

Reminders of Secular Authority Reduce Believers' Distrust of Atheists

Will M. Gervais and Ara Norenzayan

University of British Columbia, Vancouver

Psychological Science
23(5) 483–491
© The Author(s) 2012
Reprints and permission:
sagepub.com/journalsPermissions.nav
DOI: 10.1177/0956797611429711
http://pss.sagepub.com



Abstract

Atheists have long been distrusted, in part because they do not believe that a watchful, judging god monitors their behavior. However, in many parts of the world, secular institutions such as police, judges, and courts are also potent sources of social monitoring that encourage prosocial behavior. Reminders of such secular authority could therefore reduce believers' distrust of atheists. In our experiments, participants who watched a video about police effectiveness (Experiment 1) or were subtly primed with secular-authority concepts (Experiments 2–3) expressed less distrust of atheists than did participants who watched a control video or were not primed, respectively. We tested three distinct alternative explanations for these findings. Compared with control participants, participants primed with secular-authority concepts did not exhibit reduced general prejudice against out-groups (Experiment 1), prejudice reactions associated with functional threats that particular out-groups are perceived to pose (specifically, viewing gays with disgust; Experiment 2), or general distrust of out-groups (Experiment 3). These findings contribute to theory regarding both the psychological bases of prejudices and the psychological functions served by gods and governments.

Keywords

stereotyping, trust, religious beliefs, God, government, atheism, prejudice, morality

Received 6/11/11; Revision accepted 10/8/11

His eyes are on the ways of men; He sees their every step.

—Job 34:21 (New International Version)

BIG BROTHER IS WATCHING YOU.

—1984 (Orwell, 1949/2012, p. 3)

Throughout history, people who deny the existence of gods have been targets of scorn and suspicion (Jacoby, 2004). Even today, despite a great degree of secularism in the postindustrial world (Norris & Inglehart, 2004), atheists remain one of the most distrusted groups of people worldwide (Edgell, Gerteis, & Hartmann, 2006; Gervais, 2011; Gervais, Shariff, & Norenzayan, 2011). In a recent survey assessing Americans' willingness to vote for several (hypothetical) qualified presidential candidates who were members of minority groups, only 45% of respondents reported a willingness to vote for an atheist candidate of their own party—making the atheist candidate the only candidate who could not garner a majority vote (Jones, 2007). Similarly, in another survey, Americans rated atheists as the group that least agrees with their vision of America and indicated that among members of several out-groups, atheists are the ones they would most disapprove of their children marrying (Edgell, Gerteis, & Hartmann, 2006).

Despite the prevalence of negative attitudes toward atheists, the prevalence of atheists worldwide (they number in the hundreds of millions; Zuckerman, 2008), and recent popular attention garnered by atheism, distrust of atheists remains an understudied topic. Building on recent work (Gervais, 2011; Gervais et al., 2011; Norenzayan & Shariff, 2008), we tested the hypothesis that reminders of effective secular authority reduce distrust of atheists among believers. This hypothesis has important implications for the psychological study of the functional bases of prejudices (e.g., Cottrell & Neuberg, 2005; Kurzban & Leary, 2001), as well as the social, cultural, and psychological functions of both gods and governments (e.g., Kay, Gaucher, Napier, Callan, & Laurin, 2008; Norris & Inglehart, 2004).

The Centrality of Trust to Social Life

To effectively navigate a complex social landscape, people need to figure out when others can be trusted. Indeed, distinguishing cooperating from free riders constitutes a central adaptive

Corresponding Author:

Will M. Gervais, Department of Psychology, University of British Columbia, 2136 West Mall, Vancouver, BC, V6T 1Z4, Canada
E-mail: will@psych.ubc.ca

challenge in human evolution (e.g., Henrich & Henrich, 2007), and trustworthiness is the trait that people value most in others (Cottrell, Neuberg, & Li, 2007). However, trustworthiness is difficult to assess outside of specific strain-test situations (Simpson, 2007). Therefore, people must largely rely on indirect cues to determine whether other individuals can be trusted.

One powerful mechanism for evaluating trustworthiness stems from people's hypersensitivity to cues that others are watching. When people feel that their behavior is being monitored, they put their best foot forward, in order to enhance their reputation. Even subtle cues of being watched, such as stylized eyespots or pictures of people's eyes, increase prosocial behavior in both anonymous laboratory contexts (Haley & Fessler, 2005) and naturalistic settings (Bateson, Nettle, & Roberts, 2006). Conversely, prosocial behavior is reduced by cues signaling anonymity (Hoffman, McCabe, Shachat, & Smith, 1994)—even subtle cues, such as ambient darkness or wearing dark glasses (Zhong, Bohns, & Gino, 2010). To the extent that an actor feels watched, an observer may infer that the actor will be on his or her best behavior and can therefore be trusted.

Religious Prosociality: In (Belief in) Gods We Trust

People cannot watch each other all of the time. However, people conceive of gods as mindful and watchful agents (e.g., Norenzayan & Gervais, in press; Waytz, Gray, Epley, & Wegner, 2010). Reminders of supernatural agents therefore trigger the same suite of psychological responses triggered by reminders that other people are watching. For believers, thinking of God, like thinking of social surveillance by peers, increases both public self-awareness (i.e., anxiety about other people's perceptions of oneself) and socially desirable responding (Gervais & Norenzayan, 2012). Furthermore, subtle reminders of God and religion promote prosocial behavior (e.g., Pichon, Boccato, & Saroglou, 2007; Randolph-Seng & Nielsen, 2007; Shariff & Norenzayan, 2007; also see McKay, Efferson, Whitehouse, & Fehr, 2011). By making people feel that their behavior is being monitored, belief in watchful gods may increase cooperative behavior (Johnson & Bering, 2006; Norenzayan & Gervais, in press; Norenzayan & Shariff, 2008). As a result, religious people may interpret other people's belief in watchful gods as a cue that they can be trusted. Indeed, Tan and Vogel (2008) found that in an anonymous trust game, people (especially strongly religious people) were more likely to transfer money to more religious partners.

If believers treat belief in God as a cue indicating trustworthiness, then believers should distrust atheists. Indeed, religious participants view criminal untrustworthiness (as exemplified by committing theft or insurance fraud) as being comparably characteristic of atheists and rapists, but not of Christians, gays, Jewish people, Muslims, or feminists; furthermore, the belief that people behave better when they feel that God is watching uniquely predicts distrust of atheists

(Gervais et al., 2011). Thus, one key consequence of religious prosociality is distrust of atheists.

From Watchful Gods to Watchful Governments

Religious prosociality is by no means the only source of prosocial behavior in the world, and secular authorities have joined (and perhaps supplanted) watchful gods as guarantors of cooperation in some places, with interesting psychological consequences. In the lab, priming secular concepts (e.g., "civic," "jury") promotes prosocial behaviors just as effectively as do reminders of a watchful God (Shariff & Norenzayan, 2007). The interchangeable psychological functions of gods and governments have also been illustrated by recent work showing that both gods and governments can give people a sense of psychological control in the world (e.g., Kay et al., 2008; Kay, Moscovich, & Laurin, 2010; Kay, Shepherd, Blatz, Chua, & Galinsky, 2010).

Secular and sacred authority may also serve interchangeable functions in encouraging prosocial behavior, albeit with different implications for distrust of atheists. The view that atheists are untrustworthy because they do not believe that their behavior is monitored by a divine power may erode to the extent that people are aware of effective monitoring by other "higher" (but not supernatural) powers. If so, then reminders of secular authorities that enforce prosocial behavior should reduce believers' distrust of atheists. Furthermore, this effect should be specific to distrust of atheists, rather than extending to prejudice in general.

The Present Research

In three experiments, we tested whether people's distrust of atheists was reduced when they were reminded of secular authority, either by watching a video about police effectiveness (Experiment 1) or by being implicitly primed with concepts of secular authority (Experiments 2–3). In addition, we explored whether any reduction in distrust was specific to distrust of atheists and not generalized to other forms of prejudice. To this end, we tested three theoretically driven alternative explanations. We tested whether reminders of secular authority, in addition to reducing distrust of atheists, also made participants feel generally more warmly toward out-groups (Experiment 1), reduced prejudice reactions triggered by the specific functional threats that different out-groups are perceived to pose (Experiment 2), or reduced general distrust of out-groups (Experiment 3). To rule out in-group bias, we excluded atheists from the samples in all studies and assessed whether any effects were moderated by participants' religious affiliation.

Experiment 1: Priming Police Effectiveness

In Experiment 1, we tested whether watching a video that primed concepts associated with effective secular authority

reduced distrust of atheists. In addition, we considered the possibility that a reduction in distrust of atheists might merely be the result of secular authority making people feel more warmly toward out-groups in general. Therefore, we included a measure of general prejudice to test the alternative hypothesis that secular authority reduces general prejudice against out-groups, rather than distrust of atheists in particular.

Method

Participants. Sixty-five undergraduates participated in return for extra credit (see Table 1 for a summary of the demographics of the sample). To eliminate possible in-group biases, we excluded self-identified atheists. Two participants (1 in each condition) were excluded from analyses because they failed to follow instructions while watching the video.

Procedure. Participants viewed a video as a priming task. Then, in an ostensibly separate task, they completed measures of both distrust of atheists and general prejudice. In a subsequent funnel-debriefing interview, no participants indicated suspicion regarding the connection between the two tasks.

Primes. Participants in the control condition ($n = 32$) watched a movie (available at www2.psych.ubc.ca/~will/MovieC.html) in which a traveler visiting Vancouver, Canada, for the first

time described his impressions of the city. Participants in the police-effectiveness condition ($n = 31$) watched a video containing the Vancouver police chief’s year-end report (available at www2.psych.ubc.ca/~will/MovieG.html), which detailed the many successes of the Vancouver Police Department during 2010.¹

Distrust of atheists. We used what is to our knowledge the only previously validated distrust-of-atheists scale available in the literature (Gervais, 2011). This scale consists of seven items ($\alpha = .81$) that closely tap distrust of atheists (e.g., “In times of crisis, I am more inclined to trust people who are religious”; “I would be uncomfortable with an atheist teaching my child”). Participants responded to each item using a scale from 0 (*strongly disagree*) to 6 (*strongly agree*). Scores for all items were averaged for each participant.

General prejudice. We measured general prejudice with three separate feeling-thermometer scales. Participants rated how warmly they felt toward three target groups: gays, Muslims, and Jewish people. The scales ranged from 0 to 100, with higher scores indicating more warmth. Scores on the three scales were averaged for each participant ($\alpha = .85$). For ease of comparison, we linearly rescaled this average score (multiplied it by .06) and reverse-scored the resulting variable. Thus, both the measure of distrust of atheists and the measure of

Table 1. Demographic Characteristics of Participants (Experiments 1–3)

Demographic dimension	Experiment 1	Experiment 2	Experiment 3
Age			
Minimum (years)	18	18	18
Maximum (years)	29	23	81
Mean (years)	20.22	19.81	35.00
Gender			
Male (%)	14	27	28
Female (%)	86	73	72
Religious affiliation			
Christian (%)	31	29	69
Sikh (%)	6	6	—
Muslim (%)	5	2	2
Jewish (%)	2	2	2
Buddhist (%)	2	2	2
None (%)	31	37	11
Agnostic (%)	14	6	9
Other (%)	6	16	6
Ethnicity			
East Asian (%)	46	49	0
White, Caucasian (%)	28	22	80
South Asian (%)	13	18	2
African American (%)	—	—	6
Native American (%)	—	—	2
Mixed race, other (%)	14	12	8

Note: Dashes indicate response options that were not given in a particular experiment.

general prejudice had minimum prejudice values of 0, maximum prejudice values of 6, and midpoint values of 3. This linear-transformation strategy yields statistical inferences identical to those yielded by standardizing variables, but it leaves the two variables scaled in a similar metric, facilitating graphical comparison.

Results and discussion

Analyses comparing participants who reported being agnostic or having no religious affiliation with all other participants indicated that this religious-affiliation variable did not moderate any of the effects reported here, so we collapsed across this variable for all analyses. A 2 (condition: control vs. police effectiveness; between subjects) \times 2 (prejudice: distrust of atheists vs. general prejudice; within subjects) mixed factorial analysis of variance (ANOVA) revealed a significant Condition \times Prejudice interaction, $F(1, 61) = 5.01, p = .03, \eta_G^2 = .03,$ ² which we decomposed using planned t tests. Relative to viewing the control video, viewing the police-effectiveness video significantly reduced distrust of atheists, $t(61) = 2.85, p = .006,$ Cohen's $d = 0.73,$ but did not significantly affect general prejudice, $t(61) = 0.01, p = .99,$ Cohen's $d = 0.004$ (see Fig. 1).

Experiment 2: Distrust of Atheists Versus Disgust Toward Gays

Experiment 1 demonstrated a causal relationship between awareness of effective secular authority and reduced distrust of atheists (but not increased feelings of warmth toward

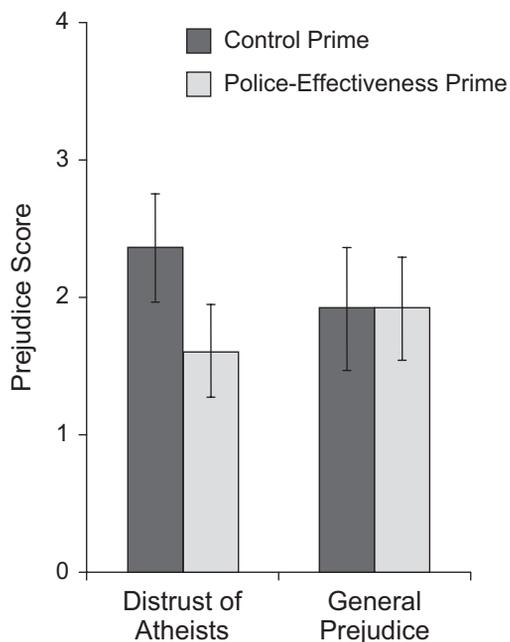


Fig. 1. Results from Experiment 1: distrust of atheists and general prejudice as a function of priming condition. Scores on the distrust-of-atheists and general-prejudice scales ranged from 0 to 6. Error bars indicate 95% confidence intervals.

out-groups in general). In Experiment 2, we sought to replicate these findings and to extend them in two primary ways.

First, although participants did not report awareness of any connection between the videos and the dependent measures in Experiment 1, it might nonetheless be argued that the results were influenced by experimental demand. Therefore, in Experiment 2, we utilized a classic, and more subtle, method for implicitly priming concepts (Srull & Wyer, 1979). Though supraliminal, this priming technique typically influences subsequent judgments without participants' awareness of such an influence (e.g., Bargh, Chen, & Burrows, 1996).

Second, Experiment 1 demonstrated that reminders of secular authority did not make people feel generally more warmly toward out-groups. However, different prejudices are characterized by different reactions to the distinct functional threats that different groups are perceived to pose. For example, White heterosexual participants tend to view Black men with fear, but gay men with disgust (e.g., Cottrell & Neuberg, 2005; Kurzban & Leary, 2001). Thus, although secular authority did not reduce general prejudice in Experiment 1, it may nonetheless inhibit the specific functionally relevant reactions that characterize individual prejudices. Therefore, in Experiment 2, we compared distrust of atheists with disgust-based antigay prejudice. Antigay prejudice serves as an ideal contrast to distrust of atheists: Both forms of prejudice involve out-groups whose members have concealable identities and are viewed as threats in some religious traditions, but the two forms of prejudice nonetheless have different psychological characteristics (e.g., disgust vs. distrust; see Gervais et al., 2011).

Our theoretical model predicts that awareness of secular authority should reduce distrust of atheists, but not disgust-based antigay prejudice. Moreover, in Experiment 1, we compared the effects of priming on scores from a validated multiple-item measure of distrust of atheists with the effects of priming on a (potentially less sensitive) composite score derived from single-item feeling thermometers. To address this potential problem in Experiment 2, we used a validated multiple-item measure of disgust-based antigay prejudice. In sum, in Experiment 2, we tested the hypothesis that implicitly priming secular-authority concepts would reduce distrust of atheists, but not disgust-based reactions toward gays.

Method

Participants. Fifty-one undergraduates (for demographic information, see Table 1) participated in return for extra course credit. To eliminate possible in-group biases, we again excluded self-identified atheists.

Procedure. Participants first completed an implicit-priming procedure described to them as a "verbal-fluency task." In an ostensibly separate task, they then completed measures of distrust of atheists and antigay prejudice. The primes were presented as unrelated to the subsequent questionnaire; in a standard funnel-debriefing interview after all measures had

been completed, no participants indicated suspicion or conscious awareness of either a connection between the priming task and subsequent questionnaires or an influence of the primes on their responses.

Primes. We primed secular authority with a scrambled-sentence paradigm (Srull & Wyer, 1979). Both the secular-authority primes and the control primes were identical to those used by Shariff and Norenzayan (2007), who found that the secular-authority primes increased generosity in an anonymous economic game. Participants unscrambled 10 sets of five words each by eliminating a single word from each set and rearranging the others to create a grammatical sentence. In the secular-authority condition ($n = 25$), 5 of the rearranged sentences contained words referring to secular-authority concepts (“civic,” “contract,” “jury,” “court,” and “police”). In the control condition ($n = 26$), the words were unrelated to government and did not have a coherent theme.

Distrust of atheists. Experiment 2 used the same distrust-of-atheists scale used in Experiment 1 ($\alpha = .75$). Responses to all items were averaged for each participant.

Antigay prejudice. We used a validated six-item scale to measure disgust-based antigay prejudice ($\alpha = .91$; Herek & Capitano, 1995). Items included “I think male homosexuals are disgusting” and “Sex between two women is just plain wrong.” Participants responded to each item using a scale from 0 (*strongly disagree*) to 6 (*strongly agree*). Scores for all items were averaged for each participant.

Results and discussion

Individual differences in religious affiliation (agnostic or no religious affiliation vs. all other affiliations) did not moderate any of the effects reported here, so we collapsed across this religious-affiliation variable for all analyses. A 2 (condition: control vs. secular authority; between subjects) \times 2 (target group: atheists vs. gays; within subjects) mixed factorial ANOVA revealed the hypothesized Condition \times Target Group interaction, $F(1, 49) = 4.26, p = .04, \eta_G^2 = .03$. As hypothesized, priming secular-authority concepts reduced distrust of atheists, $t(33.58) = 2.67, p = .01, \text{Cohen's } d = 0.77$, but did not affect antigay prejudice, $t(49) = 0.15, p = .88, \text{Cohen's } d = 0.04$ (see Fig. 2).

Experiment 3: Distrust of Atheists and Gays Among American Adults

Experiments 1 and 2 revealed that reminders of secular authority reduce distrust of atheists but not general prejudice against out-groups or specific functionally relevant reactions to out-groups. Although we tested viable alternative hypotheses derived from the literature on prejudice in both experiments, we did not test the alternative explanation that reminders of

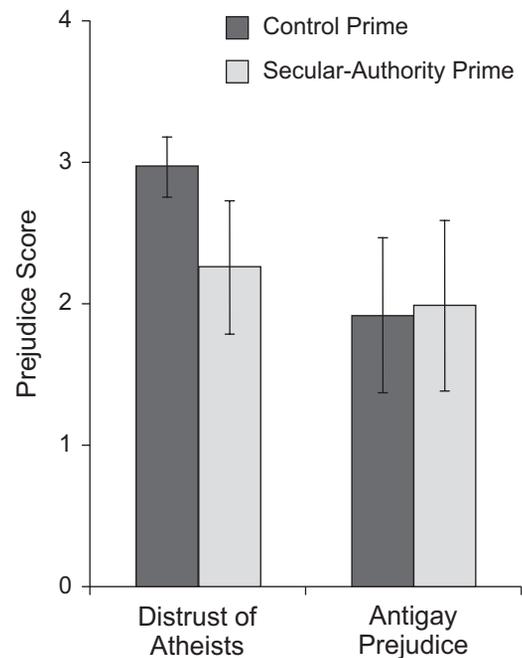


Fig. 2. Results from Experiment 2: distrust of atheists and disgust-based antigay prejudice as a function of priming condition. Scores on the distrust-of-atheists and antigay-prejudice scales ranged from 0 to 6. Error bars indicate 95% confidence intervals.

secular authority reduce *distrust* of out-groups in general. Thus, in Experiment 3, we tested whether secular authority reduces distrust of both atheists and gays. In addition, the first two experiments used religiously diverse student samples in Vancouver; therefore, to test the generalizability of the results, we utilized a broad sample of American adults with higher overall levels of Christian identification in Experiment 3.

Method

Participants. A sample of 65 American adults (for demographic information, see Table 1) was recruited using Amazon’s Mechanical Turk, a commonly used online data-collection service. Participants hailed from 31 states. To eliminate possible in-group biases, we again excluded self-identified atheists.

Procedure. The priming procedure was administered exactly as it was in Experiment 2. Participants were randomly assigned to either the control condition ($n = 32$) or the secular-authority condition ($n = 33$) and completed the priming task before rating—in an ostensibly separate task—distrust of atheists and gays. In a standard funnel-debriefing interview after all measures had been completed, no participants indicated suspicion or conscious awareness of either a connection between the priming task and subsequent questionnaires or an influence of the primes on their responses

Distrust measures. To create compatible multiple-item measures of distrust of atheists and gays, respectively, we lightly

altered the items from the measure of distrust of atheists used in Experiments 1 and 2 to refer to differences in sexual orientation, rather than belief in God. We dropped two items from the initial scale because they were difficult to alter in this manner. As a result, each distrust scale included five items (distrust of atheists: $\alpha = .87$; distrust of gays: $\alpha = .86$). Items on the distrust-of-atheists scale included “In times of crisis, I am more inclined to trust people who are religious” and “I would be uncomfortable with an atheist teaching my child”; comparable items on the distrust-of-gays scale were “In times of crisis, I am more inclined to trust people who are heterosexual” and “I would be uncomfortable with a homosexual teaching my child.” Responses were made using scales from 0 (*strongly disagree*) to 6 (*strongly agree*). For each distrust scale, scores for all items were averaged.

Results and discussion

Individual differences in religious affiliation (agnostic or no religious affiliation vs. all other affiliations) did not moderate any of the effects reported here, so we collapsed across this religious-affiliation variable for all analyses. A 2 (condition: control vs. secular authority; between subjects) \times 2 (target group: atheists vs. gays; within subjects) mixed factorial ANOVA revealed the predicted Condition \times Target Group interaction, $F(1, 62) = 4.09, p = .047, \eta_G^2 = .02$. As hypothesized, priming secular-authority concepts reduced distrust of atheists, $t(62) = 2.66, p = .01$, Cohen’s $d = 0.67$, but did not affect distrust of gays, $t(63) = 0.66, p = .51$, Cohen’s $d = 0.17$ (see Fig. 3).

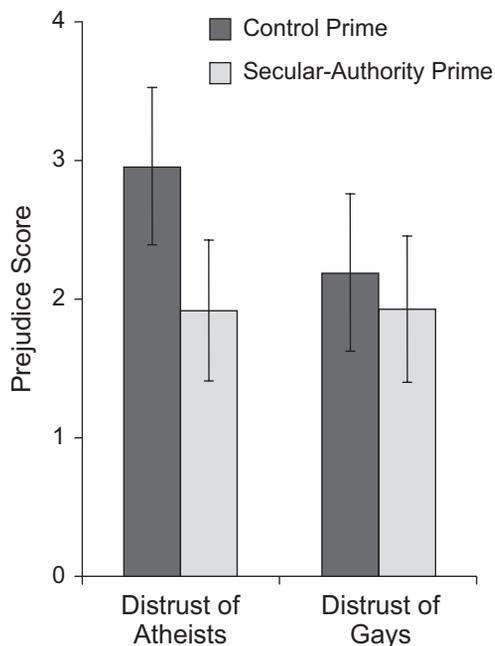


Fig. 3. Results from Experiment 3: distrust of atheists and distrust of gays as a function of priming condition. Scores on the distrust-of-atheists and distrust-of-gays scales ranged from 0 to 6. Error bars indicate 95% confidence intervals.

General Discussion

Atheists are among the least trusted people in places where there are religious majorities—that is, in most of the world. Our three experiments demonstrated that subtle reminders of effective secular authority—secular institutions that help secure cooperation among individuals—reduce religious believers’ distrust of atheists. In addition, we tested and found no support for three theoretically plausible alternative explanations for these findings.

First, it is possible that reminders of secular authority make people feel generally more warmly toward out-groups, in which case reduced distrust of atheists would be merely one indication that secular authority reduces prejudice in general. To the contrary, reminders of secular authority did not reduce prejudice in general (Experiment 1).

Second, the expression of prejudice toward different out-groups differs according to the perceived functional threat that they pose (e.g., Cottrell & Neuberg, 2005; Kurzban & Leary, 2001), and reminders of secular authority might inhibit functionally relevant reactions to different out-groups (e.g., such reminders might reduce both distrust of atheists and disgust toward gays). To the contrary, reminders of secular authority did not reduce disgust-based antigay prejudice (Experiment 2).

Finally, it is possible that reminders of secular authority do not reduce prejudice reactions—whether defined broadly (e.g., warmth toward various out-groups) or narrowly (e.g., specific disgust-based antigay prejudice)—but instead increase the degree to which all out-groups are perceived as trustworthy. To the contrary, reminders of secular authority did not reduce distrust of gay people (Experiment 3). Thus, although the pattern of results supported our theoretical predictions, we found no empirical support for three different alternative explanations silent about either the functional bases of different prejudices or the cooperative functions served by religious beliefs and secular authority.

Across all three studies, effects were not moderated by participants’ religious affiliation, and the effects were robust across both ethnically and religiously diverse samples of Canadian students (Experiments 1–2) and a broad sample of American adults with a much wider age range and high levels of Christian identification (Experiment 3). Alternative explanations of the effects (e.g., that they were due to the particular experimental priming procedure used or the specific form of prejudice measured) were considered and received no empirical support. Both watchful gods and watchful governments can keep people honest, but watchful governments can do so without engendering distrust of atheists. Our findings have implications for the psychological study of the diversity of prejudice, as well as for the study of social and psychological functions served by both religious and secular beliefs and institutions.

The diversity of prejudice

Although prejudice was long viewed as a simple, unidimensional construct (e.g., “like” vs. “dislike” of different groups),

researchers have increasingly emphasized the multidimensionality of prejudice (e.g., Fiske, Cuddy, Glick, & Xu, 2002) and the fact that different out-groups trigger distinct prejudices (e.g., Cottrell & Neuberg, 2005; Kurzban & Leary, 2001). It is important to understand the specific threats that different groups are perceived to pose, as well as the nuanced reactions that characterize different prejudices (Cottrell & Neuberg, 2005), rather than to treat all forms of prejudice identically. One important but currently understudied implication of this latter perspective is that different prejudices might be differentially affected by particular social contexts and experimental manipulations, depending on the specific threats that the target groups are perceived to pose.

Some prejudice-reduction interventions, such as intergroup contact, alleviate prejudice against a wide variety of out-groups (Pettigrew & Tropp, 2006). Nonetheless, many prejudice-reduction interventions might work only for prejudice toward specific out-groups. In the present studies, awareness of secular institutions reduced distrust of atheists but had no measurable effect on attitudes toward Jewish people, Muslims, or gays. A prejudice-reduction intervention that reduces distrust-based prejudice toward one out-group might be wholly useless or even counterproductive for addressing prejudice against groups viewed with fear or disgust (e.g., Gervais, 2011). It is therefore important for researchers and policymakers alike to consider the specific functional threats different groups are perceived to pose and to tailor specific prejudice-reduction interventions accordingly.

The psychological functions of gods and governments

Our results join previous findings demonstrating that gods and governments can serve similar psychological and social functions. Among other things, both gods and governments help relieve people's existential concerns. One example of a result of this influence is that awareness of their own mortality makes people reluctant to desecrate symbols of both their gods and their governments (Greenberg, Porteus, Simon, Pyszczynski, & Solomon, 1995). Furthermore, both gods and governments give people a sense of control in an unpredictable world (e.g., Kay et al., 2008).

Our findings demonstrate an additional, distinct function served by both gods and governments that goes beyond these useful palliative existential functions: Gods and governments function as social monitors to encourage cooperation among individuals. Belief in watchful, moralizing gods may have served a vital function in the cultural evolution of large, cooperative groups (e.g., Norenzayan & Gervais, in press; Norenzayan & Shariff, 2008; Roes & Raymond, 2003). Although religious prosociality may have served as an initial mechanism for bootstrapping large-scale cooperation in some cultures, cooperative groups may create a variety of secular institutions that also promote cooperation. As reliance on these secular institutions waxes in many societies, the influence of religion

wanes (e.g., Norris & Inglehart, 2004). As a result, places that tend to have more effective governments also have much less religious belief (e.g., Scandinavia; Zuckerman, 2008).

Consistent with our theorizing and experimental results, cross-cultural data indicate that religious believers from countries with strong secular institutions that effectively guarantee cooperation are more accepting of atheists than are religious believers from otherwise similar countries that lack effective secular authority (Norenzayan & Gervais, 2011). As human misery is alleviated and existential security is established, not only does religious belief decline (Gray & Wegner, 2010; Norris & Inglehart, 2004), but so does distrust of atheists among believers, provided that reliable secular institutions offering alternatives to religious prosociality emerge.

Our findings demonstrate that reminders of secular authority increase the perceived trustworthiness of atheists. The results from our theoretical analysis imply that this effect should be moderated by the degree to which people actually find their government socially effective and therefore worthy of trust. Had the present experiments been conducted in a country where people have little trust in their government (e.g., Nicaragua or Nigeria), reminders of an inept government might instead have *increased* distrust of atheists, a hypothesis that we leave for future research.

Coda

Both watchful gods and watchful governments can encourage prosocial behavior. The fact that religious prosociality leads to distrust of atheists (Gervais et al., 2011) and the fact that there is a compensatory relationship between religious prosociality and prosociality derived from secular institutions (e.g., Norris & Inglehart, 2004) provoke the hypothesis—supported by the present findings—that secular authority decreases distrust of atheists. The research reported here bolsters and integrates existing literatures exploring the implications of the different psychological profiles of distinct prejudices, as well as those drawing parallels between the psychological functions of gods and governments.

Declaration of Conflicting Interests

The authors declared that they had no conflicts of interest with respect to their authorship or the publication of this article.

Notes

1. Participants in both conditions rated their agreement with two statements: "The Vancouver government can effectively enforce and police its laws" and "Vancouver's government cannot protect its citizens from each other" (reverse-scored; $r = .48, p < .001$). As expected, the police-effectiveness video significantly increased participants' confidence in the government, $t(61) = 2.05, p < .05$.
2. The generalized eta-squared statistic (η_G^2) facilitates comparisons of between-subjects and within-subjects effects. All statistical analyses were conducted using the R programming language and environment (R Development Core Team, 2011).

References

- Bargh, J. A., Chen, M., & Burrows, L. (1996). Automaticity of social behavior: Direct effects of trait construct and stereotype activation on action. *Journal of Personality and Social Psychology, 71*, 230–244.
- Bateson, M., Nettle, D., & Roberts, G. (2006). Cues of being watched enhance cooperation in a real-world setting. *Biology Letters, 2*, 412–414.
- Cottrell, C. A., & Neuberg, S. L. (2005). Different emotional reactions to different groups: A sociofunctional threat-based approach to “prejudice.” *Journal of Personality and Social Psychology, 88*, 770–789.
- Cottrell, C. A., Neuberg, S. L., & Li, N. P. (2007). What do people desire in others? A sociofunctional perspective on the importance of different valued characteristics. *Journal of Personality and Social Psychology, 92*, 208–231.
- Edgell, P., Gerteis, J., & Hartmann, D. (2006). Atheists as “other”: Moral boundaries and cultural membership in American society. *American Sociological Review, 71*, 211–234.
- Fiske, S. T., Cuddy, A. J. C., Glick, P., & Xu, J. (2002). A model of (often mixed) stereotype content: Competence and warmth respectively follow from status and competition. *Journal of Personality and Social Psychology, 6*, 878–902.
- Gervais, W. M. (2011). Finding the faithless: Perceived atheist prevalence reduces anti-atheist prejudice. *Personality and Social Psychology Bulletin, 37*, 543–556.
- Gervais, W. M., & Norenzayan, A. (2012). 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.
- Gray, K., & Wegner, D. M. (2010). Blaming God for our pain: Human suffering and the divine mind. *Personality and Social Psychology Review, 14*, 7–16.
- Greenberg, J., Porteus, J., Simon, L., Pyszczynski, T., & Solomon, S. (1995). Evidence of a terror management function of cultural icons: The effects of mortality salience on the inappropriate use of cherished cultural symbols. *Personality and Social Psychology Bulletin, 21*, 1221–1228.
- Haley, K. J., & Fessler, D. M. T. (2005). Nobody’s watching? Subtle cues affect generosity in an anonymous economic game. *Evolution & Human Behavior, 26*, 245–256.
- Henrich, N., & Henrich, J. (2007). *Why humans cooperate*. New York, NY: Oxford University Press.
- Herek, G. M., & Capitano, J. P. (1995). Black heterosexuals’ attitudes toward lesbians and gay men in the United States. *Journal of Sex Research, 32*, 95–105.
- Hoffman, E., McCabe, K., Shachat, K., & Smith, V. (1994). Preferences, property rights, and anonymity in bargaining games. *Games and Economic Behavior, 7*, 346–380.
- Jacoby, S. (2004). *Freethinkers: A history of American secularism*. New York, NY: Metropolitan.
- Johnson, D. D. P., & Bering, J. M. (2006). Hand of God, mind of man: Punishment and cognition in the evolution of cooperation. *Evolutionary Psychology, 4*, 219–233.
- Jones, J. M. (2007, Feb. 20). Some Americans reluctant to vote for Mormon, 72-year-old presidential candidates. *Gallup News Service*. Retrieved from <http://www.gallup.com/poll/26611/some-americans-reluctant-vote-mormon-72yearold-presidential-candidates.aspx>
- Kay, A. C., Gaucher, D., Napier, J. L., Callan, M. J., & Laurin, K. (2008). God and the government: Testing a compensatory control mechanism for the support of external systems. *Journal of Personality and Social Psychology, 95*, 18–35.
- Kay, A. C., Moscovich, D. A., & Laurin, K. (2010). Randomness, attributions of arousal, and belief in God. *Psychological Science, 21*, 216–218.
- Kay, A. C., Shepherd, S., Blatz, C. W., Chua, S. N., & Galinsky, A. D. (2010). For God (or) country: The hydraulic relation between government instability and belief in religious sources of control. *Journal of Personality and Social Psychology, 5*, 725–739.
- Kurzban, R., & Leary, M. R. (2001). Evolutionary origins of stigmatization: The functions of social exclusion. *Psychological Bulletin, 127*, 187–208.
- McKay, R., Efferson, C., Whitehouse, H., & Fehr, E. (2011). Wrath of God: Religious primes and punishment. *Proceedings of the Royal Society B: Biological Sciences, 278*, 1858–1863.
- Norenzayan, A., & Gervais, W. M. (2011). *Secular rule of law predicts political tolerance of atheism*. Unpublished manuscript, University of British Columbia, Vancouver, Canada.
- Norenzayan, A., & Gervais, W. M. (in press). The cultural evolution of religion. In T. Slingerland & M. Collard (Eds.), *Creating consilience, integrating science and the humanities*. Oxford University Press.
- Norenzayan, A., & Shariff, A. F. (2008). The origin and evolution of religious prosociality. *Science, 322*, 58–62.
- Norris, P., & Inglehart, R. (2004). *Sacred and secular: Religion and politics worldwide*. Cambridge, MA: Cambridge University Press.
- Orwell, G. (2012). *1984*. London, England: Penguin. (Original work published 1949)
- Pettigrew, T. F., & Tropp, L. R. (2006). A meta-analytic test of intergroup contact theory. *Journal of Personality and Social Psychology, 90*, 751–783.
- Pichon, I., Boccato, G., & Saroglou, V. (2007). Nonconscious influences of religion on prosociality: A priming study. *European Journal of Social Psychology, 37*, 1032–1045.
- R Development Core Team. (2011). *R: A language and environment for statistical computing*. Retrieved from <http://www.R-project.org>
- Randolph-Seng, B., & Nielsen, M. E. (2007). Honesty: One effect of primed religious representations. *The International Journal for the Psychology of Religion, 17*, 303–315.
- Roes, F. L., & Raymond, M. (2003). Belief in moralizing gods. *Evolution and Human Behavior, 24*, 126–135.

- 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.
- Simpson, J. A. (2007). Psychological foundations of trust. *Current Directions in Psychological Science, 16*, 264–268.
- Srull, T. K., & Wyer, R. S. (1979). Category accessibility and social perception: Some implications for the study of person memory and interpersonal judgment. *Journal of Personality and Social Psychology, 38*, 841–856.
- Tan, J. H. W., & Vogel, C. (2008). Religion and trust: An experimental study. *The Journal of Economic Psychology, 29*, 832–848.
- Waytz, A., Gray, K., Epley, N., & Wegner, D. M. (2010). The causes and consequences of mind perception. *Trends in Cognitive Sciences, 14*, 383–388.
- Zhong, C.-B., Bohns, V. K., & Gino, F. (2010). Good lamps are the best police: Darkness increases dishonesty and self-interested behavior. *Psychological Science, 21*, 311–314.
- Zuckerman, P. (2008). *Society without God*. New York, NY: New York University Press.