

It is out of my hands: how deferring control to God can decrease quality of life for breast cancer patients

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Abstract

Objective: This paper seeks to contribute to the understanding of how and why religion affects psychosocial health outcomes. We propose a theoretical model predicting that when women with breast cancer defer control to God they will experience fewer breast cancer related concerns. Deferring control to God, however, should also reduce the likelihood that they take a proactive coping approach, which will be exacerbated by lowered breast cancer concerns. We therefore predict that this passive coping style will ultimately result in lower levels of quality of life.

Methods: Data were collected as part of a randomized clinical trial funded by the National Cancer Institute. A total of 192 women with breast cancer participated in a computer-mediated social support group. Deferring control to God statements were captured by using computer-aided content analysis of discussion posts. Psychosocial outcomes were measured using longitudinal survey data. Analysis was performed using structural equation modeling.

Results: The results of our analysis largely confirm our mediation model for which we find significant model fit. As predicted, deferring control to God leads to lower levels of breast cancer concerns but also to more passive coping styles. Ultimately, deferring control to God can lead to lower levels of quality of life.

Conclusions: Our study demonstrates how and why religious coping can lead to both positive and negative psychosocial health outcomes. Health care practitioners should encourage patients who are relying on religion to keep their end of the bargain and maintain an active coping style.

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Introduction

A cancer diagnosis is a traumatic event that can leave a person wondering how he or she will cope with their life-threatening illness [1–3]. One of the most frequent ways cancer patients attempt to cope with their diagnosis is by turning to religion [4–6]. Many scholars have lauded the health benefits of religious and spiritual coping [7,8]. Indeed, religious coping can help make sense of a life-threatening illness [9] and may lead to improved quality of life for cancer patients [10].

Cancer patients also frequently find comfort by turning to computer-mediated social support (CMSS) groups. CMSS groups offer a forum to receive emotional and information support [3,11,12], as well as religious support [13,14]. One particular CMSS group for women with breast cancer is hosted by the Comprehensive Health Enhancement Support System (CHESS). CHESS is an easy-to-use, interactive computer program that provides informational and social support to women with breast cancer [3]. In this group, members frequently exchange religious messages.

One reoccurring theme found in the CHESS CMSS group is the belief that God is in control of an individual's fate. Members tell each other to 'trust in God's plan', 'sit back and watch the power of God work in your life', and to 'give it to God, he will take control'. These comments reflect the belief that God is ultimately responsible for the course of their illness. This is a common form of religious coping [14–17], which we refer to as *deferring control to God*.

Some scholars have expressed optimism that this type of belief is a positive coping behavior [14,15]. Studies that have empirically tested the effects of deferring control to God, however, have generally found that it results in negative health outcomes [16,18,19]. This reflects the reality that enthusiasm for the benefits of religious coping has not always been met with unequivocal support [20,21]. Indeed, there are both positive and negative forms of religious coping [17,22].

Pargament and co-authors [17] identified three styles of religious coping – self-directing, collaborative, and deferring. The self-directing approach emphasizes the ability of the individual to directly impact his or her situation. The

collaborative approach posits that the problem-solving responsibility is shared equally between God and the individual. The deferring approach, on the other hand, places the majority of the responsibility on God [17]. Important distinctions such as these are often ignored by scholars that employ 'global' approaches to religion and spirituality. These approaches conceptualize religion as a singular construct then overgeneralize the findings [23,24].

Hill and Pargament [25] have called on scholars to address the 'unanswered critical questions about why and how religion and spirituality influence health' [p. 66]. In response to this call, we propose a theoretical model through which deferring control to God can simultaneously lead to positive and negative health outcomes. We then test this model using computer-aided content analysis and longitudinal survey data from a CHESS discussion group for women with breast cancer.

Theorized model

Our theoretical model predicts that when women with breast cancer find meaning for their illness by deferring control to God, they may experience fewer concerns about their breast cancer. At the same time, deferring control will also reduce the likelihood that breast cancer patients see the need to take a proactive coping approach. This behavior should be exacerbated by lowered breast cancer concerns. Because women who defer control will be less likely to take proactive coping approaches, they will ultimately report lower quality of life. We elaborate on the specific pathways below (Figure 1).

Pathways

First, there is reason to believe that there are benefits to surrendering control to God, such as reduced breast cancer concerns. Women with breast cancer face a variety of cancer related concerns, including threats to body image [26,27], fears of reoccurrence, and existential concerns [2,3]. The belief that God is in control of one's fate may ease these concerns by providing 'a greater

willingness to accept the outcome of their illness based on God's will for their life' [14, p. 677]. Turning to religion can help breast cancer patients trust that their current situation is not the most important component of their long-term fate [15]. Additionally, dealing with cancer is emotionally depleting, and believing that God is in control of the situation can lead to a sense of relief [28, p. 17] and a decrease in emotional distress [29]. Indeed, religion has been shown to buffer the negative effects of stress created by health crises [30,31]. Thus, we predict,

H1: Deferring control to God will lead to lower levels of breast cancer related concerns.

Deferring control to God should also have important implications for problem-focused coping or action aimed at problem solving [32]. The National Cancer Institute stresses the importance of symptom management (e.g., symptom control, treatment management, addressing physical distress) as a key factor for cancer patients to improve their quality of life [33]. Scholars have found that having an active rather than passive coping style can lead to longer survival [34,35].

Deferring control to God, however, is likely to be negatively associated with problem-focused coping. Scholars argue that deferring control can be part of a passively oriented lifestyle [16,17,36] where individuals rely 'on a higher power (e.g., God) to determine their health outcomes' [16, p. 294]. Because an individual may feel less capable of changing their situation, they may be less likely to take active efforts to confront their situation [37] Thus,

H2a: Deferring control to God will lead to lower levels of problem-focused coping.

Additionally, a reduction in breast cancer-specific concerns should also lead to lower levels of problem-focused coping. As cancer concerns go up, individuals tend to feel more compelled to take an active coping approach [38]. Conversely, when women have an absence of anxiety about

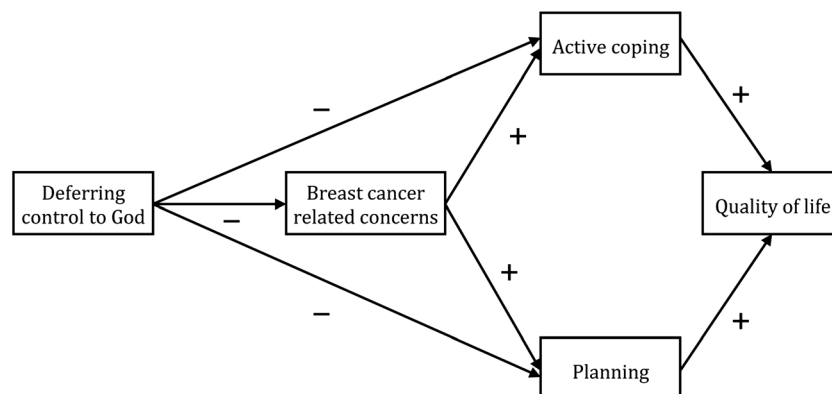


Figure 1. Theorized model

their illness, they are less likely to take action [39,40]. We therefore predict,

H2b: Lower levels of breast cancer related concerns will lead to lower levels of problem-focused coping.

Many health interventions cite improved quality of life of patients with life threatening diseases as one of their primary goals [41]. Active coping is one behavior that is consistently encouraged [35] because it has been shown to result in higher levels of quality of life than avoidant coping [42,43]. Breast cancer patients who take avoidant coping approaches, therefore, may ultimately neglect behaviors that help increase quality of life. Thus,

H3: Lower levels of problem-focused coping will result in lower levels of quality of life for breast cancer patients.

Finally, we predict two pathways through which deferring control to God will have a negative indirect effect on quality of life.

H4a: Deferring control to God will exert an indirect effect on quality of life via problem-focused coping, suggesting that deferring control to God will lead to lower levels of problem-focused coping, which will lead to lower levels of quality of life.

H4b: Deferring control to God will exert an indirect effect on quality of life via breast cancer-related concerns and problem-focused coping, suggesting that deferring control to God will lead to lower levels of breast cancer concerns, which will lead to lower levels of problem-focused coping, leading to lower levels of quality of life.

Method

Participants

Between April 2004 and April 2006, 661 breast cancer patients were recruited from three cancer institutions: Hartford Hospital (Connecticut), MD Anderson (Texas), and the University of Wisconsin. The data analyzed in this study were collected as a part of a larger 6-month clinical trial for women diagnosed with breast cancer within the last 2 months [44]. Our study focused on the 325 participants who had access to the CHES CMSS group (i.e., discussion group) [45,46]. The CMSS group is an asynchronous bulletin board where members can post messages with a subject line for other members to read. Of the 325 participants, our analysis focused only on women who posted at least one message during the study period, leaving us with 192 participants ($M=26.38$ messages, $SD=59.41$). Participants had a mean age of 51.44 years; 18.1% of participants had a high school

degree or less, 17.8% attended some college, 36.2% had a college degree, and 18.3% had a graduate degree. In addition, 91.6% of the women were Caucasian, and 14% lived alone. All patients were within 2 months of diagnosis of primary breast cancer or recurrence.

Data construction and statistical analysis

The data used in our study resulted from a combination of the following: (a) computer-aided content analysis; (b) action log system usage data; and (c) longitudinal survey data. In order to test the effects of deferring control to God, we looked for statements that indicated an individual held this belief within messages posted in the CMSS group. First, a computer-aided content analysis program, InfoTrend [47], was employed to analyze expressions that women were deferring control to God and/or encouraging others to do so. Using this program, 18,064 message posts were analyzed. The unit of analysis was individual sentences, with a score of 1 for any sentence that contained a deferring control to God message. Message posts could therefore be scored as containing multiple deferring control messages.

Coding rules were created by establishing a relationship between multiple terms, phrases, or concepts (including the number of spaces between the terms and the order in which they appear) [see 12,48]. For example, the statement 'God is in control of my fate' would be counted, while 'I am in control of my fate, thank God' would not (Table 1).

Two human coders conducted discrete reliability tests on a random subset of 100 message posts. The reliability tests between both coders and computer coding produced 100% agreement, suggesting our rules were capturing the intended concepts.

The content-analysis results were then merged with action log data that tracked which participant wrote each message. Finally, these data were combined with longitudinal survey data, which were collected prior to use of CHES and 6 months after having access to the system.

Measures

Exogenous variables

Control variables: We employed the following exogenous variables to control their potentially confounding effects on

Table 1. Example of InfoTrend rule creation

Step 1: Identify presence of key words	
Example:	God: God, holy spirit, lord
Example:	Control: control
	InCharge: in charge
Example:	Me: Me, Myself, I
Step 2: Construct syntactical relationship between multiple words	
Example:	God {20 characters} ahead of Control = GodinControl
	God {20 characters} ahead of InCharge = GodinControl
Step 3: Combine multiple constructs to form larger concept	
Example:	GodInControl {20 characters} ahead of Me = DeferToGod

endogenous variables: age ($M=51.44$, $SD=9.05$), education ($M=5.41$, $SD=1.82$), time interval between breast cancer diagnosis and intervention participation ($M=2.08$, $SD=3.29$, in months), experimental conditions, total time spent in CHESS ($M=820.15$, $SD=1175.76$, in minutes), and pretest scores of endogenous variables.

Endogenous variables

Deferring control to God was operationalized as the total counts of deferring control to God-related messages ($M=0.48$, $SD=1.98$, *Median*=0.00, *IQR*=0.00, *Range*=17.00) divided by the total number of messages posted ($M=26.38$, $SD=59.41$, *Median*=3.00, *IQR*=18.00, *Range*=425.00) for a 6-month study period ($M=0.007$, $SD=0.03$). The proportion measure accounts for variance in the volume of messages posted and rules out the potential confounding effect of expressing other types of content in the messages [12,47,49].

Breast cancer-related concerns [50] assessed breast cancer patients' emotional, physical, and body image concerns related to treatments and side effects.

Problem-focused coping: To measure problem-focused coping, we employed two coping strategies – active coping and planning [51].

Quality of life [52] asked participants to answer the relevant questions in the following broad domains: (a) physical

health; (b) psychological health; (c) social relationships; and (d) environment.

More measurement details can be found in Table 2.

Results

To test all hypothesized relationships in our model, we performed a structural equation model with observed variables in Mplus 6.1 [53]. Before fitting our theorized model to the data, a residualized covariance matrix was created by regressing all measures on a set of variables including age, education, months since diagnosis, Full CHESS, Mentor and Full CHESS, time spent in CHESS, and pretest scores of endogenous variables. By using the residualized covariance matrix as input in the model, we controlled for these variables. The control variables accounted for a substantial amount of the variance (6.8–15.5%). Results for the control effects on all endogenous variables can be found in Table 3.

We first fitted our theorized model described in Figure 1. Following standard modification approaches for the refinement of structural equation models [54,55], we removed nonsignificant paths to generate a parsimonious and better fitting model. As a result, our final model showed a reasonably good fit, with RMSEA of 0.05, CFI of 0.97, TLI of 0.99, and SRMR of 0.03 [54,55]. Although the chi-squared test remained significant

Table 2. Latent variables

Variable	Scale details	Example item	M	SD	Cronbach's α
Breast cancer-related concerns	Functional Assessment of Cancer Therapy Scale 9-item, 5-point scale	'My hair loss bothered me.'	1.13	0.66	0.72
Problem-focused coping (active)	Brief COPE Scale 2-item, 4-point scale	'I've been taking action to try to make the situation better.'	1.94	0.86	0.83
Problem-focused coping (planning)	Brief COPE Scale 2-item, 4-point scale	'I've been thinking hard about what steps to take.'	1.56	0.95	0.83
Quality of life	World Health Organization Quality of Life (WHOQOL) – BRIEF Scale 26-item, 5-point scale	'How would you rate your quality of life?'	3.04	0.43	0.89

Table 3. Regression analyses for residualization

	Deferring control to God	Breast cancer related concerns (post-test)	Active coping (post-test)	Planning (post-test)	Quality of life (post-test)
Age	0.04	–0.05	–0.12	–0.10	0.02
Education	–0.05	0.010	0.10	0.04	–0.03
Months since diagnosis	–0.07	0.03	0.10	–0.08	0.04
Full CHESS (=1)	–0.04	0.14	0.11	0.01	0.09
CHESS and Mentor (=1)	0.13*	0.07	0.22**	0.13	0.14
Time spent in CHESS (min)	0.20*	0.02	0.23***	0.15**	0.10
Pretest scores ^a	–	0.23**	0.17***	0.25***	0.26***
R^2 (%)	6.8*	6.9*	15.5***	12.1**	8.6*

^aPretest scores for control variables (i.e., breast cancer related concerns, active coping, planning, and quality of life).

* $p < 0.05$;

** $p < 0.01$;

*** $p < 0.001$.

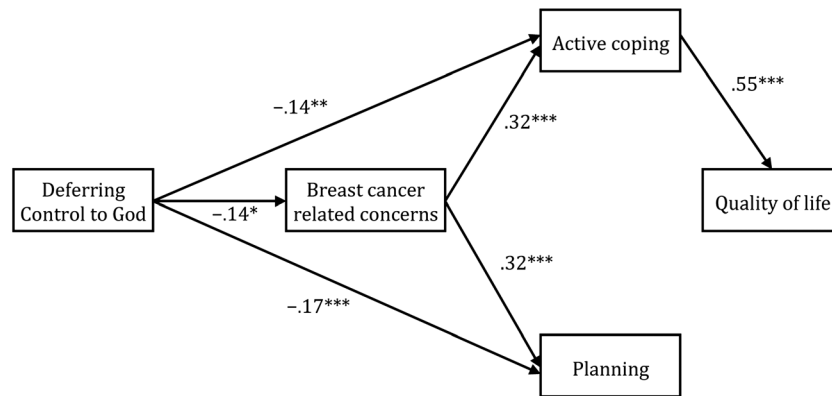


Figure 2. Structural equation model of deferring control to God, breast cancer-related concerns, problem-focused coping, and quality of life. All path coefficients are completely standardized. Covariate effects and nonsignificant paths are not included. $\chi^2 = 42.60(17)$, $p = 0.001$, RMSEA = 0.08, CFI = 0.93, TLI = 0.96, SRMR = 0.03. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

($\chi^2 = 42.58$, $df = 18$, $p < 0.01$), the result was inappropriate for measuring fit of our model with non-normal data (e.g., Deferring Control to God). Because the non-normality of data leads to the underestimation or overestimation of the chi-squared statistic, the ratio of chi-squared to degree of freedom is often used to assess how well the model fits the data, with a ratio of 3 or less indicating a good fit [56,57]. According to this standard, our model fit the data well ($\chi^2/df = 2.37$).

Figure 2 displays the direct effects of deferring control to God on the four endogenous variables after controlling the effects of the covariates. Deferring control to God was negatively associated with breast cancer related concerns, suggesting that women who deferred control had fewer breast cancer related concerns ($\beta = -0.14$, $p < 0.05$). Thus, H1 was supported.

Deferring control to God was negatively related to problem-focused coping, suggesting that women who deferred control were less likely to adopt active coping ($\beta = -0.14$, $p < 0.01$) and planning ($\beta = -0.17$, $p < 0.001$). In addition, breast cancer related concerns were positively related to problem-focused coping ($\beta = 0.32$, $p < 0.001$) and planning ($\beta = 0.32$, $p < 0.001$). In other words, women with lower levels of breast cancer related concerns were less likely to adopt problem-focused coping. Thus, H2a and H2b were both supported.

Also as expected, active coping was positively associated with quality of life ($\beta = 0.55$, $p < 0.001$). Patients with lower levels of active coping, therefore, tended to report lower levels of quality of life. However, there was no significant relationship between planning and quality of life ($\beta = 0.06$, *ns*). Therefore, H3 was partially supported.

For the indirect effects, deferring control was found to exert a significant indirect effect on quality of life via active coping (standardized indirect effect = -0.08 , $p < 0.01$), but not planning. As another significant pathway, deferring control predicted less breast cancer related concerns and then led to lower levels of active coping, but

not planning, which finally resulted in reduced quality of life (standardized indirect effect = -0.03 , $p < 0.05$). In sum, the effect of deferring control to God on quality of life was fully mediated by breast cancer related concerns and/or active coping. These findings provide partial support for H4a and H4b.

Discussion

In this study, we attempted to contribute to our understanding of how and why deferring control to God may affect health outcomes for women with breast cancer. Specifically, we proposed a mediation model predicting that when women with breast cancer find meaning for and relief from their illness by deferring control to God, they may adopt a passive coping style, which may ultimately result in lower quality of life.

The results of our analysis largely confirm our mediation model. We find support for most of our predicted pathways, including a significant negative relationship between deferring control and breast cancer related concerns and a negative relationship between deferring control and problem-focused coping [active coping and planning]. Additionally, as breast cancer concerns goes down, so does problem-focused coping. We also see that as active coping goes down, quality of life does, as well. We did not, however, find that planning was significantly correlated with quality of life. This was the only pathway that did not confirm our expectations. Finally, we find significant indirect effects of deferring control to God through breast cancer concerns, to active coping, then to quality of life. Similarly, we found a significant indirect effect for deferring control, through active coping, on quality of life.

These results have important implication for our understanding of the relationship between religion and health. First, we do find a potential benefit of deferring control to God, which is a reduced level of breast cancer concerns. For many women, breast cancer is a huge

emotional burden [2]. There is much to be said about a coping strategy that can help reduce anxiety, provide a sense of relief, and help women come to terms with their illness. For this reason, it is important to note that we are not suggesting deferring control to God is unequivocally a harmful strategy. On the contrary, it can be beneficial, but it is important to further understand the negative behaviors that can also result, so scholars and healthcare practitioners are more informed about the various mechanisms involved with these types of beliefs. The primary concern with deferring control to God is that individuals may adopt a more passive coping style [17,36]. As women with breast cancer feel they are less in control of their fate or illness, they may take less action to care for themselves.

The question now becomes can the positive and negative effects of deferring control to God be reconciled? There appears to be a risk in relying on God as an external locus of control, but that is not to say the belief could not be held while still pursuing an active coping style. There does appear to be a middle ground, which is the belief that one *shares* control of one's fate and illness *with* God [17,58,59]. This 'collaborative' religious coping style has been shown to be a potentially healthier form of religious coping [58]. Collaborative coping still provides those with serious illness a means of easing existential concerns, yet it may not come at the cost of proactive coping. This difference could have dramatic implications for how religious belief ultimately affects quality of life. It is therefore important for healthcare practitioners to encourage patients who are relying on religion to remember that they have to keep their end of the bargain.

In this study, we have painted deferring control in relatively one-dimensional terms, but deferring to God is probably best thought of as a continuum. On one end, an individual places all of the responsibility with God; on the other, an individual believes that God does not have any responsibility whatsoever. Unfortunately, our measurement was not fine-tuned enough to capture this type of variation, and we cannot know for certain how individuals viewed their role in relationship to God's. It is likely that our study captured a range of perspectives, rather than the exemplar of 'deferring control to God' that this paper has discussed. If anything this suggests that our findings may be conservative because our measurement of deferral may have included more collaborative approaches. This highlights the need for future research to develop better measures to capture this complex construct. There is a growing body of work that has considered this concept [15,16,19,60], but much work remains to be carried out.

Additionally, it is important to acknowledge that while significant, the indirect effects of deferring control to God were relatively small. This necessitates that we

temper our claims about the implications of this study. Instead, we believe our study is best viewed as an illustration of a potentially important mechanism that warrants additional exploration. Our results generally support our theorized model and suggest that the psychological process we have highlighted is indeed real.

The fact that we found deferring control to God was fully mediated by breast cancer related concerns and/or active coping illustrates that it is not just the belief that matters but the way individuals react to that belief. Our study demonstrates a specific path through which deferring control to God can lead to negative health outcomes, but it also illustrates that this belief does not have to lead to a negative outcome. Our study provides one example in which we see this general pattern occurring. It is important to note that we did not have information about participant's religious affiliation, although all the religious discussions were predominately Christian. It would be important for future research to consider whether religious affiliation factors into the effects of deferring control. There may be many other health contexts in which this type of coping behavior has an impact, and more work is needed to better understand the degree to which this belief can affect psychosocial health outcomes.

Along those lines, it is important to note that our study did not consider the stage of illness for participants. There may be certain circumstances, such as when an individual is in palliative care, where the benefits of deferring control to God outweigh the costs. For example, Kevern [28] found that a deferring approach is more positively adaptive if faced with an intractable situation. Because the ability of an individual to do anything to improve their health situation may vary from case to case, more research should consider how deferring control interacts with stage of illness.

We believe this study provides an important foundation for understanding how and why deferring control to God affects psychosocial health outcomes, but examining the intersection of health and religion is a difficult and complex process. Future studies may wish to build off of our model by considering additional pathways (e.g., emotion-focused coping) and potential factors (e.g., stage of illness, religious affiliation) and/or test our model in different contexts. Even though our study cannot be taken as a definitive account of the health effects of deferring control to God, our model provides an illustrative example of how scholars can consider the relationship between religion and health in more theoretically driven, nuanced ways.

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