Does having religious beliefs cause increased situational optimism?

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Abstract

This study investigates the impact of religious beliefs on situational optimism through a between-subjects experimental design. In the online survey, participants (n = 38) were exposed to either a religious condition (chapel) or a neutral condition (restaurant). Situational optimism was measured using the State Optimism Measure (SOM) and religiousness was assessed using the Centrality of Religiosity Scale (CRSi-14). Results revealed no significant difference in situational optimism between the chapel and restaurant conditions. However, a small to moderate observed effect indicated that individuals with higher levels of religiousness exhibited slightly increased situational optimism. These findings suggest that while the priming of religious salience may not universally enhance situational optimism, it indicates subtle effects on highly religious individuals. Limitations include imbalanced sample size, the usage of terms that are too east and west on the scale, and relatedness to the English expressions. Future research may consider including multilingual questionnaires and designing a longitudinal survey to better understand the relationship between religion and psychological well-being outcomes such as situational optimism.

Keywords: religious beliefs, religious priming, situational optimism, psychological well-being

Introduction

Today, 85% of the population is reported to have religious beliefs (World Population Review, 2024). Religious individuals tend to have better personal well-being and are more beneficial to socially marginalized groups and to those who are strongly committed, helping them to overcome distressful situations (Pargament, 2002). In other words, having religious beliefs is a vital aspect of daily life that largely affects personal health (Park, 2005). Specifically, religiousness often provides individuals with a sense of high-level meaning to life (Baumeister, 1991), as well as influences goals, emotions, and beliefs (Silberman, 2005).

There are various factors that can indicate subjective well-being, such as autonomy, life satisfaction, self-esteem, purpose in life, optimism, and self-acceptance (Ryff & Keyes, 1995). Among these, optimism is an indicator of well-being, reflecting individuals' positive outlook on life. Studies show that optimism has been associated with better psychological and physical health outcomes, and improved stress coping outcomes (Scheier & Carver, 1992).

Considering the importance of religious beliefs and optimism in everyday life, this paper seeks to investigate how religious beliefs serve as the potential cause of optimism, specifically, situational optimism. The rest of the paper examines how religious practices and beliefs may influence one's outlook on specific life situations in the short term. Hence, this study poses the following research question: *Does having religious beliefs affect increased situational optimism?*

Breakdown of Religion

Religion is a multidimensional concept, with various definitions proposed in the literature. Scholars argue that no single definition can capture its full complexity (Abu-Raiya et al., 2023). In general, it is a global, undifferentiated, stable process that shifts across times and situations (Pargament, 2002). Some define religion as adherence to organized religious practices

and participation in community worship (Hill & Pargament, 2008). Others view it as a personal, intrinsic commitment to spiritual growth and moral values (Zinnbauer et al., 1997). In specific, religious involvement often includes references to organizational practices, including attending services, performing rituals, having church membership, and adhering to institutional belief systems (Park, 2005). Research has shown that people who engage in religious activities tend to exhibit higher indicators of psychological well-being (Moreira-Almeida et al., 2006). For instance, having religious beliefs is associated with higher levels of life satisfaction (Dorahy et al., 1998), a greater sense of purpose in life (Park et al., 2013), and lower levels of mental disorders (Koenig et al., 2012).

While a number of prior research measured religion on various scales in the past few decades (Steensland et al., 2000), few of them attempted to manipulate it. Religious priming refers to exposure to religious stimuli that can activate mental constructs in participants' minds. An overview paper by Watanabe and Laurent (2020) summarized four types of religious priming methodologies, including: explicit priming involves directly prompting participants to think about specific concept, such as reading religious texts; implicit priming uses subtle methods, such as the scrambled sentence task by rearranging words to form sentences that contained religious terms; subliminal priming involves presenting stimuli to participants in an unconscious way, such as flashing words or images very quickly; contextual priming refers to manipulate the assigned scenario or environment to perform the task. Hence, to operate religion in the experiment, this paper adapts the contextual priming technique to manipulate the salience of religion and measures religiousness in the existing scale.

Situational Optimism

Optimism refers to a self-regulatory system of expectation, characterized by the belief that positive outcomes will happen in the future. It can be divided into two forms: dispositional (trait) optimism and situational (state) optimism. Dispositional optimism refers to a stable personality trait rooted in internal factors, where individuals consistently expect good outcomes in one's lifetime regardless of circumstances (Scheier, Carver, & Bridges, 2001). In contrast, situational optimism varies across different contexts and timeframes and is influenced by external factors and specific situations. It is more malleable and can be modified through targeted interventions (Tusaie & Patterson, 2006).

In addition, situational optimism allows individuals to adapt their expectations based on the environment, leading to more flexible short-term coping responses, such as better adaptability to challenging or negative situations and processing information in a more flexible way (Aspinwall et al., 2001). Compared to dispositional optimism which cannot be changed, the malleability of situational optimism means that it can be improved. This suggests that increasing individuals' situational optimism might serve to increase resilience in the face of challenges and overall well-being. Hence, this paper specifically attempts to target situational optimism.

Religion and Situational Optimism

Previous studies found a correlation between religious indices and dispositional optimism, such that individuals identified as highly religious showed more optimistic traits (Salsman et al., 2005). Additionally, optimism is often studied as a mediator between religiousness and well-being. For instance, Abu-Raiya et al. (2023) found weak, positive correlations between religious indices and self-esteem, fully mediated by dispositional optimism. Similarly, Warren et al. (2015) found that optimism mediated the effect of religious coping on

life satisfaction and psychological distress. However, few studies have addressed the direct relationship between religion and situational optimism.

Rationale for Current Study

Given that religion and optimism are individually associated with subjective well-being, it is important to further study their direct relationship with each other. Understanding this relationship could lead to the potential to develop religious-based support systems that enhance the overall well-being of community members.

This paper utilized a between-subjects experimental design to investigate whether there exists a causal relationship between religious beliefs and situational optimism, by using religiousness as the measure scale and religious salience as the manipulation. I hypothesized that individuals with higher level of religious belief led to greater situational optimism.

Method

This research paper hypothesized that having religious beliefs causes increased situational optimism. This study was a between-subject experiment, manipulating religious salience as the independent variable, and religiousness as the control variable. Religious salience was operationalized by presenting images from two scenarios and brief descriptions of the scenario, in which the scenario of the unaffiliated chapel (not belonging to any religions) was the manipulated condition and the restaurant was the neutral condition. The study was distributed to participants by sending an online questionnaire.

Participants

55 participants were recruited, while 17 responses were dropped since they did not finish the survey, leaving 38 responses in total (28 females, 9 males, 1 prefer not to say). Participants were recruited via posting social media posts and texting in the group chats and individual friends. Participants completed the survey online. The mean age of participants was 26 years old (*SD* = 10.4), ranging from 17 to 56 years old). Race varied among participants, from Asian (24 number of participants), Black or African American (5 number of participants), to White (6 number of participants). 3 participants indicated other races, including mixed and Latina/Hispanic. The religious orientation also varied: 7 participants identified themselves as religious (2 Catholic; 4 Protestant; 1 Muslim); 6 participants identified themselves as spiritual (1 agnostic; 1 unaffiliated; 2 others: 1 belief in creators/creator, 1 Christian); 26 participants reported to be neither religious nor spiritual. Participants were randomly assigned to one of two experimental conditions.

Measures

The independent variable, priming of religious salience, was automatically assigned by Qualtrics, where the chapel group was encoded into 1 and the restaurant group into 2 in the data analysis. The dependent variable, situational optimism, was measured by the scale State Optimism Measure (SOM), which contains 7 number of items. Some sample items include: "Right now, I expect things to work out for the best," "The future is looking bright to me," and "I am expecting things to turn out well" (Millstein et al., 2019).

The control variable, religiousness which indicated the importance of religious meanings, was measured by the Centrality of Religiosity Scale (CRSi-14) which contains 14 items (Huber & Huber, 2012). The questionnaire measured across five core dimensions of religiousness, which are: public practice, private practice, religious experience, ideology, and the intellectual

dimension. Sample questions for the practice dimension include: “How often do you take part in religious services?” Sample questions for the ideology dimension include “To what extent do you believe that God or something divine exists?” Sample questions for the intellectual dimension include “How interested are you in learning more about religious topics?” Sample questions for the experience dimension include “How often do you experience situations in which you have the feeling that you are in one with all?”

To better analyze the data, composite variables for dependent and control variables were created. A SOM composite variable (= 0.89) was created by averaging the data values across 7 items. In addition, for the simplicity of this study, public and private practice dimensions were merged into one practice dimension in the analysis. Thus, by averaging the responses across dimensions, four composite variables were created for four dimensions, including practice (= 0.93), experience (= 0.94), ideology (= 0.94), and intellectual (= 0.79). Then, one total religious composite variable (= 0.93) was created by averaging four composite variables together. In addition, according to the scores of total religious composites, religiousness was divided into three levels: non-religious (1.0 - 2.0), religious (2.1 - 3.9), and highly religious (4.0 - 5.0).

Moreover, items from SOM used a 7-point Likert scale, whereas questions in CRSi-14 used different scales. Some questions such as questions in the religious experience dimension used a 5-point Likert scale, while other questions in practice dimensions used 7-point Likert scale scales. Hence, this study proportionally rescaled all the data points to be on the 5-point scale universally.

Materials

The materials used in this study mainly include pictures assigned to two manipulated conditions. In specific, the religious priming groups were manipulated by randomly assigning

participants to one of the two groups. Both groups saw the same stimuli ("Imagine you are walking around a neighborhood by yourself. You walk past this building"), and two pictures of the scenarios from outside and inside perspectives. One group saw two figures of a chapel (Figure 1 & 2). Another group saw two figures of a restaurant (Figure 3 & 4).

Procedure

Participants in this study completed the questionnaire through Qualtrics. Participants were invited to participate in this study by receiving a message including a brief description of the study, an estimated time to complete the survey (approximately 7 minutes), and a link to the questionnaire. Upon clicking the survey link, participants viewed a consent form outlining the purpose of the study, procedures, potential risks, confidentiality, and their right to withdraw at any time without penalty. The questionnaire proceeded after participants clicked the button "Yes." Firstly, participants were asked to complete the questionnaire to measure situational optimism (SOM). Next, participants were randomly assigned to one of two conditions: viewing the outside and inside images of an unaffiliated chapel (Figure 1 & 2) or a restaurant (Figure 3 & 4). Random assignment was managed by Qualtrics' randomization feature. The participants viewed the stimuli and the assigned images; to confirm their understanding of the scenario, they answered open-ended questions (eg., "Where do you think you are at?"). Thirdly, participants answered another questionnaire to understand religiousness (CRSi-14). After completing the survey questions, participants were asked to provide demographic information, including age, gender, race, and religious beliefs. Upon completion of the survey, participants were then debriefed, including information about the purpose of the study, giving space to provide any feedback they had.

Figure 1: Chapel Outside

Figure 2: Chapel Inside

Figure 3: Restaurant Outside

Figure 4: Restaurant Inside

Results

I hypothesized that individuals who were exposed to the religious prime (chapel condition) would exhibit higher levels of situational optimism than those who were not (restaurant condition). I first examined 1) the effect of experimental conditions on situational optimism and then examined 2) the interaction between experimental conditions and religiousness on situational optimism.

Religious priming and situational optimism

An independent t-test was conducted to assess the effect of religious priming on situational optimism (Figure 5). There was no significant mean difference in situational optimism between the chapel condition (M = 3.83, SD = 0.98) and the restaurant condition (M = 3.80, SD = 0.70), $t(36) = 0.12$, $p = 0.90$, $d = 0.04$.

Effects of Religious priming and religious levels on situational optimism

Next, a two-way analysis of variance (ANOVA) was conducted to evaluate the effects of manipulation group (chapel vs. restaurant) and religious level (non-religious, religious, highly-religious) on situational optimism (Figure 5). The results indicated that the main effect of the manipulation group was not statistically significant, an $F(1, 32) = 0.09$, $p = 0.76$, $\eta_p^2 = 0.02$. This statistic also supported the results from the t-test that no significant difference in situational optimism between the chapel (M = 3.83) and restaurant (M = 3.80) groups. The main effect of religious levels was marginally statistically significant, $F(2, 32) = 2.52$, $p = 0.096$, but the effect size ($\eta_p^2 = 0.14$) suggested a small to moderate effect, suggesting that a higher level of religiousness predicts higher optimism. The interaction between the manipulation group and religious levels was not statistically significant, $F(2, 32) = 0.15$, $p = 0.86$, $\eta_p^2 = 0.009$. This statistic indicated that the effect of religious prime on situational optimism did not significantly differ across levels of religiousness.

Despite the nonsignificant interaction, I conducted post-hoc Tukey comparisons for exploratory purposes. A Tukey post-hoc test revealed no statistical significance of experimental condition within each level of religiousness. However, the highly religious group showed greater increases in situational optimism (SE = 0.66, $p = 0.45$, $M_{diff} = 0.51$) than the religious group (SE = 0.40, $p = 0.81$, $M_{diff} = 0.09$) and the non-religious group (SE = 0.50, $p = 0.76$, M_{diff} =

0.15). The variation of mean differences suggested that highly religious individuals were more sensitive to religious priming than less religious individuals.

Manipulation Group	Religious Level	*M*	*SD*
Chapel	Non-religious	3.63	0.76
	Religious	3.77	1.10
	Highly-religious	4.71	0.40
Restaurant	Non-religious	3.48	0.53
	Religious	3.67	0.86
	Highly-religious	4.20	0.52

Table 1. Descriptive statistics of mean and standard deviation of religious levels by manipulation groups

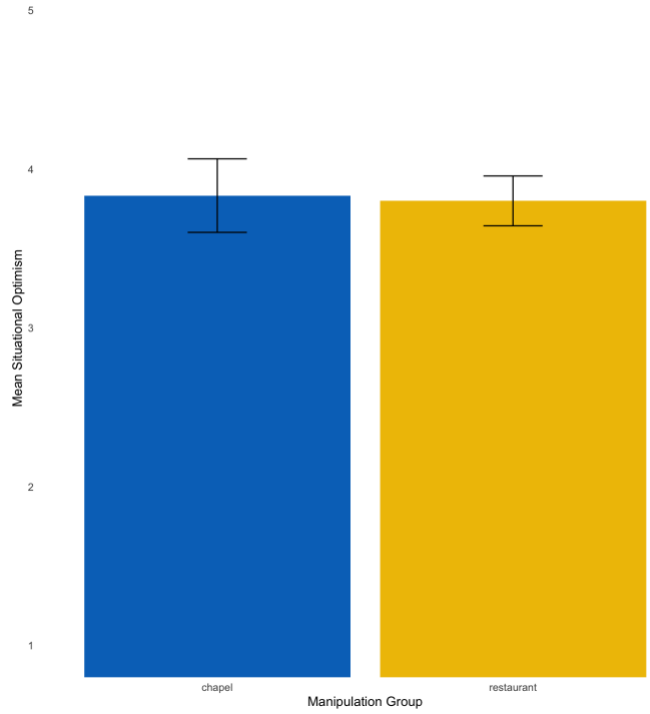

Figure 5: Situational optimism by manipulation groups (Chapel: *SE* = 0.232; Restaurant: *SE* = 0.157)

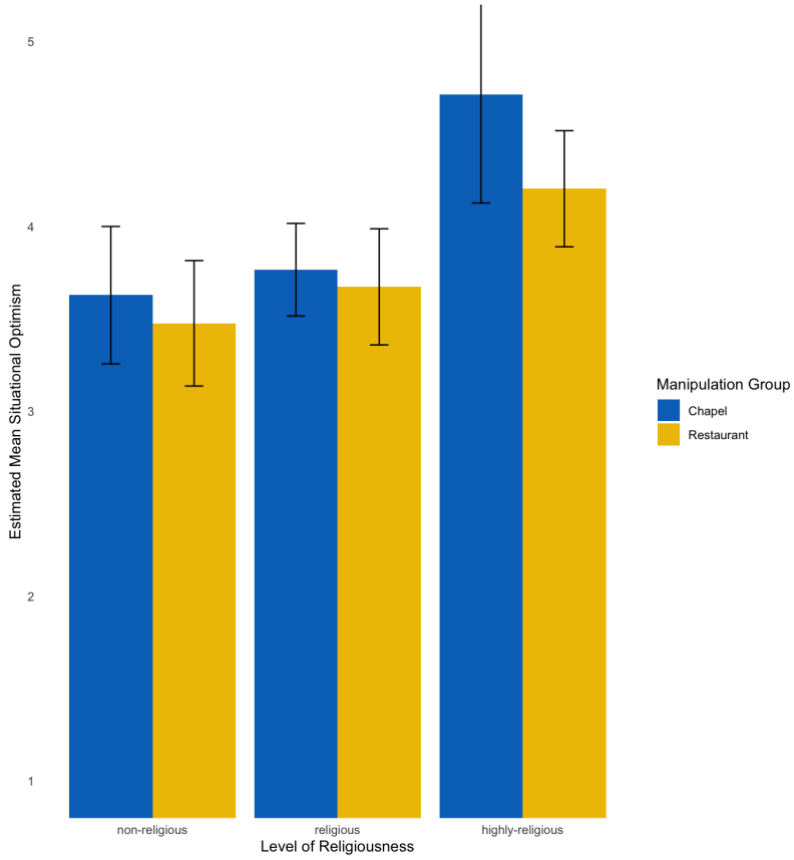

Figure 6: Situational optimism by religious levels and manipulation groups interaction

Discussion

The primary objective of this study was to investigate the impact of priming of religious salience on individuals' situational optimism. The findings implied that religious priming in the chapel group did not universally enhance situational optimism compared to a restaurant group. Yet, there were nuanced responses based on different religious levels of individuals.

The results of this experiment suggested that there was no significant difference between two manipulated priming groups on the situational optimism. Neither the manipulated priming groups nor the religious levels had main effects on situation optimism. In addition, the

interaction between manipulated priming groups and religious levels indicated that the assigned prime on situational optimism did not significantly differ across levels of religiousness. However, an estimated mean difference of 0.51 showed that highly religious individuals experienced slightly increase in situational optimism when primed to the religious context (chapel) than the non-religious context (restaurant), although this effect did not reach statistical significance.

My findings aligned with previous research critiquing the effectiveness of religious priming techniques (Watanabe & Laurent, 2020). This review found that many classic religious priming experiments were failed to be replicated, suggesting maintaining skepticism of their reliability. However, unlike other forms of priming methodologies, contextual priming, which was used by this study, showcased a higher degree of validity. This observation was aligned with my findings that religious priming settings generally had little effect on situational optimism (Figure 5). Unlike a few prior studies that found significant effects of religious conditions on multiple psychological outcomes (Pargament, 2001), my study implied that these effects were more subtle, which are varied according to individual religious levels and commitment. Similarly, Park (2005) found that individual engagement in religious practices influenced their psychological impacts. This was aligned with the slightly increased effects on situational optimism of highly religious participants who were assigned to the chapel priming group, underscoring the importance of personal relevance of religion (Figure 6).

In a nutshell, my findings potentially contribute to the understanding of how scenario settings and personal religious levels influence states of individual well-being. Despite the lack of statistically significant differences, the observed results provide insight into how individuals with higher religious levels exhibit increased psychological well-being outcomes. In a real-life

situation, these insights suggest that interventions through religious means could be an effective coping strategy to enhance well-being for individuals with higher religious level. More importantly, these interventions should specifically consider individual differences in religious levels, experiences, orientations, commitments, and beyond.

Furthermore, this study had certain limitations. The religious priming manipulation was conducted online, not in person, by showing participants pictures of a chapel and a restaurant. This could reduce the participant's sense of realism to experience the scenario, leading to less accurate responses in reflecting their true thoughts. In addition, the religious questionnaire (CRSi-14) was designed 12 years ago, which might not reflect the understanding of religiousness in recent years. For example, one participant reported that the questionnaire measuring religiousness was too East-oriented and West-oriented, such that specific terms like “God” and “prayer” refer to a clear religious context. This participant self-identified as someone who believes in a universal creator rather than believing in particular religions in one of the demographic questions. Moreover, the relatively small and imbalanced sample size may limit the generalizability of the findings. Particularly, there were 26 participants reported to be neither religious nor spiritual, whereas there were only 7 individuals reported to be highly religious, which may have contributed to the lack of detecting significant interaction effects. In addition, the majority of the sample was Asian (n = 24), which might reflect a secular Eastern cultural norm. Another limitation is that the study was distributed in English, despite most participants speak English as a second language. This may reduce certain levels of cues and relatedness when seeing questions in English. They might not be able to interpret English words in a similar way that hold the same meaning in their native languages, which are specific to cultural background.

Future research may consider more balanced samples to increase the possibility of detecting smaller effects of religious priming across religious levels. Creating multilingual surveys is also recommended to accommodate different language speakers. A more inclusive and general religious questionnaire can also be adapted for participants from different cultural backgrounds, including those who believe in universal creators rather than specific religions. Lastly, longitudinal designs can also be conducted across years to investigate how situational optimism might evolve with repeated exposure to religious settings across different religious groups.

Conclusion

In conclusion, this study failed to detect a causal relationship between levels of religious salience and situational optimism. However, it adds to the nuanced understanding of how individual differences of religious beliefs might contribute to the level of situational optimism. While the overall effects were modest, the findings suggest that for highly religious participants, religious scenarios have potential impacts to influence individual well-being outcomes. By continuing to explore the relationship between religion and psychological states in the future, researchers can gain a deeper understanding of improving well-beings across diverse cultures and populations.

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