Beyond Mere Compliance to Authoritative Figures: Religious Priming Increases Conformity to Informational Influence Among Submissive People

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Religious priming activates submissive thoughts and facilitates compliance to authority’s request for revenge among individuals with high dispositional submissiveness (Saroglou, Corneille, & Van Cappellen, 2009). The present experiment examines another key social influence issue: the effect of religious priming on informational conformity. Participants primed with subtle religious or control cues were asked to complete a numeric estimation task. In this task, they were left free to use or disregard numeric estimates allegedly provided by peers for reporting their own numeric decision. Results revealed that participants assimilated their estimates to that of their peers more after religious than control priming, at least for participants scoring higher on dispositional submissiveness. This finding adds to current research concerned with the impact of religious priming in social cognition and behavior.

Does religion imply, at least to some extent, submission, compliance, and conformity? Several theoretical perspectives support this idea. Classic theorists and modern evolutionary psychologists of religion argue (a) that the religious attitude (relation with God) has the character of the infantile dependence from the “imaginary” figure of the omnipotent father (Freud, 1927/1961); (b) that one of the functions of religion has been the establishment and maintenance of hierarchies, figures of power, and asymmetric relationships (Kirkpatrick, 2005); and (c) that a key mechanism explaining religion’s role on morality is conditioning through reward or fear of punishment (Skinner, 1953; see also Johnson & Bering, 2006). Moreover, beyond...
concerns for submission to authority and powerful figures, religion is typically conceived as reflecting conformity with group’s beliefs, thoughts, and practices (see Deconchy’s, 1980, work on religious orthodoxy) and, more generally, social norms and standards (Durkheim, 1968). Not surprisingly then, tradition and conformity are two values associated with religiousness across religions and cultural environments (Saroglou, Delpierre, & Dernelle, 2004).

Surprisingly enough, this idea has not been the object of systematic investigation, at least as far as religion (and not individual religiousness) is concerned. An exception can be found in two recent experiments conducted by Saroglou, Corneille, and Van Cappellen (2009). These authors found that religious priming activates submission-related concepts (defined in broad terms, such as “obedience, compliance, conformity, dependence, restriction of free will”; p. 144) and increases compliance to an experimenter request for vengeful behavior. Of note, the latter effects were found only among participants showing high dispositional submissiveness.

The experiments by Saroglou and colleagues (2009) support the idea that, at least among submissive individuals, religion activates submissive thoughts and facilitates compliance. However, that study examined only part of the broad social influence question (i.e., that specifically concerned with compliance to an explicit request made by an authority figure). Social psychological research has distinguished between different processes and sources of social influence. Classically, a distinction is made between compliance to another person’s request to do a specific act (and if this person is an authority, this means submission, obedience) and conformity to other people or group’s norms (Hogg, 2010, for a recent review). In addition, the latter (i.e., conformity) form of social influence can take two forms, that is, informational influence (willingness to accept information from another person as evidence about reality) and normative influence (willingness to conform to the positive expectations of others).

Following these conceptual distinctions, it appears that previous experimental research provides no answer to two critical questions. First, does religious priming increase conformity to others, over and above compliance to an authoritative figure? Second, is this conformity effect of religious priming to be observed in the context of a mostly informational social influence setting? The aim of the present study was to provide original empirical evidence that speaks to these questions. More specifically, we investigated whether exposure to religious concepts would lead participants to assimilate their judgments and decisions to that of their peers, in the absence of any explicit pressure from an authoritative figure, in the absence of physical interaction between the participant and the source of influence, and in the context of a task with content that has nothing to do with religion or morality. In the study reported here, we used a highly ambiguous numeric estimation task to increase participants’ informational dependence from their peers. We hypothesized that religious priming would increase informational conformity, with stronger assimilation of participants’ numeric estimates to that of their peers after religious than control priming.

Of importance, however, the latter priming effect may be moderated by two key individual differences: religiousness and submissiveness. We discuss the role of these factors in the remainder of this introduction, and we examine both of them in the study.

A question arises on whether the religion’s effects on conformity would interact with participants’ religiousness. There is some evidence that religiosity, most often in its conservative and fundamentalist forms, reflects submission-like attitudes, values, and personality traits: low consideration of self-direction (Saroglou et al., 2004), valuing obedience in children’s education (Danso, Hunberger, & Pratt, 1997; Ellison & Sherkat, 1993), trust of authorities (Wisneski, Lytle, & Skitka, 2009) and acceptance of their decisions (Skitka, Bauman, & Lytle, 2009), right-
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wing authoritarianism (Altemeyer & Hunsberger, 2005; Wink, Dillon, & Prettyman, 2007), and submission to unjustified hypothetical requests (Buxant & Saroglou, 2008). Yet when mere religiosity is measured, these results are not systematic. Moreover, other forms of religiosity, such as spirituality or quest religious orientation, are unrelated to submission-related constructs and often reflect some disposition for autonomy (Batson, Schoenrade, & Ventis, 1993; Saroglou & Muñoz-García, 2008; Wink et al., 2007).

It is thus unclear whether religious people should be more sensitive to religious priming effects. The picture remains unclear when one considers recent experimental research. The effects of religious priming on social behavior were often found to be independent from participants’ personal religiosity (Randolph-Seng & Nielsen, 2007; Saroglou et al., 2009; Shariff & Norenzayan, 2007) but were also sometimes found only or were found to be greater for religious people (Bushman, Ridge, Das, Key, & Busath, 2007; Dijksterhuis, Preston, Wegner, & Aarts, 2008).

Based on this mixed evidence, and also because no moderation by personal religiosity was found in our previous experiments (Saroglou et al., 2009), we did not predict the effect of religious priming on social conformity to be limited to religious people.

A different prediction was made with regard to personal submissiveness. As already noted, religious concepts were found to be associated in long-term memory with words like submission, conformity, and others related to social influence, but only for participants with high dispositional submissiveness (Saroglou et al., 2009). No association between the two constructs (i.e., religion and social influence) was found for nonsubmissive participants. Also, religious priming increased compliance to a request for revenge only among participants scoring high on dispositional submissiveness.

When considered together, these findings are consistent with the view that priming effects are moderated by associative strength (Dijksterhuis, Aarts, Bargh, & van Knippenberg, 2000). A given prime should have behavioral consequences only when the behavior (or its representation) is strongly associated with the primed construct in long-term memory (Bargh & Barndollar, 1996). For instance, Dijksterhuis and colleagues (2000) found that priming the elderly construct decreased memory performance for student participants, but only for those participants who showed strong elderly-forgetfulness associations in long-term memory. Similarly, because the religion-social influence association has been shown to be stronger among submissive participants, we thought it was not unreasonable to expect larger religious priming effects on our conformity measure among highly submissive participants.

In sum, we hypothesized that religious priming would increase informational conformity among participants with high dispositional submissiveness. We had no clear expectation regarding the role of religiousness.

METHOD

Participants and Procedure

Forty-one students (33 women; M age = 20, SD = 1.5) participated for course credits or on a voluntary basis at a Belgian university.1 After being primed with control (n = 21) or religious

1Forty-six participants actually took part in the study, but 5 were excluded either because they showed an unusually high number of incorrect decisions in the priming task or provided very unrealistic estimates in the numeric estimation task.
(n = 20) concepts through a lexical decision task (see next), participants took part in a numeric estimation task (i.e., counting the number of “a”’s appearing on a computer screen). In this task, participants were left free to use or disregard the estimations made by other participants in order to come up with their own numeric decision. The deviation of participants’ decision from the estimation presumably reported by others provided a measure of their conformity (with more conformity reflected in smaller deviations from other judgments). Finally, two postexperimental self-reported measures were administered, which assessed participants’ religiousness and submissiveness.

Materials

Priming task and materials. Priming was done through a lexical decision task. Participants were sequentially presented with 20 series of letter strings, which they had to categorize as a word (by pressing I on the keyboard) or a nonword (by pressing R on the keyboard). Prior to the appearance of the target letter string, a religious or control prime was briefly presented at the center of the screen. Specifically, on each trial a fixation point appeared in the middle of the screen for 500 ms, immediately followed by the prime. The prime remained on the screen for 15 ms and was immediately overwritten by a mask. After another 500 ms, the masking stimulus was substituted by a target sequence of letter strings, which was erased after 500 ms. The computer then paused to allow the participant to enter the appropriate answer (I or R).

In the religious priming condition, the primes were 20 religious words: heaven, miracle, wedding, spirituality, angel, praise, baptism, tradition, aureole, salvation, soul, beatitude, Christmas, belief, bless, faith, temple, pilgrimage, prayer, communion (English translation). In the neutral condition, the primes were 20 neutral words: shirt, butter, switch, hammer, cardboard, ladder, bag, news, diary, flour, cloud, stairs, rhyme, sandal, handkerchief, office, glue, cupboard, disc, banana (English translation). These words were all borrowed from Pichon, Boccato, and Saroglou (2007; see also Saroglou et al., 2009). We were careful to exclude words that referred to institutional aspects of religion or to figures of religious authorities.

Conformity task and materials. We adapted a task designed by Castelli, Vanzetto, Sherman and Arcuri (2001, Study 1). Participants were asked to estimate the number of letters “a” appearing on a computer screen. There were 16 different screens, with the actual number of “a”’s varying from 148 to 1,156. Each screen appeared for only 4 s in order to reduce the possibility of applying counting strategies in the task (e.g., counting the number of “a”’s appearing on a line and multiplying it by the number of lines). After each screen, a pause allowed the participant to write down an estimation.

On the top of eight screens, there were three estimations of the number of “a”’s, which deviated respectively from 20, 25, and 30% above (four screens) or below (four screens) the actual number of “a”’s. Participants were told that these estimates had been provided by three other participants during the pretest and were left free to use them or to disregard them for completing the task. Classic research on conformity shows that conformity increases with group size but is already very important with a majority of three people (Gerard, Wilhelmy, & Conolley, 1968; see also Asch, 1951). Intermixed with these eight screens were eight other screens for which no other estimate was provided. The presence or absence of other estimates on the screens was varied to increase the salience of these estimates. As a further asset, we
could also examine on the latter screens (i.e., screens with no peer estimate) whether religious priming would have any effect on participants’ accuracy in the numeric estimate task. Indeed, religion is known to relate to Conscientiousness, including competence (Saroglou, 2010), and one may therefore argue that religion might increase accuracy.

**Postexperimental measures.** Participants filled in two scales measuring self-reported submissiveness and religiousness. Six items (5-point Likert scale) were selected from three subscales (Dominance, Conformity, and Dependence) of the International Personality Item Pool (http://ipip.ori.org/; Goldberg, 1999) to have a measure of the individual differences in submissiveness: 1. “Need the approval of others”; 2. “Do what others do”; 3. “Want to form my own opinions” (reverse-scored item); 4. “Want to be different from others” (reverse-scored item); 5. “Am not afraid of providing criticism”; 6. “Let myself be influenced by others.” A pilot study conducted on 40 participants showed an acceptable reliability of this scale (Cronbach’s $\alpha = .70$). Personal religiousness was measured through two items (7-point Likert scale) measuring importance of God in life, and importance of religion in life ($r = .82$). Of importance, scores on religiosity and submissiveness were not affected by the priming manipulation, respectively, $t(41) = -1.2, p > .90$, and $t(41) = .59, p > .54$.

**RESULTS**

For the eight screens involving the three other estimates, we computed the differences between (a) the numeric value provided by the participant and (b) those allegedly provided by each of the three other participants. To control for variations in sizes, we divided each of these three difference scores by the corresponding estimate provided by the other (bogus) participant. We then computed the absolute value of these proportional difference scores. Finally, we averaged the latter scores across the eight screens to come up with a single deviation score. Smaller values on this deviation score thus reflect higher conformity.

The deviation score was then regressed on the priming condition factor (dummy coded: neutral priming = 0, religious priming = 1), the self-reported submissiveness factor (centered), the self-reported religiousness score (centered), and their respective interactions. The predicted interaction between priming condition and self-reported submissiveness was significant ($\beta = -1.2, p < .026$).

Complementary analyses confirmed that participants scoring above the median in dispositional submissiveness deviated less from the “other” estimates (i.e., showed more conformity) after religious ($M = 0.24, SD = 0.15$) than neutral ($M = 0.37, SD = 0.21$) priming, $t(21) = 1.75, p < .05$, one-tailed, $\eta^2 = .13$ (see Figure 1). In contrast, participants scoring below the median dispositional submissiveness score deviated from their “other” estimates to the same extent in the religious ($M = 0.32, SD = 0.15$) and in the neutral ($M = 0.28, SD = 0.18$) priming condition, $t(18) = -1.43, p > .67$. All other regression terms were nonsignificant (all $p$s > .139).

An alternative explanation of the results could be that religious primes simply increased people’s accuracy in the numeric task (religion being known to reflect conscientiousness, including competence; Saroglou, 2010) rather than sensitivity to social influence. To examine this possibility, the same regression analysis was applied to accuracy scores, which were
FIGURE 1 Conformity as a function of priming and dispositional submissiveness (1 SD below and above the mean, for the low and high dispositional submissiveness values).

computed from the eight screens for which the “other” estimates were absent. We created an accuracy score by computing the mean absolute proportional difference between the number provided by the participant and the actual number of “a”s appearing on the screen. This regression analysis did not reveal any significant term (all ps > .23).

DISCUSSION

As predicted, religious priming increased people’s sensitivity to informational influence, at least for participants showing some disposition for submissiveness in the first place. As discussed in the introduction, associative strength may have contributed to the latter moderation (Dijksterhuis et al., 2000). People showing stronger associations between religion and social influence in long-term memory (i.e., submissive people) may be particularly prone to behavioral effects of religious priming, at least when social influence effects are being considered. The conformity effect observed here was unlikely to originate from a possible impact of the religious priming on participants’ accuracy: When taking into account the screens for which no “other” estimate was provided, religious priming did not make it more or less difficult to perform accurately in the task.

Of interest, in total accordance with two previous experiments (Saroglou et al., 2009), the conformity effect emerged independent from participants’ self-reported religiousness but depended on their dispositional submissiveness. Hence, the idea is not that religious people are more conformists or more susceptible to social influence. Rather, exposure to religious primes may activate among people characterized by personal submissiveness the tendency to comply and to conform to others. One may thus expect religious fundamentalists, who are characterized
by high authoritarianism, including authoritarian submission (Altemeyer & Hunsberger, 2005), to be particularly sensitive to the activation of religious concepts in their environment. The latter type of environment may increase these people’s willingness to conform to their peers, for the better or the worse depending on the specific content of the social influence (see what follows).

One surprising outcome of this study is that no simple effect of dispositional submissiveness was observed on participants’ conformity in the neutral priming condition, $t(20) = -0.99, p > .32$. One possibility is that the social influence setting was too weak (absence of any physical interaction between participants and the source of influence) for submissive participants to be significantly influenced by the judgment of others, at least in neutral conditions (i.e., in the absence of an extra social influence boost elicited by the religious priming). Of interest, this absence of simple effect is also informative in that it suggests that participants’ responses to the Submissiveness scale were not merely based on inferences they made from their sensitivity to the estimations allegedly provided by others in the numeric task (i.e., “I know I assimilated my judgments to those of the other participants, so I must be of conformist person”). If this had been the case, dispositional submissiveness should have been associated with reduced deviation scores in both the control and religious priming conditions.

It is also important to keep in mind that the conformity effect obtained here emerged in a mostly informational social influence setting. Indeed, religious priming increased conformity in a meaningless numeric estimate task that was devoid of any explicit request, and the social influence was not brought about by an authoritative figure. The high ambiguity of the present numeric estimation task, contrary to the task used in Asch’s classic conformity experiments (see Leyens & Corneille, 1999, for a discussion), also aimed at increasing the informational dependence of the participants. We believe that this finding brings a decisive new insight on the religion–social influence relation issue. It suggests that the activation of religious concepts increases, beyond people’s obedience to authority figures, more generally, people’s assimilation of their perceptions, judgments, and lines of action to that of their peers, at least for people who show some dispositions to submission in the first place.

This opens intriguing questions for future research. What was activated by the religious words we used, and what was the underlying process involved in the present findings? Our past research (Saroglou et al., 2009) suggests that religious concepts are associated with submission concepts in submissive people’s long-term memory, thereby accounting for their social influence effects for these people. However, it may be that special features of the specific set of religious primes used in the present study contributed to the latter mechanism. For instance, the primes may have activated positive emotionality or trust. Of interest, this may also be true in general for religion, which has been shown to activate cooperation (Shariff & Norenzayan, 2007) and relate to behavioral trust (Tan & Vogel, 2008). Although we do not deem this suggestion problematic for our line of reasoning, it certainly remains to be examined whether in people characterized by submissiveness, dependence, and low autonomy, religious priming may activate social conformity independently of its association with positive emotionality and social cohesion.

Another interesting issue for the future research is whether conformity effects of religious priming may at least partially explain opposite effects of religious priming on social behavior. Specifically, religious priming has been shown to facilitate pro-social behavior in some studies (Pichon et al., 2007; Randolph-Seng & Nielsen, 2007; Shariff & Norenzayan, 2007) and
antisocial behaviors in others (Bushman et al., 2007; Johnson, Rowatt, & LaBouff, in press; Saroglou et al., 2009, Study 2). At least part of the variance of these effects could be explained by the fact that, for those of the participants with high dispositional submissiveness, religion activates conformity, and then the outcomes (positive or negative) will depend on the direction and nature of the social influence. Another interesting issue is whether the current effects would extend to the influence of members of an out-group or if, on the contrary, religious priming would result in a contrastive influence in the latter case. In other words, it remains to be seen whether people primed with religious cues would conform more to nonpeer influences (e.g., due to more inclusive in-group representations) or if they would actually conform less to nonpeer influences (e.g., due to more derogating out-group representations).

In conclusion, this research provides evidence that exposure to subtle religious cues induces conformity in submissive people, even in the context of mostly informational influence. This original finding may have significant implications for understanding the role of religion in social behavior. Specifically, exposure to religious cues may enhance people’s willingness to assimilate their decisions to those of others, for the better or the worse depending on the specific content of the social influence. Across three studies (Saroglou et al., 2009, and the present research), results also suggest to pay special attention to people showing high dispositions for submissiveness when examining the impact of religious priming on conformity.

REFERENCES


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