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RESEARCH ARTICLE

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Religious versus reflective priming and susceptibility to the conjunction fallacy

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Summary

The effect of religious priming has been studied in relation to a number of variables, most extensively with prosocial behavior. The effects of priming on cognitive domains, however, are relatively understudied. The present study examined the effects of religious priming, compared with reflective and neutral priming, on the conjunction fallacy. Participants were randomly assigned to 1 of the 3 priming conditions. Priming was presented through the scrambled sentence task in which participants were required to rearrange words of a religious (e.g., pray), reflective (e.g., reason), or neutral (e.g., paper) content. The conjunction fallacy was measured by a task containing 1 problem. Results indicated that those undergoing the religious prime were significantly more likely to commit the conjunction fallacy compared with those in the reflective priming group. Situations in which reasoning is integral may benefit from knowing the immediate effects of religious versus reflective stimuli in the environment.

KEYWORDS

cognitive biases, conjunction fallacy, reflective priming, religious priming

1 | INTRODUCTION

1.1 | Religious priming: Prosocial behavior and cognition

Within the past decade, experimental approaches with religious priming have been introduced. A recent meta-analysis on religious priming has demonstrated its efficacy across a large number of studies (92; Shariff, Willard, Andersen, & Norenzayan, 2015). The literature on the effects of religious priming spans both the behavioral and cognitive domains. A host of studies has shown that priming with religious words can be effective in changing subsequent responses on prosocial measures. For example, implicitly activating religious concepts led to more generous behavior from participants in one-shot economic games, such as the dictator game (Shariff & Norenzayan, 2007) and the prisoner's dilemma (Ahmed & Salas, 2011), and less likelihood of cheating on the presented tasks (Randolph-Seng & Nielsen, 2007). In the above-mentioned studies, supraliminal priming included presenting participants with scrambled words of religious content and asking them to rearrange these words in a grammatically correct format (Ahmed & Salas, 2011; Shariff & Norenzayan, 2007). Based on a total of 25 studies, Shariff et al. (2015) have concluded that religious priming encourages prosociality.

The effect of religious priming has been similarly examined on some cognitive processes, specifically attribution of authorship and attention. When subliminally primed with the word God, individuals with high religious belief were less likely to attribute ambiguous actions in a computer task to the self than those with control primes (Dijksterhuis, Preston, Wegner, & Aarts, 2008). Nonbelievers, however, do not perceive God as a plausible agent, and so self-attribution was expectedly higher for this group.

With regard to attention, "God" and "devil" primes were shown to generate opposing attention shifts. For example, responding to targets placed above was quicker when participants had been previously primed with the concept God (because God is internally represented as upwards), regardless of religiosity (Chasteen, Burdzy, & Pratt, 2010). This finding may indicate that the metaphorical and symbolic understanding of religious words can also produce subtle changes in behavior.

Self-reported intolerance of ambiguity, the tendency to perceive ambiguous stimuli as discomforting, increased after exposure to religious words (Sagioglou & Forstmann, 2013). Additionally, priming with religious words led to greater preference for nonambiguous as opposed to ambiguous artwork and greater certainty in interpreting ambiguous facial expressions, even when controlling for religiosity (Sagioglou & Forstmann, 2013). When studied in relation to the effects

on reasoning in cognition, religious priming is potentially best contrasted with reflective priming (Gervais & Norenzayan, 2012).

1.2 | Reflective priming

Reflective priming involves prompting participants to think critically with the intent of altering their performance on subsequent tasks. In a study by Gervais and Norenzayan (2012), participants presented with an image showing a man engaged in deep thinking (The Thinker by Rodin) performed better on reflective thinking tasks than participants viewing a neutral image.

Participants exposed to a series of words related to reflective thinking via the scramble sentence task (e.g., think, analyze, and rational) similarly performed better on the reasoning task when compared with the control group. Instructing participants to think critically about a task also led to less errors on framing biases (Simon, Fagley, & Halleran, 2004).

1.3 | Cognitive biases: Conjunction fallacy

Cognitive biases are simple processing mechanisms of low expense that could potentially lead to inaccurate or irrational judgments. This general deviation in judgment, however, is both consistent and predictable (Toplak, West, & Stanovich, 2011). Oreg and Bayazit (2009) have theoretically proposed three distinct categories of biases: verification bias, regulation bias, and simplification bias. In their interpretation, biases emerge as a consequence of attempting to achieve three basic motivations. Verification biases are related to core self-perception and evaluations and include enhancement or self-serving biases. Regulation biases occur when trying to approach pleasure and avoid pain, whereas simplification biases occur when attempting consistency in the way in which we comprehend reality. The term "simplification bias" is used to describe biases which, in their attempt to simplify reality, cause distortions and inaccuracies (i.e., an inappropriate use of heuristics). Specific examples include systematic errors such as belief bias (judging the validity of an argument based on the plausibility of the conclusion), outcome bias (making a decision based on its final outcome), illusory correlation (perceiving a relationship between two variables when none exists), and the conjunction fallacy (Toplak et al., 2011). The conjunction fallacy, originally studied by Tversky and Kahneman (1983) and most famously represented by the Linda Problem, requires participants to choose if Linda is a bank teller or a bank teller and a feminist. Generally, participants opt for the second option based on other representational information offered (e.g., "Linda majored in philosophy"). This sort of information may make the second option appear as more representative or probable. According to the laws of probability, however, the probability of a conjunction, P (A & B) cannot exceed the probability of its single parts, P (A) or P (B). A bias occurs when individuals provide an intuitive judgment of probability. For example, when asked to assess which is more likely that "Mr F. has had one or more heart attacks" or that "Mr F. has had one or more heart attacks and is over 55 years old," it may be more compelling to choose the latter simply because a potential cause and effect link is presented adjacently, making the condition appear more convincing (Tversky & Kahneman, 1983). In this problem, the same logic also applies wherein requiring two conditions to be met (Mr. F having heart attacks and being over 55 years old) is less likely than demanding one condition (that Mr. F has had heart attacks). The conjunction fallacy is commonly measured with one question and requires only a minute or two for completion. This practicality in administration will help prevent priming decay. Since religious belief has been linked to intuitive thinking (Shenhav, Rand, & Greene, 2012), priming with religious thought is expected to alter performance on reflective thinking tasks requiring normative judgments, such as the conjunction fallacy. A pilot study of 20 participants was conducted and revealed a flooring effect with the Linda scenario. Because none of the participants answered correctly, we opted to use a conjunction fallacy scenario with a higher correct responses rate. Tversky and Kahneman (1983) have previously reported that only about 15% of their original sample answered the Linda problem correctly. By contrast, the health-survey problem was shown to have a higher frequency of correct answers in previous studies (42% answered correctly).

Previous studies have revealed a clear relationship between high reflective thinking, as measured by the Cognitive Reflection Task, and less instances of committing this bias (Oechssler, Roider, & Schmitz, 2009; Toplak et al., 2011). Believing in the supernatural implicitly means agreeing to the violation of certain cognitive principles which normally govern our perception and interaction with the world (Atran & Norenzayan, 2004). Religious individuals may be less sensitive to detecting contradictions in cognitive outputs (Pennycook, Cheyne, Barr, Koehler, & Fugelsang, 2014), possibly making them more likely to commit cognitive biases, regardless of the content they are presented in. Stanovich and West (2000) explain that individuals with a reflective thinking style are able to reduce difficult problems to representations that are devoid of context, making them less likely to take nonrelevant information into account (e.g., how the problem is framed). As such, it is expected that individuals who are exposed to the concept of reflective thinking perform better on tasks requiring reflective thought.

1.4 | Aims of study

Although an established relationship between reflective thinking and cognitive biases exists, a review of the literature indicated that no studies to date have examined the causal link between religious priming and the conjunction fallacy. In this study, participants were exposed to either a religious, reflective, or neutral prime via the scrambled sentence task. They then completed one problem measuring the conjunction fallacy and a scale of religiosity as control.

2 | METHOD

2.1 | Participants

The participants in this study included undergraduate students from the American University of Beirut in Lebanon. The demographic included Lebanese males and females between the ages of 18 and 22. A total sample size of 180 was recruited (60 per group). Three participants were removed after checking for univariate and multivariate outliers and responses on the manipulation check, with

one participant excluded for correctly guessing the purpose of the study. The final sample of 177 included 117 females and 60 males. The average age of participants was M = 18.51, SD = 0.80. Of the total sample, 123 were sophomores followed by 27 juniors, 21 freshmen, and 6 seniors. A total of 20 different majors were listed. These were then broadly categorized into "scientific" and "humanities/social sciences." Majors under the scientific category included biology, chemistry, math, engineering, medical imaging, nursing, computer science, environmental health, and nutrition and food sciences.

The humanities and social science category included political studies, education, English literature, economics, psychology, sociology, and media studies. Of the sample, 120 participants had majors under the scientific label, whereas 57 were studying humanities or social sciences.

2.2 | Statistical analyses

Descriptive statistics were produced for the variables under study. Additionally, a binary logistic regression was conducted to assess for group differences on the conjunction fallacy. Religiosity was controlled for in all tests.

2.3 | Instruments

The following measures/tasks were used:

Demographics: Gender, age, major, and year at university were measured.

Scramble-Sentence Paradigm: Participants were randomly assigned to one of three priming conditions: religious, reflective, and neutral priming. The priming was done via the scramble sentence task originally introduced by Srull and Wyer (1979). The task entails unscrambling 10 five-word sentences with the aim of creating a grammatically correct four-word sentence by removing an extra word. In the religious priming condition, participants unscrambled 10 sentences in total, five related to religion and five neutral sentences. Unscrambled sentences related to religion, adapted from Shariff and Norenzayan (2007), are as follows: "He worships his idol," "Have faith in her," "Pray for the poor," "The book was sacred," and "It was a miracle." The reflective thinking sentences, as introduced by Gervais and Norenzayan (2012), included "Analyze the numbers carefully," "His reason is obvious," "They ponder their options," "I think all day," and "Computers are rational machines." The neutral sentences included words unrelated to religion or reflective thinking and forming no other single concept (Shariff & Norenzayan, 2007). Participants in the final group unscrambled 10 neutral sentences such as, "He finished it yesterday" and "She was always worried" (Appendix A).

Conjunction Fallacy: Conjunction fallacy was assessed via the following problem: "A health survey was conducted in a representative sample of adult males in British Columbia of all ages and occupations. Mr F. was included in the sample. He was selected by chance from the list of participants. Which of the following statements is more probable? (a) Mr F. has had one or more heart attacks or (b) Mr F. has had one or more heart attacks and he is over 55 years old." (Tversky & Kahneman, 1983).

Religiosity: To measure religiosity, an 8-item religiosity scale (Rebeiz & Harb, 2009) was used (Appendix A). This is an 8-item scale that measures intrinsic religiosity and has been previously used in Lebanon. The items are rated on a 7-point Likert type scale (*Strongly Agree* to *Strongly Disagree*). The scale has a high reliability of 0.92.

2.4 | Procedure

Participants were given a link to the survey, containing the task and questionnaire. All groups completed the scrambled sentence task (with a total of 10 sentences), a question assessing for the conjunction fallacy, and the religiosity questionnaire. To prevent participants from knowing the purpose of the priming, the study was presented as investigating the relationship between verbal fluency and cognition.

After the priming task, participants immediately completed the conjunction fallacy question, estimated to take 3 minutes to complete. The priming effect was expected to last this duration because previous studies have shown that long-term semantic priming is effective after an 8-item lag between prime and target word (Becker, Moscovitch, Behrmann, & Joordens, 1997). Only one participant correctly guessed the purpose of the study as judged by a manipulation check modeled from Bargh and Chartrand (2000) and was subsequently removed.

3 | RESULTS

3.1 | Descriptive statistics

The religiosity level of the sample was slightly below the midpoint of 3.5 (M = 3.07, SD = 1.53), indicating a sample leaning towards religiosity. For the conjunction fallacy, 108 (61%) of the total sample answered it correctly.

Sixty individuals underwent reflective priming (37 females and 23 males). The level of religiosity for this group was below midpoint (M = 3.13 SD = 1.52), leaning slightly towards religiosity. For the conjunction fallacy, 43 (71.7%) answered correctly and 17 (28.3%) incorrectly.

Fifty-six participants completed the religious priming (36 females and 20 males). With religiosity levels near the midpoint (M = 2.97, SD = 1.45), the sample was leaning more so towards religiosity. For the conjunction fallacy, there were 30 (53.6%) correct and 26 (46.4%) incorrect answers. Sixty-one participants completed the neutral priming condition (44 females and 17 males). The average religiosity for the sample was (M = 3.12, SD = 1.64) leaning towards religiosity. For the conjunction fallacy, 35 correct (57.4%) and 26 (42.6%) incorrect answers were given.

3.2 | Main analyses

A binary logistic regression was conducted to assess if there are any differences between the three priming groups on the conjunction fallacy while controlling for age, gender, religiosity, major, and year.

There was a significant difference between the religious and reflective priming group on the conjunction fallacy, with the religious

TABLE 1 Differences between religious and neutral groups versus reflective group

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	Group			4.87	2	0.08	
	Religious	−0.85	0.40	4.53	1	0.03	0.43
	Neutral	−0.65	0.40	2.61	1	0.11	0.52
	Age	0.10	0.25	0.16	1	0.69	1.11
	Gender	−0.11	0.35	0.11	1	0.74	0.89
	Year	0.59	0.34	2.97	1	0.08	1.80
	Major divided	−0.17	0.39	0.20	1	0.66	0.84
	Religiosity	0.04	0.11	0.12	1	0.72	1.04
	Constant	−1.85	4.199	0.19	1	0.66	0.16

Note. Reference group: reflective.

[a]Variable(s) entered on Step 1: group, age, gender, year, major divided, and religious mean.

TABLE 2 Differences between reflective and religious group versus neutral group

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	Group			4.87	2	0.08	
	Reflective	0.65	0.40	2.61	1	0.11	1.91
	Religious	−0.20	0.39	0.27	1	0.60	0.81
	Gender	−0.11	0.35	0.11	1	0.74	0.89
	Major divided	−0.17	0.39	0.20	1	0.65	0.84
	Age	0.10	0.25	0.16	1	0.69	1.11
	Religiosity	0.04	0.12	0.12	1	0.72	1.04
	Year	0.59	0.34	2.97	1	0.08	1.80
	Constant	−2.49	4.23	0.35	1	0.55	0.08

Note. Reference group: neutral.

[a]Variable(s) entered on Step 1: group, gender, major divided, age, religious mean, and year.

group performing significantly lower than the reflective priming group (Wald = 4.53, df = 1, $p < .05$; Table 1).

No significant differences emerged between the reflective and neutral group (Wald = 2.61, df = 1, $p > .05$) and the religious and neutral group (Wald = 0.27, df = 1, $p > .05$; Table 2).

4 | DISCUSSION

Results revealed that participants who had undergone the religious priming, through rearranging words of a religious nature, performed significantly worse than those in the reflective priming group on the conjunction fallacy. A confirmation of the hypothesis that reflective priming, compared with religious priming, can enhance performance on the conjunction fallacy indicates the powerful effects of the constructs evoked. In our immediate environment, we are bombarded with numerous external stimuli, some of which could be of religious content whereas others of a reflective nature. Despite having only immediate and short-lived consequences, the effects remain relevant and can potentially have practical benefits. For instance, they can shed light on the best type of stimulus to employ depending on the environment one wishes to create. Situations in which reasoning is integral may benefit from knowing the effects of religious stimuli in the environment and the effects of stimuli successfully encouraging reasoning.

Importantly, this study does not suggest that religious priming reduces performance on the conjunction fallacy. It indicates that reflective priming lowers conjunction fallacy rate compared with religious priming. Notably, no such effect was detected between religious and neutral priming groups. A major limitation for this study is the use of one conjunction fallacy scenario. As such, future studies could explore the relationship with this fallacy further, across both the AB and MA paradigms. The present study was conducted online and depended on participants completing the experiment in one sitting and with undivided attention. The priming effect would likely fail otherwise. Because participants were not monitored, we cannot be certain that they attended to the stimulus in the way that is required for the priming effect to work. Potential studies could address the effects of religious priming presented in various and more naturalistic ways. For example, the effects of religious references in daily language, ads, billboards, personal religious symbols and dress, or simply walking past a church or a mosque on cognitive measures could be worth studying.

Furthermore, future studies may wish to assess for the effect of religious priming on cognitive style directly and assessing it as a mediating factor. Additionally, to provide evidence for the confirmation-theoretical framework, future studies may also present problems with conjunctions that support versus reject the religious hypothesis, distinguishing between belief-congruent and belief-incongruent outcomes, as devised by Rogers, Fisk, and Lowrie (2016) with regard to paranormal beliefs. Another suggestion would be to divide religious primes according to specific religious groups (e.g., Muslim, Christian, Druze, etc.) matched to participants' faith. In the present study, care was taken to ensure that all religious words were effective to all faiths. Words from the original scramble-sentence task needed to be altered so as to be relevant to all participants. This may have made the effect less robust compared with its original form. Considering the religious diversity present in Lebanon, assessing for the effect of religious-specific primes could prove to be a more powerful prime or could produce differences in responses based on group affiliation. A problem like the conjunction fallacy remains relatively simple, containing one question with two clear options. As a result, for presumably more difficult and longer tasks, a possible suggestion would be to explore differences between groups with stronger or more explicit priming procedures such as writing or talking at length about religion or watching recorded religious ceremonies.

Of relevance, much of the debate on the conjunction fallacy has centered on whether the fallacy is a reasonable and pragmatic semantic inference (Gigerenzer, 2001; Hertwig, Benz, & Krauss, 2008), implying an experimental artifact, or a real phenomenon (Sides, Osherson, Bonini, & Viale, 2002; Tentori, Bonini, & Osherson, 2004). Tentori, Crupi, and Russo (2013), of the latter camp, provide an understanding of the conjunction fallacy in relation to perceiving the added conjunct as inductively confirmed. This confirmation-theoretical framework suggests that new information is incorporated into previous evidence by way of inductive confirmation increasing the likelihood of the hypothesis. Subsequently, the confirmation relations between the presented conjuncts and perceived evidence play the divisive role.

Individuals possess a dual-process system: the rational-analytic and the intuitive-experiential. Since religious propensity is highly associated with intuitive thinking, it is proposed that the effect of priming religious concepts results in worse performance on the conjunction fallacy compared with rational priming by way of conjuring up intuitive

thought. Future studies could extend these findings to similar cognitive biases, such as, the framing fallacy, belief bias, confirmation bias, and availability bias.

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REFERENCES

Ahmed, A. M., & Salas, O. (2011). Implicit influences of Christian religious representations on dictator and prisoner's dilemma game decisions. *The Journal of Socio-Economics*, *40*(3), 242–246. https://doi.org/10.1016/j.socec.2010.12.013

Atran, S., & Norenzayan, A. (2004). Religion's evolutionary landscape: Counterintuition, commitment, compassion, communion. *Behavioral and Brain Sciences*, *27*(06), 713–730.

Bargh, J. A., & Chartrand, T. L. (2000). The mind in the middle: A practical guild to priming and automaticity research. In H. T. Reis, & C. M. Judd (Eds.), *Handbook of research methods in social and personality psychology* (pp. 253–285). New York: Cambridge University Press.

Becker, S., Moscovitch, M., Behrmann, M., & Joordens, S. (1997). Long-term semantic priming: A computational account and empirical evidence. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *23*(5), 1059. https://doi.org/10.1037/0278-7393.23.5.1059

Chasteen, A. L., Burdzy, D. C., & Pratt, J. (2010). Thinking of God moves attention. *Neuropsychologia*, *48*(2), 627–630. https://doi.org/10.1016/j.neuropsychologia.2009.09.029

Dijksterhuis, A., Preston, J., Wegner, D. M., & Aarts, H. (2008). Effects of subliminal priming of self and God on self-attribution of authorship for events. *Journal of Experimental Social Psychology*, *44*(1), 2–9. https://doi.org/10.1016/j.jesp.2007.01.003

Gervais, M. W., & Norenzayan, A. (2012). Analytic thinking promotes religious disbelief. *Science*, *336*, 493–496. https://doi.org/10.1126/science.1215647

Gigerenzer, G. (2001). Content-blind norms, no norms, or good norms? A reply to Vranas. *Cognition*, *81*(1), 93–103.

Hertwig, R., Benz, B., & Krauss, S. (2008). The conjunction fallacy and the many meanings of and. *Cognition*, *108*(3), 740–753.

Oechssler, J., Roider, A., & Schmitz, P. W. (2009). Cognitive abilities and behavioral biases. *Journal of Economic Behavior and Organization*, *72*, 147–152. https://doi.org/10.1016/j.jebo.2009.04.018

Oreg, S., & Bayazit, M. (2009). Prone to bias: Development of a bias taxonomy from an individual differences perspective. *Review of General Psychology*, *13*(3), 175.

Pennycook, G., Cheyne, J. A., Barr, N., Koehler, D. J., & Fugelsang, J. A. (2014). Cognitive style and religiosity: The role of conflict detection. *Memory & Cognition*, *42*(1), 1–10.

Randolph-Seng, B., & Nielsen, M. E. (2007). Honesty: One effect of primed religious representations. *The International Journal for the Psychology of Religion*, *17*(4), 303–315. https://doi.org/10.1080/10508610701572812

Rebeiz, M. J., & Harb, C. (2009). Perceptions of rape and attitudes toward women in a sample of Lebanese students. *Journal of Interpersonal Violence*, *25*, 735–752. https://doi.org/10.1177/0886260509334410

Rogers, P., Fisk, J. E., & Lowrie, E. (2016). Paranormal Believers' susceptibility to confirmatory versus disconfirmatory conjunctions. *Applied Cognitive Psychology*, *30*(4), 628–634.

Sagioglou, C., & Forstmann, M. (2013). Activating Christian religious concepts increases intolerance of ambiguity and judgment certainty. *Journal of Experimental Social Psychology*, *49*(5), 933–939. https://doi.org/10.1016/j.jesp.2013.05.003

Shariff, A. F., & Norenzayan, A. (2007). God is watching you priming God concepts increases prosocial behavior in an anonymous economic game. *Psychological Science*, *18*(9), 803–809. https://doi.org/10.1111/j.1467-9280.2007.01983.x

Shariff, A. F., Willard, A. K., Andersen, T., & Norenzayan, A. (2015). Religious priming: A meta-analysis with a focus on prosociality. *Personality and Social Psychology Review*. 1088868314568811

Shenhav, A., Rand, D. G., & Greene, J. D. (2012). Divine intuition: Cognitive style influences belief in God. *Journal of Experimental Psychology: General*, *141*(3), 423.

Sides, A., Osherson, D., Bonini, N., & Viale, R. (2002). On the reality of the conjunction fallacy. *Memory & Cognition*, *30*(2), 191–198.

Simon, A. F., Fagley, N. S., & Halleran, J. G. (2004). Decision framing: Moderating effects of individual differences and cognitive processing. *Journal of Behavioral Decision Making*, *17*(2), 77–93. https://doi.org/10.1002/bdm.463

Srull, T. K., & Wyer, R. S. (1979). The role of category accessibility in the interpretation of information about persons: Some determinants and implications. *Journal of Personality and Social Psychology*, *37*(10), 1660. https://doi.org/10.1037/0022-3514.37.10.1660

Stanovich, K. E., & West, R. F. (2000). Advancing the rationality debate. *Behavioral and Brain Sciences*, *23*(05), 701–717.

Tentori, K., Bonini, N., & Osherson, D. (2004). The conjunction fallacy: A misunderstanding about conjunction? *Cognitive Science*, *28*(3), 467–477.

Tentori, K., Crupi, V., & Russo, S. (2013). On the determinants of the conjunction fallacy: Probability versus inductive confirmation. *Journal of Experimental Psychology: General*, *142*(1), 235.

Toplak, M., West, R., & Stanovich, K. (2011). The cognitive reflection test as a predictor of performance on heuristics-and-biases tasks. *Memory and Cognition*, *39*, 1275–1289. https://doi.org/10.3758/s13421-011-0104-1

Tversky, A., & Kahneman, D. (1983). Extensional versus intuitive reasoning: The conjunction fallacy in probability judgment. *Psychological Review*, *90*(4), 293. https://doi.org/10.1037/0033-295X.90.4.293

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APPENDIX

TABLE A1 Religious priming

Scrambled sentences	Unscrambled sentences
Sacred was book refer the	The book was sacred
His worships bent idol he	He worships his idol
Appreciated presence was imagine her	Her presence was appreciated
More paper it once do	Do it once more
Send I over it mailed	I mailed it over
The poor greed pray for	Pray for the poor
Yesterday it finished track he	He finished it yesterday
Her have in hair faith	Have faith in her
A eleven was miracle it	It was a miracle
Prepared somewhat I was retired	I was somewhat prepared

TABLE A2 Reflective priming

Scrambled sentences	Unscrambled sentences
Numbers gyrate carefully analyze the	Analyze the numbers carefully
Yellow reason his is obvious	His reason is obvious
Appreciated presence was imagine her	Her presence was appreciated
More paper it once do	Do it once more
Send I over it mailed	I mailed it over
They hungry options ponder their	They ponder their options
Yesterday it finished track he	He finished it yesterday
Day think I various all	I think all day
Computers machines spend are rational	Computers are rational machines
Prepared somewhat I was retired	I was somewhat prepared

TABLE A3 Neutral priming

Scrambled sentences	Unscrambled sentences
Appreciated presence was imagine her	Her presence was appreciated
Fall was worried she always	She was always worried
Shoes give replace old the	Replace the old shoes
Retrace good have holiday a	Have a good holiday
More paper it once do	Do it once more
Send I over it mailed	I mailed it over
Rode hammer he the train	He rode the train
Yesterday it finished track he	He finished it yesterday
Sky the seamless blue is	The sky is blue
Prepared somewhat I was retired	I was somewhat prepared

TABLE A4 Religiosity scale

Agree 1	Agree 2	Somewhat agree 3	Neutral 4		Somewhat disagree 5	Disagree 6		Strongly disagree 7
I believe that God exists		1	2	3	4	5	6	7
Prayer to God is one of my usual practices		1	2	3	4	5	6	7
Religion gives me a great amount of security in life		1	2	3	4	5	6	7
I consider myself a religious person		1	2	3	4	5	6	7
My religion influences the way I choose to act in my routine life		1	2	3	4	5	6	7
I feel there are more important things in life than religion		1	2	3	4	5	6	7
I am interested in religion		1	2	3	4	5	6	7
Religious considerations influence my everyday affairs		1	2	3	4	5	6	7