Sexism has deep roots in human history, including most religious traditions. Many religious organizations and traditions, including Judeo-Christian beliefs, subtly approve of and espouse sexism. Previous research has detailed how religiosity and sexism, particularly benevolent sexism, are positively correlated. Given these connections, we examined whether supraliminal or subliminal religious priming influenced reported benevolent and hostile sexism in Belgium (Experiments 1–2) and the United States (Experiments 3–4). Across four experiments, priming Judeo-Christian concepts increased self-reported benevolent sexism. In addition, differentiating types of religious primes into subgroups of religious agent, religious institution, and spiritual words revealed that exposure to religious agent primes resulted in higher levels of benevolent sexism compared to other groups (Experiment 4). These results provide empirical evidence that religion can act to bolster benevolent sexist ideals, which reinforce an unequal relationship between men and women.

**Keywords:** sexism, religion, priming, gender equality
sexism bolsters cooperative efforts between the sexes by offering men’s protection to compliant, obedient women who are depicted as more emotional, fragile, and morally superior to men. (Becker & Wright, 2011; Swim & Hyers, 2009). Put another way, hostile sexism defines what does not make a good woman (e.g., agentic, taking power away from men, using sex as a weapon), whereas benevolent sexism reinforces the status quo of women fulfilling narrowly defined expectations of helpfulness, innocence, and motherliness. Both kinds of sexism endorse men’s superiority through, respectively, disparagement or paternalism.

Jost and colleagues (2014) theorized that religion also helps sexism to be “accepted and imbued with moral and even spiritual significance” (p. 58). For instance, the Catholic Church denounces men’s abuse of power over women and reinforces the “genius of women” as mothers, nurturers, and caregivers, but not as leaders, whether spiritual or otherwise (Ratzinger & Amato, 2004). Protestant fundamentalists lobby to defend the institution of traditional heterosexual marriage and family life via a return to patriarchal “values” of wives as husbands’ helpmeets, not equals (Colaner & Warner, 2005). With many religions providing legitimization for sexism, whether through doctrine, divine inspiration, or prohibitive hierarchies, they help to rationalize this unequal treatment as just and appropriate (Jost et al., 2014).

Previous research has supported this notion, as positive associations have been found between indicators of religiosity and facets of sexism. In one of the earliest investigations of the relationship between religiosity and attitudes toward women, Henley and Pincus (1978) found sexism positively correlated with religious importance. In Ghanaian and Canadian samples, sexist attitudes positively correlated with religious fundamentalism (Hunsberger, Owusu, & Duck, 1999). In a Polish Catholic sample, connections between benevolent sexism and religiosity were present in women (Mikołajczak & Pietrzak, 2014). In U.S. samples, religious fundamentalism correlated positively with hostile and benevolent sexism (Hill, Cohen, Terrell, & Nagoshi, 2010). Other research finds that benevolent sexism correlates positively with several components of religiosity (i.e., extrinsic, intrinsic, scriptural literalism; Burn & Busso, 2005), whereas other studies indicate only the protective paternalism facet, concerned most with men’s protectors, correlates with Christian Orthodoxy in men (Maliby, Hall, Anderson, & Edwards, 2010).

But does religion contribute to sexism or facets of it? Because all prior work has been correlational in nature, the examination into the relationship between religion and sexism needs an experimental component to investigate potential causality. Recently, researchers have turned to conceptual priming as one way to harness the power of an experiment and to advance beyond correlational methods (Bargh & Chatrand, 2000). Priming methods temporarily activate mental representations related to the primed concept. Relevant to our study, Judeo-Christian priming has been shown to increase covert racism toward African Americans (Johnson, Rowatt, & LaBouff, 2010) and submission to authority (Saroglou, Corneille, & Van Cappellen, 2009), which suggest there also may be an underlying connection between sexism and activating religious concepts. Although priming methodologies have been criticized (see Doyen, Klein, Pichon, & Cleeremans, 2012, for review), a recent meta-analysis found a consistent moderate effect of religious priming on prosociality and stereotyped attitudes (Shariff, Willard, Andersen, & Norenzayan, 2016).

Present Research

In four experiments, we investigated whether supraliminal (above awareness) and subliminal (below awareness) religious priming impacts sexism. We hypothesized that religious priming, supraliminal and subliminal, would increase endorsement of sexism. In addition, we plan to control for participant gender and self-reported belief in God. We chose to use the simplest measure of religious belief, atheism versus theism, because prior correlational studies have found varying relationships with sexism depending on the measure of religiosity (Burn & Busso, 2005; Maliby et al., 2010).

Experiments 1 and 3 examined the link between supraliminal religious activation and sexist attitudes in online Belgian and American samples, respectively. In supraliminal, or above awareness, priming, participants are aware of the religious content though they remain ignorant of its effect on their future emotions, thoughts, or behaviors (Bargh & Chatrand, 2000). Most often, supraliminal primes occur either within the environment (i.e., taking a survey beside a church vs. a civic building, as in LaBouff, Rowatt, Johnson, & Finkle, 2012) or through reading passages or words. For these experiments, the scrambled sentence task (SST; Snell & Wyer, 1979) was used to prime religion, in which individuals are asked to unscramble and then write sentences with religious words versus neutral ones (similar to Shariff & Norenzayan, 2007).

Experiments 2 and 4 used subliminal religious primes and examined their impact on sexist attitudes within an in-lab Belgian and American sample, respectively. Subliminal, or beneath awareness, priming is favored over supraliminal as it decreases the likelihood of encountering error due to contrast effects or demand characteristics (Bargh & Chatrand, 2000). Although participants who are supraliminally primed may not believe the task has any effect, participants who are subliminally primed are unaware of any concept exposure as well as any potential effect it has. Both experiments utilized the lexical decision task (LDT) to prime participants (similar to Johnson et al., 2010).

In addition, Experiments 3 and 4 used distinct types of religious primes. Ritter and Preston (2013) hypothesized distinct effects based on priming religious agents, religious institutions, or spirituality. In particular, past research has shown that priming religious agents increases prosociality toward out-groups, whereas priming religious institutions increases in-group prosociality and out-group derogation (see Preston, Ritter, & Hernandez, 2010, for review). To obtain a clearer sense of how these unique aspects of religion influence sexism, Studies 3 and 4 included an examination of how differentiated religious priming impacts attitudes toward women in U.S. samples.

Experiment 1

Method

Participants. Two hundred seventy-six heterosexual participants (French-speaking adults living in Belgium; 158 women, Mage = 27.3 years, range = 18–68) were recruited through Facebook using a snowball method, starting with students of a public university. The study was completed online, with 65% of participants identifying as atheists and 35% identifying as theists (mostly Catholic and Protestant).
Procedure and measures. Participants were randomly assigned to two priming conditions, religious or neutral. In the former, participants were primed with religious concepts by completing a SST (Sull & Wyer, 1979). The five religious sentences used were taken from Shariff and Norenzayan (2007) and adapted to make the religious connotation clearer. Religious words included faith, baptism, God, divine, and sacred. Five additional sentences were given to unscramble with neutral content. Participants in the neutral condition completed 10 nonreligious SSTs.

After completing the priming task, participants were administered the French language version of the Ambivalent Sexism Inventory (ASI; Glick & Fiske, 1996; translation by Dardenne, Delacollette, Grégoire, & Lecocq, 2006). The 22 items, 11 for each benevolent (α = .83) and hostile (α = .87) sexism, were presented with 9-point Likert scales (1 = I do not agree at all to 9 = I completely agree). The hostile sexism items include “Women seek to gain power by getting control over men” and “Women are too easily offended.” The benevolent sexism items include “Women, compared to men, tend to have a superior moral sensibility.” The French language version includes no reverse-scaled items, so the items were averaged to create composite benevolent sexism and hostile sexism scores (Dardenne et al., 2006).

At the end of the study, a single question assessed whether participants had guessed the aim of the experiment. One participant was excluded due to suspicion, one for not completing the study, and three for demonstrating patterned responses throughout the survey (either all 1s or all 9s).

Results and Discussion

Given that the sample skewed female and atheist, a one-way analysis of covariance (ANCOVA) was used over a multivariate analysis of variance. The ANCOVA revealed an effect of priming condition on benevolent sexism controlling for gender and belief in God, F(1, 267) = 5.69, p = .018, η2 = .021. Participants primed with religious words reported increased sexist attitudes (M = 4.18, SD = 1.49) compared to participants in the neutral condition (M = 3.77, SD = 1.49), 95% confidence interval (CI) [.073, .776]. However, religious priming did not impact hostile sexism, p = .248. Whereas gender and belief in God were significantly related to benevolent sexism, further analysis revealed no interactions with priming condition, ps = .20–.78. All means and standard deviations are displayed in Table 1.

Though previous studies have confirmed the connection between individual religiosity and sexism, these results are the first to demonstrate that supraliminal religious activation increases benevolent sexism compared to exposure to neutral words. However, there was no impact of religious priming on hostile sexism.

Experiment 2

Method

Participants. One-hundred eight heterosexual undergraduates (83 female, M_age = 22.6 years, range = 18–69) at a Belgian French-speaking University of Catholic tradition completed the study individually for credit. Participants identified as either theists (65%) or atheists (35%).

Procedure. Participants were randomly assigned to a religious priming condition or a neutral priming condition. The priming was performed through a LDT (Pichon, Boccato, & Saroglo, 2007) using E-Prime 2.0 software. The priming task consisted of five trials, each of 12 words. In the beginning of each trial, a fixation point appeared in the center of the screen for 500 ms, followed by a premask (a string of Xs) for 200 ms. The priming word appeared for 12 ms, immediately overwritten by a postmask for 200 ms. Religious prime words included Christ, Bible, Jesus, Christians, fasting, priest, and Vatican. The neutral condition prime words included floor, desk, and switch.

Finally, the target string of letters was shown. The participant determined whether this letter sequence was a word (by pressing “y”) or not (by pressing “n”). In both conditions, the words used for the target string of letters were unrelated to religion. The nonwords were anagrams of these words. Afterward, participants completed the French language version of the ASI, as in Experiment 1 (benevolent sexism α = .78; hostile sexism α = .85). They were then assessed for suspicion through voluntary recall and debriefed. One participant was removed for not completing the study and one participant removed for suspicion of priming methods.

Table 1

<table>
<thead>
<tr>
<th>Sample (N)</th>
<th>Priming level</th>
<th>Priming condition (n)</th>
<th>Benevolent sexism, M (SD)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online Belgian (271) Supraliminal</td>
<td>Religious (120)</td>
<td>4.18 (1.49)</td>
<td>.018</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Neutral (151)</td>
<td>3.77 (1.49)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Online U.S. (143) Supraliminal</td>
<td>Religious (49)</td>
<td>3.82 (1.76)</td>
<td>.017</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Neutral (57)</td>
<td>3.41 (1.95)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Online U.S. (133) Subliminal</td>
<td>Agent (33)</td>
<td>3.64 (1.93)</td>
<td>.048</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Institution (36)</td>
<td>3.29 (1.31)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Spiritual (33)</td>
<td>3.19 (1.98)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Neutral (41)</td>
<td>3.55 (1.92)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Undergraduate U.S. (133) Subliminal</td>
<td>Agent (37)</td>
<td>3.99 (1.71)*</td>
<td>.038</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Institution (35)</td>
<td>3.74 (1.71)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Spiritual (34)</td>
<td>3.87 (1.63)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Neutral (28)</td>
<td>3.54 (1.62)*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. The benevolent sexism responses ranged from 1 to 9 in Belgium and from 1 to 6 in U.S.
* Significant post hoc difference between groups.
Results and Discussion

A one-way ANCOVA controlling for gender and belief in God revealed a significant effect of priming on benevolent sexism, $F(1, 102) = 5.86, p = .017, \eta^2_p = .054$. Participants in the religious priming condition reported higher benevolent sexism ($M = 3.82, SD = .76$) than participants in the neutral priming condition ($M = 3.41, SD = .94$), 95% CI [.075, .754]. There was a marginally significant impact of religious priming on hostile sexism, $p = .054$. Gender and belief in God were not significantly related to benevolent sexism.

As expected, subliminal religious priming also increased benevolent sexism compared to neutral priming and a nearly significant increase in hostile sexism. This replicates the findings in Experiment 1 as well as extends the influence of religious priming beyond the supraliminal. Again, this is the first experiment to demonstrate the causal effects of subliminal religious priming on attitudes toward women.

Experiment 3

Method

Participants. One hundred fifty heterosexual U.S. residents (88 female, $M_{age} = 36.63$ years, range = 18–73) completed the study on Amazon’s Mechanical Turk in exchange for $0.25. Participants identified as either atheists (61%) or theists (39%).

Procedure and measures. Participants were randomly assigned to complete one of four scrambled sentence tasks as described in Experiment 1—religious agent, religious institution, spiritual, and neutral. Participants in the experimental conditions were supraliminally exposed to four neutral sentences in addition to four sentences with the following words: angel, God, prophet, and saint (religious agent); sermon, scripture, worship, and ritual (religious institution); miracle, sacred, divine, and faith (spiritual). The words were chosen following the recommendations made by Ritter and Preston (2013). Those assigned to the neutral condition unscrambled eight nonreligious sentences. Participants who were unable to unscramble the sentences correctly or did not attempt to complete the task were removed from further analysis ($n = 7$).

Participants were then asked to complete the 22-item English language version of the ASI (Glick & Fiske, 1996; benevolent sexism $\alpha = .86$; hostile sexism $\alpha = .90$), which was scored on a 6-point Likert scale suggested by the authors (1 = disagree strongly to 6 = agree strongly). The English version utilizes reverse-scored items, so these were appropriately scaled before items were averaged (Glick & Fiske, 1996). Participants belief in God was measured using a single item: “Do you believe in God?”

Results and Discussion

A one-way ANCOVA revealed a significant effect of priming on benevolent sexism controlling for gender and belief in God, $F(3, 137) = 2.71, p = .048, \eta^2_p = .056$. Bonferroni post hoc pairwise comparisons further revealed a trend that those primed with religious agents were marginally more likely to report more benevolent sexist attitudes toward women ($M = 3.64, SD = .92$) compared to those primed with spiritual primes ($M = 3.19, SD = .98$), $p = .072$. There were no effects of religious priming on hostile sexism, $p = .889$. Although gender and belief in God were significantly related to benevolent sexism, further analysis revealed no interactions with priming condition, $ps = .09$–.86.

These results fully support the findings from Experiments 1–2 in Belgium in a U.S. community sample. They are also the first to suggest that there are unique changes in sexist attitudes based on the type of religious prime used, namely that priming religious agents may be associated with increased benevolent sexism.

Experiment 4

Method

Participants. One hundred thirty-six heterosexual undergraduates (106 female, $M_{age} = 19.1$ years, range = 18–22) from a large, southwestern private university in the United States completed the study in exchange for course credit. Participants identified as either atheists (7%) or theists (93%).

Procedure. Participants were randomly assigned into the four priming conditions from Experiment 3. Participants were subliminally primed using a LDT very similar to that in Experiment 2, but using Inquisit (Version 3.0.3) software. Each participant completed five blocks of 16 trials. The prime word was displayed for 35 ms in this study, but no participants reported seeing the prime words during the funnel debriefing (from Bargh & Chartrand, 2000). The prime words used for each condition were God/angel (religious agent), scripture/church (religious institution), faith/belief (spiritual) and neutral words (e.g., banana, shirt, etc.). The LDT was identical to Experiment 2 in all other ways. Following the LDT, participants completed the ASI as in Experiment 3 (benevolent sexism $\alpha = .77$; hostile sexism $\alpha = .82$). Participants were then checked for suspicion using the funnel debriefing method (Bargh & Chartrand, 2000). Three participants were removed due to experimenter error.

Results and Discussion

A one-way ANCOVA revealed a significant effect of priming on benevolent sexism controlling for gender and belief in God, $F(3, 128) = 2.88, p = .038, \eta^2_p = .064$. Bonferroni post hoc pairwise comparisons showed that there was one significant difference between religious agent condition ($M = 4.00, SD = .71$) and the neutral condition ($M = 3.54, SD = .62$), $p = .035, 95\%$ CI [.021, .932]. No other comparisons were significant. There was also no significant effect of priming condition on hostile sexism, $p = .567$. Gender and belief in God were not significantly related to benevolent sexism scores.

Once again, subliminal priming of religious agents increased only benevolent sexism among U.S. college students. These results reflect the importance of utilizing more careful religious priming techniques when dealing with multifaceted constructs such as sexism.

General Discussion

Across four experiments, two countries, and two priming methodologies, these studies consistently reveal an increase in benevolent sexism following religious priming beyond the contribution of participant gender and religious belief. This adds a needed...
concerning religiosity and sexism has been correlational (Burn & Busso, 2005; Maltby et al., 2010; Mikolajczak & Pietrzak, 2014). This is not to suggest that religion is responsible for all forms and levels of sexism. Instead, the activation of Judeo-Christian concepts results in a moderate increase in the endorsement of benevolent sexism.

System justification theory provides a framework for understanding how religious ideology instills sexism in individuals and societies, despite recent feminist movements (Jost et al., 2014; Jost & Kay, 2005). System justification theory posits that there are layers of rationalization that help to maintain the status quo, so that even those who are oppressed work to maintain their low status (Kay et al., 2007). Approval of sexism provides an outlet for both sexes to support the status quo for separate reasons; Men retain their position in society over women and women remain protected (though unequal). Thus, women remain controlled as the consummate complement to men in what Bem and Bem (1970) termed the illusion of equality (Eckes, 2002; Rudman, 2005). Therefore, the increased endorsement of benevolent sexism after exposure to religious words provides evidence that religion operates as a justifier of gender inequity (Jost et al., 2014).

In addition, differentiating among types of religious priming did produce unique effects on benevolent sexism in Experiments 3–4. To our knowledge, this is the first set of studies to simultaneously examine the effects of the semantically and conceptually different types of religious primes, as defined by Ritter and Preston (2013). Religious agent primes increased benevolent sexism in both studies, which appears counterintuitive to the original connotation that religious agent primes increase prosociality (Preston et al., 2010). However, Glick and Fiske (2001) consider that benevolent sexism operates as a reward for women who stay within men’s, or a patriarchal society’s, prescriptions for them, whereas hostile sexism is punishment for women who disobey these rules. Therefore, in a system-justifying way, endorsing sexism, especially benevolent sexism, can be viewed as being prosocial toward (good) women (Jost et al., 2014).

However, it is worth noting some limitations across the studies. Although consistent priming techniques were used across samples, debriefing methodologies differed slightly from experiment to experiment. Experiments 1 and 3 relied on questions after to assess awareness of task relatedness, Experiment 2 utilized word recall, and Experiment 4 used funnelled debriefing and word recall to assess awareness. Therefore, we cannot be absolutely certain of participants’ true level of awareness of the primes in each of studies, though those who explicitly reported awareness of the primes or their potential impact were removed from further investigation in all cases (see Doyen, Klein, Simons, & Cleeremans, 2014).

In addition, our samples were often skewed female, theist, or atheist, which is why we opted to control for participant gender and belief in God rather than include them as independent variables. Although these variables did not interact with benevolent sexism, it is important to note that future studies should aim to include a more diverse, gender-split sample to fully analyze their relationship with sexism so that multivariate analyses would be appropriate. Even so, several studies have shown that women do not always consider benevolent sexism harmful or discriminatory and often endorse these items, so a more gender equal sample may provide more support for our findings (Hammond, Sibley, & Overall, 2014; Kilianski & Rudman, 1998; Pratto & Pitpitan, 2008). However, Belgian samples have been shown to have lower sexism base rates compared to U.S. samples, which may explain the similar means despite dissimilar Likert measurements (see Glick et al., 2000, for review).

It is not only Judeo-Christian beliefs that can impact sexism, though these studies have focused on majority Christian populations and cultures. Strikingly, religiosity associated with any major religious tradition predicts not only followers’ negative attitudes toward women, but also decreased women’s access to education, employment, and maternal care, even after controlling for country level of development and per capita gross domestic product (Seguino, 2011). Muslims exhibit increased approval of both hostile and benevolent sexism as their religiosity increases (Hunsberger et al., 1999; Taşdemir & Sakallı-Uğurlu, 2010). Gaunt (2012) found that religiosity and benevolent sexism were positively correlated in an Israeli Jewish sample. In a Mormon sample, levels of sexism increase as religiosity increases, regardless of church activity level (Stevenson, 2015). In China, belief in Confucianism, which includes strict subordination for women, serves as a protective factor against suicide in men, but slightly increases the risk of suicide in women (Zhang, 2014). Seguino (2011) finds that no single world religion is more sexist than others; Instead, religiosity, regardless of individual intensity or participation levels, is negatively correlated with gender equity as measured by country-level indicators of empowerment, education, and economic activity. Further research into these connections, perhaps incorporating measures of system justification, is needed to further illuminate the full relationship between religion and sexism.

Although the finding that religious priming influences benevolent sexism regardless of participant belief in God is surprising, it may be connected to upbringing within a religious context. In a global analysis, Gervais and Najle (2015) found that cultural learning through religious context is an important factor in belief transmission. A strong religious context, particularly one that is viewed as homogeneous or government backed, decreases the moderating impact of religiosity on anti-immigrant sentiment (Bohman & Hjerm, 2014). Further exploration of the impact of religious context on nonbelieving individuals will provide some understanding of these effects.

Lastly, our experiments have focused only on ambivalent attitudes toward women, not men or other groups. It may be that priming religion simply increases benevolence toward both sexes, especially given that benevolent sexism and benevolence toward men are both positively valued yet still promote stereotyped gender associations (Glick et al., 2004). Recent work has shown a negative correlation between benevolence toward men and questioning religion in women, indicating less questioning is associated with more benevolence (Sakalli-Uğurlu & Uğurlu, 2016). In addition, the ASI and ambivalence toward men were positively correlated at moderate or high levels in various countries (Glick et al., 2004). Future work should address the impact of religious priming on ambivalence toward men to uncover if its influence also extends to male stereotypes.

Overall, our findings consistently demonstrate that even small, unnoticeable exposure to Judeo-Christian religious words, espe-
cially religious agents, increases endorsement of sexist ideologies. Given how brief contact with sexism can increase both men’s and women’s support for gender inequality (Kay et al., 2007), our studies help to make clear the intricate, automatic relationship between sexism and religion, which very likely continues to justify the diminished role of women in society. Religion helps to maintain this “illusion of equality” between the genders by primarily increasing positive feelings toward women who follow gendered stereotypes and rules. Future studies should focus on the underlying mechanisms of how religion justifies sexism, both toward women and men, perhaps through complementary stereotypes or traditional values, especially in how they permeate popular culture and society at large.

References