Journal of Health Psychology
http://hpq.sagepub.com/

Development and Validation of Measures of Religious Involvement and the Cancer Experience among African Americans

Cheryl L. Holt, Lee Caplan, Emily Schulz, Victor Blake, Vivian L. Southward and Ayanna V. Buckner

J Health Psychol 2009 14: 525
DOI: 10.1177/1359105309103572

The online version of this article can be found at:
http://hpq.sagepub.com/content/14/4/525

Published by:
SAGE
http://www.sagepublications.com

Development and Validation of Measures of Religious Involvement and the Cancer Experience among African Americans

CHERYL L. HOLT
University of Maryland, USA
LEE CAPLAN
Morehouse School of Medicine, USA
EMILY SCHULZ
University of Alabama at Birmingham, USA
VICTOR BLAKE
Morehouse School of Medicine, USA
VIVIAN L. SOUTHWARD
Media for Health, Birmingham, USA
AYANNA V. BUCKNER
Morehouse School of Medicine, USA

ACKNOWLEDGEMENTS. This publication was supported by Grant Number (#1 U54 CA118948–01) from the National Cancer Institute, and was approved by the University of Alabama at Birmingham Institutional Review Board (#X051004004).
We would like to acknowledge Drs Mark Dransfield, Andres Forero, Helen Krontiras and Sharon Spencer for their assistance with participant access and recruitment for this study, and Elise McLin, for her role in data collection and study coordination.

COMPETING INTERESTS: None declared.

ADDRESS. Correspondence should be directed to:
DR HOLT, University of Maryland, School of Public Health, Department of Public and Community Health, 2369 Public Health Bldg (255), College Park, MD 20742, USA. [Tel. +1 301 405 6659; Fax +1 301 314 9167; email: cholt14@umd.edu]

Journal of Health Psychology

Los Angeles, London, New Delhi, Singapore and Washington DC
www.sagepublications.com
Vol 14(4) 525–535
DOI: 10.1177/1359105309103572

Abstract

Research indicates that African Americans diagnosed with cancer tend to use religion in coping. However less is known about the specific role that religion plays in the coping process. Based on previous qualitative work, five instruments were developed to assess the role of religious involvement in cancer coping: *God as helper*, *God as healer*, *Faith in healing*, *Control over cancer* and *New perspective*. The instruments were administered to 100 African Americans with cancer. Each exhibited high internal reliability, and concurrent and discriminant validity. These instruments may have applied value for the development of church-based cancer support/survivorship interventions.

Keywords

- *African American*
- *cancer*
- *coping*
- *instrument development*
- *quality of life*
- *religion*
- *spirituality*

RELIGIOUS involvement plays a key role in the daily lives of many African Americans, and it is well documented that this group tends to report higher levels of religious involvement than do others in the USA (Chatters, Taylor, & Lincoln, 1999; Ferraro & Koch, 1994; Levin & Taylor, 1993, 1997; Levin, Taylor, & Chatters, 1994; Taylor & Chatters, 1986; Taylor, Chatters, Jayakody, & Levin, 1996). Religion and the Church are a cornerstone of African American culture (Lincoln & Mamiya, 1990). Prayer has been associated with ability to cope with stressful events (Ellison & Taylor, 1996; Taylor & Chatters, 1986). Serious illness such as cancer is one such event that brings to the foreground the salience of one's religious involvement and faith.

Recognizing the scholarly debate regarding definitions of 'religiosity' and 'spirituality' (Zinnbauer et al., 1997), this article will utilize the term religiosity, or religious involvement. Religiosity includes organized worship and practice, as well as theology, and is recognized as 'an organized system of beliefs, practices, rituals, and symbols', while spirituality involves 'one's transcendent relationship to some form of higher power' (Thoresen, 1998, p. 415). Spirituality has been more difficult to operationalize, may involve transcendent experiences and can include religion (Thoresen, 1998). The present study examined and developed instruments to assess the specific role of religious involvement in coping with cancer. It is recommended that religiosity and spirituality be examined and measured separately in oncology research (Flannelly, Flannelly, & Weaver, 2002).

African Americans suffer a disproportionate burden of cancer, and this is true for both men and women with respect to both cancer incidence and mortality (American Cancer Society, 2008). However, it is also true that African Americans with cancer are also living longer, with an increased emphasis on coping and survivorship. More studies are examining factors that are related to adaptive coping, and this line of research may have utility for use in the development of support and survivorship interventions. For African Americans, such interventions are likely to involve a religious component.

Research indicates that people diagnosed with various forms of cancer tend to use religion to cope with the diagnosis and subsequent issues that arise for them (Bowie, Curbo, Laveist, Fitzgerald, & Pargament, 2001; Gall, 2000; Jenkins & Pargament, 1995). Among African Americans, explanations of illness and healing have been associated with God and faith (Stroman, 2000). Those with cancer often increase frequency of prayer and church attendance, and their faith becomes more salient (Moschella, Pressman, Pressman, & Weissman, 1997). The belief that God works through doctors was expressed in a Southeastern sample (Mansfield, Mitchell, & King, 2002). Among those with chronic illness, 47 percent sampled expressed interest in spiritual or religious treatment options (Dale & Hunt, 2008), suggesting a need for this type of treatment in addition to standard medical approaches. Religious involvement and prayer were inversely correlated with levels of education and income in a sample of caregivers (Banthia, Moskowitz, Acree, & Folkman, 2007). Among those caregivers lower in education, prayer was related to reporting fewer physical symptoms and better quality of life.

Several studies suggest that religious involvement helps those who are coping with cancer, and religious issues play a role in quality of life (Laubmeier, Zakowski, & Bair, 2004; Mytko & Knight, 1999). Patients have been reported to draw a sense of meaning from their suffering (Kappeli, 2000). African American women were more likely than White women to report relying on religion as a coping mechanism (Bourjolly, 1998) and to use prayer in coping with breast cancer (Henderson & Fogel, 2003). African American men also find religion helpful in coping with prostate cancer (Bowie, Sydnor, & Granot, 2003). Among cancer patients, prayer is found to be helpful, though it may be accompanied by religious conflicts involving unanswered prayers (Taylor, Outlaw, Bernardo, & Roy, 1999). A review of the literature on religious involvement and coping with illness suggests that religion helps buffer stress (Siegel, Anderman, & Scrimshaw, 2001). Religious involvement is thought to help adjustment to illness by providing an interpretive framework, aiding in coping (Kappeli, 2000; Laubmeier et al., 2004; Moadel et al., 1999; Mytko & Knight, 1999). However, even positive religious coping is not always associated with positive health outcomes (Pargament, Smith, Koenig, & Perez, 1998). This may be because those who are most ill are utilizing religious coping mechanisms the most.

Religious coping is a construct that has received much attention in various contexts. Pargament and colleagues have identified several styles of religious coping including Self-Directing, Collaborative and Deferring (Pargament et al., 1988; Pargament,

Tarakeshwar, Ellison, & Wulff, 2001b; Phillips, Pargament, Lynn, & Crossley, 2004). Extensive research has been conducted examining the role of religious coping in health issues. In a hospitalized sample, use of positive religious coping was associated with medical diagnoses and poorer functional and cognitive status (Pargament et al., 1998). Similar associations were found with negative religious coping. In a sample of hospitalized older adults, negative religious coping was associated with poor physical health and quality of life, and positive religious coping was associated with better mental health (Koenig, Pargament, & Nielsen, 1998). In a review, it was concluded that religious coping has mixed relationships with health-related outcomes, varying by sample, study and context (Harrison, Koenig, Hays, Eme-Akwari, & Pargament, 2001). Religious coping was suggested to contribute to outcomes of significant negative life events above and beyond religious involvement (Pargament et al., 1990). It is clear that religious coping is important in outcomes both physical and otherwise. Within the context of cancer as a life-changing experience, it is also clear that there are additional complexities of the role of religious involvement in coping not yet captured in currently available instruments.

In the first phase of this study, we conducted semi-structured interviews with African American men and women with a diagnosis of cancer to identify *if and how* they used religious involvement in coping with the disease (Holt et al., in press; Schulz et al., in press). Overwhelmingly the patients indicated that religious involvement was critical in getting through the experience of finding out about their diagnosis and getting through treatment. Main themes that emerged involved support from God in getting through cancer, God as a healer directly and/or through doctors, the role of faith in healing and recovery, thinking and speaking positively and avoiding negative thoughts or speech and gaining a new perspective as a result of the cancer experience. The next step was clearly to use these data as a foundation to develop and validate instruments to assess these constructs. This is part of a more global effort to develop and test a theoretical model (Holt et al., in press) of religious involvement and cancer coping. When more can be learned about which specific aspects of religious involvement foster adaptive coping, this information can be used to inform the development of church-based cancer support/survivorship interventions for this population.

The present study

The present study reports on the development and validation of five instruments assessing constructs involving the perceived role of religious involvement in cancer coping in an African American patient sample. The work was based on a previous qualitative phase in which African American men and women with a diagnosis of cancer completed semi-structured interviews to discuss the role of religious involvement in their cancer experience (Holt et al., in press). Grounded theory methods (Glaser, 1992) were used to analyze these data, resulting in several important themes for which no existing instruments to assess these constructs could be identified in the present literature. This use of qualitative data for instrument development is recommended in the development of novel instruments (Jenkins & Pargament, 1995; Krause, 2002).

There is a well-established positive association between religious involvement and cancer coping in the literature. The next step was to determine *how* religious involvement relates to coping, or which aspects are important for coping with cancer. But there must be valid and reliable measures of these constructs if the field is to move from qualitative exploration to quantitative verification and model/theory testing. The study of the religion–health connection in general suffers from a lack of theoretical guidance (Idler, 1987). If more is known about the role of religious involvement in cancer coping, we would be better able to inform faith-based support efforts and improve their efficacy. The NIH agenda for social science research involves 'expanding research on social and interpersonal factors that influence health, including … religion and spirituality' and the 'cultural, social, and biological mechanisms through which they affect health' (Bachrach & Abeles, 2004).

Method

Sampling and eligibility criteria

Data collection was conducted through the University of Alabama at Birmingham (UAB) Recruitment and Retention Shared Facility. The protocol was approved by the Institutional Review Board (IRB). Eligible individuals (screened using a telephone script) were African Americans who had been diagnosed with cancer at least six months ago but not more than five years ago. Five years was

used as the upper bound for time since diagnosis because after that, coping may take on a different meaning, as patients are generally considered to be in remission at that time. Patients with cancer of any site were eligible, with the exception of skin cancer, which is generally less severe and not life-threatening (patients with melanoma were eligible). Patients were not eligible until six months after diagnosis, to allow time for treatment and out of respect for the initial adjustment period.

Participant recruitment began by targeting various cancer support groups throughout the city. However most of these individuals had been diagnosed more than five years ago. Therefore, the recruitment strategy was extended to the media, such as local radio stations and a local African American newspaper. We also received assistance from several oncologist offices, key community leaders and other community organizations. After extending recruitment beyond support groups, the identification of eligible participants increased dramatically for both men and women. No eligible individual refused to participate. Nine were ineligible, eight of whom were diagnosed outside of the eligibility time frames, and one individual actually did not have cancer. One eligible individual was deemed incapable of participating because of his health condition at the time of the interview.

Interviewing and data collection

The UAB Recruitment and Retention Shared Facility specializes in recruitment and data collection for medical research studies. The interviewer was an African American female, who was extensively trained in the interview protocol and in the sensitivity required for interviewing cancer patients about a topic like coping and religious involvement. Interested patients called the interviewer who screened them for eligibility criteria. Interested and eligible participants completed the interview at this time or scheduled an appointment to do so at their convenience.

Interviews began with a verbal informed consent script and the participant being provided with an opportunity to ask questions about the project. The structured interview began with questions about the role of support from others in the cancer experience, moved gradually into questions of a more religious nature and ended with a standard demographics module. Participants received by mail an incentive in the amount of $25 for their participation. Participant demographic characteristics are shown in Table 1.

Measures

Five instruments were developed, based on a previous qualitative phase that identified particular religious constructs important in cancer coping (Holt et al., in press), and using the general systematic process as outlined by Krause (2002). The investigative team drafted items based on the constructs that emerged in the qualitative phase. This resulted in a pool of items that were reviewed for face validity and edited using an iterative process. The instruments were then formatted and pilot tested with a small sample for logistics of telephone administration. They were then finalized for the validation sample. The instrument characteristics are presented in Table 2, and items are listed in Table 3. All items used a strongly disagree, disagree, neutral, agree, strongly agree Likert-type response format.

God as helper This construct reflected the perceived assistance received from God in coping with cancer. Items involved the idea that God gives a person strength and comfort through the cancer experience, without which one may not have been able to make it through.

God as healer This construct reflected the perception of God as a healer, either directly or through doctors. This dual role of God in healing is reflected in a two-dimensional factor solution (see below).

Faith in healing This construct reflected the idea that if a patient has enough faith, they can recover from cancer. Items involved the notion that one's faith may be tested or renewed as a result of the cancer experience.

Control over cancer This construct reflected the idea that by speaking or thinking negatively or positively, one can impact one's cancer outcomes in a negative or positive way, respectively. Items also reflected the idea of giving one's problems over to God, and that if one cannot control something it is not something one should worry about.

New perspective This construct reflected the process of gaining a new perspective on life as a result of going through cancer. Items reflected the idea that the cancer experience may have even had a positive impact on one's life, through a realignment of one's priorities, or not worrying about insignificant things.

Table 1. Participant demographic characteristics

	(N = 100)
Sex	
Male	50
Female	50
Age mean (SD)	58.54 (10.69)
Age median	59
Relationship status	
Single	7
Married	48
Separated	6
Divorced	28
Widowed	11
Education	
Grades 1–8	4
Grades 9–11	5
Grade 12 or GED	29
1–3 yrs college	29
4+ yrs college	32
Income	10
<10k	13
10–15k	14
15–20k	11
20–25k	15
25–35k	13
35–50k	9
50–75k	12
>75k	

Note: Numbers may not sum to 100 due to missing data

Table 2. Descriptive characteristics of instruments

	Alpha α	*Items*	*Possible range*	*Mean score (SD)*
God as helper	.95	9	9–45	33.87 (3.39)
God as healer	.86	9	9–45	32.23 (3.96)
Faith in healing	.91	9	9–45	32.83 (3.63)
Control over cancer	.87	10	10–50	32.28 (4.62)
New perspective	.90	10	10–50	34.97 (4.26)

Instruments for assessment of convergent and discriminant validity Religious coping was assessed with the widely used Brief RCOPE (Pargament et al., 1998). This 14-item instrument assesses positive (e.g. 'Looked for a stronger connection with God') and negative (e.g. 'Wondered whether God had abandoned me') religious coping and has demonstrated adequate internal consistency (α = .87–.90, α = .78–.81, respectively). The factorial validity was demonstrated, supporting the two-factor solution. Items are assessed in four-point Likert-type format (not at all …a great deal).

Negative affect was assessed using the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988). The PANAS consists of 20 emotions (10 negative; 10 positive) and participants are asked to rate the extent to which they have felt that way in the past week on a five-point Likert-type scale (very slightly or not at all …extremely). Internal reliability was high for the negative affect scale (α = .84–.87). The positive and negative affect subscales share 1–5 percent of their variance. Test–retest reliability for one year was .60 and for a few weeks was .48. The scale also showed factorial, convergent and discriminant validity.

Data analysis

Internal reliability was calculated using Cronbach's alpha. Item-total scale correlations were examined as well as item-level skew statistics. Convergent validity was examined through correlations with another religious coping instrument (Pargament et al., 1998). Discriminant validity was examined through correlations with negative affect (Watson et al., 1988). Factor structure was explored using principal components analysis with varimax rotation. Eigenvalues were examined as well as percentage of variance accounted for. An exploratory approach was taken because it was not known in advance how many factors to expect.

Results

The internal reliability of each of the instruments was high as evidenced by Cronbach's alphas well above .80 (see Table 2). Table 3 shows skewness and item-total correlation statistics as well as the factor analysis results. Convergent validity was evidenced through significant correlations with positive religious coping (see Table 4). Discriminant validity was evidenced through nonsignificant correlations with negative affect.

The factor structure was unidimensional for three of the instruments (God as helper, eigenvalue = 6.37, 70.90 percent variance accounted for; Faith in

Table 3. Items comprising instruments and factor loadings, skew statistics and item-total correlations

	1	*2*	*Skew*	*N*	*Item-total correlation*
God as helper					
I looked to God for help through my cancer experience	.86	–	–1.16	100	.82
God gave me strength through my cancer experience	.85	–	–1.52	100	.80
God gave me guidance through my cancer experience	.86	–	–1.17	100	.80
Without God, I would not have made it through cancer	.85	–	–2.02	100	.81
Feeling God's presence helped me deal with this cancer	.86	–	–1.24	100	.81
The most important thing that has helped me to cope with cancer is the Lord	.75	–	–2.41	100	.69
God gave me the means to cope with cancer	.87	–	–1.17	100	.82
I trust in God to pull me through the cancer experience	.87	–	–1.82	100	.83
I took my cancer to God and let Him handle it	.81	–	–2.01	100	.76
God as healer	*1*	*2*			
God works though the doctors to heal cancer	.19	*.81*	–1.79	99	.55
God and only God can heal cancer	*.77*	.16	–1.77	99	.61
My experience with cancer has made me realize that God is the ultimate healer	*.60*	*.62*	–2.32	100	.77
I believe that if one is healed of cancer, it is God's will	*.64*	.48	–1.22	100	.71
I believe that God gives the doctors/nurses the ability to heal cancer	.06	*.86*	–1.66	100	.47
I believe that if you ask God for healing, He will heal you	*.55*	.35	–1.25	99	.55
I believe that having a close relationship with God will lead to cancer recovery	*.44*	*.48*	–1.29	98	.54
Healing can only occur from God, not from medicine or doctors	*.85*	–.03	–0.51	98	.55
Doctors give the cancer treatment, but God does the actual healing	*.74*	.32	–1.27	100	.69
Faith in healing	*1*	*2*			
If I have faith I can get through cancer	.84	–	–1.10	100	.77
I believe if I trust in God I can get through cancer	.84	–	–1.42	100	.78
My cancer experience has increased my belief in God	.89	–	–1.24	100	.83
I got strength from my faith during this cancer experience	.86	–	–0.73	100	.79
I got comfort from my faith during this cancer experience	.90	–	–0.73	100	.85
Through my cancer experience, my faith has been tested	.51	–	–0.98	100	.42
As a result of my cancer experience, my faith is renewed and stronger	.78	–	–0.73	100	.71
It is only through my faith in God that I will be healed from cancer	.70	–	–1.22	100	.63
If I don't have faith, I cannot expect to get well	.71	–	–1.09	100	.64
Control over cancer	*1*	*2*			
If I don't claim cancer, I don't have to worry about it	.03	*.75*	0.35	100	.45
My cancer experience has made me realize the power of the tongue	.25	*.76*	–0.23	95	.62
My cancer experience has made me realize the importance of staying positive	*.55*	.29	–0.30	100	.50
I can will myself well using the power of the mind	.17	*.81*	0.16	96	.59
Speaking negative can bring about bad things to happen	.45	.62	–0.16	100	.73
Thinking negative can bring about bad things to happen	.51	*.68*	–0.13	89	.75
Religion has helped me to stay positive during my cancer experience	*.80*	.16	–0.64	100	.60
I dealt with the stress of the cancer experience by giving my problems over to God	*.83*	.17	–0.60	100	.64
The only one in control of my cancer experience is God	*.80*	.21	–0.95	100	.63
I can only worry about those things I have control over, and cancer isn't one of them	*.72*	.12	–1.12	100	.51
New perspective	*1*	*2*			
My cancer experience has given me a whole new perspective on life	.63	–	–1.35	100	.56
My cancer experience has had a positive impact on my life	.67	–	–1.20	100	.61
My cancer experience has made me realize that if you can't change the situation, you need to change the way you view it	.69	–	–0.27	100	.63

(Continued)

Table 3. (Continued)

	1	*2*	*Skew*	*N*	*Item-total correlation*
New Perspective					
My cancer experience has made me realize that there is a lot more to life than just living	.68	–	–0.94	100	.60
I am a better person as a result of my experience with cancer	.77	–	–0.41	99	.69
I have a different outlook on life than before I got cancer	.74	–	–0.51	100	.66
I don't worry about the little things like I did before I had cancer	.71	–	–0.52	100	.61
The experience of having cancer has changed me for the better	.83	–	–0.38	100	.76
The cancer experience has given me a different attitude	.82	–	–0.37	99	.76
From having cancer, I have lost one life but I have gained a new one	.77	–	–0.54	99	.70

Notes: Factor loadings are for one instrument at a time; – = one factor solution

Table 4. Validity coefficients for the instruments

Construct	*Correlation with Negative Affect Scale*	*Correlation with positive religious coping*	*Correlation with negative religious coping*
God as helper	.13	.45**	.13
God as healer	.18	.66**	.11
Faith in healing	.11	.44**	.18
Control over cancer	.02	.61**	.02
New perspective	–.09	.55**	–.09

** = $p < .01$

healing, eigenvalue = 5.60, 62.23 percent variance accounted for; New perspective, eigenvalue = 5.39, 53.86 percent of variance accounted for). The other two showed a two-factor solution. For God as healer, the first factor appears to involve the direct role of God in healing (eigenvalue = 4.49, 49.89 percent variance accounted for), while the other appears to involve God working through doctors to provide healing (eigenvalue = 1.17, 12.96 percent variance accounted for). Two of the items had inconclusive factor loadings. For the Control over cancer instrument, the first factor appeared to involve the notion of not being in control of cancer and needing to stay positive (eigenvalue = 4.87, 48.70 percent variance accounted for). The second factor appeared to involve the notion of the power of thoughts and words, both positive or negative, to bring about outcomes (eigenvalue = 1.39, 13.88 percent variance accounted for).

Discussion

These five areas emerged from previous qualitative interviews with African Americans with cancer, as being ways in which religious involvement is used in coping with the disease. The item development phase appeared to produce instruments with initial strong reliability and validity in this sample. Where the factor structured deviated from unidimensional, they were largely interpretable. The exception is with two items on the *God as healer* instrument that loaded similarly on both factors. In practice, these items could likely be eliminated from further use without hindering the psychometric properties of the instrument. Convergent validity was evidenced through significant correlations with positive religious coping. However the correlations with negative religious coping were not significant. More research should be done to examine the individuals who are in a religious struggle and experiencing negative religious coping. Religious struggle, involving potential anger at a higher power, wondering how a higher power could have allowed a crisis to happen to the individual ('why me'), or wondering if the higher power had forgotten about the individual, was associated with depressive symptoms and emotional distress among outpatients with diabetes, congestive heart failure and inpatients with cancer (Fitchett et al., 2004). In a longitudinal sample of elderly individuals who had received inpatient services, religious struggle was predictive of increased mortality (Pargament, Koenig, Tarakeshwar, & Hahn, 2001a). These studies suggest that there are negative aspects of religious coping that are prevalent and have negative outcomes for those who experience them.

Though these five constructs reflect the foundational qualitative phase when patients were discussing the role of religious involvement in cancer coping, it should be noted that not all five reflect religious involvement directly. For the Control Over Cancer construct, some of the items reflect God directly while others do not; they reflect beliefs about the power of speaking or thinking negatively or positively over cancer progression or recurrence. The New Perspective construct does not reflect religious involvement. However, both constructs were included in the instrument development phase due to their importance to the patients within the context of the broader, and perhaps spiritual cancer coping trajectory. The New Perspective construct is similar to the constructs reflected in the Post Traumatic Growth Inventory (Tedeschi & Calhoun, 1996). However the latter is more individual-focused and is of course broader, not being cancer-specific.

The context and findings of the present study relate to previous work in religious coping. Scores on the current five instruments suggest that the sample does find these aspects of religious involvement as important in coping with cancer, and that this is an active as opposed to a passive coping process. Religious involvement was viewed as an active coping mechanism in previous research (Jenkins & Pargament, 1988). However, there are still individual differences, such that religious involvement may facilitate coping in some patients and hinder it in others. More specific measures of religious coping were offered and further work encouraged (Jenkins & Pargament, 1995), which is where the present study contributes.

The present study provides an in-depth look at the complex construct of control in the cancer experience. Though it is not intended to be a comprehensive treatment of control or locus of control, the current instrument is consistent with the ideas that God is an important source of external control. However, similar to Jenkins and Pargament (1988), this is an empowering and active source as opposed to a fatalistic and passive source. In a sample of cancer patients (mostly White), they found the predictors of adjustment included perceived personal control and God control, the latter being of this empowering nature. The present study suggests this individual–God partnership is important, similar to the collaborative religious coping style (Holt, Clark, & Klem, 2007; Phillips et al., 2004). However, these new instruments provide unique dimensions of the role of religious involvement in cancer coping beyond previous instruments such as the Brief RCOPE (Pargament et al., 1998). While the Brief RCOPE illustrates styles of religious coping, the present instruments reflect more specific beliefs and strategies used by African Americans coping with cancer. It is therefore a somewhat more targeted instrument suitable for use with these populations. However, further testing would be warranted to determine suitability for other populations and health conditions. It would also be appropriate to determine how scores on these new instruments relate to scores on religious coping dimensions such as passive deferral, active surrender and collaborative coping (Pargament et al., 1988).

The current findings should be considered within the context of several limitations. First, the generalizability of the sample is modest. The current instruments may not perform as well, nor may they capture constructs that are as relevant to African Americans outside of the deep South, or to individuals of other racial/ethnic groups. For example, phrases such as 'power of the tongue' may not apply to groups outside of the south-eastern United States. Certainly these instruments were developed on a largely Christian sample, which is evidenced by the use of the term 'God' to reference a higher power or creator. Were the instruments to be used with a non-Christian group, minor wording modifications would have to occur. Future research should test these instruments with additional demographic groups. The sample size was limited to 100, thus precluding more sophisticated techniques for measurement modeling, such as structural equation modeling. With the current sample size, even the factor analyses had to be run individually rather than running one model including all 47 items. It is likely that individuals high in religious involvement and having a positive religious coping experience were likely to participate in the study. This results in a selection bias that should be kept in mind when interpreting study findings. In addition, participants were recruited six months after diagnosis. It is possible that, even though they retrospectively discussed the time of diagnosis, different themes may have emerged had we talked with people immediately post-diagnosis. It is notable that these five instruments reflect a largely positive role of religious involvement in cancer coping. While the potential negative aspects are not represented (e.g. religious struggle; Pargament et al., 2001a), only material that was present in the foundational qualitative work could be included in the instrument development phase.

These five instruments provide a deeper assessment of ways in which African American men and women use their religious involvement in coping with cancer than is currently available. These instruments should not be considered an exhaustive coverage of the role of religious involvement in cancer coping, but they do provide substantially more conceptual coverage than was previously available. The instruments have value not only for the understanding of the role of religious involvement in coping with serious illness, but also for their applicability to other serious illness or circumstances. There is potential applied value as well, where these instruments could be used as assessment tools in spiritual or pastoral counseling applications. Responses to the instruments could also be used to target or tailor cancer coping and/or support interventions to the respondents. In this way, the needs of African Americans with cancer can be better addressed, in the context of reducing the disparities that are present in cancer survivorship among this underserved group.

References

American Cancer Society. (2008). *Cancer facts and figures 2008*. Atlanta, GA: American Cancer Society.

Bachrach, C. A., & Abeles, R. P. (2004). Social science and health research: Growth at the National Institutes of Health. *American Journal of Public Health*, *94*, 22–28.

Banthia, R., Moskowitz, J. T., Acree, M., & Folkman, S. (2007). Socioeconomic differences in the effects of prayer on physical symptoms and quality of life. *Journal of Health Psychology*, *12*, 249–260.

Bourjolly, J. N. (1998). Differences in religiousness among black and white women with breast cancer. *Social Work in Health Care*, *28*, 21–39.

Bowie, J., Curbo, B., Laveist, T., Fitzgerald, S., & Pargament, K. (2001). The relationship between religious coping style and anxiety over breast cancer in African-American women. *Journal of Religion and Health*, *40*, 411–424.

Bowie, J., Sydnor, K. D., & Granot, M. (2003). Spirituality and care of prostate cancer patients: A pilot study. *Journal of the National Medical Association*, *95*, 951–954.

Chatters, L. M., Taylor, R. J., & Lincoln, K. D. (1999). African American religious participation: A multisample comparison. *Journal for the Scientific Study of Religion*, *38*, 132–145.

Dale, H., & Hunt, N. (2008). Perceived need for spiritual and religious treatment options in chronically ill individuals. *Journal of Health Psychology*, *13*, 712–718.

Ellison, C. G., & Taylor, R. J. (1996). Turning to prayer: Social and situational antecedents of religious coping among African Americans. *Review of Religious Research*, *38*, 111–131.

Ferraro, K. F., & Koch, J. R. (1994). Religion and health among black and white adults: Examining social support and consolation. *Journal for the Scientific Study of Religion*, *33*, 362–375.

Fitchett, G., Murphy, P. E., Jo, K., Gibbons, J. L., Cameron, J. R., & Davis, J. A. (2004). Religious struggle: Prevalence, correlates and mental health risks in diabetic, congestive heart failure, and oncology patients. *International Journal of Psychiatry in Medicine*, *34*, 179–196.

Flannelly, L. T., Flannelly, K. J., & Weaver, A. J. (2002). Religious and spiritual variables in three major oncology nursing journals: 1990–1999. *Oncology Nursing Forum*, *29*, 679–685.

Gall, T. L. (2000). Integrating religious resources within a general model of stress and coping: Long-term adjustment to breast cancer. *Journal of Religion and Health*, *64*, 65–92.

Glaser, B. (1992). *Basics of grounded theory analysis*. Mill Valley, CA: Sociology Press.

Harrison, M. O., Koenig, H. G., Hays, J. C., Eme-Akwari, A. G., & Pargament, K. I. (2001). The epidemiology of religious coping: A review of recent literature. *International Review of Psychiatry*, *13*, 86–93.

Henderson, P. D., & Fogel, J. (2003). Support networks used by African American breast cancer support group participants. *Association of Black Nurses Forum Journal*, *14*, 95–98.

Holt, C. L., Caplan, L., Schulz, E., Blake, V., Southward, P., Buckner, A., & Lawrence, H. (in press). 'Role of religion in cancer coping among African Americans: A qualitative examination', *Journal of Psychosocial Oncology*.

Holt, C. L., Clark, E. M., & Klem, P. R. (2007). Expansion and validation of the spiritual health locus of control scale: Factorial analysis and predictive validity. *Journal of Health Psychology*, *12*, 597–612.

Idler, E. L. (1987). Religious involvement and the health of the elderly: Some hypotheses and an initial test. *Social Forces*, *66*, 226–237.

Jenkins, R. A., & Pargament, K. I. (1988). Cognitive appraisals in cancer patients. *Social Science and Medicine*, *26*, 625–633.

Jenkins, R. A., & Pargament, K. I. (1995). Religion and spirituality as resources for coping with cancer. *Journal of Psychosocial Oncology*, *13*, 51–74.

Kappeli, S. (2000). 'Between suffering and redemption: Religious motives in Jewish and Christian cancer patients' coping', *Scandinavian Journal of Caring Science*, *14*, 82–88.

Koenig, H. G., Pargament, K. I., & Nielsen, J. (1998). Religious coping and health status in medically ill hospitalized older patients. *Journal of Nervous and Mental Disease*, *186*, 513–521.

Krause, N. (2002). A comprehensive strategy for developing closed-ended survey items for use in studies of older adults. *Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, *57*, S263–S274.

Laubmeier, K. K., Zakowski, S. G., & Bair, J. P. (2004). The role of spirituality in the psychological adjustment to cancer: A test of the transactional model of stress and coping. *International Journal of Behavioral Medicine*, *11*, 48–55.

Levin, J. S., & Taylor, R. J. (1993). Gender and age differences in religiosity among black Americans. *Gerontologist*, *33*, 16–23.

Levin, J. S., & Taylor, R. J. (1997). Age differences in patterns and correlates of the frequency of prayer. *Gerontologist*, *37*, 75–88.

Levin, J. S., Taylor, R. J., & Chatters, L. M. (1994). Race and gender differences in religiosity among older adults: Findings from four national surveys. *Journal of Gerontology*, *49*, S137–S145.

Lincoln, C. E., & Mamiya, L. H. (1990). *The black church in the African American experience*. Durham, NC: Duke University Press.

Mansfield, C. J., Mitchell, J., & King, D. E. (2002). The doctor as God's mechanic? Beliefs in the Southeastern United States. *Social Science and Medicine*, *54*, 399–409.

Moadel, A., Morgan, C., Fatone, A., Grennan, J., Carter, J., Laruffa, G. et al. (1999). Seeking meaning and hope: Self-reported spiritual and existential needs among an ethnically-diverse cancer patient population. *Psycho-Oncology*, *8*, 378–385.

Moschella, V. D., Pressman, K. R., Pressman, P., & Weissman, D. E. (1997). The problem of theodicy and religious response to cancer. *Journal of Religion and Health*, *36*, 17–20.

Mytko, J. J., & Knight, S. J. (1999). Body, mind and spirit: Towards the integration of religiosity and spirituality in cancer quality of life research. *Psycho-Oncology*, *8*, 439–450.

Pargament, K. I., Ensing, D. S., Falgout, K., Olsen, H., Reilly, B., van Haitsma, K., & Warren, R. (1990). God help me: Religious coping efforts as predictors of the outcomes to significant negative life events. *American Journal of Community Psychology*, *18*, 793–823.

Pargament, K. I., Kennell, J., Hathaway, W., Grevengoed, N., Newman, J., & Jones, W. (1988). Religion and the problem-solving process: Three styles of religious coping. *Journal for the Scientific Study of Religion*, *27*, 90–104.

Pargament, K. I., Koenig, H. G., Tarakeshwar, N., & Hahn, J. (2001a). Religious struggle as a predictor of mortality among medically ill elderly patients: A 2-year longitudinal study. *Archives of Internal Medicine*, *161*, 1881–1885.

Pargament, K. I., Smith, B. W., Koenig, H. G., & Perez, L. (1998). Patterns of positive and negative religious coping with major life stressors. *Journal for the Scientific Study of Religion*, *37*, 710–724.

Pargament, K. I., Tarakeshwar, N., Ellison, C. G., & Wulff, K. M. (2001b). Religious coping among the religious: The relationships between religious coping and well-being in a national sample of Presbyterian clergy, elders, and members. *Journal for the Scientific Study of Religion*, *40*, 497–515.

Phillips, R. E., Pargament, K. I., Lynn, Q. K., & Crossley, C. D. (2004). Self-directing religious coping: A deistic God, abandoning God, or no God at all? *Journal for the Scientific Study of Religion*, *43*, 409–418.

Schulz, E., Holt, C. L., Caplan, L., Blake, V., Southward, P., Buckner, A., & Lawrence, H. (in press). Role of spirituality in cancer coping among African Americans: A qualitative examination. *Journal of Cancer Survivorship*.

Siegel, K., Anderman, S. J., & Scrimshaw, E. W. (2001). Religion and coping with health-related stress. *Psychology and Health*, *16*, 631–653.

Stroman, C. A. (2000). Explaining illness to African Americans: Employing cultural concerns with strategies. In B. B. Whaley (Ed.), *Explaining illness: Research, theory, and strategies. LEA's communication series* (pp. 299–316). Mahwah, NJ: Lawrence Erlbaum Associates.

Taylor, R. J., & Chatters, L. M. (1986). Church-based informal support among elderly blacks. *Gerontologist*, *26*, 637–642.

Taylor, R. J., Chatters, L. M., Jayakody, R., & Levin, J. S. (1996). Black and white differences in religious participation: A multisample comparison. *Journal for the Scientific Study of Religion*, *35*, 403–410.

Taylor, E. J., Outlaw, F. H., Bernardo, T. R., & Roy, A. (1999). Spiritual conflicts associated with praying about cancer. *Psycho-Oncology*, *8*, 386–394.

Tedeschi, R. G., & Calhoun, L. G. (1996). The Posttraumatic Growth Inventory: Measuring the positive legacy of trauma. *Journal of Traumatic Stress*, *9*, 1573–1598.

Thoresen, C. E. (1998). Spirituality, health, and science: The coming revival? In S. Roth-Roemer & S. R. Kurpius (Eds.), *The emerging role of counseling psychology in health care* (pp. 409–431). New York: W. W. Norton.

Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology*, *54*(6), 1063–1070.

Zinnbauer, B., Pargament, K., Cole, B., Rye, M. S., Butter, E. M., Belavich, T. G. et al. (1997). Religiousness and spirituality: Unfuzzying the fuzz. *Journal for the Scientific Study of Religion*, *36*, 549–556.

Author biographies

CHERYL L. HOLT, PhD is a social psychologist with interests in religion/spirituality and health, particularly as it relates to the cancer continuum, and the application of this work to cancer disparities research.

LEE CAPLAN, MD, PhD is a cancer epidemiologist with experience in cancer control research and cancer disparities research, with a focus on breast cancer.

EMILY SCHULZ, PhD, OTR/L, CFLE is an expert in qualitative research and the role of spirituality in health and functioning.

VICTOR BLAKE, MD, MTS is a physician and trained theologian, who brings theological perspectives to the team, as they relate to the medical context.

VIVIAN L. SOUTHWARD, MPPM has a background in not-for-profit administration and has a particular focus on community-based research and social justice issues.

AYANNA BUCKNER, MD, MPH is a health disparities researcher with interests in cancer control research and interventions impacting African American communities.