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Religious Practice and Spirituality in the Psychological Adjustment of Survivors of Breast Cancer

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Abstract

Religion and spirituality are resources regularly used by patients with cancer coping with diagnosis and treatment, yet there is little research that examines these factors separately. This study investigated the relationships between religious practice and spirituality and quality of life (QoL) and stress in survivors of breast cancer. The sample included 130 women assessed 2 years following diagnosis. Using hierarchical multiple regression analysis, the authors found that spiritual well-being was significantly associated with QoL and traumatic stress, whereas religious practice was not significantly associated with these variables. The results suggest that it may be helpful for clinicians to address spirituality, in particular with survivors of breast cancer.

Advances in the detection and treatment of breast cancer have led to a significant increase in the number of survivors (American Cancer Society, 2007). Despite this positive trend, cancer continues to affect quality of life (QoL) at diagnosis, during treatment, and after recovery (Compas & Luecken, 2002). The significant stress of cancer is associated with multiple QoL issues for survivors (Andersen, Anderson, & DeProse, 1989; Epping-Jordan et al., 1999). There is evidence that initial levels of stress predict subsequent QoL up to 12 months postdiagnosis (Golden-Kreutz et al., 2005).

Although much of the literature documents negative consequences of breast cancer, several studies have noted positive outcomes that affect psychological adjustment, including clearer sense of self and sense of meaning, greater confidence in the face of challenges, and a deepened religious and spiritual perspective (Bower et al., 2005; Carpenter, Brockopp, & Andrykowski, 1999; Carver & Antoni, 2004; Cordova, Cunningham, Carlson, & Andrykowski, 2001). Responding to the call for more research on positive factors in the lives of survivors of cancer and others with chronic illnesses (Buchholz, 1996; Carver & Scheier, 2002; Gotay & Muraoka, 1998), the present study examined the relationships between religion, spiritual well-being, QoL, and stress for survivors of breast cancer.

Religion and spirituality are regularly used by patients with cancer as part of their strategy for coping with diagnosis and treatment. In a study of 103 women with breast cancer, Johnson and Spilka (1991) found that 85% reported using religion to help them cope with cancer. Carver

et al. (1999) also found religion to be a common coping strategy both pre- and postsurgery for women with breast cancer. These two cancer studies are consistent with several others that examined coping by healthy individuals and by patients with chronic illnesses (Bower et al., 2005; Frame, Uphold, Shehan, & Reid, 2005; Koenig, McCullough, & Larson, 2001; Laubmeier, Zakowski, & Bair, 2004; Pargament, 1997; Salsman, Brown, Brechting, & Carlson, 2005). The findings of these studies are also consistent with national figures reporting that a majority of the U.S. population believes in God or a Higher Power (Harris Interactive, Inc., 2006). In religious women dealing with adversity, there is also evidence that religious practices and spiritual beliefs develop and deepen during the process of coping with stressful experiences (Williams, Jerome, White, & Fisher, 2006).

Religion has been defined as “adherence to the beliefs and practices of an organized church or religious institution” (Shafranske & Malony, 1990, p. 72) and is concerned with a set of “institutionalized doctrines, ethics, rituals, texts, traditions and practices” (Helminiak, 2001, p. 164). Several authors (e.g., Koenig et al., 2001; Miller & Thoresen, 2003) emphasize the socially organized nature of religion and the rituals or practices that have been accepted by a specific group. The social interaction and support offered by religious participation as well as the positive perspectives offered by religious belief (e.g., emphasis on faith, hope, and well-being) may account for religion's relatively consistent association with both mental and physical health (George, 2003; Koenig et al., 2001).

Although religion remains important to many individuals, larger numbers of people in recent years have begun to seek spirituality outside of organized religion, and both laypeople and researchers have begun to distinguish between spirituality and religion (Zinnbauer et al., 1997; Zinnbauer, Pargament, & Scott, 1999). Indeed, Elkins, Hedstrom, Hughes, Leaf, and Saunders (1988) suggested defining spirituality broadly enough to include the experiences of religious and nonreligious individuals. However, as Stanard, Sandhu, and Painter (2000) noted, “One of the difficulties in the definition of spirituality is its connection with religion” (p. 205). It has been suggested that religion should be considered a subset or vehicle of spirituality, where the latter encompasses a broader search for meaning, purpose, and value in life and the former is a means by which these may be found (Frame, 2003; Frame et al., 2005; Helminiak, 2001). Definitions of *spirituality* have included “awareness of a transcendent dimension” (Elkins et al., 1988, p. 10) and an “innate capacity and tendency to move towards knowledge, love, meaning, hope, transcendence, connectedness and compassion” (Association for Spiritual, Ethical and Religious Values in Counseling, as cited in Fukuyama & Sevig, 1999, p. 5). Indeed, most recent definitions of spirituality include the personal search for purpose and meaning in life as well as connection to a sacred or transcendent reality (Hill et al., 2000).

The diagnosis of cancer forces individuals to face their own mortality (Efficace & Marrone, 2002) and to wrestle with existential questions about meaning (Frankl, 1963). The meaning and purpose derived from spirituality may help survivors of cancer to make sense of their illness experience (Gall & Cornblat, 2002). Gall et al. (2005) have proposed a Spiritual Framework of Coping that is based on the Transactional Model of Stress and Coping first introduced by Lazarus and Folkman (Folkman, 1997; Folkman & Greer, 2000; Lazarus & Folkman, 1984) and on the work of Pargament (1997) on religious coping. The meaning and purpose that survivors of cancer include among the positive outcomes of the illness experience may aid in psychological adjustment following the acute stages of the disease and subsequent treatment. Individuals who experience the existential benefits of this religious and/or spiritual perspective may also experience less distress after treatment (Williams et al., 2006).

The dimensions of spirituality assessed in this study were (a) meaning and peace and (b) personal strength derived from faith. In this study, it was important to define spirituality as

distinct from religion, particularly because spirituality can be an important dimension of functioning for individuals who are not religious and because research and intervention in a pluralist, multicultural society preclude narrow or dogmatic conceptualizations of universal constructs (Fukuyama & Sevig, 1999; Mack, 1994; Seybold & Hill, 2001; Thoresen & Harris, 2002). The more accessible construct of spiritual well-being also serves to further clarify the spirituality construct. The measurement of spiritual well-being as conceptualized by the Functional Assessment of Chronic Illness Therapy–Spiritual Well-Being (FACIT-Sp; Peterman, Fitchett, Brady, Hernandez, & Cella, 2002) scale captures this sense of spirituality without explicit reference to God or a Higher Power, which makes it suitable for measurement of spiritual well-being among both religious and nonreligious individuals. This more inclusive assessment is consistent with definitions of spirituality reviewed earlier and is not limited by the Judeo-Christian bias of some measures (e.g., Paloutzian & Ellison, 1982).

Religious practice was defined as the combination of (a) religious affiliation, (b) frequency of attendance at religious services or activities, and (c) judgments of the importance of religion in one's life. This definition includes both the overt social behaviors associated with religious practice and the subjective sense of religion's role in one's life. These same components of religiosity have been used extensively in the religion and health literature (see Powell, Shahabi, & Thoresen, 2003, for a review). Although several authors have argued for more complex measurement schemes for religion, we selected these variables so that comparisons could be made with the large body of existing research using these variables.

In the present study, we used hierarchical multiple regression analysis to examine the association of religious practice and spiritual well-being with QoL and stress in survivors of breast cancer. The available data suggest that spiritual well-being remains significantly associated with QoL after controlling for disease and demographic variables (Brady, Peterman, Fitchett, Mo, & Cella, 1999; Cotton, Levine, Fitzpatrick, Dold, & Targ, 1999). However, the extant literature does not provide data for simultaneous examination of religious practice and spiritual well-being. This same paucity of data is evident in the case of stress research. The relationship of spiritual well-being with stress variables themselves would also extend knowledge of this construct and the mechanisms by which it may affect psychological adjustment in patients with cancer. In order to test this relationship, we used a cancer-specific measure of stress that captures the traumatic impact of cancer diagnosis (Horowitz, Wilner, & Alvarez, 1979).

We hypothesized that (a) both spiritual well-being and religious practice would be positively associated with QoL and negatively associated with stress outcomes and (b) spiritual well-being would be more strongly associated with QoL and stress than would religious affiliation, attendance, or importance.

The design of the study included potent confounding variables (hereinafter called *control variables*). Given the nature of spirituality and religion instruments, there is potential for respondents to present themselves in an overly favorable manner or use a socially desirable response set. Previous studies in this area have found spirituality measures in particular to be significantly correlated ($r = .27, p < .001$) with social desirability (Peterman et al., 2002). We also statistically controlled for the potential influence of demographic background and general health status (Peterman et al., 2002; Powell et al., 2003).

Method

Participants and Procedure

Participants were drawn from a convenience sample of consecutive cases of patients with Stage II or Stage III breast cancer treated at a university-affiliated cancer center or self- and physician-

referred cases from the same community. Women were recruited for a clinical trial of a psychosocial intervention; full description of eligibility, accrual, and randomization procedures are available (Andersen et al., 2004; Andersen et al., 1998). Briefly, samples of women were accrued and assessed during postsurgery clinic visits prior to beginning adjuvant therapy. Informed consent was obtained, and trained female research assistants conducted assessments in person. Participants completed questionnaire items that included psychological and behavioral variables (see the following). Patients were interviewed by a research nurse for medical/treatment information, and physicians were consulted for verification. The assessment lasted approximately 1.5 hours and occurred at either the university's general clinical research center or the outpatient breast cancer clinic. Women were paid \$25 for their participation.

Patients were followed and reassessed every 6 months for 5 years. The reassessments included psychological, behavioral, and biomedical measures, but the spirituality measure was not among them; spirituality was assessed only at 24 months. The present research, termed the *spirituality study*, was based on data collected at the 24-month assessment. Patients were eligible to participate if they had (a) completed all cancer therapies (all treatments had actually ended by 12 months), (b) been followed for at least 2 years (24 months), and (c) remained disease free. Of the 227 women enrolled in the clinical trial by the accrual date for the spirituality study, 25 (11%) had a recurrence of the disease or died, 29 (13%) women had dropped from the trial, 5 (2%) women missed their 24-month assessment but remained in the trial, and 1 woman completed the 24-month assessment but did not complete the spirituality measure. Accrual for the present study began after the first 37 (16%) women had been enrolled, resulting in an effective N of 130. Analyses compared the participants of the spirituality study ($N = 130$) with the remainder ($n = 97$) with respect to baseline (initial assessment) characteristics using chi-square tests or analyses of variance as appropriate. The groups did not significantly differ ($ps > .06$) in age, study arm (intervention vs. assessment), employment, family income, spousal status, menopausal status, disease characteristics (stage, hormone receptor status, number of nodes), or most cancer treatment received (surgery type and chemotherapy). Only in the receipt of radiation treatment did the groups differ ($\chi^2 = 7.30$, $p = .007$, Cohen's $w = .18$). Sixty-two percent of the spirituality study group received radiation treatment, whereas only 44% of those in the remaining group did.

Participants were 130 women with breast cancer completing the 24-month follow-up assessment. Exactly half of the sample was in either the assessment-only or the intervention study arm of the larger clinical trial. At the time of the initial assessment, all had been surgically treated with either a lumpectomy (49%) or mastectomy (51%). The typical patient was 51 years old, European American (White; 92%), living with a spouse/partner (66%), with approximately 15 years of education, and a family income of \$50,000 (in U.S. dollars) or more per year (55%). Regarding disease/prognostic characteristics, the majority had Stage II disease (72%) rather than Stage III disease (28%), was estrogen-receptor positive (74%), and was postmenopausal (84%). The mean number of positive nodes was 1.60 ($SD = .91$), and the average tumor size was 2.77 centimeters ($SD = 1.23$). Eighty-seven percent of the sample underwent chemotherapy, and 62% underwent radiation therapy.

Predictor Measures

Religious practice—Items assessing involvement in religious groups and practices from the Social Network Index (SNI; Berkman, 1977) were used. This instrument was based on the relationship between social ties and mortality using the 1965 Human Population Laboratory Survey of a random sample of 6,928 adults in Alameda County, California, and a subsequent 9-year mortality follow-up (Berkman & Syme, 1979). Validity has been established primarily by the relative mortality risks associated with a low rank on the SNI compared with other social network measures (Berkman & Syme, 1979). It has been used extensively in research on social

networks, health, and mortality (Berkman, 1995). The religious affiliation item (“Do you belong to any organized religious group?”) uses a 0 = *yes* or 1 = *no* response. Frequency of attendance (“How frequently do you attend church, synagogue or other type of religious services?”) uses a 5-point Likert scale ranging from 0 = *never or almost never* to 4 = *more than once a week*. Importance of religion or spirituality (“How important is religion or spirituality in your life?”) also uses a 5-point Likert scale ranging from 0 = *not at all important* to 4 = *very important*. Four-month test–retest reliability in this sample was .68, .84, and .83 for religious affiliation, frequency of attendance, and importance of religion or spirituality, respectively.

Spiritual well-being—The FACIT-Sp is a 12-item scale designed to “provide an inclusive measure of spirituality that could be employed in research with people with chronic and/or life-threatening illnesses” (Peterman et al., 2002, p. 50). Responses are rated on a 5-point Likert scale ranging from 0 = *not at all* to 4 = *very much*; total scores range from 0 to 48, with higher scores indicating greater spiritual well-being. In addition to the FACIT-Sp total score, there are two subscales: Meaning/Peace and Faith. The Meaning/Peace subscale measures the existential portion of spirituality concerned with purpose in life, harmony, and a sense of peace (e.g., “I have a reason for living”). The Faith subscale measures the sense of strength or comfort found in one's faith or spiritual beliefs (e.g., “I find comfort in my faith or spiritual beliefs”). This measure has been widely used in research on chronic illness and spirituality and has established validity and reliability (Brady et al., 1999; Daugherty et al., 2005; Kristeller, Rhodes, Cripe, & Sheets, 2005; Peterman et al., 2002). Coefficient alpha reliability has been reported as .87, .81, and .88 for the FACIT-Sp total score, Meaning/Peace subscale, and Faith subscale, respectively (Peterman et al., 2002). In the present sample, coefficient alpha reliability was .90 for the FACIT-Sp total score, .90 for Meaning/Peace, and .89 for Faith.

Criterion Measures

QoL—The 36-item Medical Outcomes Study–Short Form (MOS-SF-36; Ware & Sherbourne, 1992) was used. It has eight subscales, each with scores ranging from 0 to 100; higher scores reflect better quality of life. The mental health component score (MOS-SF-36-Mental) uses all scales but has higher weights for mental-health role functioning related to emotional health, social functioning, and vitality. The component scores are standardized with a mean of 50 ($SD = 10$), with higher scores indicating greater mental health. Because of extensive reliability and validity data (Ware, Snow, & Kosinski, 2000), the MOS-SF-36 is frequently used in studies of populations with chronic illnesses (Dexter, Stump, Tierney, & Wolinsky, 1996) and in cancer clinical trials. In previous research (Golden-Kreutz et al., 2005) and in the present sample, the coefficient alpha for the MOS-SF-36-Mental was .89. Two-week test–retest reliability has been reported at .80 (Ware et al., 2000).

Cancer-related traumatic stress—The Impact of Events Scale (IES; Horowitz et al., 1979) is a 15-item measure used to examine reexperiencing cognitions (intrusion) and denial of thoughts and avoidant behaviors (avoidance) related to trauma. Consistent with previous research (e.g., Cordova et al., 1995; Horowitz et al., 1979), the word *event* in the original measure was replaced with *cancer diagnosis and treatment*. The IES has been successful in discriminating traumatized from nontraumatized individuals (Corcoran & Fischer, 1994), and its validity has been further established in several studies (Briere, 1997; Horowitz et al., 1979; Weiss, 1997). Items were rated using a 4-point Likert scale from 0 = *not at all* to 5 = *often*, and total scores range from 0 to 75, with higher scores indicating greater cancer-related stress. In the present sample, coefficient alpha reliability was .91. Four-month test–retest reliability was .78.

Control Measures

The 13-item short form (Reynolds, 1982) of the Marlowe–Crowne Social Desirability Scale (Crowne & Marlowe, 1960) was used to measure social desirability. The short form has a .93 correlation with the 33-item full scale, and its reliability and validity have been established through internal consistency, factor analysis, and comparison with similar measures (Reynolds, 1982). Scores range from 0 to 13, with a higher score indicating greater social desirability. In the present sample, coefficient alpha reliability was .73.

Results

Analytic Strategy

Table 1 provides means, standard deviations, and correlation coefficients among study variables. The mean FACIT-Sp total score was 36.66 ($SD = 8.01$, range = 9–48). The majority (63%) of the sample was affiliated with an organized religious institution, and exactly half (50%) reported at least weekly religious service attendance ($M = 2.12$, $SD = 1.38$, range = 0–4). The average rating of the importance of religion or spirituality was 3.44 ($SD = .94$, range = 0–4). The IES mean score was 13.24 ($SD = 13.06$, range = 0–61), and the mean MOS-SF-36-Mental score was 50.19 ($SD = 9.62$, range = 17.04–64.38).

We examined correlations between control, predictor, and outcome variables. Only those spirituality, religious practice, and control variables that significantly correlated ($p < .05$) with psychological QoL and stress were included in the respective analyses. A hierarchical multiple regression analysis was used to test the relationship between spirituality and religious practice and psychological QoL or stress at 24 months postdiagnosis. Based on previous research (Brady et al., 1999; Peterman et al., 2002), variables were entered in the following order: (a) demographic variables, (b) social desirability, (c) disease/treatment variables, and (d) religious practice and spiritual well-being measures.

Correlational Analyses

Contrary to predictions, there were no significant correlations between any of the religious practice variables (i.e., affiliation, frequency of attendance, importance) and QoL or stress (see Table 1), whereas correlations with spiritual well-being were significant. There were also small to moderate correlations between spiritual well-being and the religious practice variables ($r = .24$, $.28$, and $.49$ for affiliation, attendance, and importance, respectively). These results suggest that the spiritual well-being and religious practice variables are, in large part, measuring different constructs. Examination of FACIT-Sp subscale correlations indicates that there is greater conceptual overlap between the Faith subscale items and religious practice variables than there is between the Meaning/Peace subscale items and religious practice variables.

To rule out the possibility of measurement error for the single-item religious practice measures, we created a composite index by summing standardized scores for the three variables and computing their average. The coefficient alpha for this composite religious practice index was .80, suggesting adequate internal consistency reliability. Using this index variable, we found that, again, there were no significant correlations and no significant beta weights when it was entered into the regression analyses described as follows. Therefore, no further analyses were performed with the religious practice variables.

Multiple Regression Analyses

Psychological QoL—Based on the correlational analyses, variables were entered in the following order: Step 1 = family income and presence of a significant other, Step 2 = social desirability, and Step 3 = FACIT-Sp. All regression results are presented in Table 2. The model was significant and accounted for 48% (total adjusted $R^2 = .47$) of the total variance in the

criterion variable psychological QoL. The step in which the FACIT-Sp was entered was significant ($p < .001$), accounting for 31% of the variance. As hypothesized, the contribution of spiritual well-being remained significant ($\beta = .59, t = 8.17, p < .001$) after sociodemographic variables and social desirability were statistically controlled.

Traumatic stress—Social desirability was entered in the first step, followed by stage, and then finally the FACIT-Sp. The model was significant and accounted for 28% (total adjusted $R^2 = .26$) of the total variance in cancer-related traumatic stress. The FACIT-Sp step was significant ($p < .001$), accounting for 16% of the variance. Spiritual well-being remained significant after accounting for social desirability and stage ($\beta = -.42, t = -5.31, p < .001$).

Follow-Up Analyses

To test the relative contribution of the two components of the spirituality measure (i.e., Meaning/Peace and Faith), we performed additional regression analyses. Control variables were entered in the same order as in the previous regression analyses. However, in the final step of each model, both spiritual meaning and spiritual faith were entered simultaneously. Again, all models were significant and accounted for comparable proportions of the total variance in psychological QoL and traumatic stress.

Comparison of the standardized beta coefficients and their respective t tests in each of the models revealed that only spiritual meaning remained significant ($\beta = .65$ and $-.39$ for QoL and traumatic stress models, respectively; $ps < .001$), whereas spiritual faith was uniformly nonsignificant ($ps > .30$). Because of the significant correlation between the Meaning/Peace and Faith subscales ($r = .48, p < .001$), we examined collinearity diagnostics to determine if multicollinearity affected results. Variance inflation factors were well below the recommended threshold of 10 (ranging from 1.04 to 1.66; Cohen, Cohen, West, & Aiken, 2003). We concluded that multicollinearity did not affect the results in these analyses. Therefore, spiritual meaning appears to be more strongly associated in the expected directions with psychological QoL and stress than is spiritual faith.

Discussion

As hypothesized, spirituality was significantly associated with QoL and stress after accounting for sociodemographic, social desirability, and disease variables. In follow-up analyses, the spiritual meaning component was a consistent, significant correlate, whereas spiritual faith was not. These findings are consistent with those by Brady et al. (1999) and Peterman et al. (2002), who found that the existential meaning component of spirituality was more strongly related to psychological adjustment than was religious faith.

The absence of any significant correlations between the religious practice variables (i.e., affiliation, attendance, and importance) and either QoL or stress was one of the more striking findings of this study, given the reports of religion's relationship to adjustment in the literature. In their review of the psycho-oncology literature relevant to religion and spirituality, Mytko and Knight (1999) suggested that measures of spiritual well-being may be more closely related to QoL than are measures of religious beliefs and practices. However, the spirituality and religiosity constructs have been insufficiently differentiated in the past to detect differences in their relationships with psychological adjustment and stress. The present study involved an effective differentiation of these complex domains and found spiritual well-being to be the more salient of the two with respect to QoL and stress.

It is possible that the complex psychological experience of spirituality, which need not underlie religious practice or belief, may better explain the links between religion and psychological adjustment reported in the literature. It is also important to note, however, that spirituality

should have beneficial psychological adjustment effects regardless of religious affiliation. Indeed, research with healthy populations suggests that this is the case (Purnell, Highlen, & Lienau, 2004). Women from diverse religious backgrounds also note similar themes of spiritual development in response to adverse life events, including an increase in existential meaning and a greater sense of inner strength (Williams et al., 2006).

Important information about the psychological adjustment of survivors of breast cancer is also evident in the controls used for regression analyses. The inclusion of family income in the QoL analysis was based on the significant correlation ($r = .24, p < .05$) between these variables. This relatively modest correlation is consistent with the relationship reported in the literature between income and subjective well-being in wealthy countries such as the United States (Diener & Biswas-Diener, 2002). Economic stressors generally affect QoL for patients with cancer (Golden-Kreutz et al., 2005). Social desirability was also an important control variable for both the QoL and stress analyses, accounting for 7% to 10% of the variance in outcomes. Given its significant correlations with the spirituality variables and the outcome variables, it seems particularly important to include social desirability in future studies in this area. It is interesting that social desirability was not significantly correlated with the religious practice measures.

This study represents an advance in the literature on religion/spirituality and cancer. First, conceptually distinct and psychometrically sound measures of religion and spirituality were used to test the impact of these constructs on the long-term QoL and stress of survivors of breast cancer. Such an examination responds to the call for greater conceptual clarity in the spirituality/religion and health literature. To our knowledge, this was also the first study to examine spirituality's relationship with stress in survivors of cancer. Finally, the nonsignificant findings with regard to religious practice suggest a need to conceptually and methodologically separate religion and spirituality in health research and treatment. Distinguishing between these two constructs in psychological treatment may help to allay the fears of clinicians who are concerned about proselytizing or exerting undue influence on their patients when they discuss matters of religion.

This study also contributes to a larger body of research that has consistently found links between a cognitive-affective style or perspective associated with finding meaning or purpose in life and adjustment to stressful events in populations with cancer and in healthy individuals. This link is not unique to the literature on spirituality and religion but includes studies investigating related constructs in positive psychology, such as sense of coherence (Antonovsky, 1993; Thome & Hallberg, 2004; Vickberg et al., 2001), dispositional optimism (Carver & Scheier, 2002), posttraumatic growth (Carver & Antoni, 2004; Cordova et al., 2001), and hope (Stanton, Danoff-Burg, & Huggins, 2002).

Implications for Practice

These findings carry several implications for the field of counseling and for individual counselors working with patients with cancer and survivors of cancer. First, the field of counseling is especially well positioned to offer insights and practical interventions because it has been at the forefront of spirituality research, training, and practice (Powers, 2005). The emphasis on multiculturalism within counseling and counseling psychology (e.g., Fukuyama & Sevig, 1999) can also contribute to a sophisticated and culturally sensitive application of knowledge about the health-promoting aspects of spirituality to benefit the significant number of racial and ethnic minority group members who will face a cancer diagnosis. With a solid background in both spirituality and multiculturalism, individual counselors can work with patients to explore the specific meaning of the cancer experience, allowing not only for spiritual growth but also for better long-term psychological adjustment. Moreover, such intervention

can be accomplished while respecting the various religious traditions of individual clients, or lack thereof. Discussing broader existential concepts that are part of spirituality, such as meaning and purpose in the cancer experience, would not require any explicit mention of theological considerations and may be particularly therapeutic.

Cole and Pargament (1999) have developed an intervention program, titled “Re-Creating Your Life: During and After Cancer,” appropriate for patients with cancer who are “spirituality oriented” (p. 395), and others (Breitbart, Gibson, Poppito, & Berg, 2004; Gibson, Pessin, McLain, Shah, & Breitbart, 2004; Kristeller et al., 2005; Puchalski, Dorff, & Hendi, 2004) have offered similar intervention models. Manis and Bodenhorn (2006) have also provided instructive guidelines for counselors preparing to work with patients with terminal illnesses that focus on the clinicians' own need to make meaning of illness and mortality. Kazarian (2001) has suggested that the incorporation of spirituality is particularly important in disease prevention and health promotion for African Americans, who are affected by cancer in disproportionate numbers in the U.S. population. Frame and Williams (1996) discussed the centrality of religion and spirituality in the African American community and methods for successful integration of spirituality in counseling with this population.

Methodological limitations of the study are important to note. A cross-sectional design was used, and longitudinal data are needed in future studies to test the stability of spirituality's contribution to psychological adjustment in survivors of breast cancer. Given the greater reliance on religion and spirituality for African Americans and Hispanic Americans coping with cancer (Moadel et al., 1999; Mytko & Knight, 1999) as well as the potential interaction with socioeconomic and acculturation status, future research should include more diverse samples than were available in this study and should test for racial and ethnic group differences. Additional extensions of this work should include testing the generalizability of findings with men with cancer and those with other chronic illnesses. In healthy populations, researchers have found that women score significantly higher than men do on measures of spirituality (Howden, 1993; Purnell et al., 2004).

In light of the significant findings with regard to psychological adjustment in this and other studies, it might be useful to incorporate some explicit, formal assessment of spirituality in the mental health and medical treatment of patients with breast cancer. Mental health interventions, which positively affect psychological and physical functioning in patients with cancer (Andersen et al., 2007; Andersen et al., 2004), might also benefit from some integration of spirituality because the data suggest a possible role for spirituality in stress reduction. Although some medical and mental health professionals have cautioned against addressing religious or spiritual concerns (e.g., Sloan, Bagiella, & Powell, 1999), patients regularly use religion and spirituality as resources to cope with chronic illness and want their physicians and other health care providers to address these issues in the course of treatment (Gall & Cornblat, 2002; Koenig et al., 2001; Mytko & Knight, 1999).

In conclusion, this study shows that spirituality, as distinct from religious affiliation, participation, and importance, has a significant relationship with concurrent psychological QoL and cancer-related traumatic stress in survivors of breast cancer. Our findings suggest that researchers and clinicians might consider the inclusion of spirituality in research and treatment with patients with breast cancer. Such work would also benefit from distinguishing between these two related but distinct constructs, because they may differentially affect psychological adjustment and stress responses.

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Table 1

Means, Standard Deviations, and Correlation Coefficients among Study Variables (*N* = 130)

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Demographic																									
1. Age	51.21	10.22	—																						
2. Race ^a			.04	—																					
3. Support ^b			-.23	-.13	—																				
4. Education	14.95	2.69	-.32	-.14	.04	—																			
5. Family income ^c	65.90	48.49	-.30	-.06	.41	.44	—																		
Disease/treatment																									
6. Stage			.02	-.12	-.03	.11	.07	—																	
7. Nodes	1.60	0.91	.03	-.08	-.04	-.04	-.03	.48	—																
8. Tumor size	2.78	1.22	.04	-.08	-.09	.20	.11	.49	-.11	—															
9. ER/PR			.11	-.12	.07	.20	.08	.07	.11	-.03	—														
10. Menopause ^d			.55	-.02	-.09	.01	.01	.03	.09	.02	.07	—													
11. Surgery ^e			.04	-.09	.02	.00	.05	.22	.15	.26	.03	.09	—												
12. Radiation ^f			.06	.00	-.01	.10	-.03	-.17	.02	-.12	-.03	-.06	-.74	—											
13. Chemotherapy ^f			.03	-.02	-.07	.00	-.06	.09	.16	.03	.13	-.01	-.08	.09	—										
Study arm																									
14. Group ^g			-.07	-.08	.08	.10	.02	.03	.07	-.05	.06	-.06	-.07	.18	.13	—									
Social desirability																									
15. MCSDS	8.58	2.80	.10	.12	.00	-.24	-.11	.00	-.18	.15	.01	-.21	-.02	.01	-.05	-.06	—								
Spirituality (FACIT-Sp)																									
16. Meaning	24.54	5.61	.00	-.11	.17	.19	.16	.09	.03	.03	.07	-.12	.02	.03	.15	-.02	.27	—							
17. Faith subscale	12.11	3.62	.13	.12	-.03	-.06	-.16	.00	-.08	-.11	.04	-.03	-.27	.17	.00	-.17	.20	.48	—						
18. Total score	36.66	8.01	.06	-.03	.10	.11	.04	.06	-.02	-.03	.07	-.10	-.11	.09	.10	-.09	.28	.92	.79	—					
Religion (SNI)																									
19. Affiliation			.13	.11	-.03	.05	-.10	-.05	-.20	-.01	-.07	.10	-.12	.01	-.19	-.15	-.01	.05	.45	.24	—				
20. Attendance	2.12	1.38	.16	.14	-.09	-.07	-.13	.02	-.17	.08	.04	.09	-.05	-.04	-.12	-.18	.12	.09	.49	.28	.71	—			
21. Importance	3.44	0.94	.18	.11	-.06	-.09	-.16	-.03	-.12	-.04	-.03	.02	-.10	.04	-.08	-.26	.10	.23	.71	.49	.47	.52	—		
Stress																									

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
22. IES	13.24	13.06	-.07	.13	-.04	-.05	.07	-.23	-.07	-.16	-.07	.14	-.08	.00	-.08	-.05	-.26	-.48	-.29	-.47	-.11	-.12	-.13	—	—
Quality of life																									
23. MOS-SF-36-Mental	50.19	9.62	.10	-.11	.22	-.01	.24	.10	.04	.04	.07	-.08	-.07	-.03	.04	-.04	.28	.73	.34	.67	.07	.09	.15	-.45	—

Note. Significant correlations ($p < .05$) are indicated in bold. Support = support status; education = years of education; nodes = number of positive nodes; tumor size = size of the tumor in centimeters; ER/PR = estrogen/progesterone receptor status; MCSDS = Marlowe–Crowne Social Desirability Scale; FACIT-Sp = Functional Assessment of Chronic Illness Therapy–Spiritual Well-Being; Meaning = Meaning/Peace subscale; total score = FACIT-Sp total score; SNI = Social Network Index; attendance = frequency of attendance; IES = Impact of Events Scale; MOS-SF-36-Mental = 36-item Medical Outcomes Study–Short Form, mental health component score.

^aWhite versus other than White.

^bPartner versus no partner.

^c $n = 117$ because some patients elected not to provide family income data.

^dPre- and perimenopausal versus postmenopausal.

^eLumpectomy versus mastectomy.

^fYes or no.

^gAssessment versus intervention.

Table 2

Hierarchical Multiple Regression analysis of Spirituality associated With Psychological Quality of life (QoL) and Traumatic Stress at 24 Months Postdiagnosis

Step and Predictor Variable	Statistics by Step		Statistics by Predictor	
	Total R^2	ΔR^2	β	t
Outcome: Psychological QoL ($n = 116$) ^a				
Step 1				
Family income	.08	.08**	.20	2.60*
Social status			.08	1.00
Step 2				
Social desirability	.17	.09***	.14	1.89
Step 3				
FACIT-Sp	.48	.31***	.59	8.17***
Outcome: Traumatic Stress ($N = 130$)				
Step 1				
Social desirability	.07	.07**	-.14	-1.83
Step 2				
Stage	.12	.05**	-.20	-2.67**
Step 3				
FACIT-Sp	.28	.16***	-.42	-5.31***

Note. FACIT-Sp = Functional Assessment of Chronic Illness Therapy-Spiritual Well-Being.

^a N reduced due to omitted family income and social desirability data.

* $p < .05$.

** $p < .01$.

*** $p < .001$.