

DO YOU BELIEVE IN ATHEISTS? TRUST AND ANTI-ATHEIST PREJUDICE

by

Will Martin Gervais

B.Sc., Hon., The University of Denver, 2005

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF

MASTER OF ARTS

in

The Faculty of Graduate Studies

(Psychology)

THE UNIVERSITY OF BRITISH COLUMBIA

(Vancouver)

August 2008

© Will Martin Gervais, 2008

Abstract

Recent polls (e.g., Edgell, Gerteis & Hartmann, 2006) have consistently found that atheists are the least liked group in America today, a type of prejudice that has barely been researched. This anti-atheist prejudice is surprising because atheists do not constitute a cohesive, recognizable, or powerful group. To the degree that people feel that religion provides a unique and necessary source of morality, they may dislike atheists primarily because of moral distrust towards them. This suggests a distinct origin for anti-atheist prejudice that sets it apart from ethnic, racial, and gender prejudice. We explored this broad hypothesis in a series of three experiments. First, we find that on an implicit level anti-atheist prejudice is driven by distrust rather than a feeling of generalized unpleasantness towards atheists. Second, we find that discrimination against atheists is limited to contexts requiring a high degree of trust. Finally, we find that anti-atheist prejudice is malleable. These findings are discussed in terms of prominent evolutionary theories of religion.

Table of Contents

Abstract	ii
Table of Contents	iii
List of Tables	v
List of Figures	vi
Acknowledgements	vii
Introduction	1
Exploring Anti-Atheist Prejudice	1
A Very Brief History of Prejudice (Psychologically Speaking)	3
The Evolution of Cooperation in Large Groups	4
From Kin to Kingdom	6
Supernatural Punishment	9
Predictions: Freethinker as Freerider	11
Experiment One	14
Overview	14
Participants	14
Methods and Materials	14
Results and Discussion	16
Experiment Two	19
Overview	19
Participants	19
Methods and Materials	20
Results and Discussion	21

Experiment Three	24
Overview	24
Participants	24
Methods and Materials	25
Results and Discussion	25
General Discussion	27
Summary	28
Does Ingroup Favoritism Explain Anti-Atheist Prejudice?	30
The Malleability of Anti-Atheist Prejudice	33
Challenges and Future Directions	35
Atheism as a Four-Letter Word	35
Relative Measures	36
Generalizability	37
The Future of the New Atheism and Anti-Atheist Prejudice	38
Tables and Figures	41
References	45
Appendix A: The Negative Attitudes Towards Atheists (NATA) Scale	49
Appendix B: UBC Research Ethics Board Certificates of Approval	50

List of Tables

Table 1: Correlation matrix between distrust towards atheists (Distrust), atheist unpleasantness (Unpleasant), explicit negative attitudes towards atheists (NATA) and belief in God (Belief).....	41
Table 2: Regression table showing β for belief in God, NATA, intrinsic religiosity, importance of religious community, and fundamentalism predicting distrust for atheists. Overall model accounts for 39% (adjusted R^2) of the variance in implicit distrust, $F(5, 29) = 3.69, p = .01$	42

List of Figures

Figure 1: Atheists hired for High Trust and Low Trust jobs predicted by belief in God, controlling for Authoritarianism (from unstandardized regression equations).	43
Figure 2: Distrust for atheists in each priming condition.	44

Acknowledgements

Thanks to my committee, advisors, and research assistants without whom this project would not have been possible. Thanks to the friends, family, and colleagues who have provided insight, criticism, and skepticism throughout this entire process. And very special thanks go to my wife Drew for her patience.

Introduction

The first decade of the twenty-first century may well be called “The Decade of the New Atheists.” The formerly quiet topic of atheism was broached in a new and often acerbic style. Over just a few years, numerous books, videos, and television specials hit the shelves and airwaves. Richard Dawkins, Sam Harris, Daniel Dennett, and their so-called fourth horseman Christopher Hitchens have treated us to such books as *The God Delusion*, *The End of Faith: Religion, Terror and the Future of Reason*, *Breaking the Spell*, and the subtly titled *God is Not Great: How Religion Spoils Everything*, respectively. This publishing flurry has brought atheism into the mainstream, for better or worse. The New Atheism is now being vigorously discussed and debated in print and on the airwaves. Despite the attention that atheism is receiving in culture at large, the scientific literature on the topic is scant at best. However atheism is more than just controversial fodder for cable news anchors and vitriolic debate. There is great potential to learn about the psychology of religion by seriously studying atheism and people’s reactions to atheism. In this way, the discussion about atheism can be empirically, rather than argumentatively, anchored.

Exploring Anti-Atheist Prejudice

On the campaign trail in 1987, George H.W. Bush was confronted by Rob Sherman, a self-described atheist advocate. Sherman inquired about Bush’s view towards atheists. “Surely you recognize the equal citizenship and patriotism of Americans who

are atheists?” asked Sherman. The eventual president replied, “No, I don't know that atheists should be considered as citizens, nor should they be considered patriots. This is one nation under God.”

More recently, Sherman was on the receiving end of another politician's anti-atheist tirade while he was testifying to the Illinois Congress about the allocation of state funds. State Representative Monique Davis had this to say:

I don't know what you have against God but some of us don't have much against Him...I'm trying to understand the philosophy that you want to spread in the state of Illinois. This is the land of Lincoln...where people believe in God, where people believe in protecting their children...What you have to spew and spread is extremely dangerous to the progression of this state. It's dangerous that our children even know that your philosophy exists.

(Lyons, 2008)

On one hand, these two examples may just illustrate the idiosyncratic opinions of two politicians. It is also possible that Rob Sherman simply has a knack for getting under the skin of politicians. However, these sentiments may not even be minority opinions in America today.

Several recent polls have shown that atheists are perhaps the most disliked minority group in America (for an overview, see Edgell, Gerteis, & Hartmann, 2006). When asked if they would vote for a well-qualified candidate of their preferred political

party who happened to be a member of a number of different demographic groups (such as female, Muslim, homosexual, or African American), atheists were the only group that could not garner a majority vote. Similarly, people rated atheists as the group of people that least shares their own vision of America, and people rated atheists as the type of people that they least wanted their children to marry. Given that atheists are not particularly numerous, identifiable, cohesive, or powerful, one might expect the prevailing attitude towards them to be apathy; they are a strange group to receive such fervent animosity. Although racial, gender, and most other types of prejudice have been in gradual decline for the past decades, anti-atheist prejudice is on the rise. It appears that atheists are the ultimate outgroup in America. Can traditional social psychological theories of prejudice account for this peculiar pattern of findings?

A Very Brief History of Prejudice (Psychologically Speaking)

Social psychologists have developed several theories of prejudice. Let us consider some of these theories to see if they can adequately account for anti-atheist prejudice. Much celebrated in social psychology, the Robber's Cave Experiment (Sherif, Harvey, White, Hood, & Sherif, 1961) led the development of realistic conflict theory. According to realistic conflict theory, prejudice occurs when two or more groups are placed in competition with each other for some limited resource of subjective importance. As any fan of sports knows, bitter rivalries can develop between two teams fighting for nothing more points on a scoreboard and rankings in the year end standing. However it is unclear what resource for which believers and atheists are competing. The group distinction is

often invisible. The groups do not directly compete (with perhaps the exception of the New Atheists challenging believers to debate).

Social identity theory and the minimal groups paradigm (e.g., Brewer, 1979; Tajfel, 1970) demonstrate that competition is not required to produce ingroup biases. Individuals arbitrarily divided into two teams tend to favor individuals on their own team over individuals on another team. Furthermore, individuals seek positive self-esteem through group identification. Can this account for anti-atheist prejudice? Once again, the problem of invisible group membership makes it problematic. Atheists are notoriously unorganized and group membership is invisible. Combined, these theories would predict that religious people would be prejudiced against atheists and that atheists would likewise be prejudiced against religious people, a prediction that we test in these studies.

Thus far, neither theory of prejudice would predict that atheists are less liked than African Americans, homosexuals, Muslims or Mormons. Atheists are disorganized, difficult to identify, lack power, and in general are not in competition with believers over resources. In many ways, they are not a traditionally defined group. We propose that anti-atheist prejudice is rooted instead in moral distrust, and an examination of the social function of religion and the evolution of large groups can illuminate the phenomenon.

The Evolution of Cooperation in Large Groups

It is useful to think of an insect colony as a diffuse organism, weighing anywhere from less than a gram to as much as a kilogram and possessing

from about a hundred or a million or more tiny mouths. It is an animal that forages amebalike over fixed territories a few square meters in extent.

(Wilson, 1975, p. 399)

Eusocial insects, such as ants, bees, wasps, and termites are among the best examples of cooperators and altruists in nature. These insects exhibit tremendous division of reproductive labor, with many sterile workers serving the reproductive interests of just a few fecund individuals. This social structure seems to fly in the face of evolution seen as a fiercely violent individual struggle for existence and reproduction. Many individuals work together for the good of the nest, sacrificing their own direct reproductive success. Human social groups have long appreciated the degree of cooperation exhibited by the social insects; a beehive adorns the state flag of the state of Utah, a reference to the Mormon affinity for the beehive as a striking symbol of group solidarity and cooperation. In the early years of sociobiology, this eusociality was explained as a product of inclusive fitness (Hamilton, 1964; Wilson, 1975) combined with their reproductive structure. Bees, wasps, and ants all have a haplodiploid sex-determination system. This essentially means that female worker bees will be more closely related to the queen's offspring than they would be to their own potential offspring. As a result they derive greater (indirect) genetic advantage by helping the queen than they would be seeking out their own mates. In more recent years, theoretical biologists have realized that insect eusociality is an example of the more general process group selection in action (Wilson & Wilson, 2007). Might an understanding of group selection shed light on the processes that allow large number of genetically unrelated humans form cooperative groups?

From Kin to Kingdom

Throughout the vast majority of human history, people lived in small groups, not vast empires, nation-states, and kingdoms. Inclusive fitness helps explain cooperation among close kin. Reciprocal altruism (Trivers, 1971) can explain cooperation between unrelated individuals so long as they engage in repeated altruistic interactions. If Jane helps John today and John helps Jane tomorrow, both benefit. Indirect reciprocity (Alexander, 1987) can account for yet more cooperation, so long as people can reliably use reputational information to select trustworthy exchange partners. But according to Dunbar (2003), the human ability to track social relationships required for cooperation based on these mechanisms is limited to cooperation among perhaps 150 individuals. Clearly, it took more than 150 individuals to build the pyramids of Egypt, the Mormon Tabernacle, and the 1670-foot tall earthquake resistant Taipei 101 tower.

Cooperation requires altruism; one individual must sacrifice her time or effort to help other individuals. However within any cooperative relationship lies the temptation for defection and freeriding. Any individual can accrue the collective benefits of others' cooperation without providing a costly communal contribution. Thus evolution will favor the egoist over the altruist within a group. Theories such as inclusive fitness (Hamilton, 1964) and reciprocal altruism (Trivers, 1971) can explain altruism in families and small groups, respectively. But neither can completely explain the degree of large-scale cooperation observed cross culturally, even in anonymous one-shot games (Henrich, 2004; Henrich, et. al, 2005).

Fundamentally, the problem of large-scale cooperation depends on the presence of freeriders. By definition a cooperative group produces benefits to a group, but requires the costly investment from numerous individuals. However, it is possible for some individuals to collect the benefits provided by the group without actually contributing their own time or effort. These selfish freeriders can outcompete other members within their group by extracting benefits from the group without paying any associated costs. Within a group defection is advantageous, even if this harms the overall performance of the group (Sober & Wilson, 1998).

Formal models of cooperation demonstrate that inclusive fitness, kinship selection, and reciprocal altruism do not represent mathematically distinct phenomena (Henrich, 2004; Sober & Wilson, 1998). Rather, they can be thought of as distinct special cases of Price's (1970, 1972) more general model of the evolution of altruism requiring different initial assumptions about social structure and ecology. This equation neatly partitions evolution into within- and between- group selection, revealing the multilevel nature of selection. Altruists are always at a disadvantage within groups (the freerider problem), but altruism can evolve if the between-group advantage of altruism outweighs the within-group costs. Essentially, cooperation evolves when the degree to which being an altruist predicts one's membership in a group with other altruists. There are several ways to achieve this end. Hamilton's equation represents a special case of altruism evolving among groups of closely related individuals (families or hives). Reciprocal altruism can also lead to cooperation if the individual costs of altruism are outweighed by the dyadic benefits. Both of these examples represent special cases of group selection, in which some groups are able to outcompete other groups. When this occurs, the traits of

individuals in more competitive groups can spread in the global population, even if they are less than optimal for individuals within a group (Sober & Wilson, 1998). The examples of inclusive fitness and reciprocal altruism reflect genetic evolution, but the dual inheritance theory (e.g. Richerson & Boyd, 2005) would hold that similar evolutionary logic could apply to cultural evolution. Henrich (2004) argues that the evolutionary logic of the Price equation combined with human psychology and social structure, particularly our abilities for cultural transmission, make cultural group selection a potent force in the evolution of human cooperation.

There are multiple stable equilibria in cooperation among human social groups, but more cooperative groups can outcompete less cooperative groups. Darwin (1871, P. 166) summarized this argument:

There can be no doubt that a tribe including many members who, from possessing in a high degree the spirit of patriotism, fidelity, obedience, courage, and sympathy, and to sacrifice themselves for the common good, would be victorious over most other tribes.

Thus it is essential to identify the features of cultural groups that encourage cooperation within groups and disincentivize defection by freeriders. Cultural traits and beliefs with these effects are likely to spread by cultural group selection.

One such mechanism may be the punishment of freeriders, so long as every group member reliably punishes individuals who do not contribute to the greater good. But punishment is itself costly, which opens the door for higher-order freeriders. An

individual would benefit if he does not pay the cost of punishing first order freeriders, but this individual would be classified as a second order freerider: an individual who may cooperate, but refuses to punish freeriders. Such a punishment system leads to an infinite regress of punishment (the n^{th} order freerider problem). To paraphrase Henrich (2004), we would have to punish those who refuse to punish people who don't punish people who do not cooperate...ad infinitum. Such a solution is unsatisfying. Which cultural adaptations can help solve the problem of freeriders, helping bridge the gap from kin to kingdom?

Supernatural Punishment

Do not take advantage of each other, but fear your God. I am the Lord
your God.

-Leviticus 25:17 (NIV)

The psychological capacities underlying belief in anthropomorphic supernatural agents appear to be a human universal (Atran, 2002; Atran & Norenzayan, 2004; Boyer, 2002). There is considerable cultural variability in the purported attributes of these supernatural agents. What if members of a certain group believed in an agent that had perfect, or at least privileged, knowledge of which group members were cooperators and which were freeriders? Let us further imagine that this agent has the additional ability to punish folks who renege on their cooperative duties. Belief in supernatural punishing agents may help solve the problem of n^{th} order freeriders in a cooperative dilemma

(Johnson & Bering, 2006; Johnson & Kruger, 2004). Individuals can partially outsource the costs of punishment to supernatural agents. Widespread belief in these agents within a culture could lead to greater within-group cooperation. Greater intragroup cooperation would give any cultural groups with such beliefs in punishing supernatural agents a competitive advantage over groups that do not have such beliefs. Whether by the sword or by the missionary, more cooperative groups can outcompete less cooperative groups, bringing their beliefs along with them. As a result, beliefs in punishing supernatural agents can culturally spread because they are likely to increase intragroup cooperation.

Evidence in support of the supernatural punishment hypothesis comes from both large cross-cultural comparisons as well as more focused experimental work (Norenzayan & Shariff, unpublished manuscript). For instance, Johnson (2005) found limited evidence for an association between belief in high moralizing gods and cooperation across 186 world cultures. Those cultures that believed in supernatural agents who monitor and care about the behavior of people were more likely to be cooperative. Also, Roes and Raymond (2003) found an association across cultures between society size and belief in moralizing gods; belief in moralizing gods appears to be one successful solution to the adaptive challenges to cooperation posed by large groupings of unrelated individuals. In the lab, Shariff and Norenzayan (2007) found that implicit religious primes led people to be more fair and generous in an anonymous economic game. Even warning participants about the presence of the ghost of a deceased graduate student in the lab reduced cheating (Bering, McLoed, & Shackelford, 2003). Although supernatural punishment is by no means implied to be the sole, or even primary, way societies have overcome the problem of freeriders, it appears that belief in punishing supernatural agents is one viable solution.

It also implies that religious belief may serve as a signal of trustworthiness in cooperative situations.

Consistent with this account, Tan and Vogel (in press) found an association between religiosity and trust in an anonymous economic game. Participants, and in particular religious believers, exhibited more trust towards more religious individuals. Furthermore, even nonbelievers exhibited more trust towards religious participants, indicating that this dynamic is not a simple product of ingroup favoritism.

Predictions: Freethinker as Freerider

There is mounting evidence that atheists are the least liked group in America today. Traditional social psychological theories do not easily account for this fact. Atheists are disorganized, not very powerful, and are not easily identified. They are not in direct competition with believers for any obvious resources. The supernatural punishment hypothesis approach to religion offer unique insights into the possible roots of anti-atheist prejudice, potentially demonstrating how religious belief can help overcome freeriding and defection within cooperative groups.

But the solution is still imperfect. Just as a potential cheater can threaten cooperation based on reciprocal altruism, and a 2nd order freerider can threaten group cooperation based on the punishment of cheaters, certain individuals can threaten the order of a cooperative group united by a common belief in a given punishing supernatural agent. What of individuals who do not believe in the supernatural punisher? Those who believe in different deities may not be trusted to the same degree as coreligionists, but

those who believe in different supernatural agents may not be nearly as threatening as those who wholly deny the existence of supernatural punishing agents. After all, somebody who fears a different god may still inhibit selfish behavior because they fear punishment from their own deity. Atheists do not share the core belief that may have paved the way for large-scale human prosociality, thus they may be distrusted relative to those who earnestly believe in divine retribution. As John Locke stated three centuries ago in his *Letter Concerning Toleration*, “those are not at all to be tolerated who deny the being of a God. *Promises, covenants, and oaths, which are the bonds of human society, can have no hold upon an atheist.* The taking away of God, though but even in thought, dissolves all.”

Thus atheists appear to be perceived as less morally trustworthy than religious people. Tan and Vogel (in press) provide initial indirect support for this hypothesis by demonstrating that people show increased trust when interacting with more religious individuals in an economic game. Although suggestive, their study leaves several issues unresolved. They did not specifically evaluate how much people trust atheists, and they did not evaluate the social contexts in which trust is more likely to play an important role. Finally, they did not investigate whether these effects are malleable. These issues were addressed in three experiments. In Experiment 1, implicit measures of both distrust and generalized feelings of unpleasantness for atheists were used to see if anti-atheist prejudice is driven primarily by trust. The role of individual religious belief in shaping distrust towards atheists was also investigated. In Experiment 2, the context-specificity of anti-atheist prejudice was explored, using a job selection survey in which participants

must choose between a religious candidate and an atheist candidate for several different jobs. Experiment 3 investigated whether distrust towards atheists can be reduced.

Experiment One

Overview

Anti-atheist prejudice is prevalent in America, but its underlying psychological causes have not been empirically investigated. Theory suggests that it should be driven primarily by distrust rather than generalized unpleasantness. We investigated this hypothesis using two versions of a computerized reaction time task known as the Implicit Association Task (IAT; Greenwald, McGhee, & Schwarz, 1998). One measured implicit associations between atheists and words related specifically to trust; the other used words related to general pleasantness.

Participants

Thirty-nine participants completed this experiment in exchange for extra credit. They were recruited through the U.B.C. psychology human subject pool. Participants ranged in age from 18-30 years old ($M = 20.31$). There were 25 female and 14 male participants. Most participants ($N = 31$) reported some belief in God (higher than 1 on a 5 point scale).

Methods and Materials

Participants began with a series of questionnaires assessing basic demographics, religiosity (including subscales of communal, fundamentalist, and intrinsic aspects of religiosity), measures of prayer frequency and church attendance, and a single item belief in God measure. Additionally, they completed a seven item measure designed to measure

explicit negative attitudes towards atheists ($\alpha = .87$; henceforth called the NATA. See Appendix A for this measure). Next, they completed a practice version of the IAT in order to become familiar with the general procedure of the task. Next, they were given three sheets of paper. The first had three pictures of “Julie” who is described as “religious.” Participants were asked to answer three questions as if they were Julie: How often do you attend church? How often do you pray? and How strong is your belief in God? The second sheet had three pictures of a different girl, “Vanessa,” who is described as “an atheist (does not believe in God)” and participants answered the same three questions for Vanessa. The third sheet contained the following instructions:

Now, please take a minute or two to imagine that Julie and Vanessa meet and engage in a lively debate about their beliefs. Try to imagine this scene in as much detail as possible. Next, please write down three things that Julie and Vanessa said during their debate.

These three forms were meant to familiarize participants with both a religious person and an atheist for the IAT. Pictures of Julie and Vanessa are easily distinguishable. One is a brunette and the other is blond. The pictures and names were counterbalanced across subjects (one subject would get a blond Julie, the next would get a brunette Julie).

Next, participants completed two versions of the IAT (the order was counterbalanced across subjects): a Trust IAT and a Pleasant IAT. In this task, participants must categorize both pictures of Julie and Vanessa as well as words that belong to different categories. For example, in the Trust IAT, words connoting either

trust (e.g., honest, truthful, dependable) or distrust (e.g., dishonest, sneaky, lying). In one block of trials, the congruent block, the religious person shared a response key with the “trust” words while the atheist shared a response key with the “distrust” words. In another block, the incongruent block, the atheist shared a response key with the trust words and the religious person shared a response key with the distrust key. A measure of the implicit association between the two groups and the concepts of trust and distrust is obtained by comparing the response times in the congruent and incongruent blocks. Implicit distrust for atheists would be evident if response times in the congruent block were faster than response times in the incongruent block. The order of these two blocks was counterbalanced across subjects. A difference score (or *d*-score) is calculated for each subject, reflect the degree to which participants respond faster to trials in the congruent blocks than they do to trials in incongruent trials. In the following results and figures, positive *d*-scores for trust refer to a relative implicit distrust for atheists. This general procedure is identical in the Pleasant IAT except the words connote pleasantness (e.g., joy, peace, friend) and unpleasantness (e.g., terrible, hostile, hate). It should be noted that this process only yields a relative score. Subsequent references to “distrust for atheists” mean “distrust for atheists relative to religious people.”

Results and Discussion

We investigated the hypothesis that anti-atheist prejudice is driven primarily by distrust, rather than by feelings of general unpleasantness. Participants showed implicit associations between atheists and both distrust, $t(38) = 5.88, p < .001, d = 1.90$, and unpleasantness, $t(38) = 2.67, p = .01, d = .95$. Distrust was marginally greater than

general unpleasantness, $t(38) = 1.78, p = .08$. Combined, implicit distrust and implicit unpleasantness accounted for 17% (adjusted R^2) of the variance in explicit negative attitudes towards atheists (NATA), $F(2, 36) = 4.91, p = .01$. Distrust, controlling for unpleasantness, predicted NATA, $\beta = .43, t(36) = 2.53, p = .02$. Unpleasantness, controlling for distrust, did not predict NATA, $\beta = .06, t(36) = .38, p = .71$. Distrust, rather than general unpleasantness, appears to drive anti-atheist prejudice.

We also predicted distrust for atheists would be more pronounced among people who strongly believe in God. Indeed, distrust for atheists was robustly correlated with belief in God, $r = .64, p < .001$ (See Table 1 for a correlation matrix between Trust, Pleasantness, NATA, and belief in God). No other variables mediate this relationship. (See Table 2 for a regression table including other relevant variables predicting Distrust).

Finally, an independent samples t- test revealed that females show significantly higher distrust for atheists than do males, $t(37) = 2.23, p = .03$. Combined, gender and belief in God predict 48% (adjusted R^2) of the variation in distrust for atheists, $F(2, 36) = 16.71, p < .001$. Controlling for belief, gender significantly predicts distrust towards atheists, $\beta = -.28, t(1, 36) = -2.31, p = .03$, indicating that females distrust atheists more than males do. Controlling for gender, belief in God also strongly and significantly predicts distrust towards atheists, $\beta = .60, t(1, 36) = 5.00, p < .001$. Gender and belief in God are strong, but independent, predictors of distrust towards atheists.

Consistent with our predictions, people tend to associate atheists with unpleasantness. But they especially distrust atheists. Also consistent with hypotheses, belief in God is a primary contributor to distrust for atheists. Participants low in belief in God did not show any significant preference for religious people or atheists in either IAT

(although sample size is an issue that will be addressed subsequently). Participants high in belief in God demonstrated strong and significant associations between atheists and unpleasantness; even stronger was their distrust for atheists. Interestingly, there was a strong gender effect for distrust towards atheists. This may be a product of the stimuli. We used pictures of two females in the IAT, which may have skewed the results. Also, it is possible that females generally show more distrust for any group. Nevertheless, future research should investigate this effect.

Experiment Two

Overview

Experiment 1 provides initial evidence that anti-atheist prejudice is driven primarily by distrust and exhibited primarily by believers. This leads to the hypothesis that anti-atheist prejudice should be primarily exhibited by believers, and only in high trust contexts. In other words, believers are predicted to discriminate against atheists in situations that require a trustworthy individual, but not necessarily in other situations. We investigated this hypothesis using a job selection survey in which participants had to choose a candidate for six different jobs with only limited information, including religious identification. These jobs vary in the degree to which they require trust, pleasantness, and intelligence.

Participants

Forty-six participants completed this experiment in exchange for \$5. Six of them responded to posters placed around the University of British Columbia. The remaining forty volunteered to participate in a classroom. Six participants were dropped from analyses because they either did not understand the directions in the survey or failed to complete the survey. Demographic questionnaires (age, gender, ethnicity) were not included in this survey in order to make the survey quicker for participants to complete in the classroom. Most participants ($N = 25$) rated belief in God above the midpoint on a seven-point Likert scale.

Methods and Materials

Participants completed a variety of separate questionnaires within this study, including measures of religiosity (including measures of frequency of prayer and church attendance and an item assessing belief in God). Prayer frequency was assessed using an item in which people indicate how often they pray according to the following options: a) Never, b) Occasionally/Several times a year, c) Around once a week, and d) Every day or more often. Church attendance was measured using a similar questions, with the following options: a) never, b) Religious holidays only, c) once a month, and d) every day or more often. Belief in God was measured using a seven-point Likert scale. We again included the NATA scale ($\alpha = .78$). We also included a 30-item measure of authoritarianism (Altemeyer, 1988). This measure asks respondents to rate how much they agree with statements such as “One reason we have so many troublemakers in our society nowadays is that parents and other authorities have forgotten that good old-fashioned physical punishment is still one of the best ways to make people behave properly” and “It is wonderful that young people today have greater freedom to protest against things they don’t like and to ‘do their own thing’” (reverse scored). In addition they were asked to choose between two job candidates for six different jobs: waitress, line cook, daycare worker, receptionist, kindergarten teacher, and SAT teacher. Participants received information about the age, ethnicity, religious affiliation, nationality, highest degree completed, and the granting university of this degree for each job candidate. Most notably, the two candidates were either identified as religious or an atheist. All other information was counterbalanced across subjects. Participants also rated on a seven-point Likert scale how much they thought each job required trust,

pleasantness, and intelligence. These ratings are not included in subsequent analyses due to insufficient within-subject variability in the rankings. In other words, when asked to rate how important trust, pleasantness, and intelligence were for various jobs, participants tended to rate all three with the same value. Participants generally wanted trustworthy, pleasant, and intelligent people in every job. They appear to have rated the items as ideal qualities of a perfect candidate rather than as traits that often require a tradeoff in the real world.

Results and Discussion

Based on ratings obtained from 26 of the participants who took additional time to fill out a separate questionnaire, these jobs were split into High Trust jobs and Low Trust jobs. As a control, the jobs were similarly split into High and Low Pleasantness jobs and High and Low Intelligence jobs. We asked raters to rank how important each attribute was for each job from one to three. In this way, we were able to determine which attribute the raters felt was the most important for each job rather than just a general impression of how important each attribute was.

We were primarily interested in how belief in God, controlling for authoritarianism, would predict the number of atheist candidates participants chosen for both High Trust and Low Trust jobs. Both authoritarianism and belief in God were regressed on the job hiring choices for each of these categories. Combined, authoritarianism and belief in God accounted for 12% (adjusted R^2) of the variance in the number of atheist candidates chosen for High Trust jobs, $F(2, 37) = 3.53, p = .04$. Controlling for authoritarianism, belief in God strongly predicted the number of atheists

chosen for High Trust jobs, $\beta = -.42$, $t(37) = -2.29$, $p = .03$. Participants who rated higher belief in God were far less likely to hire atheists for High Trust jobs. Authoritarianism, controlling for belief in God, was not a significant predictor, $\beta = .03$, $t(37) = .17$, $p = .86$. This indicates that belief in God, above and beyond authoritarianism, predicts participants' hiring choices for High Trust jobs. Those participants who rated higher belief in God were less likely to hire atheists for these jobs, and participants rating low belief in God did not appear to discriminate between religious and atheist applicants.

Meanwhile, belief in God and authoritarianism combined did not significantly predict hiring choices for Low Trust jobs, adjusted $R^2 = .05$, $F(2, 37) = .06$, $p = .94$ (Figure 1 illustrates the relationship between belief in God and hiring preferences for both High Trust and Low Trust jobs). Similar analyses revealed no evidence that belief in God significantly predicts job hiring choices in any of the comparison job groupings (High Pleasant, Low Pleasant, High Intelligence, Low Intelligence). Combined, these analyses reveal that participants who rated higher belief in God (controlling for authoritarianism) were likely to discriminate between potential job candidates based on religious belief, but only for High Trust jobs.

In this experiment, participants were forced to choose between a religious candidate and an atheist candidate for six jobs that varied in how much they require trust, pleasantness, and intelligence. Consistent with predictions participants rating high belief in God were less likely to hire an atheist for a job requiring a trustworthy candidate. Furthermore this result is not reducible to mere authoritarianism. Authoritarianism has long been viewed as one of the key contributors to prejudice in general (e.g., Adorno et al., 1950; Altemeyer, 1988). Furthermore, authoritarianism is associated with religious

belief in the previous literature, as well as in this experiment. It was theoretically possible that it is not belief in God, per se, that leads participants to discriminate against atheists for high Trust jobs, but the associated authoritarianism that covaries with religious belief. In this experiment, we found no evidence to support this hypothesis. In fact, authoritarianism alone did *not* significantly predict context specific anti-atheist prejudice. Religious belief, above and beyond authoritarianism, predicted context specific anti-atheist prejudice in high trust domains. Although authoritarianism successfully explains many features of prejudice, it alone does not explain prejudice against atheists.

Participants did not preferentially hire either the religious or atheist candidate for any of the control (low trust) jobs. In general religious participants did not bias their decisions based on the required pleasantness or intelligence of candidates. Belief did not significantly interact with either intelligence or pleasantness in participants' choices to hire religious or atheist candidates. Apparently, anti-atheist prejudice is context sensitive in that it is most evident in high trust domains. This effect is limited again to participants who more strongly believe in God.

Experiment Three

Overview

In order to further understand the factors that influence anti-atheist prejudice we replicated the first experiment as well as explored the degree to which distrust for atheists is malleable. Participants received one of three primes prior completing the Trust IAT. Participants were either in a control condition, a condition in which they read a passage from *The God Delusion* by Richard Dawkins, or a condition in which they read a short passage outlining the rise of the number of atheist and nonreligious young people today. These two primes allowed us to examine anti-atheist prejudice in light of two recent trends. First, numerous authors have recently argued in favor of atheism in very popular books. At the same time, the number of atheists has been increasing in recent decades. It is possible that one or both of these trends might help ameliorate prejudice against atheists, a possibility that we investigated empirically.

Participants

One hundred twenty participants completed this experiment in exchange for extra credit. They were recruited through the psychology human subject pool. Participants ranged in age from 17-37 years old ($M = 20.44$). There were 83 female participants, 36 male participants, and 3 participants who declined to respond. Most participants ($N = 100$) reported some belief in God (higher than 1 on a 5 point scale).

Methods and Materials

Methods and materials for Experiment 3 were almost identical to those in Experiment 1. Participants completed an identical battery of questionnaires (NATA $\alpha = .84$) and then began the practice IAT. Before the practice IAT began, however, participants were asked to complete a short reading and writing task. In the Control condition, participants were asked to think of their favorite food and write about the feelings it arouses in them when they get to eat it. In the Dawkins condition, participants read and reacted to a short excerpt from *The God Delusion* by Richard Dawkins. In this passage, Dawkins argues that belief in – or agnosticism towards - God is no more justified than belief in “fairies, unicorns, dragons, Father Christmas, and so on.” Participants in the Atheist condition read and reacted to a passage detailing the demographic rise of atheists, nonbelievers, and those unaffiliated with religion over the past few decades. This passage also cites the statistic that among Americans aged 18-25 this group accounts for at least 20% of the population. After completing this reading and writing assignment, participants completed the practice IAT and the Trust IAT exactly as they did in Experiment 1.

Results and Discussion

Replicating the findings of the first experiment, participants in the control condition showed an implicit association between atheists and distrust, $t(39) = 3.32, p = .002$. Once again, belief in God was the single best predictor of distrust towards atheists, $r = .50, p < .001$, and no other variables mediated this relationship. The primary goal of this experiment, however, was to investigate the degree to which distrust for atheists can

be reduced. An omnibus one-way ANOVA revealed significant differences in distrust for atheists among the three priming conditions, $F(2, 117) = 3.54, p = .03$ (See Figure 2). There was no significant difference between the Control and Dawkins conditions, $t(78) = -.19, p = .85, d = .04$. Distrust in the Atheist condition, however, was lower than in both the Control condition, $t(78) = 2.18, p = .03, d = .49$, and in the Dawkins condition, $t(78) = 2.38, p = .02, d = .54$. In fact, the distrust effect in the Atheist condition was not significantly different from zero, $t(39) = .15, p = .88, d = .05$. Distrust of atheists appears reducible, all but disappearing when people read a short article about how common atheists and nonbelievers are. These results imply an intriguing dynamic. Arguments against the existence of God, though demonstrably effective at reducing religious belief (Shariff, Cohen, Norenzayan, 2008), do not directly affect prejudice against atheists.

In this experiment, we replicated the basic findings from the first experiment. Anti-atheist prejudice appears to be derived primarily from distrust. Furthermore, we demonstrated that distrust of atheists is malleable. The effect disappeared when people read a short article about how common atheists and nonbelievers are. This manipulation led to a significant reduction in implicit distrust towards atheists compared to the control condition. The Dawkins prime did nothing to alleviate distrust towards atheists. Participants in the Dawkins condition were statistically indistinguishable from participants in the Control condition. Simply providing a rhetorical defense of atheism did nothing to reduce distrust towards atheists. However, people are significantly less likely to distrust atheists relative to religious people when they learn that atheists aren't actually all that rare. Distrust of atheists seems reducible after all.

General Discussion

By drawing upon a range of poll and survey data Edgell, Gerteis, and Hartmann (2006), point out that atheists are less accepted in America than are other minorities even though atheists are a marginalized, disorganized group with invisible membership. Through the lens of traditional social psychological theories of prejudice, atheists appear out of place as a reviled group. On the surface, they don't even seem like a group that would inspire much emotion of any kind. Nevertheless many people do not want to vote for atheists. They do not want their children marrying atheists. They feel that atheists hold an opposing view of society. In contrast to many other kinds of prejudice, anti-atheist prejudice is not widely stigmatized. Imagine the political fallout if the elder Bush said, "No, I don't know that African Americans should be considered as citizens, nor should they be considered patriots" or if an Illinois congresswoman referred to Mitt Romney's religious choices as too dangerous for children to even learn about. These examples sound quite extreme, as well they should. Anti-atheist prejudice is truly an ignored topic.

We investigated the psychological underpinnings of anti-atheist prejudice in a series of three experiments, despite the fact that we were investigating anti-atheist prejudice in a liberal Canadian city. We were primarily interested in four questions. First, is anti-atheist prejudice the specific product of moral distrust rather than a product of general feelings of unpleasantness? Second, what are the demographic predictors of anti-atheist prejudice? Third, is anti-atheist prejudice context specific? And finally, regardless of the underpinnings of anti-atheist prejudice, which factors can reduce it?

Summary

Although traditional social psychological theories of religion do not easily account for the patterns of anti-atheist prejudice, an understanding of the possible social and evolutionary functions of religion led us to make several specific predictions that may not have otherwise been apparent. In Experiment 1, we predicted that anti-atheist prejudice would be borne primarily of distrust towards atheists. Using two versions of the Implicit Association Task (IAT), we discovered that although people do implicitly associate atheists with unpleasantness they are even more prone to exhibit implicit distrust for atheists and that religious believers drive this effect. These findings suggest that, although prevalent, anti-atheist prejudice might also be context specific.

If anti-atheist prejudice is driven by distrust, and most prevalent among religious believers, then we predicted that it should be exhibited most often by believers, and specific to high trust domains. This hypothesis was supported in Experiment 2. On a job selection survey, we found that believers are more likely to say that they would hire a religious applicant over an atheist for jobs requiring a high degree of trust, such as daycare workers or kindergarten teachers. Believers did not similarly discriminate for jobs that do not require a high degree of trust; nor did they discriminate based on jobs requiring high degrees of friendliness or intelligence. Participants low in belief in God did not preferentially hire either religious or atheist candidates in any of the aforementioned categories of jobs.

Combined, Experiments 1 and 2 demonstrate that anti-atheist prejudice is based upon distrust for atheists, it is much more common among individuals high in religious

belief, and it is context sensitive. These findings make sense in light of the possible contribution religion made to the evolution of large scale human cooperation. The supernatural punishment hypothesis posits that fear of punishing agents may aid in intragroup cooperation, as potential freeriders need not only fear the punishment of their peers, but also the censure of the spirits. In such a society, however, somebody who does not believe in the supernatural punishing agents is a potential threat, and may be seen as less trustworthy or even downright threatening by his peers.

In Experiment 3, we explored the factors that can influence the degree to which people distrust atheists. We replicated our findings from the first experiment. In addition we introduced two priming conditions that plausibly could have influenced distrust for atheists. When participants read a passage from *The God Delusion* in which Dawkins bemoans the inherent irrationality of religious belief and even more cautious agnosticism, they distrust atheists exactly as they did before. Such an elucidation of Dawkins's atheist position did nothing to alleviate distrust towards atheists. A little education, on the other hand, nullified the effect in our sample. After reading a short passage describing the growing numbers of nonreligious "Generation Nexters" (people aged 18-25), participants exhibited no relative implicit distrust towards either atheists or religious people.

These three experiments are an initial foray into the investigation of what may be the most common and understudied form of prejudice in North America today. In this paper, we have suggested a unique psychological foundation for anti-atheist prejudice. This framework may help make sense of the puzzling poll data on anti-atheist prejudice. Hopefully studying the foundations of anti-atheist prejudice can lead us to a richer

understanding not just of different forms of prejudice but also of the psychological foundations of religious belief and disbelief.

Does Ingroup Favoritism Explain Anti-Atheist Prejudice?

In all three experiments we encountered an interesting pattern. If the results presented in this study are attributable to simple ingroup favoritism, as would be predicted by realistic conflict models (Sherif, Harvey, White, Hood, & Sherif, 1961) of prejudice and the social identity model (e.g., Brewer, 1979; Tajfel, 1970), then one would expect that less religious participants would distrust religious people relative to atheists. In the first experiment, those with strong belief in God showed strong implicit associations between atheists and both distrust and unpleasantness. Yet less religious participants did not show a reliable relative preference for either atheists or religious people. In the second experiment, those who believe strongly in God stated that they would preferentially hire a religious applicant over an atheist for jobs requiring lots of trust (even controlling for authoritarianism). In the third experiment the pattern from the first experiment was replicated; strong believers showed implicit distrust for atheists, yet less religious individuals show no significant preference. The strongly religious participants exhibited what looked like classic intergroup bias, preferring and trusting other believers. Less religious participants showed no such ingroup favoritism.

Admittedly, the sample size of less religious individuals was relatively small in every experiment, so it is possible that all we have demonstrated is a lack of statistical power and the foolhardy temptation to accept a null hypothesis. However when we

aggregate the participants scoring below the median on belief in God from Experiment 1, the Control condition of Experiment 3, and the Dawkins condition of Experiment 3 (the results of which were statistically indistinguishable from the Control condition) we can better address the issue of small sample size. Even with 44 Low Belief participants aggregated across these two experiments (and three conditions), there was no significant effect for these participants to preferentially trust either atheists or religious people, $t(43) = .761, p = .45$ (and the mean d-score of .045 indicates if anything a tiny trend for these participants to trust the religious person more than the atheist). Our less religious participants simply show no preference either way. Although we have much evidence indicating that religious people distrust atheists, we have no evidence that atheists distrust theists. Looking at the data from only religious participants, it would be easy to dismiss our findings as another example of mere intergroup bias. Looking at the data from only less religious participants, it would be very puzzling why not even the barest trace of intergroup bias is evident. It is possible that religious people, but not atheists show ingroup favoritism, in which case we would expect to find that more religious participants distrust atheists, but that less religious participants do not distrust religious people. This could be the case if authoritarianism (which is highly correlated with religious belief) accounts for the discrepancy. In other words, religious people might be more authoritarian (as they were in this study), and authoritarianism leads people to favor their own ingroups. If this were true, however, then authoritarianism, rather than belief in God, should account for anti-atheist prejudice. To the contrary, in Experiment 2 we found that not only does belief in God predict discrimination in high trust contexts, but also that authoritarianism alone does not account for people's decisions to hire atheists or religious

people for jobs that require trust. In sum, it is religious belief, not authoritarianism, which accounts for distrust towards atheists.

Another possible explanation is that atheists, secular humanists, freethinkers, and other variously defined nonreligious people do not actually constitute what we would call a group. How can a group exhibit intergroup bias if it isn't even really a group? There is certainly some merit to this argument; however in all three experiments, the religious target or job candidate was identified simply as "religious" with no reference to a specific denomination. Are religious people really considered a single group in Sudan, Glasgow, or Palestine? Atheists may not constitute a coherent group, but some of the bitterest conflicts in the world right now are between factions that would both describe themselves as religious. While it is possible that religious people are better able to identify with other religious people than atheists are able to cohere into groups, this is an open empirical question. Even if atheists cannot be called a meaningful cohesive group, this fits well with the theoretical rationale of this paper. Religion can be a very (and perhaps uniquely) powerful force for creating group solidarity and reinforcing group boundaries. Those without religion might be less able to form large groups, leading atheists to go about their lives without convening in any organized fashion (at least with other atheists). They may be members of political parties or sports fan clubs without feeling the need to form a group based on their shared skepticism about supernatural agency. Religion may be a powerful source for group identification and the lack of religion may not be a powerful source at all.

Another possibility is that atheists did not as easily delineate groups based solely on religion. In all three studies, it is possible that the nonbelievers simply didn't place

much weight on a person's religion. Thus in Experiments 1 and 3, those low in belief simply didn't use the religious information provided when forming implicit associations about Julie and Vanessa. In Experiment 2, they may have completely ignored the different religious affiliations of the job candidates and instead relied on the other demographic information provided. This information was counterbalanced across subjects so any salient differences in job selection based on the demographic information would appear only as noise in the analyses. Individuals who are not religious might find it more difficult to categorize people based on the nature of their religious beliefs. This, of course, is an empirical question.

The Malleability of Anti-Atheist Prejudice

There are strong theoretical reasons to expect believers to distrust atheists. In Experiment 1 we found robust effects indicating as much on an implicit level. In Experiment 2, we demonstrated that such distrust towards atheists can influence who believers would like to hire to babysit and teach their children. In Experiment 3 we replicated the finding, but with a twist. Distrust towards atheists is not a fixed inevitability. Rather, it is surprisingly malleable. Participants no longer showed evidence of implicit distrust for atheists after reading a short passage about the number of atheists there are in America. One might have expected the exact opposite result. Imagine a group of unpleasant, untrustworthy people. Worse yet, they are difficult to identify. Yet when participants learned that atheists are quite common they didn't figuratively respond, "Oh my God the atheists are everywhere! Find shelter quickly!" They responded, "The

atheists are everywhere? Well in that case they're okay." This is particularly intriguing because prejudice usually tends to increase with the relative size of the discriminated group (Quillian, 1995; Fossett & Kiecolt, 1989).

This indicates that people may not realize how often they actually interact with atheists. After all, atheists cannot be easily identified by any surface attributes. A religious individual may have numerous successful interactions with atheists every day without even realizing it. However if they are already prone to distrust atheists for the reasons already discussed, they may observe an illusory correlation leading them to believe that most of these individuals were in fact religious. After reading an article about how nonreligious people constitute roughly 20% of the population between the ages of 18-25, it would be hard for them to maintain the belief that none of the evidently trustworthy people they have interacted with were actually atheists. According to the social contact hypothesis (Allport, 1954) bringing individuals from different groups into contact with each other in a cooperative manner can reduce intergroup prejudice. The article may have forced a sort of retrospective contact between individuals and atheists. We did not actually bring religious participants into cooperative contact with atheists; we simply reminded them that they do this all the time by themselves.

Challenges and Future Directions

Atheism as a Four-Letter Word

Our theoretical rationale focused on the social functions of religion and belief. Our hypotheses revolved around the supposition that due to the incredible power of religion in promoting trust and cooperation, as well as the commonly held belief that religion is a unique source of morality, people would distrust somebody who does not believe in God. Across three experiments we found evidence to support this general idea. However it is possible that these results do not reflect such a nuanced theoretical framework. Rather, it is possible that participants were favoring the religious person over the atheist in each study simply because “atheist” is such a negatively charged word. As Dawkins (2006, pp.3-4) puts it “There are many people who know, in their heart of hearts, that they are atheists, but do not admit it to their families or even, in some cases, to themselves. Partly, this is because the very word ‘atheist’ has been assiduously built up as a terrible and frightening label.” Perhaps our results are primarily shaped simply by people’s visceral reactions to that dirty word.

Such an account, however, fails to account for many of our specific findings. For instance, how does reacting to a frightening label lead religious people to distrust atheists rather than to feel that they are generally unpleasant? Why would the reaction to the term “atheist” decrease when one learns that atheists are common? And third: why would this frightening label become no more frightening for low trust jobs? Nevertheless it would be worthwhile to further pursue the impact of the various terms for different types of

nonbelievers. Recognizing that atheists have a branding problem, The Brights (<http://www.the-brights.net/>) sought to relabel atheism with a warmer, fuzzier title. This movement is not without its critics, however, as many feel it to be the same product but more sanctimonious and arrogant. It would be interesting to further explore the impact of simple rebranding efforts on people's opinions of atheists.

Relative Measures

It could be argued that this research is flawed because we do not have any true baseline measures of trust. That is, all comparisons are relative between a religious person and an atheist. We can't disambiguate the following explanations for our results: 1) People feel neutrally towards religious people, but actively distrust atheists, 2) People feel neutrally towards atheists and actively trust religious people, or 3) Some combination of 1 and 2. All we can assert is that in certain situations, certain people trust religious people *more than* they trust atheists. This is also true for the null findings when we analyzed less religious participants throughout. They showed no relative preference, but does this mean that they trust both atheists and religious people considerably, or are less religious people just generally untrusting? Similarly in Experiment 3, it is difficult to tell in the Atheist condition whether the manipulation caused people to trust atheists more or whether it just made participants no longer trust religious people for whatever reason.

These challenges seem serious, but in many ways they are also strengths. Trust is hard to quantify. What does it mean to say that religious people trust other religious X much, but only trust atheists Y much? A truly essential Platonic baseline level of

“trustworthiness” does not exist. Imposing a baseline on this continuum will likely only lead to experimental artifacts that hinder the external validity of our research. Religious people trust other religious people more than they trust atheists and this is a very meaningful finding. When navigating the social world, some people will be more trustworthy than others; trustworthiness is not a binary trait. As we demonstrated in Experiment 2, relative distrust towards atheists can shape behavior in any situation in which a person is forced to choose between two people for a task. In addition, how would one establish a baseline rate for trust in a task like the IAT? One could reproduce our methodology with Julie and Vanessa and make one of them an atheist (or religious) and simply give no religious information about the other girl. But this assumes that participants would not make assumptions about the religious identity of the second girl. Given the fact that most people in our society are religious it would make sense to assume that the girl is religious unless information to the contrary is given. In short, the use of relative measurements of trust for atheists versus religious people provides greater ecological validity, as it more closely resembles the nature of social interaction outside of the lab.

Generalizability

These experiments were conducted at a large university in a liberal North American city. As such, it is worth asking how well the results would generalize to other populations. This depends entirely on which population to which we are trying to generalize. Within North America we probably underestimated most of our effects simply

because we ran the experiments with student populations at a liberal university in a liberal city in a liberal province of a liberal country. Plausibly, distrust for atheists would be even more pronounced if we recruited subjects from, say, Alabama or Utah.

On the other hand, we might not be able to apply these results to people living in a country like Vietnam, France, or Denmark where atheism is the norm. According to our results in Experiment 3, we would predict that people would not demonstrate any distrust towards atheists. According to the rest of our findings, they would not show distrust for religious people either. In such a secularized country, the efficacy of religion as a signal of trustworthiness might be undermined, or might disappear entirely. The supernatural punishment hypothesis outlines one possible route to establishing broad prosociality, but it is not necessary to explain cooperation in nations with institutions such as police, judicial branches, and maximum security prisons. What is the relationship between religiosity, cooperation, and secular forms of externally institutionalized punishment? And which factors predict the erosion of religious belief in some countries, while not in others such as the United States? All of these questions should be targets for future research.

The Future of the New Atheism and Anti-Atheist Prejudice

The New Atheists are bringing the issue of atheism into the public eye, for better or worse. They and their opponents fire blasts back and forth across each other's bows, although they rarely use actual scientific evidence about the causes, nature, and effects of religion and atheism. The New Atheists dismiss religious people as illogical, deluded,

and potentially dangerous. Critics argue that the New Atheists are trying to turn atheism into a naturalistic religion. Hopefully this mainstream cultural debate will lead researchers to more seriously examine the issues raised.

In terms of anti-atheist prejudice, our own evidence indicates that the rhetoric of the New Atheists is not likely to affect the distrust that many harbor for atheists. In fact, it may actually lead to greater distrust towards atheists. In Experiment 3, anti-atheist prejudice was significantly reduced when people simply realized that they likely interact with atheists all the time. That is, they may not have known how to consciously define atheists. Once they realize that atheists are no more likely to rob, lie, or generally pillage in everyday life, people no longer distrust atheists. However if people see only the New Atheists as exemplars of atheism, they may well conclude that atheists would all like to sweep religion from the face of the earth, all while dismissing believers as irrational and deluded. Such an impression is not likely to lessen prejudice against atheists.

Paradoxically, however, there is a chance that the New Atheism can help reduce anti-atheist prejudice. In *The God Delusion*, Dawkins stated his hopes that his book would inspire people to “come out” as atheists. In addition, he stated “If this book works as I intend, religious readers who open it will be atheists when they put it down” (p. 5). This hope, of course, relies on the dubious assumption that religious affiliation depends largely on rationality. Nevertheless, if more people are openly atheistic, our research has shown that there is the potential to reduce anti-atheist prejudice.

Many bemoan the tactics and tact of the New Atheists, but one cannot deny the fact that they have brought atheism into the public eye. This has led to a great amount of debate in popular culture, but may have overshadowed the tremendous potential that the

study of atheism may hold for our understanding of the psychological, cultural, and evolutionary underpinnings of religion. Although the current research focused specifically on anti-atheist prejudice, it serves as a window into an unfortunately ignored and likely fruitful domain of scientific inquiry.

Tables and Figures

Table 1: Correlation matrix between distrust towards atheists (Distrust), atheist unpleasantness (Unpleasant), explicit negative attitudes towards atheists (NATA) and belief in God (Belief).

Measure	Distrust	Unpleasant	NATA	Belief
Distrust	--	.515**	.406*	.615**
Unpleasant		--	.279	.172
NATA			--	.705**
Belief				--

* $p < .05$, ** $p < .01$

Table 2: Regression table showing β for belief in God, NATA, importance of religious community, intrinsic religiosity, and fundamentalism predicting distrust for atheists.

Overall model accounts for 39% (adjusted R^2) of the variance in implicit distrust, $F(5, 29) = 3.69, p = .01$.

Measure	β	t	p
Belief in God	.65	.286	.01
NATA	-.13	-.41	.68
Community	-.11	-.35	.73
Intrinsic	.12	.37	.71
Fundamentalism	.10	.40	.69

Figure 1: Atheists hired for High Trust and Low Trust jobs predicted by belief in God, controlling for Authoritarianism (from unstandardized regression equations).

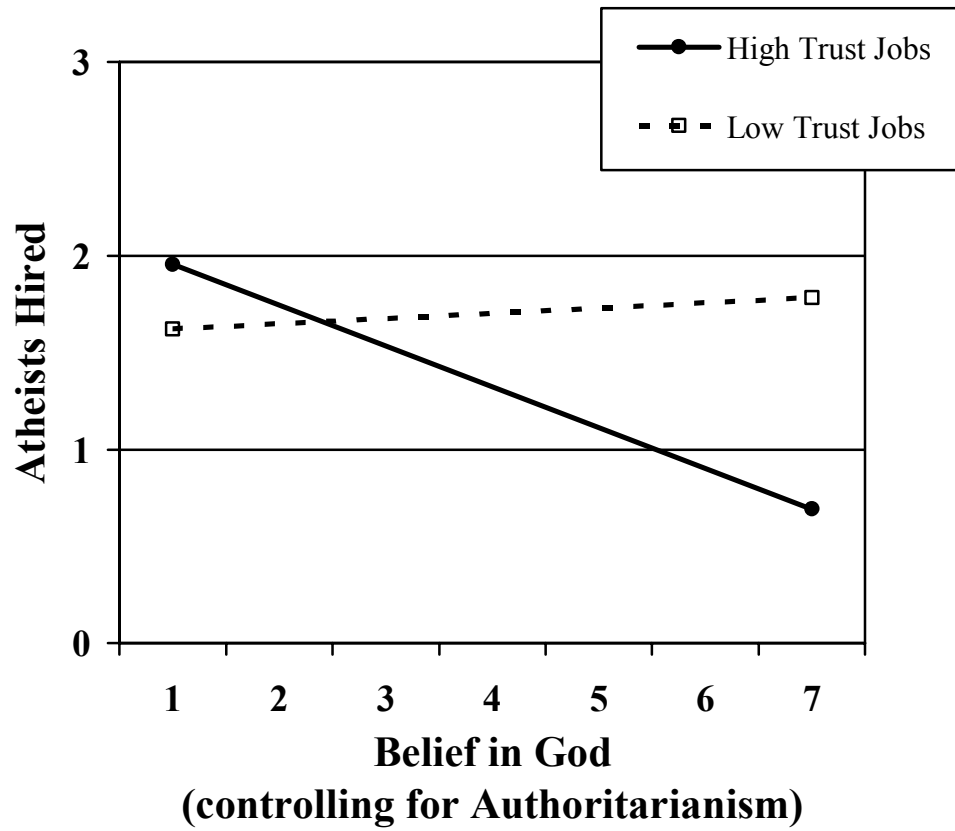
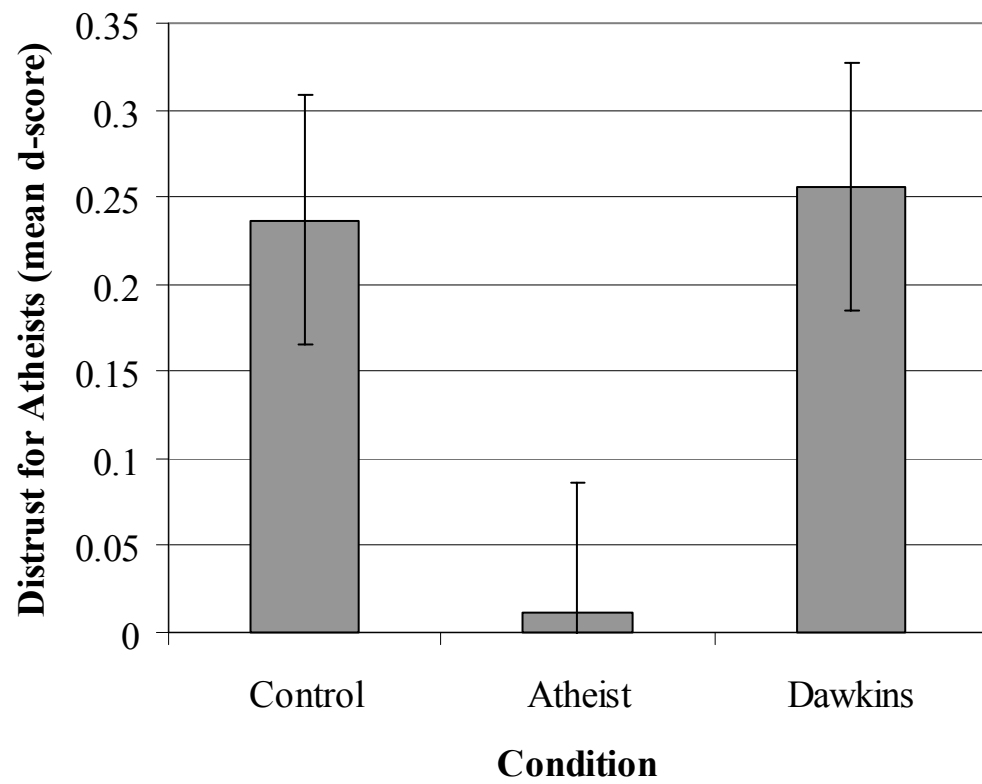


Figure 2: Distrust for atheists in each priming condition.



References

- Alexander, R. (1987). *The Biology of Moral Systems*. New York: Aldine De Gruyter
- Allport, G. (1954). *The Nature of Prejudice*. Cambridge, MA: Addison-Wesley.
- Altemeyer, B. (1988). *Enemies of Freedom: Understanding Right-Wing Authoritarianism*. San Francisco: Jossey-Bass.
- Atran, S. (2002). *In Gods We Trust: The Evolutionary Landscape of Religion*. Oxford University Press.
- Atran, S. & Norenzayan, A. (2004). Religion's evolutionary landscape: Counterintuition, commitment, compassion, communion. *Behavioral and Brain Sciences*, 27, 713-770.
- Bering, J.M., McLeod, K., & Shackelford, T.K. (2005). Reasoning about dead agents reveals possible adaptive trends. *Human Nature*, 16,360–381.
- Boyer, P. (2001). *Religion explained: The evolutionary origins of religious thought*. Basic Books.
- Brewer, M. B. (1979). In-group bias in the minimal intergroup situation: A cognitive-motivational analysis. *Psychological Bulletin*, 86, 307 – 324.
- Darwin, C. (1871). *The Descent of Man and Selection in Relation to Sex*. London: Murray.
- Dawkins, R. (2006). *The God Delusion*. Boston: Houghton Mifflin.
- Dennett, D.C. (2006). *Breaking the Spell: Religion as a Natural Phenomenon*. London: Viking.
- Douglas, M. (1966). *Purity and Danger*. New York: Frederick A. Praeger.

- Dunbar, R. I. M. (2003). The social brain: Mind, language, and society in evolutionary perspective. *Annual Review of Anthropology*, 32, 163-181.
- Durkheim, E. (1912/1995). *The Elementary Forms of Religious Life*. Free Press.
- Edgell, P., Gerteis, J., & Hartmann, D. (2006). Atheists as “other”: Moral boundaries and cultural membership in American society. *American Sociological Review*, 71, 211–234.
- Fossett, M. A., & Kiecolt, K. J. (1989). The relative size of minority populations and White racial attitudes. *Social Science Quarterly*, 70, 820–835.
- Greenwald, A.G., McGhee, D.E. & Schwartz, J.L. (1998). Measuring individual differences in implicit cognition: The implicit association test. *Journal of Personality and Social Psychology*, 74, 1464-1480.
- Hamilton, W.D. (1964). The genetical evolution of social behavior. *Journal of Theoretical Biology*, 7, 1-16.
- Harris, S. (2004). *The End of Faith: Religion, Terror and the Future of Reason*. New York: Norton.
- Henrich, J. (2004). Cultural group selection, coevolutionary processes and large-scale cooperation. *Journal of Economic Behavior & Organization*, 53, 3-35.
- Henrich, J., Boyd, R., Bowles, S., Gintis, H., Fehr, E., Camerer, C., McElreath, R., Gurven, M., Hill, K., Barr, A., Ensminger, J., Tracer, D., Marlow, F., Patton, J., Alvard, M., Gil-White, F., & Henrich, N. (2005) ‘Economic Man’ in cross-cultural perspective: Ethnography and experiments from 15 small-scale societies. *Behavioral and Brain Sciences*, 28, 795-855.

- Hitchens, C. (2007). *God is Not Great: How Religion Poisons Everything*. New York: Twelve.
- Johnson, D.D.P. (2005). God's punishment and public goods: A test of the supernatural punishment hypothesis in 186 world cultures. *Human Nature, 16*, 410-446.
- 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.
- Johnson, D.D.P. & Krueger, O. (2004). Supernatural punishment and the evolution of cooperation. *Political Theology, 5*, 159-176.
- Lyons, M. (2008, April 9). State rep says atheism is dangerous. *Chicagoist*. Retrieved May 26, 2008, from the World Wide Web:
http://chicagoist.com/2008/04/09/state_rep_says.php
- Norenzayan, A. & Shariff, A. (2008). *The origins and evolution of religious prosociality*. Unpublished manuscript, University of British Columbia.
- Price, G. (1970). Selection and covariance. *Nature, 227*, 520-521.
- Price, G. (1972). Extensions of covariance selection mathematics. *Annals of Human Genetics, 35*, 485-490.
- Quillian, L. (1995). Prejudice as a response to perceived group threat: population composition and anti-immigrant and racial prejudice in Europe. *American Sociological Review, 60*, 586-611.
- Richerson, P.J. & Boyd, R. (2005). *Not By Genes Alone: How Culture Transformed Human Evolution*. Chicago: University of Chicago Press.
- Roes, F.L. & Raymond, M. (2003). Belief in moralizing gods. *Evolution and Human Behavior, 24*, 126-135.

- Shariff, A.F., and Norenzayan, A. (2007). God is watching you: Supernatural agent concepts increase prosocial behavior in an anonymous economic game. *Psychological Science, 18*, 803-809.
- Shariff, A. F., Cohen, A.B., & Norenzayan, A. (2008) The devil's advocate: Secular arguments diminish both implicit and explicit religious belief. *Journal of Cognition and Culture, 8*, 417-423.
- Sherif, M., Harvey, O.J., White, B.J., Hood, W.R., & Sherif, C.W. (1961). *The Robber's Cave experiment: Intergroup conflict and cooperation*. Middletown, CT: Wesleyan University Press.
- Sober, E. & Wilson, D.S. (1998). *Unto others: The evolution and psychology of unselfish behavior*. Cambridge, MA: Harvard University Press.
- Tajfel, H. (1970). Experiments in intergroup discrimination. *Scientific American, 223*, 96-102.
- Tan, J.H.W. & Vogel, C. (in press). Religion and trust: An experimental study. *The Journal of Economic Psychology*.
- Trivers, R.L. (1971). The evolution of reciprocal altruism. *The Quarterly Review of Biology, 46*, 35-57.
- Wilson, D.S. & Wilson, E.O. (2007). Rethinking the theoretical foundation of sociobiology. *The Quarterly Review of Biology, 82*, 327-348.
- Wilson, E.O. (1975). *Sociobiology: The New Synthesis*. Cambridge, MA: Harvard University Press.

Appendix A: The Negative Attitudes Towards Atheists (NATA) Scale

Please rate how much you agree with each of the following statements (1=not at all strongly, 7=very strongly)

1. Societies function better if everyone believes in God

1 - - - - - 2 - - - - - 3 - - - - - 4 - - - - - 5 - - - - - 6 - - - - - 7

2. I strongly believe that church and state should be kept separate

1 - - - - - 2 - - - - - 3 - - - - - 4 - - - - - 5 - - - - - 6 - - - - - 7

3. Religion facilitates moral behaviour in a way that nothing else can

1 - - - - - 2 - - - - - 3 - - - - - 4 - - - - - 5 - - - - - 6 - - - - - 7

4. I would prefer to spend time with people who are religious believers

1 - - - - - 2 - - - - - 3 - - - - - 4 - - - - - 5 - - - - - 6 - - - - - 7

5. I would be uncomfortable with an atheist teaching my child

1 - - - - - 2 - - - - - 3 - - - - - 4 - - - - - 5 - - - - - 6 - - - - - 7

6. I would not at all be bothered by a Prime Minister who did not have religious beliefs

1 - - - - - 2 - - - - - 3 - - - - - 4 - - - - - 5 - - - - - 6 - - - - - 7

7. In times of crisis, I am more inclined to trust people who share my religious beliefs

1 - - - - - 2 - - - - - 3 - - - - - 4 - - - - - 5 - - - - - 6 - - - - - 7

Appendix B: UBC Research Ethics Board Certificates of Approval

CERTIFICATE OF APPROVAL - FULL BOARD

PRINCIPAL INVESTIGATOR: Ara Norenzayan	INSTITUTION / DEPARTMENT: UBC/Arts/Psychology, Department of	UBC BREB NUMBER: H07-01374
INSTITUTION(S) WHERE RESEARCH WILL BE CARRIED OUT:		
Institution	Site	
UBC	Vancouver (excludes UBC Hospital)	
Other locations where the research will be conducted: N/A		
CO-INVESTIGATOR(S): Azim Shariff		
SPONSORING AGENCIES: N/A		
PROJECT TITLE: Identity and Interaction		
REB MEETING DATE: July 26, 2007	CERTIFICATE EXPIRY DATE: July 26, 2008	
DOCUMENTS INCLUDED IN THIS APPROVAL:		DATE APPROVED: August 31, 2007
Document Name	Version	Date
<u>Consent Forms:</u>		
Consent	2	August 23, 2007
<u>Questionnaire, Questionnaire Cover Letter, Tests:</u>		
Questionnaires	N/A	June 1, 2007
<u>Other Documents:</u>		
Debrief	N/A	June 1, 2007
Debrief	2	August 23, 2007
<p>The application for ethical review and the document(s) listed above have been reviewed and the procedures were found to be acceptable on ethical grounds for research involving human subjects.</p>		
<p><i>Approval is issued on behalf of the Behavioural Research Ethics Board and signed electronically by one of the following:</i></p> <hr style="width: 50%; margin: auto;"/> <p style="text-align: center;"> Dr. Peter Suedfeld, Chair Dr. Jim Rupert, Associate Chair Dr. M. Judith Lynam, Associate Chair Dr. Laurie Ford, Associate Chair </p>		