

Religious Coping and Depression Among Spouses of People With Lung Cancer

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A cancer diagnosis frequently activates a range of coping responses in patients and their spouses and may affect their emotional well-being. The authors hypothesized a curvilinear relationship between religious coping and depression in 156 spouses of lung cancer patients. Hierarchical regression analyses were conducted with blocks of variables entered as follows: demographic characteristics; cancer stage; perceived control, self-efficacy, and social support; religious coping (linear); and religious coping squared (quadratic). There was a significant association between religious coping squared and depression. Spouses who used moderate levels of religious coping were rated as less depressed than those who used lower or higher levels.

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Lung cancer is a common disease that often advances rapidly and leads to death. It predominantly affects middle aged and older adults who may be unable to fulfill their normal roles.^{1,2} Spouses of cancer patients often function as the primary caregivers and therefore face significant physical, social, and emotional demands.^{3–5} The physical demands that caregivers report may arise from fatigue and physical exhaustion.⁶ Spouses' activities and social involvements are often restricted because of the patient's illness.⁷ Since anticipating a spouse's death may create as much psychological distress as the actual loss, it is not surprising that spouses of cancer patients are vulnerable to depression both before and after the patient's death.^{8–10}

Depression is an important outcome to investigate in spousal caregivers for several reasons. Untreated depression is associated with functional impairments, physical morbidity, and mortality.¹¹ In addition, depression may diminish the quality of care provided to others. Understanding factors that influence depression in caregivers may inform the development of psychosocial services for families dealing with cancer.¹² Psychosocial factors that influence depression in spouses of cancer patients include marital role problems¹² and low levels of optimism.^{13,14} Religion represents one potential influence on emotional well-being in spouses of cancer patients that has received scant attention.

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RELIGIOUS COPING

Approximately 96% of adults in the United States believe in God or a deity, 90% pray, and 43% attend church weekly or more often.¹⁵ Multiple studies have documented a relationship between public religiousness (e.g., church attendance) and mortality,^{16,17} and there is strong evidence that religiousness is an important resource for older adults.¹⁸

Hooker and her colleagues¹³ noted that understanding how spouses of ill people create meaning in their role might be an important area for future research; religion represents a major source of meaning-making for many adults.¹⁹

Religious coping refers to the use of religious beliefs or practices to cope with stressful life circumstances.^{19–21} Examples of religious coping include prayer, seeking comfort from one's faith, and obtaining support from members of a church. Older persons commonly use religious beliefs and practices to cope with their health problems and other developmental issues.^{20,21} Studies conducted on medical patients have demonstrated that religious coping is associated with better mental health,^{19,22} but few have examined the relationship between religious coping and the psychological adjustment of significant others of medically ill patients.^{23,24} One study of renal transplant patients and their significant others²³ showed that religious coping was associated with better adjustment for patients and their significant others after kidney transplantation. Other studies have shown that reliance on religion was associated with greater overall mental health and positive well-being in cancer patients²⁵ and with fewer depressive symptoms in a cross-sectional sample of medically ill elderly men.²⁰ Chang *et al.*²⁶ found a relationship between religious coping and caregiver distress. Caregivers whose spiritual beliefs were helpful to them reported less depression and felt less submerged in their caregiving role. In the current study, we examined the relationship between religious coping and depression in spouses of lung cancer patients.

Self-Efficacy, Perceived Control, and Social Support

Associations between religious coping and mental health outcomes warrant an explanation. Several researchers have suggested that this association is fully mediated by psychosocial processes,^{27,28} that is, the relationship between religious coping and mental health outcomes disappears when self-efficacy, perceived control, or social support are controlled. By contrast, the study of Tix and Frazier²³ of renal transplant patients showed that religious coping was not mediated by cognitive restructuring, social support, or perceived control. Religion may help individuals in crises to regain a sense of control by providing meaning to negative, chaotic events.²⁹ Social support may also mediate religious coping's effect on health.²³ Religious involvement may enhance social support by providing access to social networks and established forms of assistance, including spiritual care during times of acute distress (e.g., serious illness).¹⁹ In a study of the suddenly

bereaved, the association of religious involvement and well-being was mediated by support and the ability to find meaning.³⁰

Present Study

In examining the relationship between religious coping and depression in spouses of people with lung cancer, we addressed three methodological issues that have complicated the interpretation of findings thus far. First, most studies have examined the relationship between self-reported religious coping and self-reported depression, raising the possibility that the relationship between the two variables reflects little more than methods variance and self-presentation. In the current study, therefore, we used an observer-rated measure of depression.

Second, most studies have followed from the premise that the relationship between religious coping and depression is linear, but it is possible that the relationship is more complex. First, some of the mixed findings of religious involvement's positive and negative associations with health-related outcomes may reflect a more complex, curvilinear relationship.³¹ Schnitker³¹ found a quadratic relationship between religious salience and depression. In a nationally representative sample, individuals who indicated that religion was very important or not important reported more depression, whereas those who found religion moderately important reported less depression. Second, while most studies have shown that there is an inverse relationship between religious coping and depression,^{20,26} several studies have shown precisely the opposite pattern. For example, Tix and Frazier²³ found that high levels of religious coping were prospectively associated with greater distress in Catholics. Third, it is possible that people who are not depressed may not "need" religion and those who are depressed may be more likely to turn to religion for comfort.³² For undergraduates who lost a close friend,³³ time since their friend's death was associated with more pleading and bargaining with God and depression. Those who had more recently lost a friend reported less pleading and bargaining and less depression than those who had experienced a longer period of bereavement. Spouses' reliance on religion may provide comfort and be helpful, but an overreliance that fosters passivity or pleading with God may increase religious strain³⁴ and contribute to depression. Fourth, Exline *et al.*³⁴ found that the experience of religious strain may coexist with religious comfort. Given these alternatives, we included a quadratic term to examine

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the curvilinear relationship between religious coping scores and depression.

Finally, there is tension in the literature regarding the mechanism by which religious coping confers health benefits. Some suggest that the relationship is direct (i.e., religion is uniquely salutary²²), while others argue that the relationship is fully mediated by psychosocial processes such as social support and perceived control. Several studies have examined the effect of religious coping after controlling for the effects of perceived control or social support, but few have examined whether religious coping is associated with depression after controlling for both social support and perceived control. In the present study, we examined the unique effect of religious coping on depression after controlling for social support, perceived control, and self-efficacy.

METHOD

Study Group

The group consisted of 156 spouses of lung cancer patients who participated in a larger study on adjustment to the diagnosis and treatment of lung cancer. Spouses of people diagnosed with lung cancer within the past 5 years were eligible. Most of the participants were recruited from surgery practices; others were recruited from the medical and radiation oncology programs at the University of Rochester Comprehensive Cancer Center. Patients were distributed among cancer stages as follows: stage I (44%), stage II (12%), stage III (29%), and stage IV (15%). Participants ranged in age from 26 to 85 years (mean = 63.88 years, SD = 9.12). Women constituted 78% of the group. The spouses were predominantly Caucasian (N = 150) and included four African Americans, one Asian/Pacific Islander, and one person of mixed race. The mean level of education was 13.25 years (SD = 2.29). The annual distribution of income was as follows: less than \$10,000 (3%), \$10,000 to \$24,999 (21%), \$25,000 to \$34,999 (25%), \$35,000 to \$49,999 (28%), \$50,000 to \$74,999 (14%), and greater than or equal to \$75,000 (9%).

Measures

A brief questionnaire included items covering demographic characteristics (age, gender, education, income, and race) and other descriptive variables (e.g., stage of cancer).

Religious coping was measured by the three-item Re-

ligious Coping Index.²⁰ The first item was, "You have been through a great deal of stress since this began. How do you cope with your situation? How do you keep from getting (more) depressed, sad, or discouraged?" A score of 10 was assigned if the respondent made a reference to religion, and a score of 0 was assigned if no reference was made to religion. In item two, the interviewer asked, "Do your religious beliefs or activities help you cope? How? Can you give some examples?" Responses to this item were coded on a scale from 1 to 10 by two independent raters using a scoring manual developed by one of the authors. The effective interrater reliability for the two raters was 0.80. For item three, the respondent rated on a visual analog scale of 0 to 10 the extent to which religious beliefs or activities helped him or her cope with the situation (e.g., 0 = "little or not at all"; 10 = "the most important factor that keeps me going"). Scores on each of the three items were summed for a total score on religious coping ranging from 1 to 30. Religious coping has construct validity, and it has been associated with religious affiliation.²⁰

The 24-item observer-rated Hamilton Depression Rating Scale³⁵ assessed the presence and severity of depressive symptoms in the week before the interview, including depressed mood, loss of interest in usual activities, sleep disturbances, suicidal ideation, somatic complaints, and feelings of worthlessness, helplessness, hopelessness, and fatigue. Scores were based in part on self-report as well as nonverbal presentation. For example, if a respondent denied that he or she was feeling sad but was contradicted by his or her facial expression, the examiner might have rated the patient as mildly sad. Similarly, if a respondent denied that he or she was feeling worthless upon direct questioning, but he or she contradicted this at another point in the interview, the examiner might have rated the patient as feeling worthless. Higher Hamilton depression scale scores reflected greater depressive symptoms. The Hamilton depression scale had acceptable internal consistency (0.72) in this study.

Perceived control was composed of seven items that assess an individual's sense of control over events, such as, "I have little control over the things that happen to me." Item loadings ranged from 0.47 for the two reverse-scored items to 0.65–0.76 for the positively scored items. These items have been associated with low self-esteem in response to stress, such as job disruptions.³⁶ In the present study, Cronbach's alpha for perceived control was 0.80.

The two summary measures of interpersonal and instrumental self-efficacy were derived from an instrument used in the MacArthur Study of Successful Aging.³⁷ The

interpersonal efficacy scale assesses an individual's sense of efficacy in dealing with spouse, family, and friends. The perceived instrumental efficacy scale assesses perceived efficacy in managing one's living arrangements, transportation, safety, and general productivity. Interpersonal and instrumental efficacy have inter-item correlations of 0.58 and 0.42 and 2-week test-retest reliabilities of 0.87 and 0.74, respectively.³⁸ Low levels of instrumental and interpersonal self-efficacy have been associated with declines in perceived health for older adults.³⁹ Cronbach's alpha for self-efficacy in this study was 0.68.

The abbreviated 23-item version of the Duke Social Support Index,⁴⁰ developed from the original 35-item Duke Social Support Index, was used to assess four dimensions of social support: social interaction (four items), instrumental support (12 items), perceived social support (six items), and satisfaction with social support (one item). Cronbach's alphas for this study were 0.48, 0.53, and 0.66, respectively. These subscales are significantly associated with the subscales of the original 35-item Duke Social Support Index and are inversely associated with mental distress.⁴⁰

Procedure

A member of our research team, based in the Department of Psychiatry, approached eligible couples. In general, the treating surgeon or oncologist introduced the research assistant to the couple. The research assistant explained the nature of the study and invited the spouse to participate. Written informed consent was obtained at the time of interview by using a consent form approved by the Research Subjects Review Board at the University of Rochester. Most of the interviews lasted between 2 and 3 hours. Research assistants with master's degrees conducted all interviews and were trained extensively in structured interviewing. Training sessions were conducted throughout the study to maintain acceptable interrater reliability, monitor rater drift, and ensure the methodological integrity of the data-collection process.

Analyses

We first conducted correlations and *t* tests to examine whether depression was associated with sociodemographic and disease-stage variables. Similar analyses were conducted for religious coping. Next, we conducted a hierarchical multiple regression analysis by using BMDP 2R.⁴¹ The main predictor was the total score on the Religious

Coping Index, and the outcome variable was the Hamilton depression scale score. The variables were entered in the following order: step 1: demographic characteristics; step 2: stage of cancer; step 3: perceived control, self-efficacy, and social support; step 4: religious coping (linear term); step 5: religious coping squared (quadratic term). Significance was set at 0.05. All *p* values were two-tailed.

RESULTS

Descriptive statistics and intercorrelations among the continuous study variables are summarized in Table 1. The correlations between depression and both age and education were not statistically significant. A similar nonsignificant pattern emerged for religious coping, age, and education. However, there was a significant association between gender and depression, and gender and religious coping. Women had higher scores on the Hamilton depression scale ($t = 3.57$, $df = 143$, $p < 0.01$) and Religious Coping Index ($t = 3.11$, $df = 142$, $p < 0.01$) than men. There were significant correlations between stage of cancer and depression but no association between cancer stage and religious coping or depression and religious coping. As shown in Table 1, depression was also associated with perceived control ($r = -0.34$), interpersonal self-efficacy ($r = -0.30$), perceived social support ($r = -0.28$), and satisfaction with support ($r = -0.25$). Religious coping was correlated with social interaction ($r = 0.24$) and instrumental support ($r = -0.26$). Next, we conducted a hierarchical multiple regression. Gender ($B(111) = -0.23$, $p < 0.05$) and stage of cancer ($B(111) = 0.29$, $p < 0.01$) made a significant contribution to depression (change in $R^2 = 0.08$, $p < 0.01$). As shown in Table 2 (step 3), perceived control and interpersonal self-efficacy contributed significantly to variance in depression (change in $R^2 = 0.12$, $p < 0.01$). As hypothesized and shown in Table 2 (step 5), the addition of the quadratic religious coping term (religious coping squared) explained change in depression (change in $R^2 = 0.04$, $p < 0.05$). Figure 1 depicts the association between depression and religious coping after control for the effects of perceived control, self-efficacy, and social support. Spouses who used moderate levels of religious coping were rated less depressed than those who used lower or higher levels of religious coping.

DISCUSSION

Consistent with our hypothesis, the relationship between religious coping and depression was curvilinear in spouses

Table 1. Pearson's Correlations of Variables in a Study of Depression and Religious Coping in 156 Spouses of Lung Cancer Patients

Variable ^a	Mean	SD	Age	Education	Stage of Cancer	Perceived Control	Correlation (r)										
							Instrumental Self-Efficacy	Interpersonal Self-Efficacy	Social Interaction	Instrumental Support	Perceived Social Support	Satisfaction With Support	Religious Coping Index	Hamilton Depression Scale Score			
Age	63.88	9.12	1.00														
Education	13.25	2.29	0.06	1.00													
Stage of cancer	2.42	1.53	-0.02	0.10	1.00												
Perceived control	20.61	3.05	0.05	0.31**	-0.08	1.00											
Instrumental self-efficacy	11.98	1.77	-0.19*	0.12	-0.05	0.45**	1.00										
Interpersonal self-efficacy	12.56	2.00	0.11	0.05	-0.11	0.32**	0.27**	1.00									
Social interaction	8.86	1.41	0.03	0.15	-0.03	0.21*	0.22*	0.34**	1.00								
Instrumental support	47.68	5.16	0.05	0.17	-0.04	0.06	-0.06	-0.29**	-0.33**	1.00							
Perceived social support	46.81	5.05	0.08	0.23*	-0.20*	0.42**	0.18	0.40**	0.26**	-0.35**	1.00						
Satisfaction with support	8.59	0.98	0.16	0.13	0.00	0.33**	0.05	0.32**	0.24**	-0.37**	0.47**	1.00					
Religious Coping Index	13.51	8.13	-0.05	0.07	-0.02	-0.13	0.00	0.02	0.24**	-0.26**	0.04	0.13	1.00				
Hamilton depression scale score	7.91	6.52	-0.11	-0.03	0.27**	-0.34**	-0.11	-0.30**	-0.18	0.06	-0.28**	-0.25**	-0.06	1.00			

^aSee text for detailed descriptions of variables.

*p<0.05.

**p<0.01.

Table 2. Hierarchical Multiple Regression Analyses Predicting Hamilton Depression Rating Scale Scores in 111 Spouses of Lung Cancer Patients

Step	Predictor Variable	B ^a	SEB ^b	Beta ^c	Change in R ^{2d}
1	Demographic characteristics	0.07			
	Gender ^e	-3.10	1.30	-0.23*	
	Age	-0.04	0.07	-0.06	
	Race ^f	2.81	3.80	0.07	
	Education ^g	-0.16	0.27	-0.06	
2	Stage of cancer	1.24**	0.39	0.29**	0.08**
3	Control, efficacy, and social support	0.12*			
	Perceived control	-0.42*	0.26	-0.20*	
	Instrumental efficacy	0.16	0.38	0.04	
	Interpersonal efficacy	-0.55*	0.34	-0.17*	
	Social interaction	-0.42	0.47	-0.09	
	Instrumental support	-0.03	0.14	-0.02	
	Perceived support	-0.03	0.15	-0.02	
	Satisfaction	-0.47	0.71	-0.07	
4	Religious coping	-0.10	0.08	-0.13	0.13
5	Religious coping squared	0.02	0.01	0.76*	0.04*

^aB is the unstandardized regression coefficient at the variable's step of entry in the hierarchical multiple regression analysis.

^bSEB is the standard error of B.

^cBeta is the standardized regression coefficient.

^dOccurs after the entry of a variable or block of variables.

^e1 = female, 2 = male.

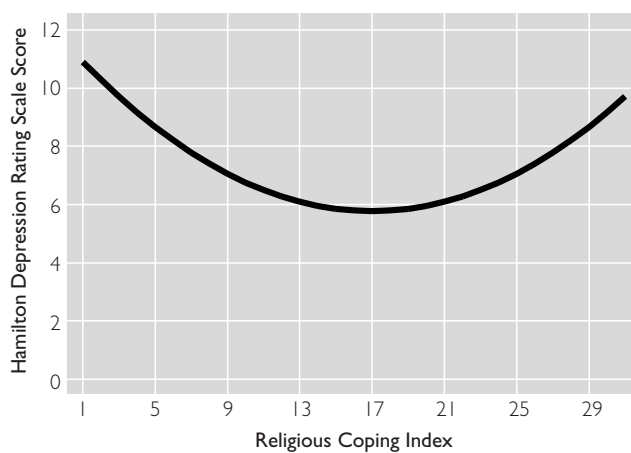
^f1 = Caucasian, 2 = other.

^g1 to 17 years of education completed, in which where 17 refers to any postgraduate degree.

*p<0.05.

**p<0.01.

of lung cancer patients. These results support the notion that there is a unique relationship between religious coping and depression after control for perceived control, self-efficacy, and social support and that this relationship is complex. The finding that moderate levels of religious cop-

FIGURE 1. Relation of Depression to Religious Coping in 156 Spouses of Lung Cancer Patients, With Control for the Effects of Perceived Control, Self-Efficacy, and Social Support

ing were associated with lower observer-rated depression in spouses of lung cancer patients is similar to Schnitker's curvilinear findings on religious salience and depression.³¹ Religious coping may help reduce depression, and moderate levels of religious coping may be optimal for this vulnerable population that faces an uncontrollable situation. The association between low levels of religious coping and depression is consistent with past findings that religious coping is associated with decreased depression and provides comfort.³³ The finding that high levels of religious coping were associated with relatively higher observer-rated depression scores is consistent with two explanations. First, high scores for religious coping may reflect overreliance on less adaptive religious coping strategies¹⁹ and neglect of other important coping strategies. Koenig et al.⁴² found that different types of religious coping were associated with increased or decreased depression. These high scorers may reflect individuals who experience significant religious strain as well as comfort.³⁴ Exclusive reliance on a style of coping that may not involve addressing the reality of a stressful situation may be problematic. Second, people who feel the most desperate may be more likely to turn to religion; that is, high levels of depression may precede increased use of religious coping. The relationship between

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religious coping and depression may change over time, as initial responses to a diagnosis may differ from later responses.

This cross-sectional design did not allow us to distinguish between these two alternatives and precluded any conclusions regarding causality. The Religious Coping Index probed for the ways that religious coping was helpful and did not directly assess the more negative aspects of religious coping. The limited measurement of religiousness posed another limitation for this study. Religious coping may have different meaning for individuals, depending on their beliefs and the centrality of religion and spirituality in their lives. For an individual who believes that prayer should result in improved health and it does not, this result may have different meaning and evoke different emotional responses than for someone who does not believe in prayer. This study assessed depressive symptoms, not depressive disorders. Future studies should use a longitudinal design, diagnostic assessment of depression, and additional measures of religiousness and religious coping.

Despite these limitations, the current findings are consistent with past work and provide important directions for future work. The finding of a relationship between gender and depression is consistent with the epidemiological literature⁴³ and research that has examined spouses of cancer patients.^{4,12,18,44} Several researchers have found that female spouses report more distress¹² since they typically provide more assistance and experience more demands.⁴⁴ From this study, it is unclear whether gender and/or the caregiving role contributed to increased stress; this relationship would be an important focus of future work. The greater use of religious coping by women is consistent with other studies that have found that women use religious coping more than men.^{18,21} In addition, the finding that stage of cancer was

related to observer-rated depression may indicate a potential relationship between the degree of pain and disability in the cancer patient and depression in the spouse. Spouses whose partners are more ill may be at greater risk for depression.

This study had numerous strengths. By studying spouses of people with lung cancer, we focused on an underinvestigated group at risk for morbidity³ and even mortality.^{45,46} By using the Hamilton depression scale, we were able to demonstrate that the relationship between religious coping and depression is not confined to self-report measures of depression. By controlling for perceived control, self-efficacy, and social support, we showed that the relationship between religious coping and depression could not be reduced to or fully explained by these psychosocial constructs. Finally, by including a quadratic term in the regression model, we were able to show that there is a complex curvilinear relationship between religious coping and depression.

The current findings may inform the development of comprehensive psychosocial programs for treating and managing families coping with cancer. They reinforce the salutary role of religion in times of crisis. Health care providers ought to probe beneath the surface and not merely ask their patients if they are religious but inquire about specific religious coping behaviors and be mindful that there may be positive and negative aspects of religious coping.

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