

**The Implicit Image of God: God as Reality and Psychological Well-being**

Journal:	<i>Journal for the Scientific Study of Religion</i>
Manuscript ID	JSSR-RN-11-2013-245.R4
Manuscript Type:	Research Note
Keywords:	automatic religious beliefs, controlled religious beliefs, anxiety symptoms, coping responses to stress, cancer patients, Single Category Implicit Association Test

SCHOLARONE™  
Manuscripts

ew Only

**Abstract**

Research has widely demonstrated that religiosity is related to psychological well-being even in situations of severe illness. To assess religious beliefs explicit measures have generally been used. In this study, we measured the belief that God is reality as opposed to myth or abstraction by using an implicit technique (the Single Category Implicit Association Test). The study was carried out in Italy, where a large majority of the population is Catholic, and the prevailing image of God is that of a compassionate and supportive father. Participants were cancer patients identifying themselves as believers. As expected, the automatic belief that God is reality (vs. abstraction) was related to beneficial outcomes: lower reported psycho-physical anxiety symptoms and a weaker use of avoidance strategies to cope with stress. Thus, also automatic religious beliefs may affect feelings and behaviors.

Key-words: automatic religious beliefs, controlled religious beliefs, anxiety symptoms, coping responses to stress, cancer patients, Single Category Implicit Association Test.

## Introduction

Research has largely shown that religiosity is positively related to the ability to cope with stress, with resilience, and subjective well-being (for a meta-analysis on the relationship between religiosity and psychological adjustment, see Hackney and Sanders 2003; see also Ryan, LaGuardia, and Rawsthorne 2005). Furthermore, numerous studies have indicated that believers report higher levels of life satisfaction compared to non-believers (Hackney and Sanders 2003). Investigators have also studied the relationship between religion and health. Actually, because many religions advocate a healthy lifestyle, encourage social interactions, and offer optimistic views of a future after death, believers and practicing individuals may be less likely to engage in unhealthy habits, and may enjoy a greater social support that limits the harmful effects of stress (Helm et al. 2000; Levin and Chatters 1998). Regarding the difference between believers and non-believers in distress, a recent review by Weber et al. (2012) illustrated how several forms of psychological distress are experienced more by non-believers, with one source of distress being negative evaluations from others that are related to difficulties in social life. In a study carried out in Kuwait and the USA, Abdel-Khalek and Lester (2012) discovered that in both cultures religiosity was positively related to different measures of subjective well-being and negatively related to depressive symptoms.

Religious beliefs are particularly functional in response to life's challenges, when individuals have to cope with life stressors. In this connection, Carpenter, Laney, and Mezulis (2012) distinguished between positive religious responses to stress (i.e., partnering with God or looking to God for support and guidance) and negative religious responses to stress (i.e., feeling abandoned by God or anger toward God) to examine the relationships between religious coping, stress, and depressive symptoms; respondents were adolescents recruited from 9<sup>th</sup> to 12<sup>th</sup> grade classes (Pacific Northwest). Carpenter et al. found that religious coping moderated the relation between stress and depressive symptoms: this relation was stronger when religious coping was

1 negative and weaker when religious coping was positive. Furthermore, Pargament et al. (2001)  
2 showed that negative religious coping in elderly patients may be associated with greater risk of  
3 mortality. Conversely, it was found that positive religious coping is related to lower levels of  
4 distress, less hopelessness, better mental health, higher quality of life, and psychological well-being  
5 among elderly patients, and women treated for alcohol and drug addiction (Arévalo, Prado, and  
6 Amaro 2008; Pargament et al. 2004). The need for spiritual and religious practices is also  
7 emphasized when addressing mourning (see Lichtenthal, Burke, and Neimeyer 2011).

8  
9  
10  
11  
12  
13  
14  
15  
16  
17 In the context of cancer diagnosis, several studies have revealed that religiosity is positively  
18 associated with well-being and life satisfaction, and negatively associated with stress (for a review,  
19 see Thuné-Boyle et al. 2006; see also Préau, Bouhnik, and Le Coroller Soriano 2012). Neimeyer et  
20 al. (2011), examining patients from 153 American hospices, found that the religious dimension was  
21 positively related to various aspects of adjustment to the end of life.  
22  
23  
24  
25  
26  
27

28 Research has demonstrated that religiosity is positively related to psychological well-being  
29 and adjustment even when illness is severe and there is no hope of recovery. The studies performed  
30 in this field generally used self-report measures (for an exception, see LaBouff et al. 2010, who  
31 developed the first implicit measure of religiousness-spirituality). Self-report measures assess  
32 conscious, deliberate attitudes and beliefs; however, behaviors, feelings, and choices are also  
33 affected by automatic attitudes which are assessed with implicit techniques (see, e.g., the  
34 associative-propositional evaluation model by Gawronski and Bodenhausen 2006, 2007).  
35  
36  
37  
38  
39  
40  
41  
42  
43

44 Automatic attitudes and beliefs are mental associations between an object and its attributes  
45 and evaluations. If sufficiently strong, these associations may be activated automatically when  
46 encountering or thinking about the object. Automatic attitudes are associated with behavior,  
47 although this connection may be weaker when people engage in deliberate evaluations of the object  
48 (see Olson and Fazio 2009). According to Gawronski and Bodenhausen (2006), mental associations  
49 in memory can be viewed as true or false at the explicit level, namely, there may be inconsistency  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

1  
2 between associative and propositional processes (e.g., God's existence can be denied at the  
3  
4 associative level, but endorsed as true at the deliberate level).

5  
6 Automatic attitudes and beliefs may derive from early socialization experiences (see  
7  
8 Greenwald and Banaji 1995; Rudman, Phelan, and Heppen 2007; Wilson, Lindsey, and Schooler  
9  
10 2000). They may be related to more recent experiences with the target (see, e.g., the research on  
11  
12 intergroup contact: Shook and Fazio 2008; Turner, Hewstone, and Voci 2007) or to verbal  
13  
14 descriptions of the target (e.g., Gawronski, Walther, and Blank 2005). This means that people who  
15  
16 are sincerely convinced that God exists might show automatic associations of God with concepts  
17  
18 such as myth and abstraction, as a consequence of beliefs learnt in early socialization. In other  
19  
20 cases, the God-reality association, learnt in early socialization, may persist although people  
21  
22 explicitly endorse positions that are contrary to the existence of God.  
23  
24

25  
26 Research has shown that automatic attitudes and beliefs may be related not only to  
27  
28 spontaneous actions (e.g., sitting close to a religious symbol like a crucifix) but also to controlled  
29  
30 behaviors such as carefully following some medical prescriptions (Greenwald et al. 2009; Rudman  
31  
32 2004). In political psychology, it has been found that the mental association between the self and  
33  
34 liberal or conservative concepts was related to moral judgments, such as the importance assigned to  
35  
36 fairness or respect for authority when deciding whether an action is right or wrong (Graham, Haidt,  
37  
38 and Nosek 2009). Automatic attitudes toward parties may be associated with voting decisions (see  
39  
40 Friese, Bluemke, and Wänke 2007). Therefore, we predicted that automatic religious beliefs would  
41  
42 be associated with people's psychological well-being.  
43  
44

45  
46 To test this hypothesis, we chose to work with cancer patients: a category of persons who  
47  
48 need special emotional support to face their illness and the burdensome therapies they are  
49  
50 undergoing. In many studies, conducted with different types of cancer, the majority of patients  
51  
52 reported, often spontaneously, that religion was a major source of support in dealing with their  
53  
54 anguish and pain (Ano and Vasconcelles 2005; Flipp et al. 1990). In cancer patients, religiosity –  
55  
56

1 acting as an anchor – is negatively associated with anxiety and depression (Haghighi 2013) and  
2  
3 positively associated with the desire to give meaning to one’s suffering (Pargament 1997). In our  
4  
5 study, we explored whether also automatic religious beliefs play a role and are associated with  
6  
7 greater well-being and better psychological adjustment.  
8  
9

10 We conducted our study in Italy, where the majority of the population is Catholic (Censis  
11  
12 2013). Albeit in Italy all religions have equal rights guaranteed by the Constitution, Italians are  
13  
14 strongly influenced by the beliefs of the Catholic Church, and are constantly exposed to Catholic  
15  
16 symbols, Catholic ceremonies, and media news regarding the Pope. As a consequence, Catholicism  
17  
18 is unofficially regarded as a state religion (Bader, Baker, and Molle 2012). Among believers,  
19  
20 however, there are different levels of commitment to Catholicism (Bader et al. 2012): some Italian  
21  
22 Catholics have, indeed, a strong religious identity, while others are little influenced by the Church  
23  
24 and rarely attend religious services. As to the image of God, in Italian Catholicism God is conceived  
25  
26 as a nurturing and compassionate father, willing to help and forgive (Zaccaria 2010).  
27  
28  
29

30 The sample examined in this study includes cancer patients, almost all Catholics (practicing  
31  
32 and non-practicing). We predicted a negative correlation between the automatic belief that God is  
33  
34 reality – and not a construction of the human mind – and anxiety symptoms; in addition, we  
35  
36 predicted a positive correlation of the God-as-reality belief with the use of adaptive responses to  
37  
38 stress and a negative correlation with the use of non-adaptive responses, such as avoidance of  
39  
40 problems. Our predictions may be supported by attachment theory (Bowlby 1969). In the context of  
41  
42 this theory, Kirkpatrick and Shaver (1992; see also Rowatt and Kirkpatrick 2002) discovered that  
43  
44 God can function as an attachment figure, with secure attachment being related to mental well-  
45  
46 being. The God/reality association may favor the perception of God as a secure attachment figure,  
47  
48 this perception being negatively related to fear and anxiety. To our knowledge, this is the first time  
49  
50 that the relationship between spontaneous, automatic religious beliefs and psychological well-being  
51  
52 has been analyzed.  
53  
54  
55  
56  
57  
58  
59  
60

## Method

### Participants and Procedure

We examined 58 cancer patients (14 males and 44 females;  $M_{age} = 49.95$ ,  $SD = 9.97$ ). They were approached in waiting rooms of a cancer institute, and were asked to complete a short paper-and-pen questionnaire and a computerized task; half of the participants first completed the pen-and-paper questionnaire, whereas the other half first completed the computerized task. In terms of religion, 51 respondents declared believing in God, whereas seven were non-believers. Of the 51 believers, 46 were Christian (Catholic), four were Jewish, and one participant did not indicate religious affiliation; 22 participants were practicing believers, while 28 were non-practicing (one participant did not indicate whether he/she was practicing). Regarding the cancer stage, according to the TNM (tumor-node-metastasis) staging system, of the 51 believers – the sample of this study – four were stage I, 15 stage II, 12 stage III, and 20 stage IV.

### Measures

*Beck Anxiety Inventory.* To assess self-reported anxiety symptoms, we used 18 items of the Italian version (Sica and Ghisi 2007) of the Beck Anxiety Inventory (BAI; Beck and Steer 1990). Participants were proposed a list of psycho-physical symptoms associated with anxiety (e.g., feeling scared, wheezing), and had to rate how much, in the past week, these symptoms had bothered them; the response scale ranged from 1 (*not at all*) to 4 (*very much*). *A little* (2) and *rather* (3) were the intermediate points. Items were averaged to form a reliable composite score ( $\alpha = .82$ ).

*Coping responses to stressful events.* To measure the coping strategies, we used the Italian version (Sica et al. 2008) of the Coping Orientation to Problems Experienced scale (Carver, Scheier, and Weintraub 1989), which includes 60 items assessing five coping strategies, namely: social support, avoidance, positive attitude, problem solving, and transcendent orientation. For each item, participants had to indicate how often they engaged in the corresponding behavior when facing a stressful event. Responses were given on a 4-point scale (1 = *I usually don't do it*; 2 = *I*

1  
2 sometimes do it; 3 = I often do it; 4 = I almost always do it). Twelve items measured social support  
3  
4 (alpha = .88), with sample items being: “I discuss my feelings with someone,” “I look for moral  
5  
6 support from friends and relatives.” Avoidance strategies were measured with 16 items (alpha =  
7  
8 .62), for instance: “I refuse to believe that it has happened” and “I drink alcohol or take drugs in  
9  
10 order to feel better.” Both positive attitude and problem-solving strategies were measured by 12  
11  
12 items (alpha = .75 and alpha = .84, respectively). For positive attitude, sample items are: “I accept  
13  
14 that this has happened, and that it can't be changed,” “I force myself to wait for the right time to do  
15  
16 something.” For problem solving, examples are: “I try to define a strategy of action,” “I prepare a  
17  
18 strategy for action.” Finally, eight items measured the transcendent orientation (alpha = .77), a  
19  
20 coping strategy consisting in a blend of turning to religion (four items) and lack of humor (four  
21  
22 items). Sample items for turning to religion are “I put my trust in God” and “I try to find comfort in  
23  
24 my religion”; sample items for lack of humor are “I laugh about the situation” (reverse coded) and  
25  
26 “I make jokes about it” (reverse coded).<sup>1</sup>  
27  
28  
29

30  
31 For each coping strategy, we created a composite score, averaging the respective items. For  
32  
33 both BAI and the coping strategies, alphas were computed considering only the 51 believers.  
34

35 *Single Category Implicit Association Test.* To assess the association of the concept of God  
36  
37 with the two contrasting attributes of abstraction and reality, we used the Single Category Implicit  
38  
39 Association Test (SC-IAT; Karpinski and Steinman 2006), a categorization task that measures the  
40  
41 extent to which a target object (in this case God) is associated in memory with target attributes. We  
42  
43 used words as stimuli: 10 words represented the concept of God (e.g., God, Almighty), wherein five  
44  
45 words represented the attribute of abstraction (e.g., Dream, Myth) and five the attribute of reality  
46  
47 (e.g., Reality, Objectivity) (for the full list of stimuli, see Table 1).  
48  
49  
50

---

51  
52  
53 Insert Table 1 about here  
54  
55

---



1  
2 On the keyboard, the W key was color-coded blue and the P key was color-coded green. In  
3  
4 the first practice block, participants responded to 20 practice trials, and had to categorize the  
5  
6 abstraction words pressing the blue key and the reality words pressing the green key. This practice  
7  
8 block was followed by two other blocks, each consisting of 24 practice trials and 72 experimental  
9  
10 trials. In one block, participants were instructed to categorize words representing God or indicating  
11  
12 abstraction with the same key (blue) and words indicating reality with the other key (green). God  
13  
14 words, abstraction words, and reality words were presented in a 7:7:10 ratio, so that 58% of the  
15  
16 correct responses were on the blue key and 42% on the green key (see Karpinski and Steinman  
17  
18 2006). Therefore, in the practice trials, 7 stimuli related to God, 7 to abstraction, and 10 to reality.  
19  
20 In the experimental trials, 21 stimuli represented God, 21 abstraction, and 30 represented reality. In  
21  
22 the other block, participants had to categorize words indicating God or reality with the same key  
23  
24 (green) and words indicating abstraction with the other key (blue). God words, reality words, and  
25  
26 abstraction words were presented in a 7:7:10 ratio. The order of presentation of the God +  
27  
28 Abstraction and God + Reality blocks was counterbalanced across participants.  
29  
30  
31  
32

33 Category label reminders were positioned on the upper-left and upper-right quadrants of the  
34  
35 screen and remained visible throughout the task. Category labels were God/Abstraction, placed on  
36  
37 the upper-left quadrant of the screen, versus Reality, placed on the upper-right quadrant, for the God  
38  
39 + Abstraction block; they were God/Reality, positioned on the upper-right quadrant, versus  
40  
41 Abstraction (upper-left quadrant), for the God + Reality block.  
42  
43

44 Each stimulus was shown until participants responded or for 1,500 ms. If participants failed  
45  
46 to respond within 1,500 ms, a reminder “Please respond more quickly” appeared. During the  
47  
48 intertrial stimulus interval (250 ms), a feedback on performance accuracy was provided. Correct  
49  
50 answers were followed by a green “O,” whereas errors were followed by a red “X.” These  
51  
52 feedbacks remained on the screen for 150 ms. Stimuli presentations and data collection were  
53  
54 controlled by the Inquisit software package (Version 2.0).  
55  
56  
57  
58  
59  
60

### Preliminary Analyses

To assess the association between God and reality (vs. abstraction), we calculated the SC-IAT D score (Karpinski and Steinman 2006). Practice trials were not considered; times shorter than 350 ms were eliminated, whereas error responses and nonresponses (i.e., failures to respond within 1,500 ms) were replaced with the block mean plus an error penalty of 400 ms. The mean response time for the God + Reality block was subtracted from the mean response time for the God + Abstraction block; this quantity was then divided by the standard deviation of all correct responses times within the two blocks. Thus, higher D values indicate a stronger association of God with reality than with abstraction.

In data analysis, we excluded 12 participants who gave more than 30% of incorrect responses or nonresponses in the experimental blocks. We enlarged the exclusion criterion proposed by Karpinski and Steinman (2006; more than 20% of errors or nonresponses), because of the population under study (cancer patients) and the research context (waiting rooms in a hospital). In this way, our final sample included 39 participants. To calculate the reliability of SC-IAT, we computed a difference score for each trial of the experimental blocks, after replacing error latencies and nonresponses with the block mean plus the error penalty of 400 ms; the latency in the first trial of the God + Reality block was, for instance, subtracted from the latency in the first trial of the God + Abstraction block, this operation being performed for each of the 72 trials. As suggested by Bluemke and Friese (2008), we treated these differences as separate items to obtain Cronbach's alpha, that was .67.

### Results

From the means of variables (see Table 2), it appears that the anxiety symptoms reported by patients were low. Regarding the coping strategies, participants mentioned a quite frequent use of positive attitude, problem solving, and transcendent orientation; a certain use of social support was reported as well. Coping based on avoidance was, in contrast, less frequent.<sup>2</sup> For the automatic

1 association between God and reality (vs. abstraction), the mean of D scores was -0.11 ( $SD = 0.30$ ),  
2 significantly different from zero,  $t(38) = 2.32, p < .03$ : participants were quicker and more accurate  
3 when categorizing God with abstraction than with reality words. This means that, although  
4 participants identified themselves as believers, in their mental representation God was associated  
5 more with myth and abstraction than with reality and objectivity.  
6  
7  
8  
9  
10  
11

---

12 Insert Table 2 about here

---

13  
14  
15  
16  
17  
18  
19  
20 From correlations (Table 2), it appears that the more participants associated God with reality  
21 (positive Ds), the less they felt anxious, and the less they used avoidance as a coping response to  
22 stress.<sup>3</sup> To check the robustness of our results, we calculated the 95% Confidence Interval  
23 (percentile CI) for the two correlations, using bootstrapping with 1,000 resamples. The 95% CI for  
24 the correlation between God as reality and anxiety symptoms was [-.586, -.035]; the 95% CI for the  
25 correlation between God as reality and avoidance coping was [-.590, -.003]. Zero was not included  
26 in the two CIs; therefore, we are 95% confident that, in the population, the correlation between  
27 religious beliefs measured by the SC-IAT and anxiety symptoms or avoidance coping is not null  
28 (for the interpretation of confidence intervals, see Cumming 2012). Regarding the statistical power  
29 of our findings ( $\alpha = .05$  and  $n = 39$ ), it is .58 (two-tailed) and .70 (one-tailed) for the correlation  
30 between religious beliefs measured by SC-IAT and anxiety, it is .55 (two-tailed) and .67 (one-  
31 tailed) for the correlation between beliefs measured by SC-IAT and avoidance responses to stress.  
32  
33 Statistical power of our data is therefore relatively low. However, we can follow the confidence  
34 interval approach, according to which there is a chance of .83 that a 95% CI will capture the result  
35 (in our case, the correlation) of a single replication of the study (Cumming 2012, 120-129;  
36 Cumming and Maillardet 2006). Thus, for our significant findings (the negative correlations of  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

1 automatic beliefs with avoidance responses and anxiety), the probability that a replication of the  
2 study will give a non-zero correlation is rather high, equal to .83.  
3  
4

5  
6 To control for the effects of the background variables and the illness stage, we performed  
7 multiple regressions in which D scores, stage of cancer, gender, age, and being practicing (or not)  
8 were the predictors, and anxiety symptoms or avoidance strategies were the outcome. The effect of  
9 cancer stage and that of the background variables was never significant,  $\beta_s < .26$ ,  $p_s > .13$ , whereas  
10 the D score was reliably related to anxiety symptoms,  $\beta = -.38$ ,  $p < .03$ , and to avoidance coping,  $\beta$   
11 =  $-.35$ ,  $p < .04$ . The 95% bootstrap CI of the regression coefficient was  $[-.841, -.084]$  in the first  
12 case, and  $[-.585, -.015]$  in the second. Both intervals did not include zero; in contrast, for illness  
13 stage and the background measures, the CI always included zero. This means that, for these  
14 variables, there is a chance of .83 that a replication of the study will provide regression coefficients  
15 included in an interval which contains zero (Cumming 2012).  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27

### 28 Discussion

29  
30 In this study, we examined, for the first time, the automatic association between God and  
31 reality (vs. abstraction), and its relationship with positive psychological outcomes, considering  
32 cancer patients. Findings showed that the automatic belief that God is reality was related to lower  
33 symptoms of anxiety and a weaker use of non-adaptive responses to stress, such as seeking comfort  
34 in alcohol or drugs (avoidance coping). Thus, not only deliberate religious evaluations, but also  
35 automatic religious evaluations may be related to positive effects for health. Another unique finding  
36 of this study was that participants more quickly associated God terms with abstraction than reality  
37 terms. This result can reflect either automatic God/abstraction beliefs learnt throughout the lifespan  
38 or automatic religious beliefs formed in the course of illness, as a consequence of momentary  
39 feelings of distrust in the existence of God. What is notable, however, is that the more patients  
40 associated God with reality the less they felt fear and anxiety, and the less they used avoidance to  
41 cope with stress.  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

1  
2 The goal of the current study was to explore the relationship of automatic religious beliefs  
3 with stress and coping responses to stress. However, our findings can be interpreted in light of  
4 prominent psychological approaches, such as attachment theory (see Kirkpatrick and Shaver 1992;  
5 see also Bradshaw, Ellison, and Marcum 2010; Rowatt and Kirkpatrick 2002). The God/reality  
6 association may favor the perception of God as a secure attachment figure; this perception might  
7 explain why the automatic belief that God exists is negatively related to anxiety and fear. Future  
8 research should investigate the role that attachment orientations play in the relationship between the  
9 automatic image of God and psychological well-being.  
10  
11  
12  
13  
14  
15  
16  
17  
18

19 Our results can also be interpreted on the basis of the construal level theory (Trope and  
20 Liberman 2010). According to Trope and Liberman, psychologically distant objects are represented  
21 in abstract terms, while psychologically close objects are represented in concrete terms. In this vein,  
22 perceiving God as concrete (vs. abstract) may indicate perceiving God as psychologically close, and  
23 this closeness may act as a protective factor against anxiety feelings and stressful events.  
24  
25  
26  
27  
28  
29

30 We observed an association between automatic religious beliefs and psychological well-  
31 being among cancer patients. Although we recognize that our conclusions are limited to this  
32 specific category of people, in our view the beneficial effect of the God-as-reality automatic belief  
33 may also concern other categories of people, for instance, psychiatric and HIV patients, or people  
34 suffering from chronic and long-standing diseases. It has, in fact, been demonstrated that religion is  
35 a powerful resource for these categories of people (see: Webb et al. 2011, for psychiatric patients;  
36 Kremer and Ironson 2014, for HIV patients; McCullough et al. 2000, for other chronic diseases).  
37 Future research is needed to investigate these types of patients; it would also be interesting to  
38 explore what happens in healthy people.  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49

50 Our findings regard participants who self-declare as believers at the explicit level. Future  
51 research should investigate the moderator effect of being a believer or a non-believer. Probably, the  
52 moderation effect is nonsignificant, and the God/reality association is positively related to well-  
53  
54  
55  
56  
57  
58  
59  
60

1 being also for non-believers. It would be interesting as well to analyze what categories of people  
2  
3 show incoherence between religious beliefs measured with explicit techniques and religious beliefs  
4  
5 measured with implicit techniques, as our participants show (for the dissociation between automatic  
6  
7 and controlled evaluations, which is often found in research, see Rydell and McConnell 2010).  
8  
9

10 Future studies should finally replicate our findings in different religious contexts. Actually, while  
11  
12 we would expect to find similar results in countries where the view of God is similar to that  
13  
14 endorsed by Italian Catholics, our findings may be hardly relevant to religions having no singular  
15  
16 view of God, like Buddhism and Hinduism. It would also be interesting to see what happens in the  
17  
18 context of other monotheistic faiths, such as Islam and Hebraism.  
19  
20

21 Of the coping strategies, only avoidance was related (negatively) to the automatic belief that  
22  
23 God is reality. The correlation of D values with both components of transcendent orientation was, in  
24  
25 contrast, nonsignificant. We think that the manifest declaration of turning or not turning to religion,  
26  
27 when living a problematic situation, especially concerns people who explicitly declare to be  
28  
29 believers or not believers. For the other coping strategies, such as seeking social support or using  
30  
31 problem solving, they are probably more related to individual characteristics (e.g., dispositional  
32  
33 attachment security, self-efficacy) or other beliefs than to religious beliefs.  
34  
35  
36

37 A limitation of this study is its correlational design, which does not allow us to draw  
38  
39 conclusions on the causal relationship between automatic religious beliefs and psychological  
40  
41 adjustment. Future research is needed in which God-as-reality and God-as-abstraction associations  
42  
43 are manipulated, and their effects on psychological well-being are measured. In addition, in future  
44  
45 works, other implicit techniques could be used. When participants are patients, a good choice would  
46  
47 be to use easier-to-perform tasks than the SC-IAT, such as word stems or word fragments  
48  
49 completion (see Son-Hing, Winnie, and Zanna 2002), in order to avoid the risk of losing a high  
50  
51 number of participants as in our study. A final limitation is the small size of the sample and, thus,  
52  
53 the low statistical power of analyses. Future studies are needed to replicate findings. It is worth  
54  
55  
56  
57  
58  
59  
60

1  
2 noting, however, that our conclusions are rather robust being supported by both the null hypothesis  
3  
4 significance testing approach and the confidence interval approach to statistical inference  
5  
6 (Cumming 2012). Regarding our nonsignificant results, they could become significant with a  
7  
8 greater statistical power. However, for all the unreliable results, which concern the relationships of  
9  
10 coping strategies (except avoidance) with the image of God and the effects of the background  
11  
12 variables, the CI always included the zero correlation or the zero regression coefficient. This means  
13  
14 that, for these findings, there is a high probability (.83; Cumming 2012) that a replication of the  
15  
16 study will provide values included in an interval which contains zero.  
17

18  
19 From a practical point of view, our findings allow health care professionals to single out  
20  
21 patients who, more than others, may be vulnerable to distress and maladaptive coping: these are  
22  
23 people who do not believe or have discrepant beliefs in God's reality. The former cannot find  
24  
25 support in religion either when they deliberately think of God or when God spontaneously comes to  
26  
27 mind; the latter have both positive and negative reactions to religious symbols. These categories of  
28  
29 patients should be helped in special ways, for instance, by improving their perception of self-  
30  
31 efficacy or enhancing the support they receive from family and health care professionals.  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

## References

- 1  
2  
3  
4 Abdel-Khalek, Ahmed M. and David Lester. 2012. Constructions of religiosity, subjective well-  
5 being, anxiety, and depression in two cultures: Kuwait and USA. *International Journal of*  
6 *Social Psychiatry* 58(2):138–45.  
7  
8  
9  
10 Ano, Gege G. and Erin B. Vasconcelles. 2005. Religious coping and psychological adjustment  
11 to stress: A meta-analysis. *Journal of Clinical Psychology* 61(4):461–80.  
12  
13  
14 Arévalo, Sandra, Guillermo Prado, and Hortensia Amaro. 2008. Spirituality, sense of coherence,  
15 and coping responses in women receiving treatment for alcohol and drug addiction.  
16  
17 *Evaluation and Program Planning* 31(1):113–23.  
18  
19  
20  
21 Bader, Christopher D., Joseph O. Baker, and Andrea Molle. 2012. Countervailing forces: religiosity  
22 and paranormal belief in Italy. *Journal for the Scientific Study of Religion* 51(4):705–20.  
23  
24  
25  
26 Beck, Aaron T. and Robert A. Steer. 1990. *Manual for the Beck Anxiety Inventory*. San Antonio,  
27 TX: Psychological Corporation.  
28  
29  
30  
31 Bluemke, Matthias and Malte Friese. 2008. Reliability and validity of the Single-Target IAT (ST-  
32 IAT): Assessing automatic affect towards multiple attitude objects. *European Journal of*  
33 *Social Psychology* 38(6):977–97.  
34  
35  
36  
37 Bowlby, John. 1969. *Attachment. Attachment and Loss. Vol. I*. London: Hogarth.  
38  
39  
40 Bradshaw, Matt, Christopher G. Ellison, and Jack P. Marcum. 2010. Attachment to God, images of  
41 God, and Psychological Distress in a Nationwide Sample of Presbyterians. *International*  
42 *Journal for the Psychology of Religion* 20(2):130–47.  
43  
44  
45  
46 Carpenter, Thomas P., Tyler Laney, and Amy Mezulis. 2012. Religious coping, stress, and  
47 depressive symptoms among adolescents: A prospective study. *Psychology of Religion and*  
48 *Spirituality* 4(1):19–30.  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60



- 1  
2 Carver, Charles S., Michael F. Scheier, and Jagdish K. Weintraub. 1989. Assessing coping  
3 strategies: A theoretically based approach. *Journal of Personality and Social Psychology*  
4 56(2):267–83.  
5  
6  
7  
8 Censis. 2013. *47° Rapporto sulla situazione sociale del Paese/2013 [47th Report on the social*  
9 *situation of the Country/2013]*. Accessed August, 9 2014.  
10 [http://www.censis.it/10?shadow\\_ricerca=120989](http://www.censis.it/10?shadow_ricerca=120989)  
11  
12  
13  
14  
15 Cumming, Geoff. 2012. *Understanding the new statistics: Effect sizes, confidence intervals, and*  
16 *meta-analysis*. New York: Routledge.  
17  
18  
19  
20 Cumming, Geoff and Robert Maillardet. 2006. Confidence intervals and replication: Where will the  
21 next mean fall? *Psychological Methods* 11(3):217–27.  
22  
23  
24  
25 Flipp, Sigrun-Heide, Thomas Klauer, Elke Freudenberg, and Dieter Ferring. 1990. The regulation  
26 of subjective well-being in cancer patients: An analysis of coping effectiveness.  
27 *Psychology & Health* 4(4): 305–17.  
28  
29  
30  
31 Friese, Malte, Matthias Bluemke, and Michaela Wänke. 2007. Predicting voting behavior with  
32 implicit attitude measures – The 2002 German parliamentary election. *Experimental*  
33 *Psychology* 54(4):247–55.  
34  
35  
36  
37  
38 Gawronski, Bertram and Galen V. Bodenhausen. 2006. Associative and propositional processes in  
39 evaluation: An integrative review of implicit and explicit attitude change. *Psychological*  
40 *Bulletin* 132(5):692–731.  
41  
42  
43  
44  
45 Gawronski, Bertram and Galen V. Bodenhausen. 2007. Unraveling the process underlying  
46 evaluation: Attitudes from the perspective of the APE model. *Social Cognition* 25(5):687–  
47 717.  
48  
49  
50  
51  
52 Gawronski, Bertram, Eva Walther, and Hartmut Blank. 2005. Cognitive consistency and the  
53 formation of interpersonal attitudes: Cognitive balance affects the encoding of social  
54 information. *Journal of Experimental Social Psychology* 41(6):618–26.  
55  
56  
57  
58  
59  
60

- 1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60
- Graham, Jesse, Jonathan Haidt, and Brian A. Nosek. 2009. Liberals and conservatives rely on different sets of moral foundations. *Journal of Personality and Social Psychology* 96(5):1029–46.
- Greenwald, Anthony G. and Mahzarin Banaji. 1995. Implicit social cognition: Attitudes, self-esteem, and stereotypes. *Psychological Review* 102(1):4–27.
- Greenwald, Anthony G., Andrew T. Poehlman, Eric Luis Uhlmann, and Mahzarin Banaji. 2009. Understanding and using the Implicit Association Test: III. Meta-analysis of predictive validity. *Journal of Personality and Social Psychology* 97(1):17–41.
- Hackney, Charles H. and Glenn S. Sanders. 2003. Religiosity and mental health: A meta-analysis of recent studies. *Journal for the Scientific Study of Religion* 42(1):43–55.
- Haghighi, Fatemeh. 2013. Correlation between religious coping and depression in cancer patients. *Psychiatria Danubina* 25(3): 236–40.
- Helm, Hughes M., Judith C. Hays, Elisabeth P. Flint, Harold G. Koenig, and Dan G. Blazer. 2000. Does private religious activity prolong survival? A six-year follow-up study of 3,851 older adults. *Journal of Gerontology* 55(7):400–5.
- Karpinski, Andrew and Ross B. Steinman. 2006. The Single Category Implicit Association Test as a measure of implicit social cognition. *Journal of Personality and Social Psychology* 91(1):16–32.
- Kirkpatrick, Lee A. and Philip R. Shaver. 1992. An attachment-theoretical approach to romantic love and religious belief. *Personality and Social Psychology Bulletin* 18(3):266–75.
- Kremer, Heidemarie and Gail Ironson. 2014. Longitudinal spiritual coping with trauma in people with HIV: Implications for health care. *AIDS Patient Care and STDs* 28(3):144–54.
- LaBouff, Jordan P., Wade C. Rowatt, Megan K. Johnson, Michelle Thedford, and Jo-Ann Tsang. 2010. Development and initial validation of an implicit measure of religiousness-spirituality. *Journal for the Scientific Study of Religion* 49(3):439–55.

- 1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60
- Levin, Jeffrey S. and Linda M. Chatters. 1998. Religion, health, and psychological well-being in older adults: Findings from three national surveys. *Journal of Aging and Health* 10(4):504–31.
- Lichtenthal, Wendy G., Laurie A. Burke, and Robert A. Neimeyer. 2011. Religious coping and meaning-making following the loss of a loved one. *Counselling and Spirituality* 30(2):113–36.
- McCullough, Michael E., William T. Hoyt, David B. Larson, Harold G. Koenig, and Carl Thoresen. 2000. Religious involvement and mortality: A meta-analytic review. *Health Psychology* 19(3):211–22.
- Neimeyer, Robert A., Joseph M. Currier, Rachel Coleman, Adrian Tomer, and Emily Samuel. 2011. Confronting suffering and death at the end of life: The impact of religiosity, psychosocial factors, and life regret among hospice patients. *Death Studies* 35(9):777–800.
- Olson, Michael A. and Russell H. Fazio. 2009. Implicit and explicit measures of attitudes: The perspective of the MODE model. In *Attitudes: Insights from the new implicit measures*, edited by Richard E. Petty, Russell H. Fazio, and Pablo Briñol, pp. 19–63. New York: Psychology Press.
- Pargament, Kenneth I. 1997. *The psychology of religion and coping: Theory, research, practice*. New York: Guilford Press.
- Pargament, Kenneth I., Harold G. Koenig, Nalini Tarakeshwar, and June Hahn. 2001. Religious struggle as a predictor of mortality among medically ill elderly patients: A two-year longitudinal study. *Archives of Internal Medicine* 161(15):1881–5.
- Pargament, Kenneth I., Harold G. Koenig, Nalini Tarakeshwar, and June Hahn. 2004. Religious coping methods as predictors of psychological, physical, and social outcomes among medically ill elderly patients: A two-year longitudinal study. *Journal of Health Psychology*, 9(6):713–30.

- 1  
2 Préau, Marie, Anne Deborah Bouhnik, and Anne Gaelle Le Coroller Soriano. 2012. Two years after  
3 cancer diagnosis, what is the relationship between health-related quality of life, coping  
4 strategies and spirituality? *Psychology, Health & Medicine* 18(4):375–86.  
5  
6  
7  
8 Rowatt, Wade C. and Lee A. Kirkpatrick. 2002. Two dimensions of attachment to God and their  
9 relation to affect, religiosity, and personal constructs. *Journal for the Scientific Study of*  
10  
11 *Religion* 41(4):637–51.  
12  
13  
14  
15 Rudman, Laurie A. 2004. Sources of implicit attitudes. *Current Directions in Psychological Science*  
16  
17 13(2):79–82.  
18  
19  
20 Rudman, Laurie A., Julie E. Phelan, and Jessica B. Heppen. 2007. Developmental sources of  
21 implicit attitudes. *Personality and Social Psychology Bulletin* 33(12):1700–13.  
22  
23  
24 Ryan, Richard M., Jennifer G. LaGuardia, and Laird J. Rawsthorne. 2005. Self-complexity and the  
25 authenticity of self-aspects: Effects on well being and resilience to stressful events. *North*  
26  
27 *American Journal of Psychology* 7(3):431–48.  
28  
29  
30  
31 Rydell, Robert J. and Allen R. McConnell. 2010. Consistency and inconsistency in implicit social  
32 cognition: The Case of implicit and explicit measures of attitudes. In *Handbook Of implicit*  
33  
34 *social cognition: Measurement, theory, and applications*, edited by Bertram Gawronski and  
35  
36 Keith Payne, pp. 295–310. New York: Guilford.  
37  
38  
39  
40 Shook, Natalie J. and Russell H. Fazio. 2008. Interracial roommate relationships: An experimental  
41 field test of the contact hypothesis. *Psychological Science* 19(7):717–23.  
42  
43  
44  
45 Sica, Claudio and Marta Ghisi. 2007. The Italian versions of the Beck Anxiety Inventory and the  
46 Beck Depression Inventory-II: Psychometric properties and discriminant power. In *Leading-*  
47  
48 *edge psychological tests and testing research*, edited by Marta A. Lange, pp. 27–50. New  
49  
50 York: NOVA Science Publishers.  
51  
52  
53  
54 Sica, Claudio, Cristina Magni, Marta Ghisi, Gianmardo Altoè, Cecilia Sighinolfi, Luigi Rocco  
55  
56 Chiri, and Sandro Franceschini. 2008. Coping Orientation to Problems Experienced-Nuova  
57  
58  
59  
60

- 1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60
- Versione Italiana (COPE-NVI): uno strumento per la misura degli stili di coping [Coping Orientation to Problems Experienced-New Italian Version (COPE-NVI): A tool to measure coping strategies]. *Psicoterapia Cognitiva e Comportamentale [Cognitive and Behavioral Psychotherapy]* 14(1):27–53.
- Sonn Hing, Leanne S., Li Winnie, and Mark P. Zanna. 2002. Inducing hypocrisy to reduce prejudicial responses among aversive racists. *Journal of Experimental Social Psychology* 38(1):71–8.
- Thuné-Boyle, Ingela C., Jan A. Stygall, Mohammed R. Keshtgar, and Stanton P. Newman. 2006. Do religious/spiritual coping strategies affect illness adjustment in patients with cancer? A systematic review of the literature. *Social Science & Medicine* 65(1):151–64.
- Trope, Yaacov and Nira Liberman. 2010. Construal-level theory of psychological distance. *Psychological Review* 117(2):440–63.
- Turner, Rhiannon N., Miles Hewstone, and Alberto Voci. 2007. Reducing explicit and implicit outgroup prejudice via direct and extended contact: The mediating role of self-disclosure and intergroup anxiety. *Journal of Personality and Social Psychology* 93(3):369–88.
- Webb, Marcia, Anna M. Charbonneau, Russell A. McCann, and Kristin R. Gayle. 2011. Struggling and enduring with God, religious support, and recovery from severe mental illness. *Journal of Clinical Psychology* 67(12):1161–76
- Weber, Samuel R., Kenneth I. Pargament, Mark E. Kunik, James W. Lomax II, and Melinda A. Stanley. 2012. Psychological distress among religious nonbelievers: A systematic review. *Journal of Religion & Health* 51(1):72–86.
- Wilson, Timothy D., Samuel Lindsey, and Tonya Y. Schooler. 2000. A model of dual attitudes. *Psychological review* 107(1):101–26.
- Zaccaria, Francesco. 2010. *Participation and beliefs in popular religiosity: An empirical-theological exploration among Italian Catholics*. Leiden: Brill.

## Notes

1. All four statements measuring turning to religion referred to turning to God or to one's religious beliefs in a time of stress; they did not refer to turning to the faith community. Therefore, these statements could also be endorsed by participants who were not practicing their beliefs.
2. We compared the mean scores of the final sample (39 participants) with those of the 12 participants excluded because of poor performance at the SC-IAT. The difference (anxiety and coping strategies) between the two groups was never significant,  $t(49) < 1.12$ ,  $ps > .26$ . The two groups did not differ for stage of cancer,  $t < 1$ , or the background variables:  $\chi^2s < 3.30$ ,  $ps > .07$ , for gender and practicing;  $t < 1$ , for age. Thus, the selection performed on the basis of the SC-IAT did not lead to excluding a particular profile of respondents.
3. For the transcendent orientation (coping strategy), we formed a composite score measuring turning to religion ( $\alpha = .94$ ) and a composite score measuring lack of humor ( $\alpha = .83$ ), and tested whether the two scores were differently related to the automatic association of God with reality (D values). Neither turning to religion nor lack of humor were significantly correlated with D scores ( $rs = .17$  and  $-.01$ , respectively,  $ps > .28$ ).

Table 1. Stimuli used in the Single Category Implicit Association Test

---

God words	Altissimo [Almighty], Assoluto [Absolute], Creatore [Creator], Dio [God], Divinità [Divinity], Divino [Divine], Eterno [Eternal], Iddio [God], Signore [Lord], Supremo [Supreme]
Abstraction words	Aspirazione [Aspiration], Desiderio [Desire], Mito [Myth], Sogno [Dream], Speranza [Hope]
Reality words	Concreto [Concrete], Esistenza [Existence], Oggettività [Objectivity], Presenza [Presence], Realtà [Reality]

---

*Note.* The English translation of the Italian words used as stimuli is reported between brackets.

For Review Only

Table 2. Means, standard deviations, and correlations between the variables (*N* = 39)

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7
1. BAI	1.56	0.35	—						
2. Coping orientation: Social support	2.44	0.60	.00	—					
3. Coping orientation: Avoidance strategies	1.56	0.27	.40*	-.40*	—				
4. Coping orientation: Positive attitude	2.87	0.49	-.29	.22	-.05	—			
5. Coping orientation: Problem solving	2.76	0.61	-.19	.41**	-.19	.60***	—		
6. Coping orientation: Transcendent orientation	2.88	0.62	.13	.27	-.23	-.08	.07	—	
7. Automatic God/reality association (D value; SC-IAT)	-0.11	0.30	-.34*	.13	-.33*	.12	-.03	.11	—

*Note.* \*  $p < .05$ ; \*\*  $p \leq .01$ ; \*\*\*  $p < .001$ . BAI = Beck Anxiety Inventory. SC-IAT = Single Category Implicit Association Test. For the BAI and the coping strategies, on the 4-point scale, the higher the score the greater the symptoms of anxiety and the use of the coping strategy. For the SC-IAT, the higher the D value the stronger the automatic association between God and reality.