being anti-religious by the casual reader. For a short time, there was even a movement within atheism to adopt the term *Bright* as a more positive identity label for those who have 'naturalistic worldview, free of supernatural or mystical elements' (The Brights 2019)

The fight to maintain the separation of church and state *and* protect First Amendment rights are efforts that, at times, appear to be contradictory. When atheists are open about their nonbelief, it may be perceived as an assault on faith rather than a reclaiming of visibility (Brewster et al. 2016). For example, a small group of atheists in Santa Monica, California obtained permits to put up atheist billboards where Christmas nativity scenes were typically placed; the billboards were widely covered in the media as an 'attack on Christmas' as one depicted an image of Neptune, Jesus, Satan, and Santa Claus alongside the statement: *'37 million Americans know a myth when they see one… What myths do you see?'* Christian communities in the area expressed that

their religious freedom was under attack by atheists, and atheists reported that their nonbelief *had been* under attack for years prior by the nativity scenes (Adams 2011). These current events perpetuate the notion that believers and atheists are at a tense ideological impasse in the US.

Beyond the issue of focusing on atheist *organizations* when investigating nonbelievers, a separate issue with studying atheists as a 'group' is the tendency to see atheism as a purely religious identity rather than a question of theistic belief. Assessments of atheism tend to rely on the idea that atheists should be categorized in the same manner as Christians, Jews, Muslims, etc.: a person can be *either* an atheist *or* [some other religious identity]. This conceptualization is problematic as atheism reflects a nonbelief in god(s) which is not the same as a religious identity (Speed & Fowler 2016; Speed & Hwang 2017). A person could be a 'cultural' Catholic and attend Mass several times a year but lack a belief in a deity. While this person may indicate that they are 'Catholic', they would also qualify as an atheist. There is religious privileging when gathering information on the topic; if one indicates that they are part a religious tradition then it is assumed that they are also *not* an atheist. While nonorganized atheists do not fit neatly into classical social psychology definitions of people having a group identity; members may not necessarily know each other, interact with each other, nor have agreed upon norms (University of Oklahoma 1961), they represent an underexplored 'group' within the atheist literature. Atheists affiliated with formal organizations are simply more likely to be studied because of the comparative ease of recruitment.

THE CURRENT STUDY

The goal of the present study was to determine 1). How atheists *were evaluated* by other religious groups, and 2). How atheists *evaluated* other religious groups. The current study used six subsets of nationally representative data to explore this question from a general population perspective, an atheist perspective, a theist perspective, a nonreligious atheist perspective, a religious theist perspective, and a Christian theist perspective. Much of the existing research on atheists uses non-believers recruited via 'atheist organizations' which may not be representative of the target group. Our study uses a nationally representative sample of Americans, which will address this present issue. Generally, the existing literature has repeatedly found that atheists are negatively evaluated by both the general American population and by religious groups. Consequently, we predicted that:

H1: An unrestricted sample of Americans will evaluate atheists more negatively than all other religious groups.

H2: A restricted sample of Christian theists will evaluate atheists more negatively than all other religious groups.

There is a lack of research addressing how atheists and nonreligious atheists perceive religious groups. With respect to this literature gap, we have a research question:

RQ1: How do atheists and nonreligious atheists evaluate atheists in comparison to other religious groups? Specifically, will subsets of atheists and nonreligious atheists demonstrate an in-group bias (i.e., will they 'favour' atheists more than other religious groups)?

METHOD

Researchers accessed data from the 2018 General Social Survey (GSS), a publicly available dataset that is updated every two years. The GSS is administered by the National Opinion Research Center at the University of Chicago and has been active since 1972. The purpose of the GSS is to track Americans' opinions on a variety of social topics including politics, religion, education, etc. The GSS uses stratified cluster-sampling with quotas for age, employment, race, region, and sex at various stages in its design to produce a representative sample of Americans. The 2018 GSS datafile is equipped with analytical variables denoting strata, primary sampling unit, and person-level weights for all cases (Smith et al., 2018). The advantage of using the GSS is that its sample is representative of the American population. In contrast, much of the research addressing atheists uses convenience samples that may not be able to be generalized (Harper 2007). A second advantage of using the GSS is that it is publicly available to all interested parties and can be accessed at *https://gss.norc.org/get-the-data/ stata*. To facilitate reproducible research, the statistical syntax used for the current study is available upon request.

To be included in the current study respondents had to answer all covariate questions and all outcomes of interest. This restriction was put into place to ensure that comparisons across models were valid. People who answered, 'I don't know' or 'Refused' were excluded from the sample to maintain consistency across models. While the 2018 GSS was released with 2,348 respondents, because the GSS is modular, questions related to the evaluation of religious groups were only answered by half of the total sample. The largest sample the current study used was 950 individuals (see *Table 1*), with smaller subsamples for atheists, theists, nonreligious atheists, religious theists, and Christian theists.

MEASURES
Covariates
We included a battery of covariates that were theoretically relevant to the study of nonreligion and/ or atheism. We included sex (female/male), age (in years), marital status (married, widowed/divorced/ separated, and single), education (less than high school, high school, junior college, bachelor, graduate), income, religiosity (higher values indicating greater religiosity), and political orientation (higher values indicating less liberalism/more conservatism). Political orientation was included because conservativeness can be related to prejudice, dogmatism, etc. (Jost et al. 2003) as well as out-group perception (Batalha et al. 2007). In each model covariates were centered, which had the effect of making the constant interpretable as the average outcome score when all covariates were at their average (West, Aiken & Krull 1996).

Attitudes towards religious groups
The 2018 GSS had a series of questions that asked respondents to evaluate religious groups, 'What is your personal attitude towards members of the following religious groups [Christians | Muslims | Hindus | Buddhists | Jews | Atheists]?'. Respondents rated each religious group on a five-point scale with higher scores indicating a greater degree of positivity [i.e., 1 (*Very negative*), 2 (*Somewhat negative*), 3 (*Neither positive nor negative*), 4 (*Somewhat positive*), and 5 (*Very positive*)]. Please note that while atheism is not a religion, for simplicity and brevity 'atheists' will be described as a religious group for the purpose of analyses.

Axes for group filters
The current study sought to investigate the presence of in-group and out-group biases within religious groups. As one can imagine, there are numerous ways in which to group people with respect to religious or theistic beliefs. We focused on two broad axes: whether a person believed in god(s), and whether a person was religiously affiliated.

The 2018 GSS had the variable GODCHNG that asked, 'Which best describes your beliefs about God?', to which respondents could reply, 'I don't believe in God now, and I never have', 'I don't believe in God now, but I used to', 'I believe in God now, but I didn't used to', and 'I believe in God now, and I always have'. Per Bullivant (2013), researchers isolated respondents who indicated that they did not believe in God, and described them as atheist (0 = Theist, 1 = Atheist). Atheists made up 15.6% of the total sample, 95% CI [12.8%, 18.4%], suggesting that approximately 1/6 of Americans who are older than 18, are an atheist. It is important to note that 15.6% of people did not necessarily *identify* as an atheist, but they were *categorized* as such because they matched the definition for the term. While this estimate is higher than the purported 2–3% figure

	RANGE	**ANALYTICAL FILTERS** UNRESTRICTED SAMPLE	ATHEIST	THEISTS	NONRELIGIOUS ATHEISTS	RELIGIOUS THEISTS	CHRISTIAN THEISTS
N =		950	156	762	122	676	637
Attitudes towards Atheists	1–5	3.05/1.11	3.51/0.82	2.95/1.15	3.54/0.83	2.95/1.18	2.90/1.17
Attitudes towards Christians	1–5	4.11/0.92	3.39/0.91	4.29/0.84	3.35/0.92	4.39/0.78	4.41/0.76
Attitudes towards Buddhists	1–5	3.57/0.96	3.63/0.83	3.57/0.99	3.58/0.84	3.60/1.00	3.57/1.00
Attitudes towards Hindus	1–5	3.49/0.92	3.41/0.80	3.51/0.95	3.38/0.81	3.55/0.98	3.51/0.97
Attitudes towards Jews	1–5	3.72/0.87	3.48/0.83	3.79/0.87	3.45/0.86	3.84/0.86	3.81/0.86
Attitudes towards Muslims	1–5	3.36/1.01	3.18/0.89	3.40/1.04	3.18/0.89	3.44/1.06	3.42/1.05
Age	18–89	46.24/17.35	41.11/17.14	47.31/17.25	39.17/16.18	47.96/17.44	48.27/17.44
Income	1–26	18.56/5.75	18.46/5.74	18.53/5.80	18.20/5.94	18.70/5.59	18.77/5.54
Religiosity	1–4	2.45/1.01	1.46/0.81	2.70/0.90	1.28/0.67	2.81/0.83	2.82/0.82
Political	1–7	4.03/1.45	3.20/1.46	4.21/1.39	3.20/1.43	4.30/1.37	4.33/1.37
% Non-White		24.73%	16.18%	26.98%	14.67%	26.77%	26.11%
% Male		43.49%	53.15%	41.18%	53.98%	40.81%	40.19%
Marital Status							
Married/Common Law		49.93%	39.31%	52.24%	38.13%	53.42%	53.89%
Wid./Sep./Div.		22.01%	16.55%	22.69%	12.69%	23.83%	23.92%
Single		28.05%	44.13%	25.07%	49.18%	22.76%	22.18%
Education							
<High school		9.48%	6.23%	10.32%	7.25%	10.18%	10.62%
High school		52.05%	58.18%	50.11%	59.04%	50.98%	51.30%
Junior college		6.90%	4.82%	7.61%	2.90%	6.59%	6.80%
Bachelor		21.52%	18.58%	22.17%	19.87%	22.49%	22.59%
Graduate		10.05%	12.20%	9.79%	10.94%	9.76%	8.69%

Table 1 Descriptive statistics for covariates and outcomes by each analytical filter.

Note. To be included within the table respondents had to answer all covariates and outcomes of interest. Percentages may not tally to 100% because of rounding errors. Higher levels of 'attitudes towards...' indicate more favourable evaluations. Higher levels of 'Religiosity' indicate greater religiousness. Higher levels of 'Political' indicate greater conservativeness.

offered at various times, it matches empirical research on the topic and is *lower* than a recent projected percentage of atheists (Gervais & Najle 2018). The 2018 GSS had the variable RELIG that allowed respondents to identify as one of twelve religious affiliations or to indicate that they were not religiously affiliated. People who indicated that they were unaffiliated were classified as a 'None', people who were religiously affiliated were classified as 'religiously affiliated'. Proportionally, 23.9% of the total sample 95% CI [21.7, 26.1] indicated that they were not religiously affiliated.

Group filters

We ultimately used six 'filters' to conduct comparisons across religious groups. These filters excluded all other respondents and allowed us to focus on the attitudes of the target group alone.

We used an *unrestricted* sample (i.e., no filter) for our first set of analyses. This allowed all respondents to participate provided they answered all relevant questions. Our primary goal was to replicate existing literature which had suggested that Americans had a negative perception of atheists.

We used an *atheist* sample for our second set of analyses. This only examined people who indicated that they did not believe in God. Our primary goal was to investigate how atheists evaluated religious groups. This is potentially confounded by including religious atheists in the analyses [i.e., people who do not believe in god(s) but may be 'culturally' religious].

We used a *theist* sample for our third set of analyses. This only examined people who indicated that they did believe in God. Our primary goal was to investigate how theists evaluated religious groups. This is potentially

confounded by including nonreligious theists in the analyses [i.e., people who believed in god(s) but also indicated that they were not religiously affiliated].

We used a *nonreligious atheist* filter for our fourth set of analyses. This only examined people who indicated that they did not believe in God and were not religiously affiliated. This allowed us to build on the atheist sample, but now the analyses were no longer confounded by having religious atheists.

We used a *religious theist* filter for our fifth set of analyses. This only examined people who indicated that they believed in God and were religiously affiliated. This allowed us to build on the theist sample, but now the analyses were no longer confounded by having nonreligious theists. However, this group would be heterogeneous because all religious affiliations would be grouped together, which may attenuate the extent of group differences.

To address associated issues with the religious theist filter, we used a *Christian theist* filter for our sixth set of analyses. This only examined people who indicated that they believed in God and were a member of a Christian denomination (e.g., Protestant, Catholic). This allowed us to reduce (although not eliminate) the heterogeneity of the religious affiliation. We originally intended to analyze available religious groups separately; however, respondents who identified as Jews ($n = 17$), Buddhists ($n = 5$), Hindus ($n = 3$), and Muslims ($n = 6$), were too few for the regression analyses to execute.

Data Analysis

We chose to use Stata 15 for our analyses because Stata allows for a straightforward weighting procedure with respect to survey data. Our primary research goal was to determine how attitudes towards the six religious' groups (i.e., atheists, Christians, Buddhists, Hindus, Jews, and Muslims), was a function of *which* group was responsible for those evaluations. In each set of analyses:

1. We selected one of the six relevant filters (i.e., general sample [i.e., everyone], atheists, theists, nonreligious atheists, nonreligious theists, Christian theists) which would restrict who could participate within our model. Once a filter was selected, we proceeded with a series of multivariate regression models.
2. For each of these six filters we conducted six multivariate regression models.
   a. Model 1: attitudes towards atheists, while controlling for covariates (base).
   b. Model 2: attitudes towards Christians while controlling for covariates.
   c. Model 3: attitudes towards Buddhists while controlling for covariates.
   d. Model 4: attitudes towards Hindus while controlling for covariates.
   e. Model 5: attitudes towards Jews while controlling for covariates.

   f. Model 6: attitudes towards Muslims while controlling for covariates.
3. Each of the six multivariate regression models had a constant, which we recorded. This constant is equal to the weighted mean attitude felt toward a religious group, while at a mean-centred value for all covariates.
   a. Using the constant for 'attitudes towards atheists' as a 'base comparator' (i.e., from Model 1), we then compared the value of *that* constant to the constant of Models 2 through 6.
   b. This produced five 'attitude comparisons' for every filter: atheist vs. Christian, atheist vs. Buddhist, atheist vs. Hindu, atheist vs. Jew, and atheist vs. Muslim.
   c. We then tested if there were differences for these 'attitude comparisons' with a series of Wald tests. For example, the first 'attitude comparison' (i.e., atheist vs. Christian) would tell us if a filtered group felt differently towards atheists and Christians. The second 'attitude comparison' (i.e., atheist vs. Buddhist) told us if a filtered group felt differently towards atheists and Buddhists. Etc.
   d. Because we would be making five comparisons for each filter, we used and reported Šidák-Holm corrected p-values (Abdi 2007; IDRE 2020) to control for family-wise error rate.
4. Given that outcomes had identical scaling and contained the same respondents each time, we utilized the formula for Cohen's *d* (Lakens 2013). This approach was adopted as the readership would likely be familiar with the formula, and we could not find a measure of effect size for multiple outcomes.

$$*d = \frac{b_{Constant_{Base}} - b_{Constant_{Comparator}}}{\sqrt{\dfrac{(n_1 - 1)SD^2_{Base} + (n_2 - 1)SD^2_{Comparator}}{n_1 + n_2 - 2}}}$$

Conceptually this pooled standard deviation is capturing the average variability present in the attitude ratings for the base group and each respective comparator group. The numerator term is indicating the mean difference between two evaluations, meaning that *d* is providing a ratio of a mean difference over the average variability. Traditional interpretations of Cohen's *d* are $d < 0.20$ (trivial), $d \geq 0.20$ (small effect), $d \geq 0.50$ (medium effect), $d \geq 0.80$ (large effect); however, these are heuristics rather than rigid rules so it is conceivable that 'trivial' effects may have a substantive importance in some cases and 'large' effects may have a non-substantive importance in other cases.

As an illustration, we used data from *Table 1* to compare the average attitudes towards atheists and towards Christians that the general population reported ($M_{Atheist} = 3.05$, $M_{Christian} = 4.11$), and then compared those differences over the combined variability in scores for

both groups ($SD_{Atheists}$ = 1.11, $SD_{Christians}$ = 0.92). We discover that the difference in the average ratings is | *d | 1.04, and because 1.04 ≥ 0.80, we would acknowledge that there is a large difference between how atheists are perceived and how Christians are perceived (NB: we reported the values of the actual analysis which carried more digits). Please note, *d is only reported in circumstances where group differences were statistically significant.

$$*d = \frac{3.05 - 4.11}{\sqrt{\dfrac{(950-1)1.11^2 + (950-1)0.92^2}{950 + 950 - 2}}} = \left| -\frac{1.06}{1.00} \right| \approx 1.04$$

The atheist filter models had adequate power (≥ .80) to detect an effect *d ≥ 0.32 for all comparisons, while the nonreligious-atheist filter only had adequate power (≥ .80) to detect an effect *d ≥ 0.37. All other models had adequate power (≥ .80) to detect an effect *d ≥ 0.20.

RESULTS

GENERAL SAMPLE (*N* = 950)

Using the entire sample, we individually regressed attitudes towards atheists, attitudes towards Christians, attitudes towards Buddhists, attitudes towards Hindus, attitudes towards Jews, and attitudes towards Muslims, onto mean-centered covariates. Results indicated that atheists were the most disliked group in America, and

were significantly more disliked than Christians [$F_{(1, 78)}$ = 495.82, p < .001, *d = 1.04], Buddhists [$F_{(1, 78)}$ = 268.20, p < .001, *d = 0.50], Hindus [$F_{(1, 78)}$ = 149.28, p < .001, *d = 0.43], Jews [$F_{(1, 78)}$ = 320.29, p < .001, *d = 0.67], and Muslims [$F_{(1, 78)}$ = 64.67, p < .001, *d = 0.29]. Notably, each of these comparisons were statistically significant and were of practical significance (i.e., Cohen's *d ≥ 0.20). These results were consistent with the expectation that atheists would be the least favourably evaluated religious group (see *Figure 1*). As can be seen in *Figure 1*, atheists are rated *substantially* lower than other religious groups, with the second-lowest rated group (Muslims) still being rated somewhat more positively. These findings were consistent with H1.

ATHEISTS (*N* = 156)

Using the atheist filter, we regressed attitudes towards religious groups onto covariates. Results indicated that atheists' attitudes towards Christians [$F_{(1, 29)}$ = 1.26, p = .717], Buddhists [$F_{(1, 29)}$ = 1.16, p = .717], Hindus [$F_{(1, 29)}$ = 1.20, p = .717], and Jews [$F_{(1, 29)}$ = 0.11, p = .745], did not differ from how atheists rated the Atheist group. Conceptually, this would suggest that atheists tend to view religious groups similarly to their own group, although it is possible that this may represent Type II error. Atheists *may* have a small preference for their own group that the model failed to find; however, this hypothetical
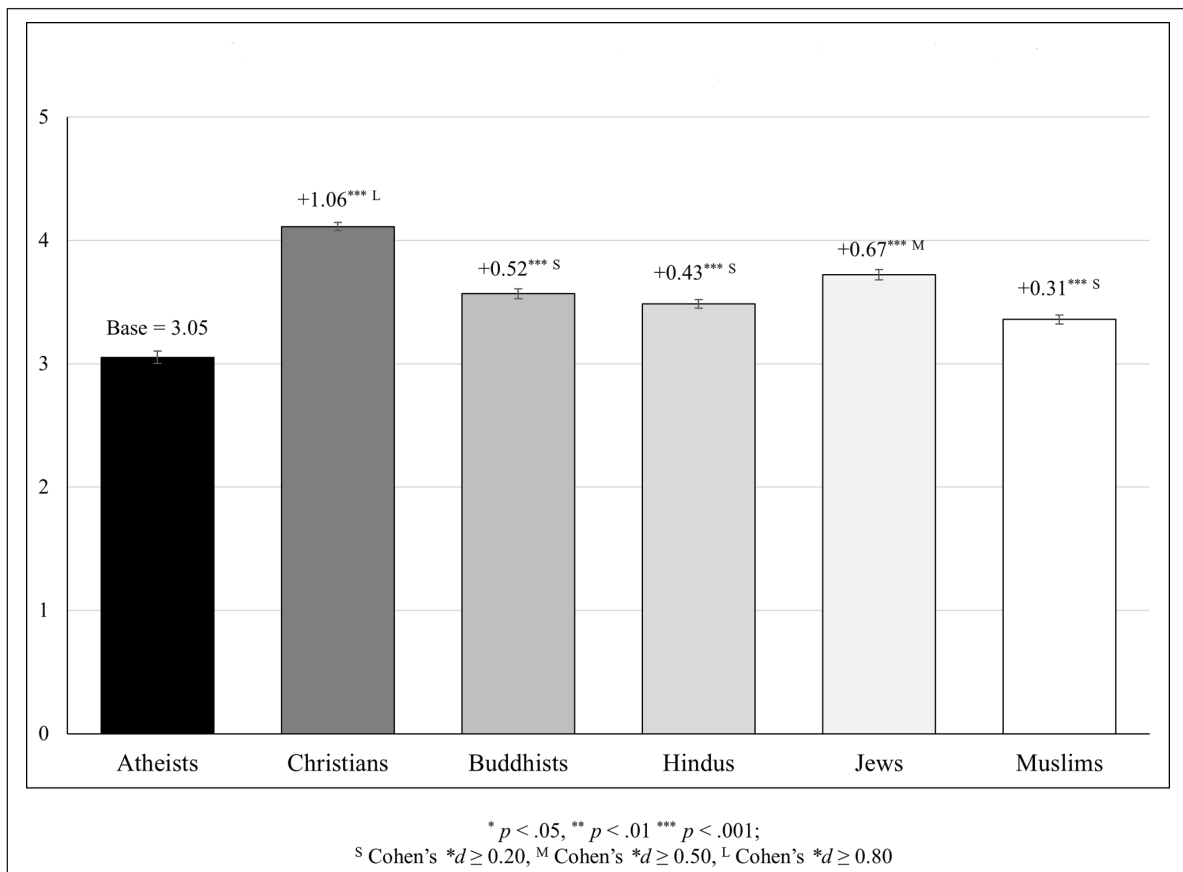
Figure 1 Mean differences across attitudes towards religious groups, relative to attitudes towards atheists (all respondents providing data; *n* = 950).

effect is likely constrained to being small because we had adequate power (>.95) to detect any effect that was medium. The only difference across religious groups was how atheists rated Muslims [$F_{(1, 29)}$ = 12.85, p = .006, *d = 0.39], which indicated a small degree of preference for the atheist group over the comparison group. While this analysis is revealing it is confounded by the inclusion of *religious* atheists within the sample—24.3% of the atheist sample indicated that they were religiously affiliated—meaning that some atheists were rating their own religious group.

THEISTS (*N* = 762)

We turned our focus to theists and regressed their attitudes towards religious groups onto covariates. Results revealed that theists preferred Christians [$F_{(1, 74)}$ = 630.43, p < .001, *d = 1.33], Buddhists [$F_{(1, 74)}$ = 276.55, p < .001, *d = 0.57], Hindus [$F_{(1, 74)}$ = 194.18, p < .001, *d = 0.53], Jews [$F_{(1, 74)}$ = 360.87, p < .001, *d = 0.82], and Muslims [$F_{(1, 74)}$ = 112.20, p < .001, *d = 0.41], to the atheist base group. Each of these findings were of practical significance, with the largest difference being between Christians and atheists, and the smallest difference being between Muslims and atheists. However, these analyses were confounded similarly to the analyses that used the 'atheist filter'; except in this case *nonreligious* groups may be rating other religious groups.

NONRELIGIOUS ATHEISTS (*N* = 122)

Using the nonreligious atheist filter, which addressed the aforementioned confound, researchers again regressed attitudes towards religious groups onto covariates. Results revealed that there were no significant differences between how nonreligious atheists rated the atheist group as a whole, and how they rated Christians [$F_{(1, 23)}$ = 3.06, p = .255], Buddhists [$F_{(1, 23)}$ = 0.16, p = .690], Hindus [$F_{(1, 23)}$ = 4.29, p = .184], and Jews [$F_{(1, 23)}$ = 0.75, p = .634]; however, Muslims were rated more negatively [$F_{(1, 23)}$ = 20.43, p < .001, *d = 0.42]. By isolating nonreligious atheists, researchers were able to determine if this group showed an in-group bias, which we would expect to manifest as a more positive evaluation of atheists relative to other religious groups. However, nonreligious atheists overwhelmingly did not demonstrate the expected in-group bias, their ratings of other religious groups were statistically indistinguishable from how they rated atheists (see *Figure 2*). Granted, this may be the product of Type II error, insofar that the current models had a greater than 20% chance of missing an effect that was *d < 0.37. However, if there is a 'real' effect being missed, it is almost certainly lower than medium-sized otherwise we had adequate power (>.95) to detect it. However, it is worthwhile pointing out that the differences between how nonreligious atheists rated themselves and how they rated Christians were quite small and was on par with their rating of Hindus.
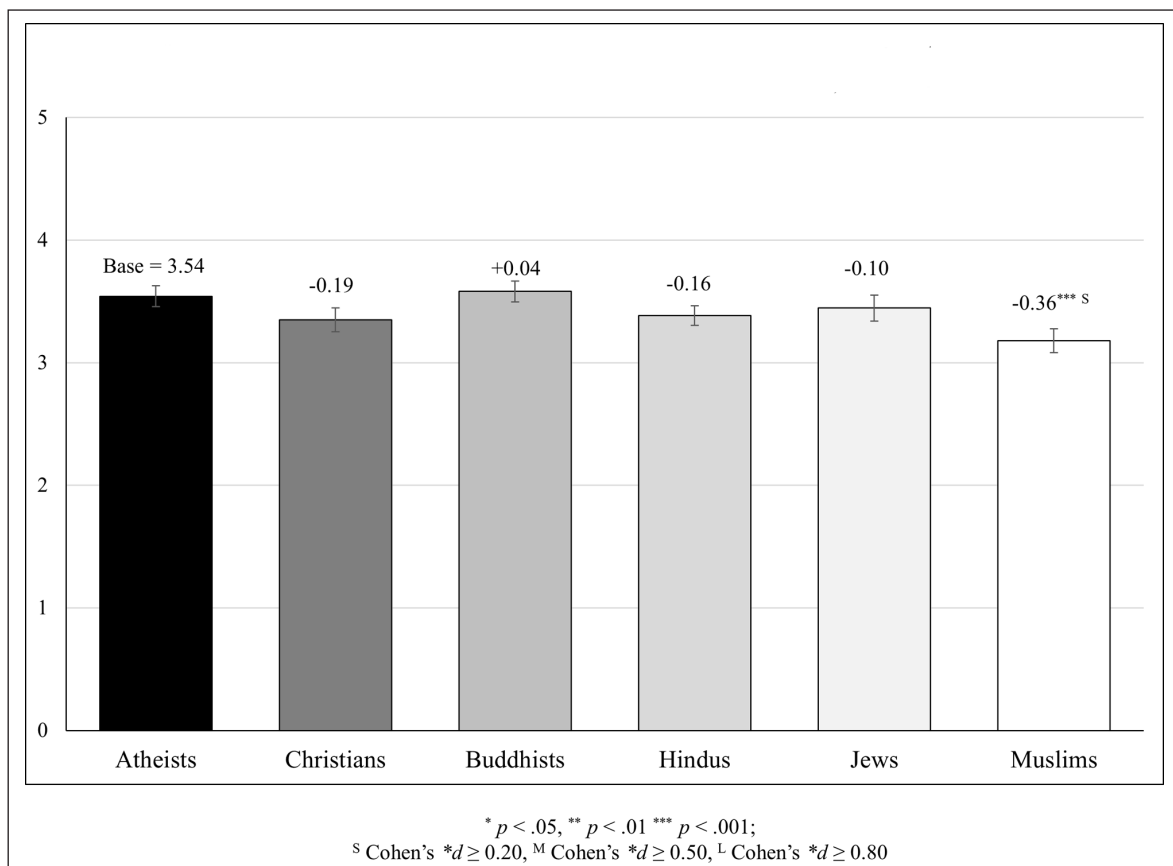
Figure 2 Mean differences across attitudes towards religious groups, relative to attitudes towards atheists (only nonreligious atheists providing data; *n* = 122).

An exception to those ostensibly equitable attitudes between themselves and others, were nonreligious atheists' more negative evaluations towards Muslims. While the motivation of this dislike is unclear, this finding lends empirical support to the contention that Islamophobia is an issue with which the atheist community struggles (Amarasingam & Brewster 2016; Emilsen 2012). It is important to note that while this difference is admittedly small, atheists were more likely to rate Muslims significantly lower than Christians [$F(1, 23) = 6.19$, $p = .039$, $*d = 0.19$], Buddhists [$F(1, 23) = 15.82$, $p = .002$, $*d = 0.47$], Hindus [$F(1, 23) = 6.26$, $p = .039$, $*d = 0.24$], and Jews [$F(1, 23) = 10.66$, $p = .010$, $*d = 0.31$].

RELIGIOUS THEISTS (*N* = 676)

We regressed covariates onto attitudes towards religious groups for religious theists. Again, using atheists as a base, we compared attitudes of the five other religious groups. Results indicated that atheists were less liked than Christians [$F(1, 73) = 606.97$, $p < .001$, $*d = 1.45$], Buddhists [$F(1, 73) = 221.90$, $p < .001$, $*d = 0.60$], Hindus [$F(1, 73) = 190.31$, $p < .001$, $*d = 0.55$], Jews [$F(1, 73) = 390.06$, $p < .001$, $*d = 0.86$], and Muslims [$F(1, 73) = 110.42$, $p < .001$, $*d = 0.44$]. These results largely aligned with the previous 'theist group' analyses, and illustrated that religious theists were less positive

towards atheists than every other assessed religious group.

CHRISTIAN THEISTS (*N* = 637)

Finally, researchers selected respondents who were theists and indicated that they were also Christian (i.e., Protestant, Catholic, Orthodox-Christian, or Christian), and investigated their collective attitudes towards religious groups. Using Christian theists' attitudes towards atheists as the base group, we found that atheists were the least preferred religious group. Atheists were less liked than Christians [$F(1, 73) = 618.52$, $p < .001$, $*d = 1.54$], Buddhists [$F(1, 73) = 232.15$, $p < .001$, $*d = 0.62$], Hindus [$F(1, 73) = 223.79$, $p < .001$, $*d = 0.57$], Jews [$F(1, 73) = 369.72$, $p < .001$, $*d = 0.89$], and Muslims [$F(1, 73) = 131.25$, $p < .001$, $*d = 0.47$]. As a follow-up analysis, researchers then used attitudes towards Christians as the base group, and all other attitude questions as comparators. Christian theists rated Buddhists [$F(1, 73) = 358.63$, $p < .001$, $*d = 0.95$], Hindus [$F(1, 73) = 419.67$, $p < .001$, $*d = 1.04$], Jews [$F(1, 73) = 206.98$, $p < .001$, $*d = 0.74$], and Muslims [$F(1, 73) = 569.99$, $p < .001$, $*d = 1.08$] less positively than they rated their Christian group. Framed differently, Christian theists showed a high degree of in-group preference, with Christians largely preferring their own group to other groups (see *Figure 3*). These findings were consistent with H2.
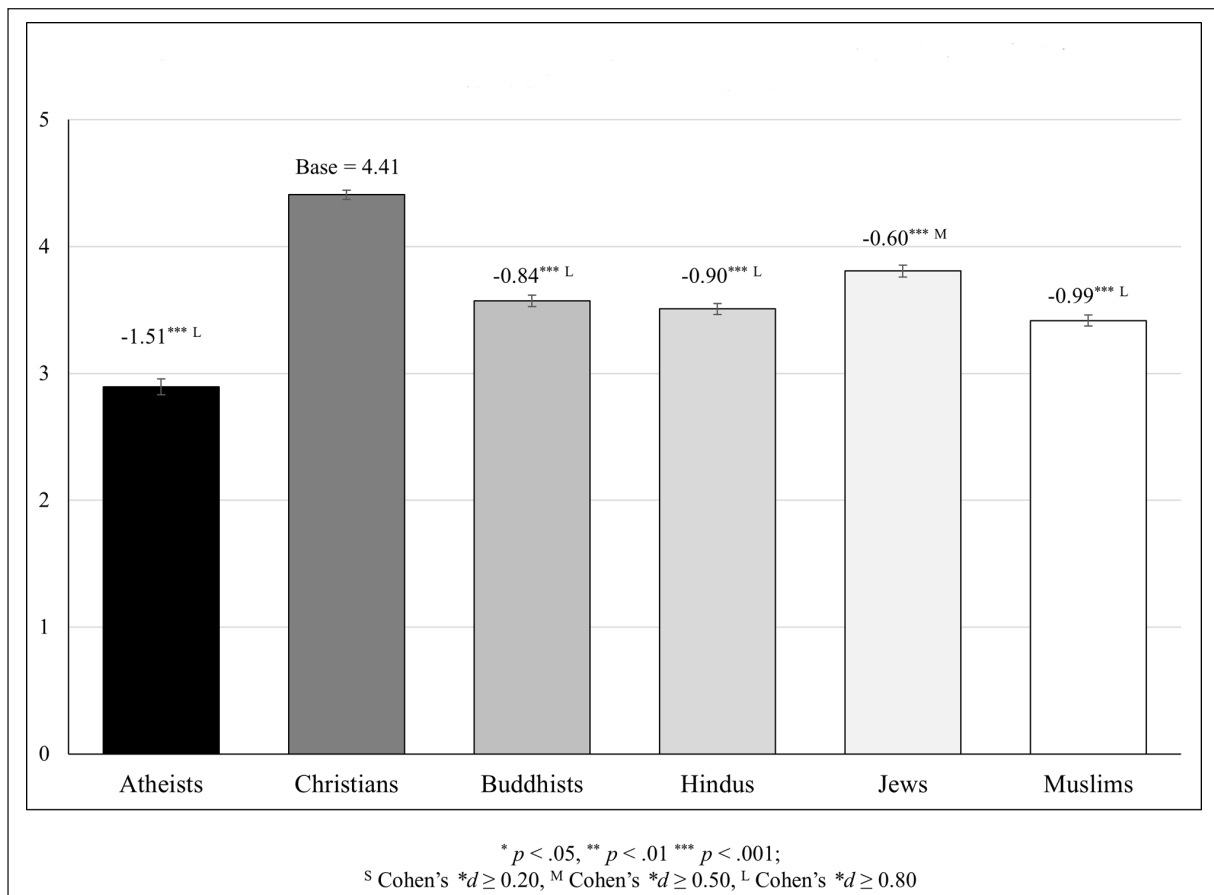
Figure 3 Mean differences across attitudes towards religious groups, relative to attitudes towards Christians (only Christians theists providing data; *n* = 637).

DISCUSSION

The current study built upon the existing literature with respect to how atheists perceive other religious groups in the United States, as well as affirmed how religious groups perceive atheists. In support of prior research (Brown et al. 2018; Edgell et al. 2016; Franks & Scherr 2014; Ritter & Preston 2011), the general population of the United States rated atheists more negatively than all other religious groups (supportive of H1). This finding appeared to be driven by Christians specifically, who viewed atheists with a strong degree of animus relative to Christians and all other religious comparators (supportive of H2). In contrast, and in response to the posed research question, atheists and nonreligious atheists appeared to 'like' Christians, Buddhists, Hindus, and Jews as much as they liked the atheist comparator. However, both atheists and nonreligious atheists reported a lower evaluation of Muslims than of the atheist group, which aligns with the scant qualitative and quantitative research on this topic (Gerteis et al. 2019; Uzarevic et al. 2017). Our interpretation of these findings is that atheist show reduced in-group bias (as evidenced by the similar ratings of the atheist, Christian, Buddhist, Hindu, and Jewish groups), but may demonstrate a small degree of sporadic out-group denigration (as evidenced by the reported dislike of the Muslim group). Each of these findings will be discussed in turn.

While the *reason* for animosity towards atheists is contentious and disputed, there is an acknowledgement that factually, atheists are among the most disliked group within the United States (Edgell et al. 2016). Understanding the root of this out-group bias, stereotyping, and *anti-atheist stigma* is critical, as such beliefs may translate to enacted prejudice (Cook et al. 2015); for example, 42% of Americans stated that they would be less likely to vote for a qualified atheist president (Pew 2014) and 44% indicated that they would not want their child to marry an atheist (Edgell et al. 2016). Correspondingly, studies note that atheists in the US experience anti-atheist discrimination (Hammer et al. 2012), and that these experiences may have deleterious outcomes on mental health (Brewster et al. 2016) or employment status (Wallace et al. 2014). One of the rationales offered to account for anti-atheist prejudice is that atheists themselves are hostile towards religious groups (Meier et al. 2015; Uzarevic et al. 2017), implying that subsequent anti-atheist prejudice is responsive and justifiable. Functionally, atheists are perceived to be antagonistic towards religious groups and the dislike of atheists is 'retaliatory.' In other words, atheists are not victims, but instead, *instigators* who are disliked for their pugnaciousness. Such beliefs about atheists may have stemmed from the writings of key figures in the New Atheist movement (Dawkins 2006; Hitchens 2008) and have been used as a shorthand to characterize the

stance of all atheists as antitheist or antireligious.

While the current study does not speak as to *why* negative perceptions of atheists are prevalent, it does suggest that stereotypes of atheists holding negative views of religious people may be unfounded. That said, the present study did *not* assess behavior toward other groups and it is possible that atheist individuals may still act in ways that are viewed as dismissive or critical, even if they do not espouse out-group bias or in-group favoritism. Moreover, a strength of the current study (its representative sample) may make *direct* comparisons with existing literature challenging, as many studies addressing atheism use atheist organizations to recruit participants.

When asked to rate themselves, nonreligious atheists evaluated their group as being in the weakly positive to neutral range (M = 3.54, SD = 0.83) which did not differ from their rating of Christian theists (M = 3.35, SD = 0.92). This finding does not appear to align with the extant qualitative research, which stereotypes atheists that display out-group bias toward organized religion (Brewster 2014; Christina 2012). Specifically, if atheists did display an out-group bias, we would expect to see at a minimum, limited propinquity across their evaluations of religious groups. If atheists do indeed feel systematic in-group preference and out-group bias, then atheists' similar ratings of religious groups are puzzling. The outcome variable was, 'What is your personal attitude towards members of the following religious groups…', which leaves little room for ambiguity. As noted earlier, the null finding *may* be a product of Type II error, given that there was limited power to detect an effect less than $*d ≈ 0.35$. However, this would suggest that *if* atheists show an in-group bias, then it is likely at this threshold of detection. While we cannot say with certainty that the effect is not there, we can place a 'upper limit' on how large this hypothetical effect is. In all cases, the speculative 'out-group' denigration that atheists and nonreligious atheists may have, is markedly lower than the 'anti-atheist' bias that was *actually* observed. By contrast, Christian theists rated themselves very positively (M = 4.41, SD = 0.76) while simultaneously rating atheists in the neutral to weakly negative range (M = 2.90, SD = 1.17). Framed differently, the average nonreligious atheist is *as favourable* towards the average Christian as they are towards the average atheist; while the average Christian theist is *much more favourable* towards the average Christian than they are towards the average atheist. This discrepancy in attitudes is puzzling and prompts the question: why?

It may be the case that the discrepancy in attitudes is that atheists and nonreligious atheists are routinely exposed to examples of neutral or positive members of the Christian group, while theists and Christian theists are not. Drawing from the *contact hypothesis* (Dixon et al. 2005)—the belief that interactions between different groups reduces intergroup prejudice—it may be that

atheists are not able to hold a consistent narrative of 'oppressive' Christians in their minds, as they interact with a diverse range of 'out' Christians in their daily lives (Guenther 2014). Seeing a broad range of representations of Christianity may dilute beliefs that 'all Christians' believe the same things or behave in the same manner. Although it would be nearly impossible for an atheist to move through life in the US without interacting with someone who is Christian, it is entirely plausible that many Christians have not directly met or engaged with an openly atheist person before. Similarly, other research suggests that anti-atheist prejudice can be ameliorated if a person believes atheism to be prevalent (Gervais 2011). Problematically, if Christians do not personally interact with atheists, they may assume that figureheads within the New Atheist movement are typical exemplars of the wider atheist group. As such, calls for atheists to 'come out' may indeed be a fruitful first step in eliminating extant atheist caricatures.

However, it may be that anti-atheist sentiment runs deeper than is solvable by good-natured intergroup contact. Indeed, these results were consistent with the notion that atheists produce an existential threat within Christian theists, which may help explain why they are more disliked than the 'religious competitors' were. Functionally, the notion of atheists being 'right' [i.e., with respect to the non-existence of god(s)] provides a greater problem to religious beliefs than if a Muslim or a Buddhist were 'right'. Furthermore, if morality is believed to stem from a belief in god or adherence to religious doctrines, it is better to believe *something* rather than 'nothing.' From a perceived immorality perspective, it is not clear that meeting a nice atheist would necessarily combat a Christian's anti-atheist prejudice—instead, the atheist may be tokenized as 'a good one' (i.e., subtyping) rather than representative of the larger population (Dixon et al. 2005). However, this theoretical framing is speculative and may not reflect the nature of this finding.

Lastly, while the difference was admittedly small, atheists were more likely to rate Muslims lower than their own in-group, as well as rate Muslims more negatively than all other religious groups (although these differences were not always practically significant). This finding is not entirely without precedent: several prominent atheists—such as Richard Dawkins, Sam Harris, and late-night host Bill Maher—have all come under fire for espousing Islamophobic views (Amarasingam & Brewster 2016); specifically, perpetuating beliefs that Islam is 'the motherlode of bad ideas' and is the *most* dangerous of organized religions (Hansen 2015). It may be that the promulgation of these views within nonbelieving communities has translated into more negative opinions about Muslim people generally. However, this explanation is post-hoc and assumes the underlying Islamophobia of which those public figures have been accused. Alternatively, Islamophobic viewpoints may have emerged independently within the 'atheist movement' writ large and have simply been attached to those well-known figures, regardless of their veracity. An obvious confounding variable in the assessment of Islamophobia may have less to do with religion and more to do with a conflation of antitheism with ethnocentrism against, and racism toward, Middle Eastern individuals (Gerteis et al. 2019). Functionally, racism towards people of Middle Eastern descent may have inadvertently been 'paired' with the dominant religion within the Middle East.

LIMITATIONS AND CONCLUSIONS

While the current study had several strengths and novel contributions to the literature, it also experienced several limitations. The index of attitudes towards various groups was only a single-item, which may not have adequately captured the subtlety and complexity of religious preference. Also, while the study was of a nationally representative sample of Americans, it was cross-sectional in nature and would be unable to assess dynamic factors of change within American culture that may have driven religious attitudes. Moreover, because of the low number of Jews, Muslims, Hindus, and Buddhists, it was impossible for the current study to make substantive comparisons of in-group biases across more diverse groupings of religious samples. Finally, the current study only assessed *attitudes* and not *actions*, which means that the current analyses are limited to judgements and not overt acts of discrimination. This is not so much a limitation per se, but it is important to reiterate this, as prejudice and discrimination are occasionally (and erroneously) used interchangeably.

Finally, it is important to consider whether atheists in the current study would consider themselves to be part of a cohesive 'group' or even a 'group' at all! Despite the proliferation of organized nonbelieving communities across the country (i.e., Sunday Assembly, Oasis), most atheists are non-joiners: a collection of people who are only united by what they do *not* believe. Thus, atheists may not display in-group favoritism because they perceive no in-group to favor. While this explanation may address the lack of in-group favouritism, the findings describing the lack of out-group denigration still stand. Atheists and nonreligious atheists *may* have not viewed themselves as cohesive atheist group, but they would *certainly* not see themselves as a part of Christian, Buddhist, Jewish, Hindu, or Muslim groups either. Despite the non-membership in these religious groups there was not a high degree of negativity towards religious groups. This suggests that a lack of belief in god(s)—that is to say, 'atheism'—does not necessarily lead to hostility or negativity towards religion.

In summary, the data analyzed in the present study were among the first to compare levels of in-group favouritism between atheist and Christian samples.

Despite stereotypes of atheists as pugnacious, insular, critical, and/or antitheist it appears as though they hold less animosity toward Christians than Christians hold toward them. Future studies should work to unpack why out-group bias toward, and negative stereotypes of, atheist people persist. Additionally, follow-up research to compare the reported in-group favoritism displayed by those who are religiously unaffiliated, agnostic, and atheist may be informative. In Matthew 22:36–40 Jesus commands his followers to love the Lord and to love their neighbour, apparently both atheists and theists have interpreted this exhortation as an either-or.

COMPETING INTERESTS

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