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Belief in Divine Control, Coping, and Race/Ethnicity among Older Women with Breast Cancer

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Abstract

Background—Belief in divine control is often assumed to be fatalistic. However, the assumption has rarely been investigated in racial/ethnic minorities.

Objectives—This study aims to examine the association between belief in divine control and coping and how the association was moderated by ethnicity/acculturation in a multi-ethnic sample of breast cancer patients.

Methods—Latina, African American, and non-Hispanic White older women with newly diagnosed breast cancer ($N=257$) from a population-based survey completed the scale of Belief in Divine Control and the Brief COPE.

Results—Belief in divine control was positively related to approach coping (i.e., positive reframing, active coping, and planning) in all ethnic groups. Belief in divine control was positively related to acceptance and negatively related to avoidance coping (i.e., denial and behavioral disengagement) among low-acculturated Latinas.

Conclusions—Negative presumptions about fatalistic implications of belief in divine control should be critically reappraised, especially when such skepticism is applied to racial/ethnic minority patients.

Keywords

Religiosity and belief in divine control; Coping; Cancer fatalism; Race/ethnicity; Acculturation; Aged

Introduction

Breast cancer is the most common form of cancer among women in the United States (U.S.) [1]. Because breast cancer incidence increases with age, a growing population of older Latina and African-American women can be expected to experience an increase in newly diagnosed cases of breast cancer. Religious faith is especially influential in the life of older Latinas and African Americans [2, 3]. Qualitative research with breast cancer survivors in the U.S. and Canada has identified divine control—the extent to which an individual perceives that God or a higher power ultimately controls both good and bad outcomes of life [4]—as a recurrent theme [5–7]. Belief in divine control, as an external locus of control, is also conceptualized as a fundamental element of fatalism [8]. Cancer fatalism is a feeling of powerlessness that encourages passivity in response to a cancer diagnosis and a view of a cancer diagnosis as a struggle against insurmountable odds [9]. Some researchers consider fatalism, avoidance, and dependency as maladaptive [10–13] (for review), but others argue that religion is an active, rational, and empowering resource for living with inexplicable adversity [14, 15], coming to terms with misfortune and feeling strengthened by a sense of meaningfulness [16].

Newly diagnosed breast cancer patients face many psychosocial challenges which include coming to terms with the diagnosis, managing treatment regimens, dealing with the side effects of treatment, conducting self-care and rehabilitation during treatment, and maintaining periodic surveillance for recurrence and other survivorship sequelae. Coping strategies to deal with these challenges have been shown to be important predictors for adjustment to life with cancer. Specifically, approach coping strategies (e.g., acceptance, positive reframing, acting or planning to change situations) have been found to predict better mental and physical health outcomes [17–24], whereas avoidance coping strategies (e.g., denial, escape, behavioral disengagement) predicted poorer mental and physical health outcomes [17–24]. The primary goal of this study was to investigate the role of belief in divine control in coping with cancer and how the relationship varied as a function of race/ethnicity.

Among various forms of religiosity, African Americans have exhibited a stronger belief in divine control than non-Hispanic Whites [4, 25, 26] and may be more likely than non-Hispanic Whites to consider God as a health communicator, miracle maker, and savior [26]. Although research has been limited about Latinos' belief in divine control, Roman Catholic Latinos are believed to develop a close personal relationship with God and other divine beings [27]. Meanwhile, it has been reported that Latinos and African Americans—especially older females—are more likely than non-Hispanic Whites to view the diagnosis of cancer with an attitude of fatalism [9]. Concomitantly, Latina and African American women may present more passive, avoidant health attitudes and behaviors associated with cancer than non-Hispanic Whites [9, 28–33]. Only a few studies, however, have explored whether or not racial/ethnic minorities' relatively passive, avoidant health attitudes and behaviors toward cancer are related to their greater belief in divine control [31, 32, 34, 35], and, notably, none of these studies assessed the association of belief in divine control with psychological coping among cancer patients or survivors.

Studies examining the relationships between various forms of religious and nonreligious coping strategies have yielded mixed findings. Some have reported positive associations of religious coping with approach coping strategies [24, 36–38], whereas others have reported their associations with both approach and avoidant coping strategies [39–43]. Several studies with cancer patients have reported relationships between religious beliefs and approach coping [44–46] and revealed that coping mediated the relationships between religious beliefs and mental health outcomes [45, 46]. More relevantly, two studies among general older populations have found that belief in divine control is associated with better psychological outcomes, and the associations are stronger in African Americans than in non-Hispanic Whites [4, 25]. Additional studies have investigated the relationship between health locus of control and belief in God's control of health, which is conceptually similar to the usual use of the concept of belief in divine control. They found that the above relationship differed across races/ethnicities such that the association between belief in God's control of health and internal attribution was positive among African American breast cancer survivors [47] but absent among Whites [48]. Influential scholars such as Frankl [16] and Geertz [15] have proposed that belief in divine control becomes empowering by supplying meaning for extreme, inexplicable adversity. Glock theorizes that religious explanations may subjectively compensate for racial/ethnic minorities' secular deprivation in a racialized society [49]. Accordingly, we expected that belief in divine control would be associated with positive outcomes. We further expected that this protective function would be particularly pronounced among disadvantaged groups with limited resources to cope with breast cancer, such as racial/ethnic minority groups or immigrants.

As reviewed, few studies on psychological adaptation have investigated the relationships between belief in divine control and approach/avoidant coping with cancer among racial/ethnic minority groups. Thus, this study aimed to examine how belief in divine control might help older women from different racial/ethnic groups (Latinas, African Americans, and non-Hispanic Whites) cope with newly diagnosed breast cancer. In addition, to assess racial/ethnic impact and capture individual variations within Latinas, we also investigated how the relationship between belief in divine control and coping varied as a function of race/ethnicity and acculturation, the latter assesses the extent to which racial/ethnic minorities are integrated into mainstream versus racial/ethnic cultures [50].

We hypothesized that:

1. Belief in divine control would be positively associated with the adoption of approach coping strategies and negatively associated with the adoption of avoidance coping strategies.
2. The associations in Hypothesis 1 would be stronger among Latina and African American women than those among non-Hispanic White women.
3. The relationships in Hypothesis 1 would be modified by acculturation, such that the associations would be stronger among low-accultured Latinas than those among high-accultured Latinas.

Methods

Participants

The participant pool was sequentially drawn from a sample of all women consecutively diagnosed with breast cancer in Los Angeles County during the study period identified by the Los Angeles County Cancer Surveillance Program's (the county tumor registry) rapid ascertainment program (http://uscnorriscancer.usc.edu/about/programs/la_county.html). Study eligibility criteria were: English- or Spanish-speaking Latina, African American, or

non-Hispanic White women, who were 55 years or older, within 3 to 9 months after a first diagnosis of stage I or higher breast carcinoma between January 1 and July 1, 2001, and completed treatment (other than hormone therapy) at least a month prior to enrollment in the study. It was not possible to sample Asian Americans or Pacific Islanders due to the Los Angeles County Cancer Surveillance Program's prohibition against multi-study solicitation of the same population groups.

Among women who were eligible, 257 (64%) completed a face-to-face or telephone interview, on average 8.2 ± 2.7 months after diagnosis. The study sample was significantly younger than non-respondents (68.6 versus 71.3 years of age) but otherwise indistinguishable. The final sample was composed of 99 Latinas, 66 African Americans, and 92 non-Hispanic Whites. Two thirds of the Latinas (67%) were foreign born. Non-Hispanic White women were randomly under-sampled due to limited resources to survey them all. Response rates did not differ significantly among the racial/ethnic groups. Further details of sampling and recruitment are described elsewhere [51]. The University of California, Los Angeles institutional review board approved the study. All the participants gave their informed consent prior to their participation in the study.

Measures

Approach/Avoidance Coping Strategies—The participants completed the Brief COPE [52] with modified instructions. All the items were prefaced with the instruction: “The questions I'm going to ask you now deal with the ways you've been coping with the stress in your life since you found out you had breast cancer.” Participants' responses were first assessed on a 4-point Likert scale ranging from “1=I did not do this at all” to “4=I did this a lot” and then averaged across two items of each subscale. The Brief COPE has the same factor structure as the widely used COPE scale [43] and each subscale of the Brief COPE can be separately used [53]. Based on prior studies [54], six subscales were selected to assess approach coping (acceptance, positive reframing, active coping, and planning subscales), and avoidance coping (denial and behavioral disengagement subscales). The structure of coping at overall and subscale levels was tested by a second-order confirmative factor analysis (CFA), and results revealed an adequate model fit ($\chi^2(32)=67.88, p<0.001$, CFI=0.98, RMSEA=0.07). Therefore, participants' ratings were evaluated both at the level of overall approach/avoidance coping strategies and at the levels of each subscale to provide more detailed information about coping strategies. Sample items were “I learned to live with it” (acceptance subscale), “I tried to see it in a different light, to make it seem more positive” (positive reframing subscale), “I took action to try to make the situation better” (active coping subscale) “I thought hard what steps to take” (planning subscale), “I refused to believe that it was happening” (denial subscale), and “I gave up trying to deal with it” (behavioral disengagement subscale). The Cronbach's alphas for these subscales were 0.79, 0.71, 0.84, 0.84, 0.76, and 0.87, respectively; the Cronbach's alphas for the overall approach and avoidance coping scales were 0.82 and 0.79, respectively.

Belief in Divine Control—The scale of Belief in Divine Control was developed on the basis of qualitative interviews with 14 African American and 26 Latina women aged 55 years and older, who were newly diagnosed with breast cancer and recruited through the Los Angeles County Cancer Surveillance Program between January and February 2000 (unpublished data). During the interviews, many participants reported that they had decided that God had a plan and that they had put their lives in God's hands, suggesting that belief in divine control emerged as an important recurrent religiosity theme for older Latina and African American women with newly diagnosed breast cancer.

The Belief in Divine Control scale was designed to be in the same format as that of the Brief COPE. Similar to the Brief COPE subscales, belief in divine control was measured by a two-item scale: “I decided God or a higher power had a plan” and “I decided to put it into God's or a higher power's hands.” Participants' ratings were assessed on a 4-point Likert scale ranging from “1=I did not do this at all” to “4=I did this a lot”. The score for this scale was the average of the two items. A higher score indicated a stronger belief in divine control. The scale showed an acceptable reliability, with a Cronbach's alpha coefficient of 0.73. The scale was correlated with the religious coping subscale in the Brief COPE (0.78), suggesting good convergent validity.

Race/Ethnicity—The race/ethnicity variable was by patient self-report and was categorized as “(Non-Hispanic) White,” “(Non-Hispanic) African American,” and “Latina”.

Acculturation—Latinas completed the five items from the Marin Acculturation Scale [55], which assesses participants' language acculturation (e.g. “What language do you speak at home?”). Participants' ratings were summed, with a higher score indicating a higher level of acculturation. The scale showed a good reliability, with a Cronbach's alpha of 0.98.

Control Variables—Age, education, income, stage of breast cancer, and breast cancer knowledge were included as covariates to rule out the possibility that the hypothesized relationships would be produced by confounders. Age, education, and income information were from the survey. Stage of breast cancer was confirmed by medical record review. Breast cancer knowledge was assessed by the Breast Cancer Knowledge Index, a test of knowledge about important facts regarding treatment of early breast cancer (e.g., “Radiation therapy typically follows which form of treatment?”) [56, 57]. The index score was the sum of correct responses, with a higher score representing greater breast cancer knowledge. Age, education, income, and stage of breast cancer have been commonly used as control variables in studies among breast cancer survivors. Breast cancer knowledge was included as a covariate because it has been reported to correlate with fatalistic responses to cancer [58].

Plan of Data Analysis

Descriptive statistics and correlations were first conducted for all variables. To explore the racial/ethnic differences in all the major variables, a set of ANOVAs were conducted and followed by Bonferroni-corrected pairwise comparisons, with race/ethnicity as an independent variable.

A set of hierarchical regressions were performed to test the hypotheses. We first investigated the relationship between belief in divine control and approach/avoidance coping strategies in the sample as a whole. We then explored how this link was moderated by race/ethnicity and acculturation. For each of the hypotheses, we first tested overall approach/avoidance coping strategies as dependent variables. When regression models with overall coping as dependent variables were significant, each of the coping subscales was further tested as a dependent variable to understand the link between belief in divine control and specific coping strategies. In all of the analyses, age, education, income, breast cancer knowledge, and stage of breast cancer were entered as control variables into Block 1.

To evaluate Hypothesis 1 about the main effect of belief in divine control on coping strategies, two dummy variables of race/ethnicity (African American and Latina in comparison to non-Hispanic White) and belief in divine control were entered into Block 2 as predictors. To test Hypothesis 2 about the moderation effect of race/ethnicity on the link between belief in divine control and coping strategies, the two interaction terms (African American $\times$ belief in divine control interaction, and Latina $\times$ belief in divine control

interaction) were entered into Block 3. When a significant interaction effect was found, we further conducted simple effect analysis to examine the association between belief in divine control and coping strategy within each of the racial/ethnic groups, respectively.

To test Hypothesis 3 regarding acculturation as a moderator for the link between belief in divine control and coping strategies in the Latina sample, belief in divine control and acculturation were entered into Block 2 and their interaction term was entered into Block 3. When creating the interaction term, both belief in divine control and acculturation were standardized, following the recommendation by West, Aiken, and Krull [59]. For significant interaction effects, we did a median-split on the acculturation variable and separately examined the relationship between belief in divine control and coping strategy among high-accultured and low-accultured Latinas.

Results

Participants were aged from 56 to 88 years old ($M=68.7$, $SD=8.4$). Of the participants, 11.3% had grade school or less education, 45.5% had high school education, 23.4% had some college education, and 19.8% graduated from college or received higher education; 37.6% had less than \$20,000 annual income, 32.2% had annual income between \$20,000 and \$40,000, and 30.2% had annual income higher than \$40,000. A large majority of them (91.8%) were diagnosed with breast cancer at stages I–II.

Table 1 shows the descriptive statistics and mean difference of sociodemographic and disease-related characteristics, belief in divine control, and overall and subscale approach/avoidance coping among the three racial/ethnic groups. Follow-up Bonferroni-corrected pairwise comparisons revealed significant differences among the three racial/ethnic groups. Compared with non-Hispanic Whites, Latinas used approach coping (i.e., acceptance, active coping, and positive reframing) less often, and used avoidance coping (i.e., denial and behavioral disengagement) more often. African Americans used approach coping (i.e., acceptance, active coping, and planning) less often than did non-Hispanic Whites. African Americans also used positive reframing more often and avoidance coping (i.e., denial and behavioral disengagement) less often than did Latinas but did not differ from non-Hispanic Whites in this. Both Latinas and African Americans had less knowledge about breast cancer than did non-Hispanic Whites. Table 2 displays bivariate associations among all major variables.

The Association of Belief in Divine Control with Coping Strategies

Results from regression analyses on the main effect of belief in divine control are shown in Table 3 (Block 2). Belief in divine control had a positive association with overall approach coping. Further subscale analyses of approach coping found that belief in divine control was positively associated with positive reframing, active coping, and planning, but not acceptance.

The Moderating Role of Race/Ethnicity

Table 3 (Block 3) shows results from regression analyses testing the moderating role of race/ethnicity. The Latina $\times$ belief in divine control interaction effect was significant for overall approach and avoidance coping, but the African American $\times$ belief in divine control interaction effect was not found (Table 3, Block 3). Further analyses for the simple effect of significant interaction showed that among Latinas, belief in divine control was positively associated with overall approach coping ($B=0.40$, $SE=0.09$, $\beta=0.36$, $p<0.001$), and negatively associated with overall avoidance coping ($B=-0.39$, $SE=0.13$, $\beta=-0.29$, $p=0.004$). Among non-Hispanic Whites, such associations were weaker for overall approach coping

($B=0.15$, $SE=0.06$, $\beta=0.26$, $p=0.02$) and non-significant for overall avoidance coping ($B=-0.04$, $SE=0.04$, $\beta=0.10$, $n.s.$).

As shown in Table 3, subscale analyses of approach/avoidance coping showed that the Latina $\times$ belief in divine control interaction was found to be significant on acceptance, denial, and behavioral disengagement. Figure 1 illustrates the simple effect of belief in divine control on acceptance and behavioral disengagement among Latinas and non-Hispanic Whites. Belief in divine control was positively associated with acceptance, and negatively associated with behavioral disengagement among Latinas, but not among non-Hispanic Whites. The simple effect of belief in divine control on denial was similar to that on behavioral disengagement. The negative association of belief in divine control with denial was found only among Latinas ($B=-0.34$, $SE=0.18$, $\beta=-0.20$, $p=0.05$), but not among non-Hispanic Whites ($B=0.05$, $SE=0.07$, $\beta=0.08$, $n.s.$).

The Moderating Role of Acculturation

Table 4 shows results from regression analyses testing the moderating role of acculturation in modifying the link between belief in divine control and approach/avoidance coping in the Latina sample. The acculturation $\times$ belief in divine control interaction was significant for both overall approach and avoidance coping such that greater acculturation weakened the association between belief in divine control and coping strategies. Further analyses of the simple effect demonstrated that among low-accultured Latinas, belief in divine control had a positive association with overall approach coping ($B=0.51$, $SE=0.14$, $\beta=0.46$, $p=.001$), and a negative association with overall avoidance coping ($B=-0.64$, $SE=0.24$, $\beta=-0.40$, $p=0.01$). However, among high-accultured Latinas, such associations were weaker for overall approach coping ($B=0.28$, $SE=0.13$, $\beta=0.30$, $p=0.04$), and non-significant for overall avoidance coping ($B=-0.21$, $SE=0.14$, $\beta=-0.20$, $p=0.14$).

Subscale analyses of approach/avoidance coping strategies showed that the interactions between acculturation and belief in divine control were significant for acceptance, behavioral disengagement, and denial (see Table 4). In order to illustrate the interaction, we did a split on acculturation into high and low levels with the median as the cut point. Figure 2 illustrates that greater acculturation weakened the associations of belief in divine control with acceptance and behavioral disengagement. The associations of belief in divine control with acceptance and behavioral disengagement were found among low-accultured Latinas, but not among high-accultured Latinas. The interaction effect on denial was similar to that for behavioral disengagement. The negative link between belief in divine control and denial was significant among low-accultured Latinas ($B=-0.57$, $SE=0.29$, $\beta=-0.30$, $p=0.05$) but was not significant among high-accultured Latinas ($B=-0.20$, $SE=0.21$, $\beta=-0.13$, $p=0.36$).

Discussion

The findings from this study contribute to the literature by elucidating an empowering aspect of belief in divine control. Belief in divine control in coping with breast cancer has been labeled as an external locus of control—a fundamental element of the concept of fatalism, particularly among women of color [8]—in a religious context. Our findings, however, illuminate a more active, empowering perspective that challenges the negatively skewed epistemology about fatalism [9]. As we expected, belief in divine control was positively associated with overall approach coping and specific coping subscales (i.e., positive reframing, planning, and active coping) in all three racial/ethnic groups. Ethnicity and acculturation moderated the link between the belief in divine control and coping such that the positive association between belief in divine control and acceptance, and the negative associations of belief in divine control with overall avoidance coping, behavioral disengagement, and denial, were found only among lowaccultured Latinas, but not among

African Americans, non-Hispanic Whites, or high-accultured Latinas. These results held even after controlling for age, socioeconomic status, breast cancer stage, and breast cancer knowledge.

Elucidating the Relationship between Belief in Divine Control and Coping

Contrary to many prior findings that religious coping was associated with avoidance coping [39–43], our study revealed positive associations between belief in divine control and approach coping strategies (i.e., positive reframing, active coping, and planning) in all three racial/ethnic groups. These findings suggest that belief in divine control facilitates approach coping, and challenge the negative presumptions about the fatalistic implications of belief in divine control. Based on our findings, we propose a more nuanced interpretation of the link between belief in divine control and approach coping.

People are particularly vulnerable to serious events that lack an evident explanation. The attempt to explain the inexplicable (questions such as “Why me?” and “Why now?”) is an important component of psychological adjustment to breast cancer [60]. Explanations of events that are meaningful for individuals help them to regain a sense of control and self-esteem [61]. Biological explanations about disease are apt to be inadequate to answer questions about the meaning of the illness within each individual's circumstances [62]. Belief in divine control may thus offer solace by affirming the ultimate meaningfulness of the pain and loss associated with breast cancer [7]. Our findings support such an active, empowering interpretation of belief in divine control as theorized by influential scholars such as Frankl [16] and Geertz [15]. Belief in divine control becomes empowering by supplying meaning for extreme, inexplicable adversity. In particular, belief in divine control had the strongest association with positive reframing, suggesting that the women may have appraised a benevolent will of God or a higher power in their suffering.

The empowering property of belief in divine control may come from the perception of shared responsibility with God or a higher power, which complements human weakness [63] particularly during extreme adversity. Our findings regarding the positive association between belief in divine control and approach coping suggest that the shared responsibility with God enables women to be approach oriented and actively cope with a cancer diagnosis, rather than being passive and fatalistic. Thus, shared responsibility with a higher being could facilitate psychosocial adjustment to cancer [64].

Belief in Divine Control as a Buffer for Adversity among Disadvantaged Minorities

Whereas belief in divine control appeared to facilitate specific approach coping strategies (such as positive reframing, active coping, and planning) in all three racial/ethnic groups, only low-accultured Latinas benefited from the empowering properties of belief in divine control to facilitate acceptance, while negating avoidance coping. Among low-accultured Latinas, belief in divine control was positively associated with acceptance, and negatively associated with avoidance coping strategies (i.e., denial and behavioral disengagement), while these relationships were absent among non-Hispanic Whites, African Americans, or high-accultured Latinas.

Both Latinas and African Americans had less knowledge about breast cancer than non-Hispanic Whites, suggesting that they were medically disadvantaged groups. Previous studies show that approach coping is associated with better mental and physical health outcomes [17–24]. The current study showed that approach coping was used less often in Latinas and African Americans than non-Hispanic Whites, suggesting that minorities may use less adaptive coping strategies. Latinas and African Americans had a strikingly higher level of belief in divine control than did non-Hispanic Whites. This finding together with the

finding that belief in divine control helps to facilitate adaptive coping strategies, suggests that utilizing belief in divine control may provide an important channel to empower disadvantaged groups.

In contrast with the findings that the association of belief in divine control with approach coping strategies (except for acceptance) was observed among all three racial/ethnic groups, the association between belief in divine control and acceptance/avoidance coping was only found in low-accultured Latinas. Low-accultured Latinas may be deprived of linguistically and culturally competent cancer education and healthcare resources. They tend to respond to a breast cancer diagnosis with disbelief, guilt, and denial [6]. This possibility was supported by our findings that low-accultured Latinas experienced the empowering aspect of belief in divine control more strongly than high-accultured counterparts. This might be a result of deprivation of other important resources. These results also lend support to the argument that religion has traditionally been an available, accessible, and empowering resource, especially for disadvantaged minority groups, by subjectively transcending and thus compensating for their deprivations [49, 63].

Significance, Limitations, and Future Directions

First, we provide a more nuanced interpretation of fatalism as a means to accept adversity in light of a realistic assessment of circumstances, which provides a reason to go forward. That is, a belief in divine control supplements a way to attribute meaning to, and an explanation for, the inevitable suffering caused by cancer, and subjectively compensates for the added loss, pain, and deprivation experienced especially by disadvantaged groups [65]. Thus, this study contributes to the literature by providing a different perspective on negative presumptions about fatalistic implications of divine control. Second, although coping strategies have been shown to predict mental and physical health among cancer survivors [17–24], few studies have examined the relationship between religiosity and coping among minorities. The findings of this study therefore contribute to the literature by furthering our understanding on how race/ethnicity or acculturation influences the relationship between religiosity and coping. Finally, we recruited participants from population based cancer registry data and included the two largest racial/ethnic groups in the country. Notably, a large proportion of our sample was drawn from the rapidly growing Latina group, whose cancer experiences have been understudied.

Despite the unique research resource afforded by the study's multi-racial/ethnic cohort, the results of a single cross-sectional study will inevitably be limited in generalizability and certainty. First, causal relationships cannot be ascribed to the associations measured by a cross-sectional survey. Second, the belief in divine control scale only consisted of two items. Notably, these items were developed through qualitative interviews with the target population groups and showed good reliability and convergent validity. Future studies should use standardized multidimensional scales by validating and expanding the belief in divine control scale with existing measures for religious coping [e.g., Punishing God Reappraisal in Pargament, Smith, Koenig, & Perez [66], Spiritual Health Locus of Control [47] and God Locus of Health Control [48]]. Finally, recruiting only African American, Latina, and non-Hispanic White women—a condition imposed by the Los Angeles County Cancer Surveillance Program research guidelines—restricts its applicability to the racial/ethnic groups studied and thus limits its generalizability to other racial/ethnic minority groups.

The study suggests a number of future directions. First, “cancer fatalism” has been interpreted to manifest itself as fear, pessimism, a sense of predestination, and belief in the inevitability of death, leading to passive, avoidant health attitudes and behaviors [9, 67]. Future studies to assess both belief in divine control and fatalism could further differentiate

and illuminate these two concepts. Second, although we found the link between belief in divine control and coping, the mechanisms were not clear. Future research should examine other psychological concepts, such as locus of control, which may help to explain the link between belief in divine control and coping as well as why such a link differs by race/ethnicity. Third, although we did not include outcomes such as quality of life in the current study, the literature has been highly consistent about the link between approach/avoidance coping and mental and physical health [17–24]. Future longitudinal studies of belief in divine control that include these outcomes may further inform us about the protective nature of this belief.

Implications and Conclusions

This study of a multi-racial/ethnic cohort of older women suggests new opportunities to enhance coping with breast cancer through culturally relevant clinical and community interventions. The literature suggests that the surrender of ultimate outcomes to divine control does not necessarily lead to a denial of the effectiveness of medical interventions but rather leads to the belief that medical interventions serve as the agency for God's or a higher power's healing power [68]. To address passive, avoidant responses to cancer among less educated, medically underserved minority populations, one productive strategy may be to implement faith-based community intervention programs to reach the target populations and supplement the empowering aspect of religiosity with scientific health education in a culturally relevant manner (8 for review). Another strategy at the patient–physician level is for physicians to inquire about religious beliefs and to specifically lend support to them as appropriate [69, 70]. In conclusion, negative presumptions ascribed to fatalistic implications of belief in divine control need to be critically reappraised, especially when such skepticism is applied to medically underserved populations of diverse racial/ethnic and cultural backgrounds.

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References

1. Jemal A, Siegel R, Ward E, et al. Cancer statistics, 2008. *CA Cancer J Clin.* 2008; 58:71–96. [PubMed: 18287387]
2. Levin JS, Taylor RJ. Age differences in patterns and correlates of the frequency of prayer. *Gerontologist.* 1997; 37:75–88. [PubMed: 9046709]
3. Stolley JM, Koenig H. Religion/spirituality and health among elderly African Americans and Hispanics. *Journal of Psychosocial Nursing.* 1997; 35:32–38.
4. Schieman S, Pudrovska T, Pearlin LI, Ellison CG. The sense of divine control and psychological distress: variations across race and socioeconomic status. *J Sci Study Relig.* 2006; 45:529–549.
5. Feher S, Maly RC. Coping with breast cancer in later life: The role of religious faith. *Psychooncology.* 1999; 8:408–416. [PubMed: 10559800]

6. Ashing-Giwa KT, Padilla GV, Bohorquez DE, Tejero JS, Garcia M. Understanding the breast cancer experience of Latina women. *J Psychosoc Oncol*. 2006; 24:19–52. [PubMed: 17088240]
7. Gall TL, Cornblat MW. Breast cancer survivors give voice: A qualitative analysis of spiritual factors in long-term adjustment. *Psychooncology*. 2002; 11:524–535. [PubMed: 12476434]
8. Morgan PD, Tyler ID, Fogel J. Fatalism revisited. *Semin Oncol Nurs*. 2008; 24:237–245. [PubMed: 19000597]
9. Powe BD, Finnie R. Cancer fatalism: the state of the science. *Cancer Nurs*. 2003; 26:454–465. [PubMed: 15022977]
10. Campagna JA. The end of religious fatalism: Boston as the venue for the demonstration of ether for the intentional relief of pain. *Surgery*. 2005; 138:46–55. [PubMed: 16003316]
11. Freud, S. *The future of an illusion*. New York: Liveright; 1953.
12. Neeleman J, Persaud R. Why do psychiatrists neglect religion? *Br J Med Psychol*. 1995; 68(Pt 2): 169–178. [PubMed: 7547613]
13. Koenig, HG.; McCullough, ME.; Larson, DB. *Handbook of religion and health*. New York: Oxford University Press; 2001.
14. Fromm, E. *Psychoanalysis and religion*. New Heaven: Yale University Press; 1950.
15. Geertz, C. Religion as a cultural system. In: Banton, M., editor. *Anthropological approaches to the study of religion*. New York: F.A. Praeger; 1966. p. 1-46.
16. Frankl, VE. *Man's search for meaning: an introduction to logotherapy*. Boston: Beacon Press; 1962.
17. Culver JL, Arena PL, Antoni MH, Carver CS. Coping and distress among women under treatment for early stage breast cancer: comparing African Americans, Hispanics and non-Hispanic Whites. *Psychooncology*. 2002; 11:495–504. [PubMed: 12476431]
18. Dunkel-Schetter C, Feinstein LG, Taylor SE, Falke RL. Patterns of coping with cancer. *Health Psychol*. 1992; 11:79–87. [PubMed: 1582383]
19. McCaul KD, Sandgren AK, King B, et al. Coping and adjustment to breast cancer. *Psychooncology*. 1999; 8:230–236. [PubMed: 10390735]
20. Roesch SC, Adams L, Hines A, et al. Coping with prostate cancer: A meta-analytic review. *J Behav Med*. 2005; 28:281–293. [PubMed: 16015462]
21. Porter LS, Clayton MF, Belyea M, et al. Predicting negative mood state and personal growth in African American and White long-term breast cancer survivors. *Ann Behav Med*. 2006; 31:195–204. [PubMed: 16700633]
22. Yang HC, Brothers BM, Andersen BL. Stress and quality of life in breast cancer recurrence: moderation or mediation of coping? *Ann Behav Med*. 2008; 35:188–197. [PubMed: 18347897]
23. Bennett KK, Compas BE, Beckjord E, Glinder JG. Self-blame and distress among women with newly diagnosed breast cancer. *J Behav Med*. 2005; 28:313–323. [PubMed: 16049635]
24. Carver CS, Pozo C, Harris SD, et al. How coping mediates the effect of optimism on distress: a study of women with early stage breast cancer. *J Pers Soc Psychol*. 1993; 65:375–390. [PubMed: 8366426]
25. Krause N. God-mediated control and psychological well-being in later life. *Res Aging*. 2005; 27:136–164.
26. McAuley WJ, Pecchioni L, Grant JA. Personal accounts of the role of God in health and illness among older rural African American and White residents. *J Cross Cult Gerontol*. 2000; 15:13–35. [PubMed: 14618008]
27. Campesino M, Schwartz GE. Spirituality among Latinas/os: Implications of culture in conceptualization and measurement. *ANS Adv Nurs Sci*. 2006; 29:69–81. [PubMed: 16495689]
28. Lannin DR, Mathews HF, Mitchell J, et al. Influence of socioeconomic and cultural factors on racial differences in late-stage presentation of breast cancer. *Jama*. 1998; 279:1801–1807. [PubMed: 9628711]
29. Perez-Stable EJ, Sabogal F, Otero-Sabogal R, Hiatt RA, McPhee SJ. Misconceptions about cancer among Latinos and Anglos. *Jama*. 1992; 268:3219–3223. [PubMed: 1433762]

30. Wolff M, Bates T, Beck B, et al. Cancer prevention in underserved African American communities: barriers and effective strategies—a review of the literature. *Wis Med J*. 2003; 102:36–40.
31. Kinney AY, Emery G, Dudley WN, Croyle RT. Screening behaviors among African American women at high risk for breast cancer: do beliefs about god matter? *Oncol Nurs Forum*. 2002; 29:835–843. [PubMed: 12058158]
32. Mitchell J, Lannin DR, Mathews HF, Swanson MS. Religious beliefs and breast cancer screening. *J Womens Health (Larchmt)*. 2002; 11:907–915. [PubMed: 12626089]
33. Chavez LR, Hubbell FA, Mishra SI, Valdez RB. The influence of fatalism on self-reported use of Papanicolaou smears. *Am J Prev Med*. 1997; 13:418–424. [PubMed: 9415785]
34. Powe BD. Cancer fatalism: Spiritual perspectives. *J Relig Health*. 1997; 36:135–144.
35. Gullatte MM, Brawley O, Kinney A, Powe B, Mooney K. Religiosity, Spirituality, and Cancer Fatalism Beliefs on Delay in Breast Cancer Diagnosis in African American Women. *J Relig Health*. 2009; 49:62–72. [PubMed: 19184437]
36. DeVellis BM, DeVellis RF, Spilsbury JC. Parental actions when children are sick: The role of belief in divine influence. *Basic Appl Soc Psych*. 1988; 9:185–196.
37. Holland JC, Passik S, Kash KM, et al. The role of religious and spiritual beliefs in coping with malignant melanoma. *Psychooncology*. 1999; 8:14–26. [PubMed: 10202779]
38. Abraido-Lanza AF, Vasquez E, Echeverria SE. En las manos de Dios [in God's hands]: Religious and other forms of coping among Latinos with arthritis. *J Consult Clin Psychol*. 2004; 72:91–102. [PubMed: 14756618]
39. Gall TL. Integrating religious resources within a general model of stress and coping: Long-term adjustment to breast cancer. *J Relig Health*. 2000; 39:167–182.
40. Mattlin JA, Wethington E, Kessler RC. Situational determinants of coping and coping effectiveness. *J Health Soc Behav*. 1990; 31:103–122. [PubMed: 2313073]
41. VandeCreek L, Paget S, Horton R, et al. Religious and nonreligious coping methods among persons with rheumatoid arthritis. *Arthritis Rheum*. 2004; 51:49–55. [PubMed: 14872455]
42. Pargament KI, Ensing DS, Falgout K, et al. God help me I: Religious coping efforts as predictors of the outcomes to significant negative life events. *Am J Community Psychol*. 1990; 18:793–824.
43. Carver CS, Scheier MF, Weintraub JK. Assessing coping strategies: A theoretically based approach. *J Pers Soc Psychol*. 1989; 56:267–283. [PubMed: 2926629]
44. Baider L, Russak SM, Perry S, et al. The role of religious and spiritual beliefs in coping with malignant melanoma: an Israeli sample. *Psychooncology*. 1999; 8:27–35. [PubMed: 10202780]
45. Canada AL, Parker PA, de Moor JS, et al. Active coping mediates the association between religion/spirituality and quality of life in ovarian cancer. *Gynecol Oncol*. 2006; 101:102–107. [PubMed: 16256181]
46. Zwingmann C, Wirtz M, Muller C, Korber J, Murken S. Positive and negative religious coping in German breast cancer patients. *J Behav Med*. 2006; 29:533–547. [PubMed: 16951991]
47. Holt CL, Clark EM, Rubio DM. Spiritual health locus of control and breast cancer beliefs among urban African American women. *Health Psychol*. 2003; 22:294–299. [PubMed: 12790257]
48. Wallston KA, Malcarne VL, Flores L, et al. Does God determine your health? The God locus of health control scale. *Cogn Ther Res*. 1999; 23:131–142.
49. Glock, CY. The role of deprivation in the origin and evolution of religious groups. In: Lee, R.; Marty, ME., editors. *Religion and social conflict*. New York: Oxford University Press; 1964. p. 24–36.
50. Hunt LM, Schneider S, Comer B. Should “acculturation” be a variable in health research? A critical review of research on US Hispanics. *Soc Sci Med*. 2004; 59:973–986. [PubMed: 15186898]
51. Maly RC, Umezawa Y, Ratliff CT, Leake B. Racial/ethnic group differences in treatment decision-making and treatment received among older breast cancer patients. *Cancer*. 2006; 106:957–965. [PubMed: 16402372]
52. Carver CS. You want to measure coping but your protocol's too long: Consider the brief COPE. *Int J Behav Med*. 1997; 4:92–100. [PubMed: 16250744]

53. Carver, CS. Brief COPE. Retrieved 26 July, 2009 from <http://www.psy.miami.edu/faculty/ccarver/sclBrCOPE.html>
54. Skinner EA, Edge K, Alman J, Sherwood H. Searching for the structure of coping: A review and critique of category systems for classifying ways of coping. *Psychological Bulletin*. 2003; 129:216–269. [PubMed: 12696840]
55. Sabogal E, Marin G, Otero-Sabogal R. Hispanic familism and acculturation: What changes and what doesn't? *Hisp J Behav Sci*. 1987; 9:397–412.
56. Maly RC, Leake B, Silliman RA. Breast cancer treatment in older women: Impact of the patient-physician interaction. *Journal of Am Geriatr Soc*. 2004; 52:1138–1145. [PubMed: 15209652]
57. Street RL Jr, Voigt B, Geyer C Jr, Manning T, Swanson GP. Increasing patient involvement in choosing treatment for early breast cancer. *Cancer*. 1995; 76:2275–2285. [PubMed: 8635032]
58. Powe BD, Hamilton J, Brooks P. Perceptions of cancer fatalism and cancer knowledge: a comparison of older and younger African American women. *J Psychosoc Oncol*. 2006; 24:1–13. [PubMed: 17182474]
59. West SG, Aiken LS, Krull JL. Experimental personality designs: analyzing categorical by continuous variable interactions. *J Pers*. 1996; 64:1–48. [PubMed: 8656311]
60. Taylor SE, Lichtman RR, Wood JV. Attributions, beliefs about control, and adjustment to breast-cancer. *J Pers Soc Psychol*. 1984; 46:489–502. [PubMed: 6707865]
61. Taylor S. Adjustment to threatening events - a theory of cognitive adaptation. *Am Psychol*. 1983; 38:1161–1173.
62. Bury M. Chronic illness as biographical disruption. *Sociol Health Illn*. 1982; 4:167–182. [PubMed: 10260456]
63. Pargament, KI. *The psychology of religion and coping: theory, research, practice*. New York: Guilford Press; 1997.
64. Nairn RC, Merluzzi TV. The role of religious coping in adjustment to cancer. *Psychooncology*. 2003; 12:428–441. [PubMed: 12833556]
65. Byrd, WM.; Clayton, LA. Racial and Ethnic Disparities in Health Care: A Background and History. In: Stith, AY.; Smedley, BD.; Nelson, AR., editors. *Unequal Treatment: Confronting Racial and Ethnic Disparities in Healthcare*. Washington, D.C.: National Academies Press; 2003. p. 455-527.
66. Pargament KI, Smith BW, Koenig HG, Perez L. Patterns of positive and negative religious coping with major life stressors. *J Sci Study Relig*. 1998; 37:710–724.
67. Powe BD. Fatalism among elderly African Americans Effects on colorectal cancer screening. *Cancer Nurs*. 1995; 18:385–392. [PubMed: 7585493]
68. Johnson KS, Elbert-Avila KI, Tulsy JA. The influence of spiritual beliefs and practices on the treatment preferences of African Americans: A review of the literature. *J Am Geriatr Soc*. 2005; 53:711–719. [PubMed: 15817022]
69. Larocca-Pitts MA. FACT: Taking a spiritual history in a clinical setting. *J Health Care Chaplain*. 2008; 15:1–12. [PubMed: 19424909]
70. Borneman T, Ferrell B, Puchalski CM. Evaluation of the FICATool for Spiritual Assessment. *J Pain Symptom Manage*. 2010; 20:163–173. [PubMed: 20619602]

Fig. 1. Moderating role of race/ethnicity in the associations of belief in divine control with coping subscales. *Notes* B = unstandardized regression coefficient. $** p < .01$

Fig. 2. Moderating role of acculturation in the associations of belief in divine control with coping subscales. *Notes* B = unstandardized regression coefficient $^{**} p < .01$

Table 1
Descriptive statistics of demographic and major variables by races/ethnicities

	Range of Scale	White (n=92)	African American (n=66)	Latina (n=99)	η^2
Educational attainment, %	–				–
Grade school or less		0.0	0.0	29.2	
High school		30.4	50.0	56.6	
College		54.4	47.0	10.2	
More than college		15.2	3.0	4.0	
Income, %	–				–
Less than \$20,000		12.0	50.7	51.1	
\$20,000–\$39,999		26.5	33.9	36.1	
\$40,000–\$79,999		36.2	15.4	10.6	
Over \$80,000		25.3	0.0	2.2	
Stage of breast cancer, %	–				–
I		43.5	34.8	37.4	
II		47.8	56.1	55.6	
III/IV		8.7	9.1	7.0	
Age	–				
		68.8 (8.1) ^a	68.4 (8.6) ^a	68.7 (8.5) ^a	0.00
Breast cancer knowledge	0–5	3.0 (1.2) ^a	2.0 (1.5) ^b	2.0 (1.5) ^b	0.12 ^{***}
Belief in divine control	1–4	2.6 (1.1) ^a	3.6 (0.8) ^b	3.5 (0.7) ^b	0.20 ^{***}
Acculturation	1–25	N/A	N/A	11.71 (6.81)	
Overall approach coping	1–4	3.1 (0.6) ^a	2.8 (0.7) ^b	2.7 (0.7) ^b	0.06 ^{***}
Acceptance	1–4	3.7 (0.5) ^a	3.4 (0.7) ^b	3.3 (0.9) ^b	0.08 ^{***}
Positive reframing	1–4	2.5 (1.0) ^a	2.5 (1.0) ^a	2.1 (0.9) ^b	0.03 [*]
Active coping	1–4	3.3 (1.0) ^a	2.9 (1.0) ^b	2.8 (0.9) ^b	0.05 ^{***}
Planning	1–4	2.8 (1.2) ^a	2.3 (1.1) ^b	2.6 (1.0) ^a	0.02 [*]
Overall avoidance coping	1–4	1.3 (0.4) ^a	1.5 (0.7) ^a	1.9 (0.9) ^b	0.15 ^{***}
Denial	1–4	1.5 (0.7) ^a	1.8 (1.0) ^a	2.3 (1.2) ^b	0.11 ^{***}
Behavioral disengagement	1–4	1.0 (0.2) ^a	1.2 (0.6) ^a	1.6 (0.9) ^b	0.11 ^{***}

The mean scores sharing the same superscript did not significantly differ from one another

p value indicates the significance level of racial/ethnic differences in main variables

* $p < 0.05$;
 ** $p < 0.01$;
 *** $p < 0.001$

η^2 indicates the effect size of racial/ethnic differences in main variables

Table 2
Correlations between belief in divine control, coping, and covariates

	Belief In Divine Control	Overall Approach Coping	Overall Avoidance Coping	Acceptance	Positive Reframing	Active Coping	Planning	Denial	Behavioral Disengagement
Overall approach coping	0.10								
Overall avoidance coping	0.06	-0.47**							
Acceptance	-0.04	0.62**	-0.70**						
Positive reframing	0.32**	0.69**	-0.32**	0.40**					
Active coping	-0.02	0.82**	-0.28**	0.32**	0.38**				
Planning	0.01	0.77**	-0.18**	0.26**	0.25**	0.63**			
Denial	0.11	-0.35**	0.92**	-0.60**	-0.24**	-0.17**	-0.11		
Disengagement	-0.02	-0.51**	0.82**	-0.64**	-0.35**	-0.35**	-0.24**	0.52**	
Age	0.05	0.12	-0.16**	0.04	-0.13*	-0.17**	-0.06	-0.20**	-0.06
Education	-0.28**	0.39**	-0.28**	0.25**	0.18**	0.39**	0.30**	-0.19**	-0.30**
Income	-0.33**	0.37**	-0.28**	0.27**	0.20**	0.38**	0.25**	-0.20**	-0.32**
Stage of cancer	0.17**	0.02	0.04	0.02	0.08	-0.03	0.00	0.03	0.05
Cancer knowledge	-0.21**	0.41**	-0.16*	0.22**	0.19**	0.38**	0.38**	-0.07	-0.24**

* $p < 0.05$;

** $p < 0.01$;

*** $p < 0.001$

Table 3
Hierarchical regression analysis: interaction effect of ethnicity and divine control

	Approach Coping			Avoidance Coping		
	Overall	Cognitive	Behavioral	Overall	Cognitive	Behavioral
	Positive Refraining	Active Coping	Planning	Denial	Disengagement	
Block 1 (ΔR^2)	0.23***	0.12***	0.07**	0.17**	0.16***	0.15***
Age	0.002 (0.005)	0.01 (0.006)*	-0.01 (0.01)	0.01 (0.01)	-0.02 (0.005)*	-0.013 (0.005)**
Education	0.09 (0.03)**	0.06 (0.04)	0.04 (0.05)	0.14 (0.05)**	-0.08 (0.04)*	-0.07 (0.04)
Income	0.04 (0.02)	0.07 (0.03)+	0.05 (0.04)	0.05 (0.03)	0.08 (0.03)**	-0.07 (0.03)**
Stage of breast cancer	0.05 (0.06)	0.06 (0.07)	0.12 (0.09)	-0.02 (0.08)	-0.01 (0.06)	0.01 (0.06)
Breast cancer knowledge	0.13 (0.03)***	0.07 (0.04)	0.08 (0.05)	0.15 (0.04)**	-0.03 (0.04)	-0.05 (0.03)
Block 2 (ΔR^2)	0.08***	0.02	0.19***	0.05***	0.05**	0.06**
African American	-0.17 (0.12)	-0.24(0.14)	-0.18(0.17)	-0.13 (0.17)	0.21 (0.19)	0.07(0.12)
Latina	-0.07 (0.11)	-0.29(0.14)*	-0.38(0.17)*	-0.03 (0.16)	0.61 (0.18)***	0.32(0.12)**
Belief in divine control	0.22 (0.04)***	0.10(0.05)	0.48 (0.06)***	0.17 (0.06)**	-0.02 (0.07)	-0.14(0.04)**
Block 3 (ΔR^2)	0.02+	0.05**	0.01	0.01	0.04**	0.04**
African American×belief in divine control	0.08 (0.10)	0.05 (0.12)	0.15(0.15)	0.08(0.15)	-0.01 (0.12)	-0.10(0.11)
Latina × belief in divine control	0.25 (0.11)+	0.47(0.13)***	0.19(0.15)	0.08(0.16)	-0.41 (0.12)***	-0.41 (0.11)***

The values are unstandardized regression coefficients and standard errors

African American and Latina are the dummy variables of race/ethnicity with non-Hispanic White as reference category

+ $p=0.06$;

* $p<0.05$;

** $p<0.01$;

*** $p<0.001$

Table 4
Hierarchical regression analysis: interaction effect of acculturation and belief in divine control among latinas (*n*=99)

	Approach coping			Avoidance coping		
	Overall	Cognitive		Overall	Cognitive	
		Acceptance	Positive refraining		Denial	Behavioral
						Disengagement
Block 1 (ΔR^2)	0.26***	0.09	0.08	0.09	0.08	0.12*
Age	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	-0.03 (0.01)*	-0.04 (0.02)*	-0.02 (0.01)
Education	0.07 (0.06)	-0.02 (0.08)	0.08 (0.08)	0.01 (0.08)	0.02 (0.11)	-0.02 (0.08)
Income	0.11 (0.05)*	0.15 (0.06)*	0.05 (0.06)	0.13 (0.06)*	-0.05 (0.08)	-0.15 (0.06)*
Stage of breast cancer	0.06 (0.10)	0.06 (0.13)	0.11 (0.14)	-0.08 (0.12)	-0.11 (0.17)	-0.03 (0.13)
Breast cancer knowledge	0.13 (0.05)*	0.04 (0.07)	0.12 (0.13)	0.15 (0.07)*	-0.03 (0.09)	-0.03 (0.07)
Block 2 (ΔR^2)	0.18***	0.16***	0.22***	0.06*	0.18***	0.16***
Acculturation	0.21 (0.07)**	0.22 (0.10)*	0.23 (0.09)*	0.20 (0.09)*	-0.51 (0.12)***	-0.25 (0.10)*
Belief in divine control	0.34 (0.09)**	0.40 (0.13)**	0.49 (0.12)***	0.17 (0.13)	-0.23 (0.16)	-0.38 (0.13)**
Block 3 (ΔR^2)	0.02*	0.12***	0.00	0.02	0.02*	0.07**
Acculturation $\times$ Belief in divine control	-0.21 (0.11)*	-0.56 (0.14)***	0.01 (0.15)	-0.27 (0.15)	0.35 (0.19)*	0.46 (0.14)**

The values are unstandardized regression coefficients and standard errors

* $p < 0.05$;

** $p < 0.01$;

*** $p < 0.001$