



When Private Reporting Is More Positive Than Public Reporting

Pluralistic Ignorance Towards Atheists

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Abstract: Across three studies, we assessed the impact of perceived social norms on attitudes and positive behavioral intentions towards atheists and religious believers. Reported attitudes, reported acceptability of expressing positive and negative attitudes, and reported positive behavioral intentions disproportionately favored religious believers over atheists. However, participants reported a higher likelihood of engaging in positive behaviors towards atheists when the threat of public scrutiny was limited, indicating that the social norm in the US may be suppressing privately held, positive behavioral intentions that would otherwise support atheists, creating a state of pluralistic ignorance. Individuals also reported having more positive attitudes and a higher level of positive behavioral intentions towards religious believers relative to others. Finally, estimates of the prevalence of religious believers in the population also tied directly to one's perception of the acceptability of expressing positive and negative attitudes towards these groups.

Keywords: atheist, pluralistic ignorance, religious, attitudes, behavioral intentions, social norms

In *The Scarlet Letter* by Nathaniel Hawthorne (1978/1850), the protagonist of the book, Hester Prynne, is forced to wear a scarlet letter “A” to represent her adultery and to encourage social retribution for her violation of a Puritanical community standard. Richard Dawkins, evolutionary biologist and author of *The God Delusion* (2006), draws parallels between her experience and the experience of atheists in many societies as they too are criticized for violating standards established by an often religious majority. Dawkins claims that the negativity expressed towards atheists is so pervasive that it has driven them into hiding. To combat this negativity, Dawkins has developed an OUT Campaign (<http://www.outcampaign.org>) that encourages atheists to self-identify by wearing the Hawthorne-inspired symbol of the scarlet letter “A” (Baggini, 2012).

The US population, in particular, is overwhelmingly religiously affiliated at 79%, and of this group, the majority identify as Christian (PEW Research Center for Religion & Public Life, 2012). Public attitudes expressed towards atheists are overtly negative, even when compared to other stigmatized groups, such as Muslims, “homosexuals,” and African Americans (Edgell, Gerteis, & Hartmann, 2006). For instance, more Americans disapproved of an atheist

marrying one of their children than a Muslim or African American (Edgell et al., 2006). In the political realm (Jones, 2012), only 54% of Americans would vote for a qualified atheist candidate from their political party for president, which contrasts with groups such as African Americans (96%), women (95%), and Muslims (58%).

Atheists who fail to hide or choose to disclose their identity face social consequences such as limited access to social and political spheres (Edgell et al., 2006; Jones, 2012), negative social evaluation and attribution (Gervais, 2011; Gervais, Shariff, & Norenzayan, 2011), and discrimination (Gervais et al., 2011). Descriptively, atheists are often viewed as immoral (Edgell et al., 2006; Lietz, 1981) and extremely untrustworthy (Gervais, 2011; Gervais et al., 2011) given their lack of belief in a higher omnipresent power to watch over their deeds (Gervais & Norenzayan, 2012). Attributions such as untrustworthiness, in turn, also affect atheist-targeted behaviors such as discrimination in the context of hiring preferences (Gervais et al., 2011).

Atheists in the US might face discrimination in part because they are a statistical minority. Generally, prejudice towards an outgroup has long been argued to be proportionate to the outgroup size (Allport, 1954). As the number of minorities increases in a population, potentially

becoming a larger threat to the ingroup, the level of prejudice towards the minority group also increases (see also Taylor, 1998). However, this well-supported finding does not seem to apply to atheists – rather this pattern is reversed. Across data collected from religious believers in 54 countries, anti-atheist prejudice was weakest in countries with the highest share of atheists in the populations (Gervais, 2011). Furthermore, two subsequent studies showed that manipulating the perceived prevalence of atheists had a direct causal impact on distrust towards atheists such that lower distrust occurred in the conditions with higher atheist prevalence (Gervais, 2011).

Currently, atheists in the US represent a unique target group for attitude assessment and theory testing not just because of the unusual findings related to outgroup size, but also because negativity towards them seems to be acceptable by the social majority (Edgell et al., 2006; Jones, 2012), and accurately perceiving others' attitudes towards this group can be challenging for the perceiver. Unlike stigmatized groups such as African Americans whereby physical attributes such as race can be used to identify group membership (Maddox, 2004; Maddox & Gray, 2002), atheists can conceal their identity which makes estimates of and perceptions of attitudes towards them difficult to assess. In order to successfully make inference about one's internal dispositions towards an atheist, an observer has to first observe a behavioral interaction (as opposed to a hidden attitude), and second, has to know that the recipient of the behavior is atheist. Even with other hidden identities, such as sexual orientation, research indicates that there are certain, sometimes stereotypical, behavioral markers of an individual's hidden identity. Nonverbal cues such as sex-atypical behaviors (Rieger, Linsenmeier, Gygax, Garcia, & Bailey, 2010) and eye gaze (Nicholas, 2004) can be used by observers to increase the likelihood of accurately identifying gays and lesbians.

Individuals tend to create perceptions of the social norms based on the observations of other individuals (Asch, 1955; Festinger, 1954), and errors in social perception do occur (Funder, 1987). In particular, if widespread misperception of private attitudes occurs, such as the case with pluralistic ignorance, individuals tend to use public behaviors to assess the social norm (Prentice & Miller, 1993). If people perceive that bias towards a group such as atheists is normative, then people will express more prejudice towards the group (Crandall, Eshleman, & O'Brien, 2002; Graziano, Habashi, Sheese, & Tobin, 2007). Once again, research on anti-atheist prejudice demonstrates that one's perception of the prevalence of atheists directly impacts prejudice towards this group (Gervais, 2011). As atheists remain a relatively "hidden" group relative to other stigmatized groups, this limits the amount of information that the general population has regarding the existence of and treatment of

atheists by other individuals which potentially contributes to more error in assessing the social norm.

In contrast, the numerous public displays of pro-religious viewpoints, such as through the presence of religious buildings, public prayer, religious symbols incorporated into dress, printing "In God we Trust," on currency, etc., convey information about society's support of religious believers. Groups, which possess higher levels of perceived social support and a larger number of members, also possess more group vitality which coincides with higher levels of power and influence (Giles, Bourhis, & Taylor, 1977). For atheists, public support of a religious perspective can be perceived as antithetical to supporting a nonreligious perspective. Atheists existentially threaten those who believe in an after-life given their contrasting worldview (Cook, Cohen, & Solomon, 2015), and atheists morally threaten religiously-related values resulting in greater anti-atheist prejudice (Cook, Cottrell, & Webster, 2014). Although our research cannot address the impact of this struggle specifically, our research can address the impact of the perceived social norm on attitudinal expression.

As atheists are a hidden minority in an overt religious majority and as the American public seems to display an overt lack of atheist acceptance, these factors have the potential to create a situation of pluralistic ignorance whereby individuals privately hold more positivity towards atheists than they perceive the larger population to hold (Allport, 1924; Miller & McFarland, 1991; Prentice & Miller, 1993). Pluralistic ignorance can result in the matching of one's public behavior with perceived behavioral norms (Miller & McFarland, 1991), and for atheists, we anticipate this would result in a lower level of publically expressed positivity as it is viewed as unacceptable to express positivity towards this group. Pluralistic ignorance occurred previously during the American Civil Rights Movement in which white individuals overestimated other white individuals' acceptance of racial segregation (O'Gorman, 1975). Privately, individuals reported a lack of support for segregation between White and Black individuals, but they greatly overestimated the extent to which others did. A similar pattern of pluralistic ignorance was found in college students whereby they underestimated the extent to which other students felt a similar level of uncomfortableness with alcohol consumption practices on campus relative to themselves (Prentice & Miller, 1993).

In addition to pluralistic ignorance, normative social influence seems to be helping perpetuate certain behaviors and publically expressed attitudes towards atheists. Normative social influence occurs when an individual either conforms to be accepted by a group or to avoid (perceived) threats. Group deviance results in ridicule and rejection (James & Olson, 2000; Miller & Anderson, 1979), and even social disapproval from strangers is viewed negatively

(e.g., Baron, Vandello, & Brunzman, 1996; Hornsey, Majkut, Terry, & McKimmie, 2003). Negative social consequences also appear when one makes a deviant attribution about the character of a third person (Schachter, 1951). Whereas negative attributions made about atheists (Edgell et al., 2006; Gervais, 2011; Gervais et al., 2011; Lietz, 1981) potentially encourage them to stay hidden, deviance from the conforming religious majority by supporting an atheist may also result in negative consequences. Gervais and Norenzayan (2012) even demonstrated that public thought may be closely tied with religious thought as thinking about being monitored by people had a similar effect to thinking about being monitored by God. If an individual can deviate privately away of the view of others, it increases the likelihood of deviance as it minimizes the consequences associated with deviating (Asch, 1957).

Our main objective for this research was to identify how the perceived social norm impacts attitudinal expression towards atheists. To achieve this objective, we developed a series of three studies to assess the acceptability of attitude expression towards atheists, to identify attitudinal and related measures that can accurately assess personal attitudes and the impact of the social norm, and finally to identify how minimizing the influence of the perceived social norm can potentially impact attitudinal expression towards atheists. We included religious believers as a comparison group in all three studies given the various associations that the two groups have with each other.

Study 1: Establishing the Perceived Acceptable Social Norm

In Study 1, we attempted to establish the level of socially acceptable positive and negative attitudes towards atheists and religious believers. In doing so we sought to obtain measures of one's perception of the social norm for each target group thus allowing for the possibility of manipulating the influence of this social norm in a subsequent study. Given the rather robust preference for religious affiliation in the US, we predicted that the expression of positive attitudes towards religious believers would be perceived as more socially acceptable than the expression of positive attitudes towards atheists, and we predicted that the expression of negative attitudes towards atheists would be perceived as more socially acceptable than the expression of negative attitudes towards religious believers. Furthermore, if societal influence shapes the acceptability of attitudes towards these two groups, then we would expect the reported acceptability of attitudes towards these two target groups to be related to one's perception of how

common religious believers (relative to atheists) are in the country. In contrast to Gervais (2011), we obtained an estimate of perceived religious believer prevalence rather than atheist prevalence as the focus of the research was to evaluate the impact of religious believer prevalence on attitudes towards atheists rather than the impact of atheist prevalence on attitudes towards atheists. We assessed acceptable positive and negative attitudes using two separate measures (rather than one combined measure) as we conceptualized that these constructs were potentially orthogonal.

In order to address our ultimate objective of assessing the impact of the social norm on the expression of internal states towards atheists and religious believers, we also included 12 different positive behavioral intentions that could be engaged in with both atheists and religious believers. Often described in the context of the theory of reasoned action (Ajzen & Fishbein, 1970) and theory of planned behavior (Ajzen, 1985, 2012), behavioral intentions consist of one's attitude towards the behavior, the subjective norm, and one's perceived behavioral control over the behavior (Ajzen & Cote, 2008). We decided to assess behavioral intentions, rather than attitudes alone, given their ability to successfully predict observable future behavior (Ajzen & Fishbein, 2005). With this closer link to an observable behavior, behavioral intentions may potentially be more affected by the social norm than attitudes (Ajzen, 1985, 2012), and individuals may simply be more cognizant of the potential for public observation given they are in some sense committing to a future behavior, rather than evaluating a hidden state, as in the case of attitudes. However, unlike the overwhelming majority of research related to behavioral intentions which focuses on assessing the likelihood of engaging in one specific behavior (e.g., voting for an atheist) we created an aggregate of 12 behaviors (i.e., a multiple-act index; Fishbein & Ajzen, 1974) as we were interested in a general behavioral tendency towards atheists rather than a single behavioral intention (see Ajzen & Fishbein, 2005 for a discussion).

Method

Participants

Sixty-nine students (47 women; $M_{age} = 20.78$ years, $SD_{age} = 5.04$) enrolled in a general psychology course at a public university in the western US voluntarily completed the study for course credit. Sample size was determined by enrollment in the course with the stipulation that there must be a minimum of 50 participants. Self-reported religious affiliation included 68% Latter-Day Saints (LDS)/Mormon, 16% other, 9% Catholic, 4% Atheist, and 3% Agnostic participants.

Table 1. Behavioral intention index items for religious believers and atheists used in Studies 1–3.

Item	Religious believer	Atheist	<i>p</i>
	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	
What is the likelihood that you would...			
1...vote for a(n) Religious Believer/Atheist?	5.96 (1.10)	3.84 (1.99)	<.001
2...be friends with a(n)_____?	6.55 (0.78)	5.55 (1.51)	<.001
3...allow a(n)_____to babysit your child?	6.29 (0.99)	5.23 (1.78)	<.001
4...marry a(n)_____?	6.22 (1.24)	2.88 (2.26)	<.001
5...study with a(n)_____?	6.49 (0.76)	6.00 (1.26)	.001
6...allow a(n)_____to teach your child?	6.14 (1.17)	4.70 (1.90)	<.001
7...help a(n)_____?	6.71 (0.57)	6.42 (0.85)	.001
8...talk with a(n)_____?	6.67 (0.59)	6.44 (0.88)	.005
9...negotiate business deals with a(n)_____?	6.53 (0.68)	5.84 (1.44)	<.001
10...hang out with a(n)_____?	6.55 (0.65)	5.65 (1.42)	<.001
11...share a dinner with a(n)_____?	6.59 (0.67)	6.04 (1.28)	<.001
12...hire as an employee a(n)_____?	6.61 (0.73)	6.07 (1.18)	<.001

Notes. Studies 1 and 3 used items 1–12 and Study 2 used items 1–6. Reported means, standard deviations, and *p*-values are results solely from Study 1.

Materials and Procedure

Behavioral Intention Index

A separate religious believer (Cronbach's $\alpha = .89$) and atheist ($\alpha = .92$) behavioral intention index (similar to a multiple-act index) was created by averaging items designed to assess an individual's likelihood of engaging in behaviors targeted at these two groups. Each question began with the stem, "What is the likelihood that you would..." and was followed by one of twelve specific behaviors such as "...vote for a religious believer/atheist," and "...allow a religious believer/atheist to teach your child?" Participants rated their likelihood of engaging in each of the behaviors (1 = *Very Unlikely*; 7 = *Very Likely*). Behavioral intention items came from previous research (Edgell et al., 2006; Jones, 2012) as well as items created specifically for this study. Both the religious believer and the atheist positive behavioral intentions indices included the same set of behaviors and differed only in target group (see items 1–12 in Table 1).

Social Norm and Religious Measures

Participants next estimated the percentage of religious believers in the US population by entering a number from 0 to 100%. Then, participants rated their level of religious identification on a 7-point scale (1 = *Not Religious at All*; 7 = *Very Religious*). Finally, participants answered four variations of the question, "In general, how acceptable (0 = *Not Acceptable at All*; 6 = *Extremely Acceptable*) is it for somebody to express positive/negative attitudes towards a person who is a religious believer/atheist?"

Results and Discussion

A mean behavioral intentions index score was calculated for both the atheist ($M = 5.37$, $SD = 1.10$) and religious

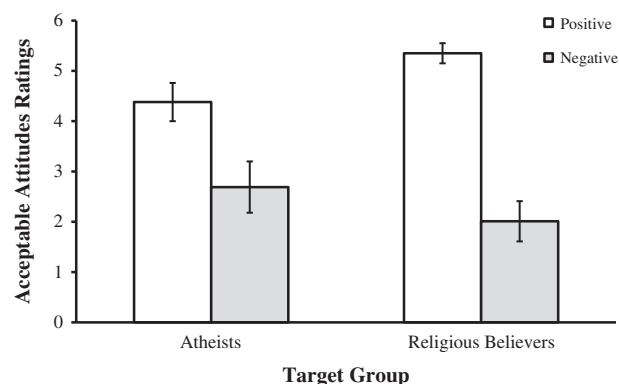


Figure 1. Mean perceived acceptable attitude ratings towards atheists and religious believers in Study 1. The error bars represent 95% confidence intervals.

believer ($M = 6.44$, $SD = 0.58$) target groups. A paired-samples *t*-test revealed that participants reported a higher level of positive behavioral intentions towards religious believers compared to atheists, $t(67) = 7.95$, $p < .001$, $d = 0.96$. Across each of the 12 individual behavioral intention items, paired-samples *t*-tests indicated that participants rated a higher likelihood of engaging in these behaviors with religious believers than with atheists, $ps < .01$ with Cohen's *d*s between 0.35 and 1.14 (see Table 1). As predicted, across a variety of positive behaviors, participants reported a higher intent of engaging in the behavior with a religious believer than an atheist.

A 2 (target group: atheists, religious believers) \times 2 (acceptable attitude valence: positive, negative) repeated-measures analysis of variance (ANOVA) revealed a significant interaction of target by acceptable attitude valence, $F(1, 67) = 21.70$, $p < .001$, $\eta_G^2 = .06$ (see Figure 1). A main effect of target, $F(1, 67) = 4.92$, $p = .03$, $\eta_G^2 = .002$, and attitude valence, $F(1, 67) = 73.41$, $p < .001$, $\eta_G^2 = .38$, was also

found in that religious believers received higher levels of combined positive and negative acceptable attitude ratings than atheists and positive acceptable attitudes were reported at a higher level than negative acceptable attitudes.¹ Planned, simple effects contrasts revealed significant differences between the positive ($M = 5.35$, $SD = 0.84$) and negative ($M = 2.01$, $SD = 1.65$) acceptable attitude ratings for religious believers, $F(1, 67) = 171.98$, $p < .001$, as well as the positive ($M = 4.38$, $SD = 1.57$) and negative ($M = 2.69$, $SD = 2.10$) acceptable attitude ratings for atheists, $F(1, 67) = 16.82$, $p < .001$. In addition, both positive, $F(1, 67) = 29.41$, $p < .001$, and negative, $F(1, 67) = 11.66$, $p = .001$, acceptable attitude ratings differed between the two groups. Initially, level of religiosity was included as a continuous predictor variable in the model but was subsequently excluded as it did not contribute significantly as either a predictor by itself or as part of an interaction, $ps > .22$. In addition, exclusion of the three atheists from the analyses did not affect the general pattern of results.

Overall and as predicted, individuals found it more acceptable to express negative attitudes towards atheists and less acceptable to express positive attitudes towards atheists, relative to religious believers. However, in spite of this comparative trend atheists did not overall elicit more acceptable negative attitudes than positive attitudes. Although not addressed in our original set of hypotheses, it would have been reasonable to expect a higher level of negative acceptable attitudes towards atheists than positive acceptable attitudes given previous findings such as the unwillingness to vote for and marry an atheist (Edgell et al., 2006; Jones, 2012). Our finding may stem from a general social norm that discourages the expression of negative attitudes, and if a person does hold negativity towards a target group such as atheists, it is expected that the individual keep quiet (i.e., if you don't have anything nice to say, don't say anything at all) (Noelle-Neumann, 1991).

To obtain measures of comparison between target groups, a separate positive and negative attitude acceptability score was calculated by subtracting the atheist from the religious believer ratings. A difference score was used in lieu of separate positive and negative acceptable attitudes scores to help control for individual differences in attitude acceptability between participants (i.e., some individuals may simply feel that it is more acceptable to criticize any group). These difference scores were correlated with participants' estimates of religious believers in the population. Higher positive acceptability scores in favor of religious believers relative to atheists correlated with higher

estimates of religious believers in the US, $r(66) = .27$, $p = .03$, and a trend approaching significance was found in that higher negative acceptability scores towards atheists tended to correlate with higher estimates of religious believers, $r(66) = -.20$, $p = .11$.

These correlational patterns potentially indicate that one's perception of acceptable attitudes towards atheists and religious believers ties in to one's estimate of the prevalence of these groups' members. These population estimate findings also conceptually replicate and extend Gervais's (2011) research which found that experimentally increasing the prevalence of atheists in the population specifically decreased distrust of this group. The unique contribution of our research is that the perceived prevalence of one group, religious believers, tied in with acceptable attitudes of another group, atheists.

In order to address the possibility that perceptions of acceptable attitudes stem directly from participants' own level of religiosity, correlations were calculated between self-reported religiosity and acceptable positive and negative attitudes for both target groups as well as with the two difference scores. Across all six correlations, no significant correlation was found (all r s between $-.07$ and $.02$). These nonsignificant results fail to support a possible alternative explanation that individuals are exclusively using their own values to make inferences about perceptions of the larger population. Instead, the acceptability of attitude expression appears to be more closely linked to evaluating others' religious identity rather than drawing from one's own religious identity. However, as the sample consisted of a majority of individuals from one particular religion (i.e., the LDS religion), the level of religiosity may have been restricted and/or higher than the general population. In Study 3, we will specifically address this sampling issue to help increase the generalizability of our findings.

Study 2: Personal and Societal Attitudes and Behavioral Intentions

Whereas Study 1 assessed the perceived acceptability of attitude expression (i.e., the perceived social norm) along with one's personal behavioral intentions, Study 2 was designed to evaluate the extent to which one's personal attitudes and behavioral intentions match one's perception of society's attitudes and behavioral intentions. In order to accomplish this objective, we created a personal and a societal version of both the positive behavioral intentions

¹ We reported generalized eta squared rather than classical or partial eta squared as it allows for the comparability across varied research designs (e.g., repeated vs. mixed ANOVAs) and limits the artificial inflation of the effect size (Olejnik & Algina, 2003).

indices and the feelings thermometers. The personal version of these two types of measures involved the reporting of one's personal behavioral intentions and attitudes whereas the societal version, created for Study 2, involved the reporting of perceived societal behavioral intentions and attitudes. By creating a personal and societal version of two different assessment measures it would help us identify which of the two measures is potentially more impacted by the subjective norm.

As the acceptability of positive and negative attitudes differed between atheists and religious believers in Study 1, we made two slightly different sets of predictions for the two target groups in Study 2. For atheists, we anticipated that participants would report a similar level of personal and societal *attitudes* and a similar level of personal and societal, positive *behavioral intentions* given atheists' less positive ratings. We felt that participants would not want to deviate too much from the norm on a potentially stigmatizing group. For religious believers, we predicted that *personal attitudes* and positive behavioral intentions would be rated higher than *societal attitudes* and positive behavioral intentions given the high level of positive attitude acceptability reported for religious believers. If people perceive that having positive dispositions towards religious believers is viewed favorably by others, then people would most likely report that they have these tendencies at a higher level than others. This higher level of religious believer favoritism could be a function of either wanting to appear socially desirable or perhaps thinking that one truly is "better than average" at having a socially desirable tendency (i.e., a self-other bias; Brown, 1986). Just as a majority of individuals believe that they are happier, more intelligent, and less prejudiced than others (McFarland & Miller, 1990), people may also believe that they are more favorable to religious individuals given the social acceptability of this tendency. Finally, in comparing atheists and religious believers, we again predicted that religious believers would receive more positive attitude and behavioral intentions ratings overall, and this favoritism would play out for both the personal and societal versions of the two measures.

If an individual is attempting to match his or her own personal attitudes/behavioral intentions with societal attitudes/behavioral intentions we predicted that this matching would be easier to do for behavioral intentions than for attitudes. In other words, personal and societal, positive *behavioral intentions* were hypothesized to correlate with each other for both target groups, whereas personal and societal *attitudes* were not. If behavioral intentions better predict

behaviors than personal attitudes, an individual potentially also has more accurate information about behavioral intentions (Bauman & Geher, 2002), as observing a behavior arguably provides more information about one's behavioral intention than one's attitudes, especially when these attitudes are not viewed favorably by others. Furthermore, thinking about the exact behavioral intention as opposed to a general attitude could very well make the behavior and related consequences more salient to the individual.

Method

Participants

Seventy-nine students (50 women; $M_{\text{age}} = 20.34$ years, $SD_{\text{age}} = 3.40$) at a public university in the western US were recruited through a departmental website in exchange for course credit. Sample size was determined by the number of participants who signed up for the study over the course of a semester with the stipulation that there must be a minimum of 50 participants. Religious affiliation was obtained by using an open-ended question and included 53% LDS, 4% Catholic, 3% undecided, 3% Christian, 4% "None," 7% other, and 3% with no response. Due to a survey administration error, 20 participants (28%) were not asked about their religious affiliation.

Materials and Procedure

Feelings Thermometer

Attitudes were assessed using four, single-item feeling thermometers that varied as a function of target group² (atheist/religious believer) and attitude reference group (personal/societal). Each thermometer instructed participants to rate "your" and "society's general level of warmth or coolness" towards each target group by circling a single number on the scale which ranged from 0 (= *Cold or Unfavorable*) to 100 (= *Warm or Favorable*), with 10-point increments and a midpoint descriptor of *Neutral* at 50.

Behavioral Intention Index

A subset of six items from the original 12 items used in Study 1 were randomly chosen to create a personal and a societal, positive behavioral intentions index (see items 1-6 in Table 1).³ All participants completed both the personal (i.e., "you") and the societal (i.e., "the average person") versions of the two behavioral intentions indices for both atheists and religious believers (Cronbach's $\alpha = .86-.91$) by rating their likelihood of engaging in each of the behaviors (1 = *Very Unlikely*; 7 = *Very Likely*).

² Additional attitudinal data in Study 2 were collected on three additional targets; Mitt Romney, Barack Obama, and the LDS religion.

³ The number of behavioral intention items was limited to six as similar measures were also used on the three additional targets not reported with this series of studies, and we were concerned about participant fatigue.

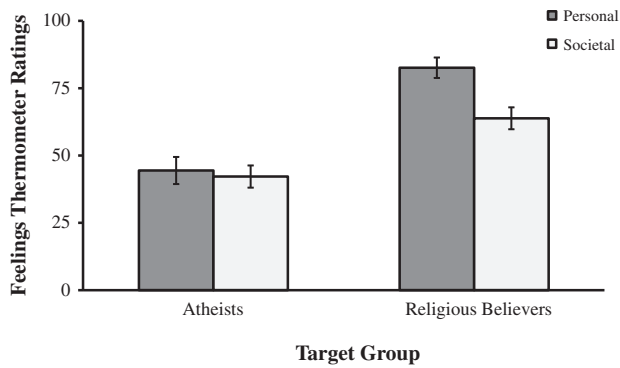


Figure 2. Mean personal and societal attitude ratings towards atheists and religious believers as measured by the feelings thermometers in Study 2. The error bars represent 95% confidence intervals.

Results

Feelings Thermometer

A 2 (target group: atheists, religious believers) \times 2 (reference group: personal, societal) repeated-measures ANOVA revealed an interaction for attitudes as measured by the feelings thermometer, $F(1, 74) = 10.76, p = .002, \eta_G^2 = .05$ (see Figure 2). The main effects of target group, $F(1, 74) = 196.85, p < .001, \eta_G^2 = .40$, and attitude reference group, $F(1, 74) = 34.17, p < .001, \eta_G^2 = .07$, were also significant. Planned, simple effects contrasts for the feelings thermometer revealed a significant difference between personal and societal attitudes for the religious believers, $p < .001, d = 0.76$, but not for the atheist group, $p = .50, d = 0.08$.

Behavioral Intention Index

A 2 (target group: atheists, religious believers) \times 2 (reference group: personal, societal) repeated-measures ANOVA also revealed an interaction for positive behavioral intentions as measured by the behavioral intention index, $F(1, 76) = 7.48, p = .008, \eta_G^2 = .02$ (see Figure 3). Main effects of target group, $F(1, 76) = 172.80, p < .001, \eta_G^2 = .35$, and attitude reference group, $F(1, 76) = 13.03, p = .001, \eta_G^2 = .02$, were also found. Using planned, simple effects contrasts, we found that personal and societal behavioral intentions differed significantly from each other for the religious believer target group, $p < .001, d = 0.57$, but not for the atheist target group, $p = .78, d = 0.03$. Across all behavioral intention items for both the personal and societal reference groups, atheists received significantly lower ratings than religious believers (ts 4.64–14.00, with all $ps < .001$, and Cohen's ds between 0.53 and 1.58).

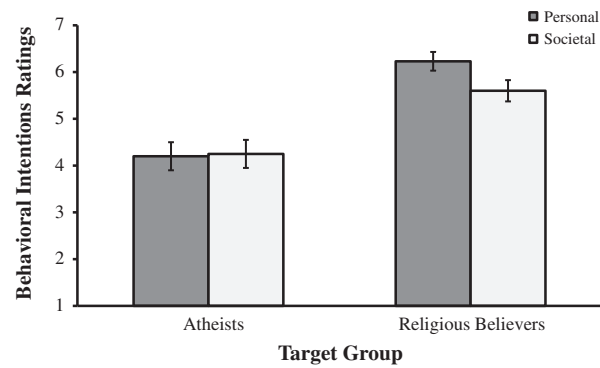


Figure 3. Mean personal and perceived societal behavioral intention ratings towards atheists and religious believers as measured by the behavioral intentions indices in Study 2. The error bars represent 95% confidence intervals.

Personal and Societal Attitudes and Positive Behavioral Intentions

To evaluate the relation between one's reported personal attitudes/behavioral intentions and one's perception of societal attitudes/behavioral intentions, correlations were calculated for each target group, for each measurement type. Personal behavioral intentions correlated with perceptions of societal behavioral intentions for both the atheist, $r(78) = .35, p = .002$, and the religious believer groups, $r(77) = .45, p < .001$. In contrast, personal attitudes reported on the feelings thermometer did not correlate with perceptions of societal attitudes for either the atheist target group, $r(77) = -.06, p = .59$, or the religious believer target group, $r(75) = -.01, p = .92$.⁴

Discussion

As predicted, no significant difference was found between personal and societal attitudes or between personal and societal positive behavioral intentions for atheists. We predicted these results based upon the idea that the perceived social norm directly influences the expression of attitudes and behavioral intentions towards atheists and that individuals would match their reported attitudes and behavioral intentions to the perceived societal norms. In particular, we reasoned that based upon the negativity towards atheists in conjunction with the correlation between religious believer population estimates and acceptable atheist attitudes found in Study 1, an individual would try to mimic the perceived social norm.

A discrepancy between personal and societal attitudes and personal and societal, positive behavioral intentions occurred for religious believers. Participants reported

⁴ Across all analyses, no significant changes in the pattern of results were found when the "None" religious group was excluded.

holding more positive attitudes and a higher likelihood of engaging in positive behaviors towards religious believers than other individuals. At this point, three different possible explanations are plausible. As identified previously, participants may have either reported in a socially desirable manner, or they may actually believe that they are “better” in attitudes and behavioral intentions than others. Another, previously unmentioned possibility, is that the sample for Study 2 may have been exceptionally religious and genuinely do favor religious individuals more than the average person. Since level of religiosity was not directly assessed in Study 2, this possibility, along with the other two, cannot be discounted at this point.

Personal and societal behavioral intentions correlated for both targets whereas personal and societal attitudes did not correlate for either target. Four explanations for this correlational pattern difference are possible. First, the number of items between the two scales differed which could have contributed to a statistical issue. Second, even though the behavioral intention measure and the attitude measure were both designed to measure personal and societal attitudes, the societal target groups used different descriptors (“society” vs. “the average person”) to help match the context of the question. Third, a false consensus effect (Ross, Greene, & House, 1977) could have occurred (with the behavioral intentions measure only) as participants could have believed and reported incorrectly that other people hold the same beliefs as the participant. Fourth, the correlation between behavioral intention measures may have occurred as behaviors, which are more closely connected to behavioral intentions than attitudes (Ajzen, 1985; 2012), are more observable and hence more informative about others’ dispositions. We believe the fourth explanation to be the most accurate. Study 3 was designed to further address these possible explanations. Finally, as in Study 1 we found a strong preference for religious believers over atheists regardless of type of measure used and regardless of whether participants reported on personal or societal attitudes/behavioral intentions.

Study 3: Manipulating Public and Private Accessibility

To identify how public opinion is affecting the expression of private attitudes and positive behavioral intentions towards atheists, we sought to remove or minimize the influence of the larger social norm using a public versus private reporting manipulation. Whereas public reporting involves either the actual or perceived risk of exposing one’s responses to others, private reporting minimizes this (perceived) risk of exposure (MacDonald & Nail, 2005). This public versus

private reporting distinction has been shown to effectively alter individual responses on issues such as antiracism support (Blanchard, Crandall, Brigham, & Vaughn, 1994) and prejudice (Lambert, Cronen, Chasteen, & Lickel, 1996). Specifically for Study 3, we used a methodology developed by MacDonald and Nail (2005) in which participants reported their engagement in potentially embarrassing behaviors by filling out a survey, placing it in an envelope, and returning it to the back of the room (i.e., the private condition) or by filling out a survey with no envelope and returning it directly to the experimenter at the front of the room (i.e., the public condition). In addition to the experimenter being a source of potential public exposure, our study like MacDonald and Nail’s (2005) also made use of a group administration format in which other peers in the room could potentially view an individual’s responses. Studies 1 and 2 had both been conducted using a public format of reporting similar to that described in MacDonald and Nail’s (2005) research which makes Study 3 crucial to assessing privately held attitudes and behavioral intentions.

We predicted that reported positive behavioral intentions towards atheists would be higher in the private than the public reporting condition resulting in a case of pluralistic ignorance. We made this prediction for a number of reasons. First, results from Study 1 indicated that relative to religious believers positive attitudes towards atheists tended to be less acceptable and negative attitudes tended to be more acceptable to express. Second, Study 1 and previous research (Gervais, 2011) have revealed that acceptable attitudes towards atheists and the attribution of untrustworthiness, respectively, tie in with the prevalence of religious believers in the population. If we remove the influence from the large numbers of religious believers in the US, then positive behavioral intentions towards atheists should become more pronounced just as levels of atheist distrust decreased as religious believer numbers decreased (Gervais, 2011). Third, given that thinking about God is comparable to thinking about how others view oneself (Gervais & Norenzayan, 2012), removing the influence from others may very well remove the Godly influence as well. One caveat to this public and private hypothesis for atheists is that this discrepancy should only occur with the behavioral intentions measure and not the attitude measure. We predicted this outcome as personal and societal behavioral intentions correlated in Study 2 whereas attitudes did not, and because behavioral intentions should be more closely tied to potential behaviors which could be criticized by others whereas attitudes are more hidden and potentially harder to assess in others.

Two additional competing hypotheses were also possible. One possibility was that the increased anonymity would actually encourage a more vehement expression towards

atheists as the level of personal accountability in the private reporting condition diminished. However, this possibility seemed unlikely given the overwhelming social norm findings regarding negativity towards atheists. The second competing hypothesis was that no difference between the private and public reporting conditions would occur, and this outcome would be difficult to disentangle as both theoretical and methodological issues could be contributing factors.

We also designed Study 3 to address the three aforementioned possible explanations for higher personal than societal ratings of religious believers in Study 2. First, if people are attempting to appear socially desirable, then they should report lower favorable ratings towards religious believers in the private condition given the lower level of exposure to others' evaluations. Since individuals have significantly more information about the treatment and attitudes towards religious believers (compared to atheists), this lower level of positivity should occur with both the behavioral intentions and attitudes measures. Second, if people believe they truly are "better" at favoring religious believers relative to others, then no differences between the public and private manipulation should occur regardless of measure. Third, to address the possibility that Study 2 had a sample unusually high in religiosity, a religiosity measure was included.

Method

Participants

Eighty-three students (55 women; $M_{\text{age}} = 20.53$ years, $SD_{\text{age}} = 4.07$) from a general psychology course at a public university in the southwestern US voluntarily participated in exchange for course credit. Sample size was determined by enrollment in the course with the stipulation that there must be a minimum of 30 participants in each of the between-participants conditions. Self-reported religious affiliation included 39% Catholic, 35% Christian-Protestant, 5% Atheist, 8% "None," 10% other religion, and 4% Agnostic participants. All data were collected in one session.

Materials

Behavioral Intention Index

The same positive behavioral intention index used in Study 1 was also used in Study 3 to assess the likelihood of engaging in behaviors towards religious believers (Cronbach's $\alpha = .95$) and atheists ($\alpha = .95$) (see items 1–12 in Table 1). Study 3 only included the personal behavioral intentions version of the index and not the societal behavioral intentions index used in Study 2.

Feelings Thermometer

Attitudes towards atheists and religious believers were also assessed using the same two, single-item feeling

thermometers as used in Study 2. In addition, only the personal attitudes version of this measure was used in Study 3.

Religiosity Scale

A face-valid, five-item religiosity scale consisting of items that assessed an individual's strength of religious association (e.g., "How religious are you?") as well as their reported level of past religious behavior involvement (e.g., "How often do you attend religious services at your place of worship?") were averaged to create an index of religiosity ($\alpha = .94$). Items were rated on a 7-point scale, and anchor descriptions varied as a function of the question asked. Scale anchors with a response of "1" indicated either *Not at All* or *Very Weak* whereas a response of "7" indicated either *Extremely*, *Extremely Often*, *Extremely Strict*, or *Very Strong*.

Procedure

Participants were told they would be completing questionnaires regarding their beliefs. Upon consent, participants received a paper packet containing all the materials for the study. Along with the study packet, every other student in the room, approximately half of the participants ($n = 43$), also randomly received a manila clasp envelope with no identifying marks on it. Using an established experimental methodology nearly identical to one created by MacDonald and Nail (2005), the researcher informed the participants that upon completion of the study, those individuals with the manila envelopes were to put their study packet in the envelope and place it on a pile at the back of the room (i.e., the private reporting condition). In contrast, participants who did not receive an envelope ($n = 40$) were instructed to turn in their completed study packet face down, on a table by the experimenter at the front of the room (i.e., the public reporting condition). Participants were allowed to choose where they sat in the room which resulted in some individuals sitting immediately next to each other whereas others sat several seats away from the closest person.

Results

Behavioral Intention Ratings

A 2 (target group: atheists, religious believers) \times 2 (reporting condition: private, public) mixed-model ANOVA revealed a significant interaction, $F(1, 81) = 4.96$, $p = .03$, $\eta_G^2 = .04$, for the dependent variable of positive behavioral intentions (see Figure 4). A main effect of the repeated-measures variable, target group, was found showing that positive behavioral intentions towards atheists were overall lower than positive behavioral intentions towards religious believers, $F(1, 81) = 48.39$, $p < .001$, $\eta_G^2 = .28$. A main effect

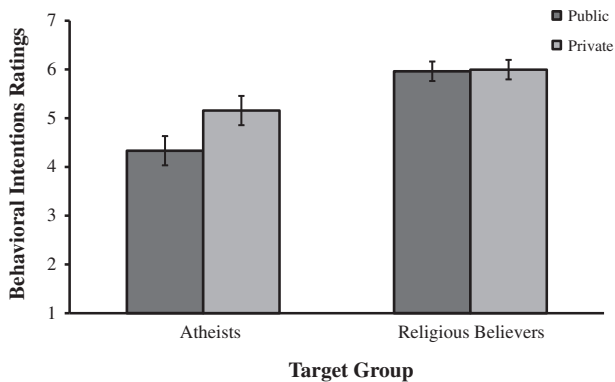


Figure 4. Mean behavioral intention ratings, towards atheists and religious believers as a function of reporting condition in Study 3. The error bars represent 95% confidence intervals.

of the between-participants variable, reporting condition, also occurred, $F(1, 81) = 5.56, p = .02, \eta_G^2 = .02$, in that reporting in public resulted in a significantly lower behavioral intention score than reporting in private. This main effect of reporting condition is driven by the interaction finding that positive behavioral intentions towards atheists were rated lower in the public condition ($M = 4.33, SD = 1.40$) than in the private condition ($M = 5.16, SD = 1.21$), $p = .005$. Furthermore, when behavioral intentions towards atheists were publically assessed, participants had the lowest behavioral intention score under any condition towards any group. No difference between public ($M = 5.96, SD = 1.04$) and private ($M = 6.00, SD = 0.94$) reporting for religious believers was found, $p = .88$. Level of religiosity was initially included as a continuous predictor variable in the model but was subsequently excluded as it did not contribute to the model significantly as a predictor by itself or as part of the three-way interaction. However, a target by religiosity interaction was observed, $F(1, 78) = 58.71, p < .001, \eta_G^2 = .21$.⁵

Feelings Thermometer Ratings

A 2 (target group) \times 2 (reporting condition) mixed-model ANOVA revealed that the dependent variable of attitudes, as measured via the feelings thermometers, did not differ as a function of reporting condition, $F(1, 81) = 2.24, p = .14$. However, a main effect of the repeated-measures variable, target group, did exist, $F(1, 81) = 42.56, p < .001, \eta_G^2 = .22$, in that reported attitudes towards atheists were significantly lower ($M = 53.73, SD = 24.47$) than reported attitudes towards religious believers ($M = 76.75, SD = 18.83$). No main effect of reporting condition occurred, $F(1, 81) = 0.004, p = .95$. Correlations between the two measures by target group and condition are reported in Table 2. Level of religiosity was again initially included as

a continuous predictor variable in the model, and was subsequently excluded as it did not contribute to the model significantly as a main effect or as part of the three-way interaction. However, another target by religiosity interaction was observed, $F(1, 78) = 52.55, p < .001, \eta_G^2 = .23$.

Religiosity Scale

Participant religiosity was moderate on the 7-point scale ($M = 4.12, SD = 1.96$). No significant differences in religiosity were found between the public and private conditions, $t(80) = 0.06, p = .95$. However, females in the study reported a significantly higher level of religiosity ($M = 4.46, SD = 1.99$) than males ($M = 3.49, SD = 1.75$), $t(80) = 2.18, p = .03, d = 0.52$.

General Discussion

Across three studies, attitude expression towards atheists was shown to be linked directly to the larger social norm. In Study 1, individuals found it more acceptable to express negative attitudes towards atheists than religious believers and more acceptable to express positive attitudes towards religious believers than towards atheists. In addition, as an individual estimated a lower number of religious believers in the US their acceptable positive attitude rating towards atheists relative to religious believers increased. In Study 2, we confirmed the link between personal behavioral intentions and the perception of societal behavioral intentions for both atheists and religious believers, thus providing us with a useful tool for assessing the impact of the social norm for a subsequent experimental manipulation. In addition, we identified a trend of rating oneself higher than others on attitudes and behavioral intentions towards religious believers. In Study 3, we found that when individual behavioral intentions towards atheists were less accessible to public scrutiny, these behavioral intentions became more positive supporting our idea that a normative social influence is contributing to a state of pluralistic ignorance.

A state of pluralistic ignorance (Miller & McFarland, 1991; Prentice & Miller, 1993) towards atheists appears to exist in the US. Individuals privately reported more positive behavioral intentions towards atheists than they reported publically. Contrary to recent research for other stigmatized groups (Boysen, Vogel, & Madon, 2006; Lowery, Hardin, & Sinclair, 2001; Plant & Devine, 1998), we failed to find support for the alternate possibility in which reporting attitudes and behavioral intentions in private would increase negativity towards atheists. As the public and private manipulation did affect reported behavioral intentions this finding goes against a false consensus effect explanation which would

⁵ Across all analyses, no significant changes in the pattern of results were found when excluding atheists or the "None" religious group.

Table 2. Pearson's correlations between attitude and positive behavioral intention measures by reporting condition and target group in Study 3

	1	2	3	4
Public reporting condition (no envelope)				
1. Atheist attitudes	–	–.28	.76**	–.39*
2. Religious believers attitudes		–	–.33*	.68**
3. Atheist behavioral intention			–	–.19
4. Religious believers behavioral intentions				–
Private reporting condition (envelope)				
1. Atheist attitudes	–	.06	.56**	.07
2. Religious believers attitudes		–	–.06	.70**
3. Atheist behavioral intention			–	.29
4. Religious believers behavioral intentions				–

Notes. * $p < .05$. ** $p < .001$.

have otherwise resulted in the manipulation failing to show a difference between the two conditions. Our results tend to reflect a social norm that supports open negativity towards atheists (Edgell et al., 2006; Jones, 2012) and suppresses open positivity. In addition to replicating previous research that found individuals to be less likely to vote for or marry an atheist (Edgell et al., 2006; Jones, 2012), we found that people were less willing to talk with and even help an atheist. This last item is particularly interesting given that many religions in the US claim to have a humanitarian component that encourages assisting others in need. However, our finding suggests that the likelihood of receiving help may depend upon whether or not the one in need is a religious believer.

Even with this pluralist ignorance explanation, our findings do not negate the overall negativity towards atheists as private reporting did not completely diminish the religious believer preference. Our three studies found a robust pattern of favoritism for religious believers over atheists in acceptable attitudes, personal attitudes, personal behavioral intentions, societal attitudes, and societal behavioral intentions. Given that the majority of the population in the US reports a religious affiliation it may not be all that surprising that this religious preference exists. Our research also does not negate any of the results linking thoughts of God to public self-awareness and social desirability (Gervais & Norenzayan, 2012), but rather it extends the research in showing that for religious groups the benefit to public self-awareness is that perceived public scrutiny can act as a force by which to shape behavioral intentions towards the unreligious. Like gods that are designed to judge and punish wrongdoers (Norenzayan & Shariff, 2008), the public serves as a convenient substitute.

Even though the social norm directly impacted the expression of behavioral intentions towards atheists, the role that the social norm serves in attitude and behavioral intention expression towards religious believers appears more complex. In Study 1, individuals reported a high level of acceptance of positive attitude expression towards religious believers and a low level of acceptance of negative

attitude expression suggesting a strong religious-favoritism social norm. However, in Study 3 the public manipulation failed to increase reported positive behavioral intentions towards religious believers, failing to support a social desirability explanation. In Study 3, the positive behavioral intentions dropped somewhat from the positive *personal* behavioral intentions reported in Study 2, but remained higher than the *societal* behavioral intentions in Study 2, perhaps indicating that Study 2 contained a more religious sample given this drop. However, the moderately religious sample in Study 3 (close to midpoint on the scale) still reported a higher level of positive behavioral intentions towards religious believers than was reported on the societal behavioral intentions in Study 2, also tentatively supporting a self-other bias explanation. Furthermore, Study 1 failed to show a significant relation between one's behavioral intentions towards religious believers and one's religiosity providing a counterpoint to the highly religious sample argument, but this lack of relation could once again be a function of a homogenous, highly religious sample. We believe our results support both explanations, and future research will be needed to fully disentangle these possibilities.

Limitations, Future Directions, and Conclusions

In this research we assessed the impact of reporting condition on behavioral intentions/attitudes rather than actual behaviors. Criticisms have been levied against the usefulness of attitude assessment in predicting behaviors (see Ajzen & Cote, 2008, for a review), and evaluating this link would provide important additional validity support. If behavioral intentions, such as one's willingness to help an atheist, provide an indication of future behaviors, it may be that public opinion not only encourages negative attitudes towards atheists but perpetuates discrimination as well. Even though behavioral intention items successfully predict future behavior (Ajzen & Fishbein, 2005), it is not

conclusive whether or not our self-report indices would predict actual behaviors.

Whereas this research offers a current snapshot of the interplay between public and private behavioral intentions and attitudes towards atheists, how these intentions and attitudes will shift in the future is less clear. On one hand, private attitudes can be influenced by public perception as individuals have been shown to shift their attitudes in the direction of the perceived norm (Prentice & Miller, 1993), and identification with the group representing the social norm also tends to shift one's behavior in the direction of the norm (Terry & Hogg, 1996). Furthermore, public attitudes expressed by the societal majority can serve as a force that shapes both an individual's publically expressed and privately held attitudes (Blanchard et al., 1994; Prislín & Wood, 2005). However, private attitudes change more quickly than social norms (Miller & McFarland, 1991), and current demographic shifts have shown that the number of individuals who chose no religious affiliation increased from about 15% in 2007 to just under 20% in 2012 with self-identified atheists increasing from 1.6% to 2.4% (PEW Research Center for Religion & Public Life, 2012). In addition, younger generations age 18–29 years (such as our sample) are more likely to be religiously unaffiliated (32%) than older generations over age 65 (9%) (PEW Research Center for Religion & Public Life, 2012) and are more likely to vote for an atheist (70% vs. 40%; Jones, 2012).

Similar to the Civil Rights Era, a current shift in the US in favor of atheists may be developing at an individual level, but it has yet to take hold at the societal level. Just as notable decreases in antiracism (Firebaugh & Davis, 1988) and increases in racial acceptance (Smith, 1985) have occurred for groups such as African Americans over the past few decades, a similar change may be occurring for atheists. Minority influence can alter the larger public opinion (Wood, Lundgren, Ouellette, Busceme, & Blackstone, 1994), and social movements such as Dawkins' *Out Campaign* may be the type of precipitating event that would perpetuate this change.

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