RELIGIOUS AND SPIRITUAL APPRAISALS AND COPING STRATEGIES AMONG PATIENTS IN MEDICAL REHABILITATION

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ABSTRACT

This longitudinal investigation examined the prevalence of religious and spiritual appraisals and coping strategies and their associations with anxiety, depression, and posttraumatic growth among 70 medical rehabilitation inpatients who sustained a major unanticipated physical health event. Questionnaires were administered to participants within 48 hours of admission to medical rehabilitation and again 6–8 weeks following discharge. Religious and spiritual appraisals were common; 85.7% and 81.4% endorsed some degree of benevolent religious appraisals, 71.4% and 58.6% endorsed some degree of sacred loss, and 42.9% and 40.0% endorsed some degree of desecration at admission and follow-up, respectively. Hierarchical regression analyses revealed that sacred loss and desecration added unique variance in the prediction of symptoms of anxiety, depression, and posttraumatic growth. Benevolent religious appraisals added unique variance in the prediction of posttraumatic growth. Positive and negative religious coping acted as significant partial mediators linking sacred loss and desecration to positive and negative outcomes, respectively. The results of this longitudinal study suggest that, although important, religious and spiritual appraisals do not influence outcomes in isolation. Instead, how individuals respond to, or cope with, their initial religious and spiritual appraisals may be fundamental to predicting psychological outcomes following inpatient medical rehabilitation. Practical directions for spiritually-sensitive and integrated approaches for facilitating the health and well-being of patients who are undergoing medical rehabilitation are discussed.

Keywords: religiousness, spirituality, appraisals, religious coping, sacred loss, desecration, medical rehabilitation

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The authors thank the Department of Physical Medicine and Rehabilitation at the University of Wisconsin School of Medicine for partial funding of this project and Ruth Brennan-Morrey, Mark Morrey, and Jerry Haeffel for their assistance with data collection.

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Research in the Social Scientific Study of Religion, Volume 24

Religiousness and spirituality play a significant role in individuals' attempts to cope with stressful medical events (Cummings & Pargament, 2010; Fitchett, Rybarczyk, DeMarco, & Nicholas, 1999; Idler & Kasl, 1997; Kilpatrick & McCullough, 1999; Tix & Frazier, 1998). Patients undergoing acute medical rehabilitation offer a particularly rich opportunity for the study of the religious and spiritual appraisal and coping process for several reasons. Foremost, many of these individuals have experienced a sudden challenge to independently manage the most basic of human activities. Such losses and threats to independence and the sense of self can elicit significant psychological distress, particularly depression (Fitchett et al., 1999) and anxiety (Marshall, Miles, & Stewart, 2010; Tyerman & Humphrey, 1984). Additionally, more so than other medical outcomes, the functional requirements of successful rehabilitation are highly dependent on the sustained and motivated efforts of patients (Fitchett et al., 1999; Kim, Heinemann, Bode, Sliwa, & King, 2000). Thus, successful psychological coping supports resilience in the face of such challenges (Victorson, Farmer, Burnett, Ouellette, & Barocas, 2005). In times of acute and severe challenges of an unanticipated and dramatic nature, humans often look to their faith to help them come to terms with their limitations and finitude (Pargament, 1997). They have a particularly profound need to make sense of, and attach meaning to, what has happened (Park & Folkman, 1997). Spirituality and religiousness serve a critically important role in making sense of such events (Park, 2012; Park & Edmondson, 2012). Finally, we know little about the role of specific religious and spiritual appraisals and coping processes as they relate to psychological adjustment and outcomes in this population. This study attempts to address that need.

Religiousness and Spirituality in the Context of Medical Events

Religiousness and spirituality are particularly salient resources for medical patients who have undergone physical traumas (Campbell, Yoon, & Johnstone, 2010; Johnstone & Yoon, 2009). For instance, in a study of former rehabilitation patients, the majority of the sample, 74%, indicated that their religious and spiritual beliefs were important to them, and 45% reported that not enough attention was paid to their religious or spiritual needs during hospitalization (Anderson, Anderson, & Felsenthal, 1993). Religious and spiritual beliefs have been linked to positive outcomes in several studies with medical patient populations. Among patients facing hospitalization, rehabilitation, and chronic health problems, religious and

spiritual beliefs and practices have been directly associated with life satisfaction and quality of life (Riley et al., 1998), self-esteem (Harris et al., 1995), emotional well-being (Fitchett et al., 1999; Kim et al., 2000) and functional outcomes (Fitchett et al., 1999; Pressman, Lyons, Larson, & Strain, 1990). Although this research demonstrates the importance of considering the role of religiousness and spirituality in the lives of acute medical rehabilitation patients, to our knowledge, no studies to date have examined the psychological implications of specific religious and spiritual appraisals and how they are linked to the coping process in this population.

The Stress, Appraisal, and Coping Process

The manner in which individuals cope with their own unanticipated medical event depends in large part on the way the health event is appraised or interpreted (Lazarus, 2007; Lazarus & Folkman, 1984). Two types of appraisals have been identified: primary appraisals and secondary appraisals. Primary appraisals consist of the individual's perception of the threat of the event to his or her core values. In the case of a sudden, major health event the threat is to one's physical well-being and, in many cases, to one's very life. Secondary appraisals consist of the individual's consideration of possible responses to the event. The nature of these appraisals determines the stress elicited by the event and the coping strategies utilized to deal with the event (for a model within the context of physical health challenges, see Lavelock, Griffin, & Worthington, 2013 [this volume]).

A particularly important dimension of a stressor is the degree to which it is perceived as having religious and spiritual significance. The construct of sanctification refers to the "process through which aspects of life are perceived as having divine character and significance" (Pargament & Mahoney, 2005, p. 183). Pargament and Mahoney (2005) noted that the point of reference for sanctified aspects of life is the *sacred*, which refers to "those things that are 'set apart' from the ordinary . . ., deserving of veneration and respect . . .", and "represent or symbolize something that goes beyond" the object or aspect of life itself (pp. 182–183). Theory and research suggest that sanctification has important implications for behavior and psychological health (Emmons, Cheung, & Tehrani, 1998; Mahoney et al., 2005a; Mahoney et al., 2005b; Murray-Swank, Pargament, & Mahoney, 2005; Pargament & Mahoney, 2005). For instance, people are more likely to pursue and care for those things that are viewed as sacred in comparison to other pursuits (Mahoney et al., 2005b); try harder to conserve and defend sacred aspects of life in comparison to other areas of life (Mahoney

et al., 1999; Tarakeshwar, Swank, Pargament, & Mahoney, 2001); experience strong positive emotions that are often rooted in religion and spirituality, such as awe, gratitude, humility and love, when experiencing sacred aspects of life (Emmons & Crumpler, 2000; Pargament & Mahoney, 2005); and derive greater fulfillment and well-being from what is perceived as a reflection of the divine (Emmons et al., 1998; Mahoney et al., 1999). However, researchers have not yet examined the impact of the loss or violation of sacred aspects of life on psychological or functional outcomes in medical rehabilitation populations.

Religious and Spiritual Appraisals

This study investigated three types of primary religious and spiritual appraisals: sacred loss, desecration, and benevolent religious appraisal. These religious and spiritual appraisals are applicable to any aspect of life that has been sanctified (Pargament & Mahoney, 2005). Sacred loss and desecration represent potentially adverse religious and spiritual appraisals of stressful life events. Sacred loss is defined as the perception that a sanctified aspect of life has been *lost*. Desecration is defined as the perception that a sanctified aspect of life has been *violated* (Pargament, Magyar, Benore, & Mahoney, 2005a). Examples include the loss or desecration of sanctified values and beliefs, sanctified spaces within the self (e.g., one's soul), interpersonal relationships, social roles, physical abilities, and mental capabilities. Importantly, these appraisals directly reference the sacred and reflect the experience of dissolution of a perceived connection between the individual and a divine aspect of life (Pargament et al., 2005a). The primary difference between sacred loss and desecration is the appraisal of loss versus violation. The attribution of responsibility is often another distinction between the two appraisals. Sacred loss does not necessarily include attributions of blame, while appraisals of desecration identify an individual or entity (which can include God) as responsible for violating the sacred (Pargament et al., 2005a). Clearly, losses secondary to physical trauma are events that may potentially set the occasion for such appraisals. See the Appendix for case examples of sacred loss and desecration in the context of events leading to acute medical rehabilitation.

Research on sacred loss and desecration indicates that these religious and spiritual appraisals are relatively common (Magyar, Pargament, & Mahoney, 2000; Pargament et al., 2005a) and are significantly related to greater symptoms of depression (Magyar et al., 2000; Pargament et al., 2005a; Warner, Mahoney, & Krumrei, 2009), more self-reported physical

health problems (Magyar et al., 2000; Mahoney et al., 2005a), greater intrusive and avoidant thoughts and behaviors (Magyar et al., 2000; Pargament et al., 2005a), and lower levels of spiritual well-being (Pargament et al., 2005a). Religious and spiritual appraisals are particularly relevant to rehabilitation patients. As with other types of losses and violations, sudden physical health events can shatter world assumptions, drastically changing perceptions of oneself, others, and the world (Janoff-Bulman, 1992; Janoff-Bulman & McPherson Frantz, 1997). For example, individuals with loss of functional autonomy undergo a process of change in identity and meaningful activity. This process can include feelings of loss, personal suffering, grieving, and frustration (Griffith, Caron, Desrosiers, & Thibeault, 2007). For many individuals, these altered assumptions and changes in identity and lifestyle may involve appraisals regarding what is sacred. For example, a physical injury may be appraised as the loss of a sacred life role (occupational function, parent, spouse) or a violation of the patient's self-image or previous abilities. What differentiates loss, per se, from sacred loss is the appraisal of the loss as something that goes beyond the ordinary, beyond the limits of the individual: that which is set apart and connected to a religious or spiritual worldview. Desecration differs from sacred loss in that it includes the attribution of a deliberate intent to harm the sacred.

Individuals may also appraise events from a positive spiritual perspective. One type of positive religious and spiritual appraisal is benevolent religious appraisal or "redefining the stressor through religion as benevolent and potentially beneficial" (Pargament, Koenig, & Perez, 2000, p. 522). Examples of benevolent religious appraisals include trying to find a lesson from God in an event and viewing an event as bringing one closer to God. Extensive research has been conducted on the relationship between benevolent religious reappraisals and mental and physical health (Bosworth, Park, McQuoid, Hays, & Steffens, 2003; Burker, Evon, Sedway, & Egan, 2004). Generally, these results indicate that positive religious and spiritual appraisals are more prevalent than negative religious and spiritual appraisals (Burker et al., 2004; Pargament et al., 2000; Pargament, Koenig, Tarakeshwar, & Hahn, 2001; Pargament, Koenig, Tarakeshwar, & Hahn, 2004; Pedersen, Pedersen, Pargament, & Zachariae, 2013 [this volume]) and are associated with positive outcomes (Ano & Vasconcelles, 2005; Harrison, Koenig, Hays, Eme-Akwari, & Pargament, 2001). The study of positive appraisals among individuals undergoing acute medical rehabilitation offers a unique opportunity to further explore their impact on outcomes.

Religious Coping

The way an individual appraises an event impacts the coping strategies used to deal with the event (Lazarus, 2007; Lazarus & Folkman, 1984). As with appraisals of an event, religious and spiritual beliefs can be incorporated within the coping process (Pargament, 1997) and clearly impact the well-being of the individual. In a sample of spinal cord injury patients, existential spirituality predicted better quality of life, greater perceived life satisfaction, and better overall health (Matheis, Tulsky, & Matheis, 2006). In chronic pain patients, a combination of different forms of religiousness and spirituality (e.g., daily spiritual experiences, religious support, religious and spiritual intensity, forgiveness, religious coping) significantly predicted greater psychological health even after controlling for demographic and pain variables (Rippentrop, Altmaier, Chen, Found, & Keffala, 2005).

However, not all coping strategies are associated with better mental health. Negative religious coping, characterized by expressions of spiritual conflict, question, and doubt within oneself, with God, and with other people, has been associated with poorer physical and psychological health in various medical patient samples (Fitchett et al., 1999; Fitchett et al., 2004; Johnstone & Yoon, 2009; Koenig, Pargament, & Nielsen, 1998; Pargament et al., 2001). In addition, negative religious coping strategies were correlated with poorer mental health status and directly related to perceptions of pain intensity in chronic pain patients (Rippentrop et al., 2005). In a medical rehabilitation population of 118 outpatients with traumatic brain injury (TBI), cerebrovascular accident (CVA), and spinal cord injury (SCI), Johnstone and Yoon (2009) found that negative religious coping strategies were related to worse physical and mental health. These studies indicate that researchers must consider both the positive and negative outcomes of religious coping.

Research on religious coping in the context of sacred loss and desecration suggests that religious coping mediates the relationship between these appraisals and outcomes (Magyar et al., 2000; Pargament et al., 2005a). For example, in response to desecration of a romantic relationship held sacred to an individual, negative religious coping was associated with more negative affect and more physical health problems, while positive religious coping was associated with more positive affect and growth (Magyar et al., 2000). Similarly, in a study with a community sample, negative religious coping was a significant partial mediator between sacred loss and depressive symptoms, intrusive thoughts, avoidant behaviors, and anxiety, respectively. Negative religious coping also acted as a significant partial

mediator between desecration and anger, depressive symptoms, intrusive thoughts, avoidant behaviors, and anxiety, respectively. Conversely, positive religious coping mediated the relationship between sacred loss and posttraumatic growth and sacred loss and spiritual change (Pargament et al., 2005a)

Taken together, these findings suggest that among acute medical rehabilitation patients, a) the extent to which individuals perceive their recent health event as a sacred loss or desecration adversely impacts outcomes, and b) the manner in which they cope with such appraisals may mediate outcomes. Specifically, individuals who use negative religious coping strategies in response to perceptions of a sacred loss or desecration may experience more negative outcomes, while positive religious coping strategies may promote greater health and well-being.

The Present Study

Existing research has demonstrated the significance of religiousness and spirituality in the lives of medical rehabilitation patients and the importance of religion in the coping process (Anderson et al., 1993; Fitchett et al., 1999; Kim et al., 2000). However, important limitations and gaps in knowledge remain. First, studies of the appraisal and coping process when major health events impact sacred aspects of life have not been conducted in the context of medical rehabilitation. Second, few studies among acute rehabilitation patients have examined both the short- and long-term influence of religious and spiritual factors in the recovery process through longitudinal designs. Third, many studies with medical patient populations have relied on limited measures of religiousness and spirituality, such as global measures of church attendance and frequency of private prayer, that do not provide deeper insights into the complex associations between religiousness, spirituality, and health outcomes. Finally, few studies with medical rehabilitation patients to date have considered the potential adverse effects of religiousness and spirituality on psychological health (Fitchett et al., 1999; Johnstone & Yoon, 2009).

Based on previous findings, and in an effort to address the gaps in knowledge outlined in the literature reviewed above, we hypothesized that:

Cross-sectional and longitudinal

At admission and follow-up, (a) greater perceptions of sacred loss will be related to greater symptoms of depression; (b) greater perceptions of desecration will be related to greater symptoms of anxiety; (c) greater perceptions of all three spiritual appraisals, sacred loss, desecration and

benevolent religious appraisal will be related to greater posttraumatic growth. (d) Longitudinally we expect the associations outlined in hypotheses a-c to hold true for spiritual appraisals assessed at admission in relation to outcome variables assessed at follow-up.

Mediational

Both cross-sectionally and longitudinally, the effects of sacred loss and desecration on outcomes will be mediated through positive and negative religious coping. More specifically, greater perceptions of sacred loss and desecration will be tied to higher levels of both positive and negative religious coping. While positive religious coping is expected to relate to less depression and anxiety and more posttraumatic growth, negative religious coping is expected to be associated with more depression and anxiety and less posttraumatic growth. Controlling for the effects of positive and negative religious coping is expected to diminish the relationships of sacred loss and desecration to outcomes.

Method

Participants

A total of 117 adults admitted to inpatient rehabilitation for an unexpected injury or newly diagnosed medical problem were approached to participate in the study. Ninety-five individuals (81%) agreed, and 22 individuals (19%) declined to participate. Of the 95 who agreed to participate, 84 (88%) met eligibility criteria and provided data at the time of admission to medical rehabilitation. Seventy (83%) of these 84 participants completed follow-up assessment 6–8 weeks after discharge. Thus, analyses include 70 participants unless otherwise noted in Tables 1–7. Reasons for failure to complete the follow-up assessment included: death (n = 5), unexpected discharge due to medical complications (and contact information for follow-up was unavailable; n = 4), in hospice care at the time of follow-up (n = 1), and withdrawal due to feeling emotionally overwhelmed or physically fatigued (n = 4).

Procedure

Participants were recruited from three inpatient rehabilitation hospitals in two Midwestern states. Exclusion criteria included (a) the inability to provide informed consent as determined by a Mini-Mental State Examination

(MMSE) score of less than 24, (b) limited fluency in English, (c) presence of severe, unmanaged, and persistent mental illness including psychotic episodes, and (d) hospitalization for exacerbation of a chronic condition (e.g., recurrent symptoms of multiple sclerosis).

In accordance with the Health Insurance Portability and Accountability Act (HIPAA) and the Institutional Review Boards at each facility, potential participants were asked to participate in the study by a designated health care provider within 48 hours of admission. The names of individuals interested in participating were then given to research staff, who further explained the study and obtained informed consent. Consenting individuals were administered the MMSE to determine eligibility to participate in the study. In addition, participants' medical records were reviewed to determine whether their current admission was for a new or chronic condition and to identify the presence of severe or persistent mental illness.

Participants who met inclusion criteria completed a series of questionnaires independently. If participants were unable to complete the measures independently, the measures were administered orally by the research team. Participants provided their contact information and the contact information of three close contacts to ensure they could be reached for the follow-up interview, which occurred 6 to 8 weeks following discharge.

Measures

Mental state

The Mini Mental State Exam (MMSE; Folstein, Folstein, & McHugh, 1975) was used to screen participants for eligibility to participate in the present study. The MMSE is an 11-item test that assesses gross cognitive functioning including memory encoding and recall, attention, orientation, and visual-spatial processing. Research indicates that the MMSE discriminates between patients with and without cognitive disturbances, and it has acceptable test-retest reliability over a 24 hour and 28 day period (r = .89 and .98, respectively; Folstein et al., 1975). Patients were required to score 24 or higher in order to participate in the present study to maximize the likelihood that they comprehended, and responded reliably to, questionnaire items.

Demographics and global religiousness

Participants responded to questions concerning their age, sex, race, marital status, level of education, employment status, income, and religious

preference, including four items that assessed global religiousness (i.e., frequency of attendance at religious services, frequency of private prayer, self-rated religiousness, and self-rated spirituality; National Opinion Research Center, 1998).

Event description

Participants described the health event that led to their placement in inpatient medical rehabilitation in an open-ended format. They also responded to the question, "If in this event you experienced a loss or a violation, what did you feel was lost or violated?" by checking all descriptions that applied on a checklist (e.g., physical abilities, mental capacities, beliefs, values, occupation) or writing in the appropriate aspect of life if it did not appear on the list. Participants also answered the item, "What kind of impact has your illness, accident, or injury had on your life" by marking one response on a 5-point scale ranging from 0 (*not at all negative*) to 4 (*extremely negative*). These event descriptions were used in regression analyses to control for the level of impact and negativity of the health event.

Sacred loss and desecration

The Sacred Loss and Desecration Scale (Pargament et al., 2005a) is a 28-item questionnaire with two subscales measuring the religious and spiritual appraisals of sacred loss and desecration, respectively. The 16-item version of the scale, with two 8-item subscales, was used for this study based on the factor analysis by Pargament and colleagues (2005a). Participants indicated how closely each statement described their perception of their illness, accident, or injury on a 5-point scale ranging from 0 (*not at all*) to 4 (*very much*). Example items were "a sacred part of my life was violated" (desecration) and "something that gave sacred meaning to my life is now missing" (sacred loss). Additional example items can be found in the Appendix.

Benevolent religious appraisal

Benevolent religious appraisals of participants' recent health event were assessed with the 5-item Benevolent Religious Reappraisal subscale of the full RCOPE (Pargament et al., 2000). In order to assess primary religious and spiritual appraisal rather than coping responses, the directions from the original scale were modified so that they were (a) tied back to the health event and (b) identical to the Sacred Loss and Desecration instructions ("To what extent does each of the following statements describe the

way you feel about your recent accident, illness, or injury?"). Items were rated on a 4-point scale from 0 (*not at all*) to 3 (*a great deal*). The benevolent religious reappraisal subscale of the RCOPE has demonstrated high internal consistency (α = 91; Pargament et al., 2000). An example item was "Tried to see how the situation could be beneficial spiritually." One item from the Benevolent Religious Reappraisal subscale of the full RCOPE is present in the Brief RCOPE (described below). This item was removed from the benevolent religious appraisal subscale for analyses.

Religious coping

Religious coping methods were measured using the Brief RCOPE (Pargament, Smith, Koenig, & Perez, 1998) which is comprised of 14 items drawn from the full RCOPE. The Brief RCOPE has two 7-item subscales assessing positive and negative religious coping. In the present study, participants indicated the degree to which they use each coping strategy to deal with their illness, accident, or injury. Items are rated on a 4-point scale from 0 (*not at all*) to 3 (*a great deal*). The Brief RCOPE has adequate reliability (positive religious coping: α = .87–.90; negative religious coping: α = .69–.81; Pargament et al., 1998).

Depression

The Beck Depression Inventory (BDI)- FastScreen for Medical Patients is a 7-item scale used to assess depressive symptoms in adults whose depression may be attributable to medical, biological, or substance abuse problems (Beck, Steer, & Brown, 2000). The BDI-FastScreen assesses cognitive-affective components of depression (rather than somatic symptoms), has good internal consistency (α = .84) in clinical populations, and is highly correlated with BDI-II (r = .91). Each item is rated on a 4-point scale ranging from 0 to 3 with higher totals indicating greater levels of depression. A total score is obtained by summing the seven items.

Anxiety

The 21-item Beck Anxiety Inventory (BAI; Beck & Steer, 1990) assesses cognitive and physiological symptoms of anxiety. Patients reported how much they had been bothered by each symptom during the past week. Items are rated on a 4-point scale from 0 (*not at all*) to 3 (*severely [I can barely stand it]*). The BAI has been used extensively in clinical research and has demonstrated high internal consistency (α = 92; Beck, Epstein, Brown, & Steer, 1988).

Posttraumatic growth

The Posttraumatic Growth Inventory (PTGI) is a 21-item measure that assesses positive outcomes following a traumatic experience (Tedeschi & Calhoun, 1996). The PTGI measures positive change in five domains: relating to others, new possibilities, personal strength, appreciation for life, and spiritual change. For the purpose of this study, items referenced participants' adverse health event. Participants rated each item on a 6-point scale with higher scores indicating greater growth. Possible scores on the PTGI range from 0–105. The internal consistency of the five subscales ranges from α = .67–.85 and α = .90 for the total PTGI (Tedeschi & Calhoun, 1996).

Results

Sample Characteristics

Table 1 displays descriptive statistics for demographic variables, as well as diagnostic and health information obtained from questionnaires and medical records.

Of the 70 participants who completed interviews at admission and follow-up, 61.4% were male, 94.3% self-identified as Caucasian, and the sample ranged in age from 18 to 93 years of age, with a mean age of 55.3 years (*SD* = 19.0 years). Regarding religious affiliation, participants identified their religious preference as 61.4% Protestant denominations, 25.7% Roman Catholic, 4.3% Agnostic or Atheist, and 8.6% "other." Etiologic diagnoses for admission to medical rehabilitation are listed in Table 1. The average number of days between participants' admission to medical rehabilitation and their initial assessment was 3.7 days (*SD* = 1.6 days), and the average number of days between the unexpected health event and initial assessment was 22.7 days (*SD* = 24.9 days). The average number of days between discharge from rehabilitation and the follow-up assessment was 53 days (7.6 weeks; *SD* = 15.6 days). Patients had an average of 5.8 (*SD* = 2.6) comorbid conditions at the time of admission.

Prevalence of Religious and Spiritual Appraisals

Given that an affirmative endorsement of an appraisal item signified at least some degree of experiencing that appraisal, prevalence of religious and spiritual appraisals was determined by a score greater than 0 on each appraisal measure or subscale. Based on scores at admission, 71.4% of

Table 1. *Demographic Variables and Etiologic Diagnoses*

Demographic Variable	Frequency	%	Demographic or Diagnostic Variable	Frequency	%
Gender			**Religious Preference**		
Male	43	61.4	Protestant	43	61.4
Female	27	38.6	Roman Catholic	18	25.7
Race/Ethnicity			Athest/Agnostic	3	4.3
Caucasian	66	94.3	Other*	6	8.6
African American	4	5.7	**Etiologic Diagnosis**		
Partner Status			Cerebral Vascular Accident	21	30.0
Married	34	48.6	Fractures§	21	30.0
Living with Partner	4	5.7	Spinal Cord Injury	8	11.4
Partner (but not living with)	1	1.4	Lower Limb Amputation	7	10.0
Divorced	13	18.6	Mild Traumatic Brain Injury	7	10.0
Widow/Widower	6	8.6	Guillain-Barrè Syndrome	2	2.9
Never Married	12	17.1	Other	4	5.7
Education			**Psychotropic Medication**		
Less than High School	3	4.3	(n = 69)		
Some High School	4	5.7	Yes	28	40.6
High School Grad/GED	17	24.3	No	41	59.4
Some College (no degree)	16	22.9	**Insomnia Medication**		
Associate's Degree	3	4.3	(n = 68)		
Bachelor's Degree	19	27.1	Yes	53	77.9
Graduate or Professional	8	11.4	No	15	22.1
Household Income			**Opioid or Narcotic Pain Meds**		
(n = 65)			(n = 68)		
Less than 20,000	22	33.8	Yes	42	61.8
20,000–49,999	24	36.9	No	26	38.2
50,000–74,999	6	9.2	**Recovery Uncertainty+**		
75,000–99,999	10	15.4	Recovery Fairly Certain	17	24.3
100,000 or more	3	4.6	Recovery Uncertain	42	60.0
Employment Status			Recovery Unlikely	11	15.7
(n = 69)			**FIM Score at Admission**		
Working Full Time	26	37.7	(n = 68)+		
Working Part Time	7	10.1	0–46	14	20.6
Homemaker	3	4.3	47–80	40	58.8
Unemployed	10	14.5	81–126	14	20.6
Retired But Working	1	1.4			
Retired	22	31.9			

Note: N = 70 unless noted in parentheses. * "Other" included "spiritual," Quaker, Seventh Day Adventist, Unitarian, Christian Science, and none. § = single and multiple fractures due to falls, motor vehicle accidents, etc. Meds = Medications. +rated by physical therapist. FIM = Functional Independence Measure. The FIM is an 18-item, 7-level (scores range 0–126) functional assessment measure required by the Commission on the Accreditation of Rehabilitation Facilities (CARF). Greater FIM scores equate with more independence in motor activities, verbal comprehension and expression, social interaction, problem solving, and memory.

participants reported some degree of sacred loss, 42.9% reported some degree of desecration, and 85.7 reported some degree of benevolent religious appraisal of their recent health event or new diagnosis. At follow-up, 58.6% reported some degree of sacred loss, 40.0% reported some degree of desecration, and 81.4% reported some degree of benevolent religious appraisal. Mean scale scores at each assessment period revealed that perceptions of sacred loss and desecration, while frequent, were fairly low. Benevolent religious appraisals were most frequently endorsed and mean scale scores were also higher relative to the range of possible scores on each questionnaire (see Table 2).

Religious and Spiritual Appraisals and Mental Health

Means, standard deviations, Cronbach's Alpha coefficients and ranges from the scales administered at both admission and follow-up assessments are provided in Table 2. All scales demonstrated adequate internal consistency reliability (α). In addition, paired *t*-tests comparing scores at admission and follow-up indicated significant decreases in perceptions of sacred loss, desecration, benevolent religious appraisals, and anxiety from admission to follow-up assessment. Although negative religious coping also declined, the paired samples *t*-test for this variable did not quite reach statistical significance ($p = .06$).

Cross-sectional

Bivariate correlations ($N = 70$) were conducted between religious and spiritual appraisals and mental health variables at admission and follow-up and are presented in Table 3.

At admission, sacred loss was positively correlated with anxiety ($r = .38$, $p < .01$), depression ($r = .36$, $p < .01$), and posttraumatic growth ($r = .32$, $p < .01$). Similarly, desecration was positively correlated with anxiety ($r = .45$, $p < .01$), depression ($r = .29$, $p < .05$), and posttraumatic growth ($r = .42$, $p < .01$). Benevolent religious appraisals were correlated only with posttraumatic growth at admission ($r = .50$, $p < .01$).

A similar pattern emerged at follow-up and is also displayed in Table 3. Sacred loss was positively associated with anxiety ($r = .29$, $p < .01$), depression ($r = .53$, $p < .01$), and posttraumatic growth ($r = .38$, $p < .01$). Desecration was also positively correlated with anxiety ($r = .27$, $p < .05$), depression ($r = .46$, $p < .01$), and posttraumatic growth ($r = .24$, $p < .05$). Finally, benevolent religious appraisals were positively associated with anxiety ($r = .26$, $p < .05$) and posttraumatic growth ($r = .54$, $p < .01$) at follow-up.

Table 2. *Means, Standard Deviations, and Alpha Coefficients of Major Study Variables at Admission and Follow-up*

	Admission		*Follow-up*		
Variable (α)	*M*	*SD*	*M*	*SD*	*Range*+
Religiousness[1]	1.8	.9	n/a	n/a	0–3
Spirituality[2]	1.8	.8	n/a	n/a	0–3
Private Prayer[3]	5.1	2.2	n/a	n/a	0–7
Service Attendance[4]	3.8	2.4	n/a	n/a	0–8
Global Religiousness (.76)	0.0	3.0	n/a	n/a	−8.0–5.3
Sacred Loss (.85)	7.0	7.5	5.2**	7.5	0–32
Desecration (.93)	5.0	8.6	3.3**	6.4	0–32
BRA (.90)	5.5	3.9	4.8	3.8	0–12
PRC (.89)	9.0	6.2	8.7	6.3	0–21
NRC (.88)	2.8	4.6	1.9	3.5	0–21
Anxiety (.90)	14.8	11.2	7.4**	8.5	0–63
Depression (.83)	2.9	3.6	2.9	3.3	0–21
Posttraumatic Growth (.94)	45.1	24.7	46.7	28.0	0–105

Note: *a* = Cronbach's Alpha at admission assessment. +Possible range on scale or item. [1] = the mean 1.8 indicates the average response was "moderately religious"; [2] = the mean 1.8 indicates the average response was "moderately spiritual"; [3] = the mean of 5.1 indicates the average response was "a few times a week of private prayer"; [4] = the mean 3.8 indicates the mean response for this item was "religious service attendance roughly once a month" at religious or spiritual services; n/a = variable was only assessed at admission; BRA = Benevolent Religious Appraisal; PRC = Positive Religious Coping; NRC = Negative Religious Coping. N = 70 for all variables except n = 69 for PRC and NRC at admission and posttraumatic growth at follow-up; ** $p \leq .01$

Table 3. *Correlations between Variables at Admission and Follow-up*

	1	2	3	4	5	6	7	8	9
1. Sacred Loss	–	.74**	.41**	.33**	.81**	.02	.29**	.53**	.38**
2. Desecration	.69**	–	.31**	.30**	.63**	.04	.27*	.46**	.24*
3. BRA	.33**	.31**	–	.80**	.42**	.32*	.26*	.16	.55**
4. PRC	.30*	.33**	.73**	–	.30**	.41	.21	.03	.49**
5. NRC	.60**	.60**	.20	.29*	–	−.02	.44**	.56**	.42**
6. Global Religiousness	−.05	−.06	.45**	.55**	−.10	–	−.04	−.13	.05
7. Anxiety	.38**	.45**	.06	.07	.54**	−.13	–	.60**	.30*
8. Depression	.36**	.29*	−.02	.14	.59**	−.12	.70**	–	.18
9. Posttraumatic Growth	.32**	.42**	.50**	.48**	.26*	.24	.28*	.17	–

Note: Bolded text on the lower half of the table displays correlations at admission; plain text on the upper half of the table displays correlations at follow-up. BRA = benevolent religious reappraisal. PRC = positive religious coping; NRC = negative religious coping. N = 70 for all variables except n = 69 for PRC and NRC at admission and posttraumatic growth at follow-up; * $p < .05$ ** $p < .01$

Hierarchical regression analyses were conducted at admission and follow-up to explore the unique contributions sacred loss, desecration and benevolent religious appraisals make to the prediction of anxiety, depression, and posttraumatic growth. To control for significant covariates (age), and to test that religious and spiritual appraisals predicted outcomes beyond the perceived severity and negativity of the health event, step 1 of the model included age, impact of the event, and the number of aspects of life perceived as lost or violated. Step 2 included global religiousness to ensure that religious and spiritual appraisals predicted beyond general level of religiousness and spirituality. Lastly, step 3 included sacred loss, desecration, and benevolent religious appraisal, respectively. Each appraisal was entered independently in separate equations to determine differential prediction of criterion variables (see Table 4).

Desecration at admission contributed unique variance in the prediction of anxiety at admission ($\Delta R^2 = .07$, $B = .29$, $p < .01$) after taking into account control variables in steps 1 and 2 of the model. Sacred loss ($\Delta R^2 = .07$, $B = .29$, $p < .05$), desecration ($\Delta R^2 = .13$, $B = .38$, $p < .01$), and benevolent religious appraisals at admission ($\Delta R^2 = .10$, $B = .42$, $p < .01$) contributed unique variance in the prediction of posttraumatic growth at admission after taking into account control variables. Religious and spiritual appraisals did not add unique variance in the prediction of depression at admission.

At follow-up, sacred loss ($\Delta R^2 = .18$, $B = .44$, $p < .01$) and desecration ($\Delta R^2 = .16$, $B = .41$, $p < .01$) predicted higher levels of depression after taking into account control variables in steps 1 and 2 of the model. For posttraumatic growth at follow-up, sacred loss ($\Delta R^2 = .08$, $B = .30$, $p < .05$) and benevolent religious appraisal ($\Delta R^2 = .19$, $B = .52$, $p < .01$) predicted greater growth. For anxiety at follow-up, religious and spiritual appraisals did not add unique variance in the prediction of this criterion variable.

A final series of hierarchical regression analyses was conducted to determine the best religious and spiritual predictor of mental health outcomes at each assessment period. Steps 1 and 2 of the regression model remained the same; however, step 3 included all three religious and spiritual appraisals in this final step: sacred loss, desecration, and benevolent religious appraisal. At admission, desecration ($B = .31$, $p < .05$) and benevolent religious appraisal ($B = .31$, $p < .05$) emerged as equally strong and significant predictors of posttraumatic growth. Desecration ($B = .32$, $p < .05$) was the strongest and only significant predictor of anxiety at admission. At follow-up, benevolent religious appraisal ($B = .47$, $p < .01$)

Table 4. *Cross-sectional Hierarchical Regression Models*

Outcome Variable	*n*	Step	R^2	R^2 change	Partial *F*	Beta in Step 3		
						SL	Des	BRA
Anxiety—Admission	70	1	.32	.32**	10.16***			
		2	.32	.00	7.54***			
		3[a]	.34	.03	6.68***	.18		
		3[b]	.39	.07**	8.12***		.29**	
		3[c]	.32	.00	5.94***			.00
Depression—Admission	70	1	.36	.37**	12.26***			
		2	.36	.00	9.13***			
		3[a]	.37	.01	7.65***	.13		
		3[b]	.37	.01	7.56***		.12	
		3[c]	.37	.01	7.39***			−.10
Posttraumatic Growth—Admission	70	1	.08	.08	1.98			
		2	.18	.10**	3.63**			
		3[a]	.25	.07*	4.31**	.29*		
		3[b]	.31	.13***	5.76***		.38***	
		3[c]	.29	.10**	5.12***			.42**
Anxiety—Follow-up	70	1	.41	.41***	15.57***			
		2	.43	.01	11.99***			
		3[a]	.44	.01	10.00***	.13		
		3[b]	.44	.02	10.21***		.14	
		3[c]	.44	.01	9.84***			.12
Depression—Follow-up	70	1	.23	.23***	6.37***			
		2	.23	.00	4.73**			
		3[a]	.40	.18***	8.62***	.44***		
		3[b]	.38	.16***	7.99***		.41***	
		3[c]	.23	.01	3.86**			.09
Posttraumatic Growth—Follow-up	69	1	.11	.11	2.54			
		2	.14	.03	2.52*			
		3[a]	.22	.08**	3.50**	.30**		
		3[b]	.16	.02	2.35*		.15	
		3[c]	.32	.19***	5.95***			.52***

Note: SL = Sacred Loss; Des = Desecration; BRA = Benevolent Religious Appraisal; Step 1: Age, impact of the event at corresponding assessment, number of objects lost/violated at corresponding assessment; Step 2: Global religiosity; Step 3a: Sacred loss at corresponding assessment period, Step 3b: Desecration at corresponding assessment, Step 3c: Benevolent religious appraisal at corresponding assessment. * $p < .05$ ** $p < .01$ *** $p < .001$

was the sole significant predictor of posttraumatic growth. Sacred loss was non-significant as a predictor of depression at follow-up.

Longitudinal

Longitudinal hierarchical regression analyses were conducted to examine the predictive relationship between religious and spiritual appraisals at admission and outcome variables over time (i.e., at follow-up [see Table 5]). Step 1 included age, impact of the event at admission, and number of objects lost or violated at admission. Step 2 included global religiosity. Step 3 included the respective outcome variable at admission. Step 4 included sacred loss, desecration, or benevolent religious appraisal at admission. Each religious and spiritual appraisal was entered in a separate equation to determine differential prediction of the criterion variables (See Table 5).

Desecration at admission predicted greater depression at follow-up ($\Delta R^2 = .07$, $B = .29$, $p < .01$) after controlling for age, impact of the event, number of objects lost or violated, global religiosity, and depression level at admission. The relationship between sacred loss at admission and depression at follow-up was non-significant after control variables were taken into account. Sacred loss at admission predicted greater posttraumatic growth at follow-up ($\Delta R^2 = .06$, $B = .27$, $p < .05$) after controlling for age, impact of the event, number of objects lost or violated, global religiosity, and posttraumatic growth level at admission.

Once again, a final series of regression analyses was conducted to determine the best religious and spiritual predictor of mental health outcomes over time. Steps 1, 2, and 3 of the longitudinal regression model remained the same; however, in this model step 4 included all three religious and spiritual appraisals: sacred loss, desecration, and benevolent religious appraisal. Desecration at admission was the sole religious and spiritual appraisal to act as a significant predictor of depression at follow-up ($B = .28$, $p < .05$) after all control variables were taken into account. Sacred loss at admission was the sole appraisal to act as a significant predictor of posttraumatic growth at follow-up ($B = .35$, $p < .01$). None of the religious and spiritual appraisals emerged as a significant predictor of anxiety over time.

Religious and Spiritual Coping

At admission ($N = 70$), sacred loss was positively correlated with both positive ($r = .30$, $p < .05$) and negative ($r = .60$, $p < .01$.) religious coping.

Table 5. *Longitudinal Hierarchical Regression Models*

Outcome Variable	*n*	Step	R^2	R^2 change	Partial *F*	Beta in Step 4
Anxiety—Follow-up	70	1	.26	.26***	7.56***	
		2	.27	.02	6.10***	
		3	.39	.12***	8.34***	
		4a	.40	.00	6.85***	.02
		4b	.39	.00	6.84***	−.00
		4c	.40	.00	6.92***	.07
Depression—Follow-up	70	1	.24	.25***	6.74***	
		2	.24	.00	4.98***	
		3	.41	.17***	8.84***	
		4a	.44	.03	8.29***	.21
		4b	.48	.07**	9.64***	.29**
		4c	.41	.00	7.30***	.06
Posttraumatic Growth—Follow-up	69	1	.10	.10	2.36	
		2	.13	.03	2.38	
		3	.40	.27***	8.29***	
		4a	.45	.06*	8.51***	.27*
		4b	.40	.00	6.86***	.06
		4c	.42	.02	7.38***	.20

Note: Step 1: Age, Impact of event (admission assessment), number of objects lost/violated (admission assessment); Step 2: Global religiosity (admission); Step 3: Anxiety, depression or posttraumatic growth at admission, respectively; Step 4a: Sacred Loss at admission, Step 4b: Desecration at admission, Step 4c: Benevolent religious appraisal at admission.
* $p < .05$ ** $p < .01$ *** $p < .001$

Similarly, desecration was positively correlated with positive ($r = .33$, $p < .01$) and negative ($r = .60$, $p < .01$) religious coping. At follow-up ($N = 70$), sacred loss was once again positively associated with both forms of religious coping (positive: $r = .33$, $p < .01$; negative: $r = .81$, $p < .01$) as was desecration (positive: $r = .30$, $p < .01$; negative: $r = .63$, $p < .01$).

Mediation

Regression analyses were conducted to determine whether positive religious coping and negative religious coping mediated the relationship between sacred loss and desecration and outcome variables at each time period and across assessment periods. Mediation effects were evaluated by the method outlined in Baron and Kenny (1986). According to this model, to establish mediation the independent variable (IV), dependent variable (DV), and potential mediator must all be significantly correlated. In these instances, three separate regression equations are run in which the

potential mediator is regressed on the IV (equation 1), the DV is regressed on the IV (equation 2), and the DV is regressed on both the IV and the potential mediator (equation 3). Mediation is indicated when the effect of the IV on the DV is less in the third equation than in the second (Baron & Kenny, 1986). This is determined by comparing standardized beta coefficients from equations two and three (the standardized beta coefficient should be less in equation three than in equation two). To provide a more formal assessment of mediation effects, Sobel (1982) tests were also conducted. This test assesses whether the indirect effect of the IV on the DV via the mediator is significantly different from 0 (see also MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002).

Cross-sectional

Table 6 displays the cross-sectional mediation findings at admission and follow-up assessments.

Mediation analyses conducted on variables at both admission and follow-up indicate that negative religious coping operated as a full mediator between sacred loss and greater symptoms of anxiety and depression and between desecration and greater symptoms of anxiety and depression, respectively. Positive religious coping operated as a full mediator between sacred loss and greater posttraumatic growth at both assessment periods and between desecration and greater posttraumatic growth at follow-up. Positive religious coping acted as a partial mediator between desecration and posttraumatic growth at admission. Mediation was determined by a statistically significant Sobel's Z test and either (a) the lack of a statistically significant beta coefficient for sacred loss and desecration after religious coping was added to the regression equation (full mediation), or (b) a statistically significant beta coefficient for sacred loss and desecration after religious coping was added to the regression equation (partial mediation; Warner et al., 2009).

Longitudinal

For mediation analyses regarding religious coping as a mediator of the relationships between *religious and spiritual appraisals at admission* and *outcome variables at follow-up*, preliminary correlational criteria outlined above were met only for negative religious coping at admission (i.e., not positive religious coping) as a mediator between sacred loss and desecration at admission and anxiety and depression at follow-up. Table 7 displays the longitudinal mediational findings.

Table 6. *Negative and Positive Religious Coping as Mediator Variables at Admission and Follow-Up*

Independent Variable	Mediator Variable	Dependent Variables					
		Posttraumatic Growth		Anxiety		Depression	
		Admission	*Follow-up*	*Admission*	*Follow-up*	*Admission*	*Follow-up*
Sacred Loss	Negative Religious Coping	–	–	1. R^2 = .36 β = .60** 2. R^2 = .14 β = .38** 3. R^2 = .29 β = .09 *NS* Δ β = .22 Z = 3.21**	1. R^2 = .65 β = .81** 2. R^2 = .09 β = .29** 3. R^2 = .21 β = –.18 *NS* Δ β = .47 Z = 3.07**	1. R^2 = .36 β = .60** 2. R^2 = .13 β = .36** 3. R^2 = .34 β = .02 *NS* Δ β = .34 Z = 3.71**	1. R2 = .65 β = .81** 2. R2 = .28 β = .53** 3. R2 = .34 β = .22 *NS* Δ β = .31 Z = 2.25*
Desecration	Negative Religious Coping	–	–	1. R^2 = .36 β = .60** 2. R^2 = .20 β = .45** 3. R^2 = .31 β = .19 *NS* Δ β = .25 Z = 2.92**	1. R2 = .39 β = .63** 2. R2 = .07 β = .27* 3. R2 = .20 β = –.01 *NS* Δ β = .28 Z = 2.87**	1. R^2 = .36 β = .60** 2. R^2 = .09 β = .29* 3. R^2 = .35 β = –.10 *NS* Δ β = .39 Z = 4.01	1. R^2 = .39 β = .63** 2. R^2 = .22 β = .46** 3. R^2 = .34 β = .18 *NS* Δ β = .28 Z = 3.11**

Table 6. (*cont.*)

Independent Variable	Mediator Variable	Dependent Variables					
		Posttraumatic Growth		Anxiety		Depression	
		Admission	*Follow-up*	*Admission*	*Follow-up*	*Admission*	*Follow-up*
Sacred Loss	Positive Religious Coping	1. R^2 = .09 β = .30* 2. R^2 = .10 β = .32** 3. R^2 = .26 β = .20 *NS* Δ β = .23 *Z* = 2.13*	1. R^2 = .11 β = .33** 2. R^2 = .14 β = .38** 3. R^2 = .28 β = .21 *NS* Δ β = .17 *Z* = 2.20*	–	–	–	–
Desecration	Positive Religious Coping	1. R^2 = .11 β = .33** 2. R^2 = .18 β = .42** 3. R^2 = .31 β = .30** Δ β = .13 *Z* = 2.25*	1. R^2 = .09 β = .30** 2. R^2 = .06 β = .24* 3. R^2 = .24 β = .07 *NS* Δ β = .17 *Z* = 2.17*	–	–	–	–

Note: Equation 1: Mediator regressed on independent variable; Equation 2: Dependent variable regressed on independent variable; Equation 3: Dependent variable regressed on independent variable and the mediator; β = standardized beta coefficient; *NS* = not significant; $\Delta\beta$ = change in the standardized beta from regression equation two to three; – = not applicable because did not meet criteria to test for mediation; *Z* = test of whether indirect effect of independent variable on dependent variable via the mediator is significantly different from 0. $N = 69$; * $p \leq .05$ ** $p \leq .01$

Table 7. *Longitudinal Mediation Analyses—Negative Religious Coping as Mediator Variable*

Independent Variable Admission	Mediator Variable Admission	Dependent Variables—Follow-Up: Anxiety	Dependent Variables—Follow-Up: Depression
Sacred Loss	Negative Religious Coping	1. R^2 = .36 β = .60** 2. R^2 = .09 β = .30* 3. R^2 = .20 β = .06 *NS* $\Delta\beta$ = .24 Z = 2.67**	1. R^2 = .36 β = .60** 2. R^2 = .18 β = .42** 3. R^2 = .30 β = .17 *NS* $\Delta\beta$ = .26 Z = 2.95**
Desecration	Negative Religious Coping	1. R^2 = .36 β = .60** 2. R^2 = .08 β = .29* 3. R^2 = .19 β = .04 *NS* $\Delta\beta$ = .25 Z = 2.72**	1. R^2 = .36 β = .60** 2. R^2 = .21 β = .45** 3. R^2 = .31 β = .21 *NS* $\Delta\beta$ = .24 Z = 2.81**

Note: Equation 1: Potential mediator (admission) regressed on independent variable (admission); Equation 2: Dependent variable (follow-up) regressed on independent variable (admission); Equation 3: Dependent variable (follow-up) regressed on independent variable (admission) and potential mediator (admission); β = standardized beta coefficient; *NS* = not significant; $\Delta\beta$ = change in the standardized beta from regression equation two to three; Z = test of whether indirect effect of independent variable on dependent variable via the mediator is significantly different from 0 (Sobel, 1982). $N = 69$; * $p \leq .05$ ** $p \leq .01$

Negative religious coping at admission fully mediated the relationship between sacred loss at admission and greater symptoms of anxiety and depression at follow-up. Similarly, negative religious fully mediated the relationship between desecration at admission and greater symptoms of anxiety and depression at follow-up.

Discussion

The constructive implications of using religiousness and spirituality to cope with physical health events have generally been studied among medical rehabilitation patients (Kim et al., 2000; Matheis et al., 2006; McNulty, Livneh, & Wilson, 2004). The findings from this study help create a broader picture of the dynamic religious and spiritual appraisal and coping process following an unexpected physical health event by longitudinally

exploring the manner in which religious and spiritual interpretations of an event may have both an adverse and favorable impact on psychological outcomes. Moreover, consistent with classic stress and coping theory (Lazarus & Folkman, 1984; Lazarus, 2007), evidence from this study suggests that, although very important, religious and spiritual appraisals do not fully explain outcomes (see Lavelock, Griffin, & Worthington, 2013 [this volume]). Instead, how individuals respond to, or cope with, their initial religious and spiritual appraisals seems to be fundamental to predicting psychological outcomes following inpatient medical rehabilitation.

The Prevalence of Spiritual Appraisals

The religious and spiritual appraisals of sacred loss and desecration were quite common in this participant sample, with over half of patients endorsing some degree of sacred loss at both admission to rehabilitation and follow-up and roughly 40% endorsing some degree of desecration at these same time periods. Consistent with previous research, benevolent religious appraisal was the most commonly endorsed religious and spiritual appraisal among inpatient rehabilitation patients, with over 80% reported at both admission and follow-up.

Perceptions of sacred loss and desecration in response to one's own physical accident, illness, or injury in the present sample were similar in frequency and magnitude to rates observed in samples who encountered predominantly psychological challenges (Magyar et al., 2000; Pargament et al., 2005a; Warner et al., 2009). Similar to the findings with an adult community sample (Pargament et al., 2005a), participants in the present study endorsed mean levels of sacred loss to a greater extent than mean levels of desecration when describing their physical health event (see Table 2). Sacred loss and desecration were strongly correlated with one another at both admission and follow-up assessments ($r[68] = .69$, $p < .01$ at admission $r[68] = .74$, $p < .01$ at follow-up). Pargament et al. (2005a) found a significant yet more moderate relation between perceptions of sacred loss and desecration in an adult community sample responding to a variety of negative life events ($r = .48$, $p < .01$). Perhaps in medical patient populations, in which participants are responding to their own traumatic health event, perceptions of sacred loss and violation often co-occur. In other words, it is quite possible that fundamental appraisals of harm and loss, threat, and challenge may be present simultaneously, as well as connected to the sacred, for many rehabilitation patients (Lazarus, 2007; McCrae, 1984; Pargament, 1997; Park & Folkman, 1997). Because medical and rehabilitation patients are faced with a myriad of

interconnected challenges at the physical, psychological, inter-personal, and often religious and spiritual levels, it is likely that their religious and spiritual appraisals are also less differentiated. The high association found between sacred loss and desecration in this sample may also imply a single construct underlying both appraisals. Additional research among various patient populations is needed to replicate or dispute findings from the existing and limited number of studies, as well as further analyze the psychometric properties of the Sacred Loss and Desecration Scale. Despite the high correlation between sacred loss and desecration in this sample, some evidence of differential prediction of outcome variables was found and is discussed below.

Patients endorsed benevolent religious appraisal to the greatest degree of all religious and spiritual appraisals assessed, which falls in line with the well-established finding that, among medical patients, positive religious interpretation and coping efforts are more common in comparison to negative religious and spiritual perceptions and responses (Koenig et al., 1998; Lavery & O'Hea, 2010; Pargament et al., 1998; Pargament et al., 2000; Trevino, Archambault, Schuster, Richardson, & Moye, 2012; Zwingmann, Wirtz, Müller, Körber, & Murken, 2006). Importantly, mean levels of all three religious and spiritual appraisals went down from admission to follow-up. This might indicate that religious and spiritual perceptions of events may weaken over time. Perhaps as physical, mental, and religious and spiritual recovery takes place, the event and corresponding limitations or disabilities become more integrated into individuals' perception of themselves. It may also be that religious and spiritual appraisals are more common in acute, high stress situations and decline as the stressor becomes more distal and less threatening (Pargament, 1997). Possibly, as individuals are better able to help themselves, there is less need to "tap" religious and spiritual resources.

Even though appraisals of sacred loss and desecration are less common than a benevolent religious and spiritual perspective following injury or sudden illness, the finding that between 40% and 71% of medical rehabilitation patients endorsed some level of sacred loss or desecration at both assessment periods has important implications for treating clinicians.

Short- and Long-Term Implications of Spiritual Appraisals

Anxiety

At admission to medical rehabilitation, both sacred loss and desecration were significantly correlated with anxiety, while benevolent religious appraisal was not. Consistent with hypotheses, only desecration added

unique variance in the prediction of anxiety at admission after taking control variables into consideration in the regression model. Furthermore, desecration emerged as the best predictor of anxiety at admission to medical rehabilitation. At follow-up, bivariate correlations between sacred loss and desecration and anxiety, respectively, were still statistically significant, yet the magnitude of the correlations was lower (see Table 3). Neither sacred loss nor desecration added unique variance in the prediction of anxiety after control variables were entered into the regression model at the follow-up assessment. Contrary to our hypothesis, desecration at admission was not a significant predictor of anxiety at follow-up.

Desecration appraisals involve an attribution of responsibility or blame toward a transgressor, whereas sacred loss does not necessarily include an element of intention or responsibility or perhaps not an identifiable transgressor. As demonstrated in the case examples of desecration provided in the Appendix, appraisals of desecration involve the perception that an offense has been purposely committed against a sanctified aspect of life. Thus, cognitions and emotions following appraisals of desecration may lend themselves to greater feelings of anxiety, worry, rumination, anger, and torment in comparison to sacred loss or other spiritual appraisals.

The passage of time and the adjustment process to acute illness and disability may contribute to the decrease in levels of association between both sacred loss and desecration and anxiety from admission to follow-up. At the time of admission to medical rehabilitation, patients are fatigued, feeling ill, and often fearful regarding their prospects for recovery. Lazarus (1991) noted that "anxiety arises when existential meaning is disrupted or endangered as a result of physiological deficits... [and] difficult-to-interpret events" (p. 234). For many patients, fears may have been mitigated as they began working with rehabilitation specialists and gaining strength, abilities, and confidence, as well as an understanding of their medical condition(s). Not only are these findings consistent with prior research of sacred loss and desecration (Magyar et al., 2000; Pargament et al., 2005a; Warner et al., 2009), but anxiety, in its various forms, has been linked to greater negative religious coping among medical and psychotherapy patients (Exline, Yali, & Sanderson, 2000; Fitchett et al., 2004; Trenholm, Trent, & Compton, 1998).

Depression

Contrary to hypotheses, at admission to medical rehabilitation, appraisals of sacred loss had limited influence on patients' symptoms of depression. Depressive symptoms at this assessment point were better accounted for

by other variables, specifically age, impact of the health event, and number of objects perceived as lost or violated (see Table 4). At follow-up, both sacred loss and desecration added unique variance in the prediction of depression after control variables were entered into the regression model and, as expected, sacred loss emerged as the best predictor of depression, although at a non-significant level ($p < .06$). Notably, appraisals of sacred loss and desecration at admission contributed to symptoms of depression at follow-up after taking control variables into account, thereby serving as a potential warning sign of distress, both psychological and spiritual.

The associations between greater appraisals of sacred loss and desecration and higher levels of depression at the follow-up period and longitudinally over time in the present sample corroborate those of previous studies of sacred loss and desecration (Magyar et al., 2000; Pargament et al., 2005a; Warner et al., 2009). Pargament and colleagues (2005a), however, found that only sacred loss was a unique predictor of depression after controlling for covariates in their adult, community sample. Conceivably, different types of negative life events could account for this difference in the predictive ability of desecration. Patients in the present sample most commonly reported the loss or violation of their own physical well-being and abilities, whereas the community sample of adults most frequently endorsed the loss or violation of a relationship or a person. It is possible that the more *intra*personal nature of losses and violations in rehabilitation patients linked both sacred loss and desecration to greater depressive symptoms. Presumably, perceptions of both sacred loss and desecration in the present sample are related to losses and threats to functional independence and the sense of self, in addition to other aspects of life viewed as lost or violated. By comparison, without the substantial loss and threat to physical health and functional status perhaps, as Pargament et al. (2005a) suggested, the largely *inter*personal nature of losses and violations in the community sample linked sacred loss to greater sadness and depression, while perceptions of desecration were associated with anger and avoidance.

Posttraumatic Growth

All three spiritual appraisals, sacred loss, desecration, and benevolent religious appraisal, were linked at the bivariate level to the self-reported experience of greater posttraumatic growth at admission and follow-up. At admission, all three spiritual appraisals accounted for unique variance in the prediction of posttraumatic growth after entering control variables into the regression equation, and both desecration and benevolent religious reappraisal emerged as equally strong and significant predictors

of posttraumatic growth. Intuitively, perceptions of sacred loss and violation closely following an unexpected physical health event would seem likely to interfere with personal growth and development. However, several investigators studying a variety of different types of negative life events have demonstrated that constructive growth and change follow traumatic events (Koenig et al., 1998; Pargament et al., 2000; Park & Fenster, 2004; Tedeschi & Calhoun, 1996), including events that hold religious and spiritual significance for individuals (Askay & Magyar-Russell, 2009; Magyar et al., 2000; Pargament et al., 2005a). Despite the fact that individuals experience some level of sacred loss and desecration, their coping may be largely positive and effective; thus, they "come out the other side" of the health event perceiving positive changes in domains such as personal strength, appreciation for life, and personal religiousness and spirituality.

At follow-up, only sacred loss and benevolent religious reappraisal added unique variance in the prediction of posttraumatic growth, and benevolent religious reappraisal emerged as the strongest predictor of posttraumatic growth. Longitudinally, only benevolent religious reappraisals at admission added unique variance in the prediction of stress-related growth at follow-up after taking control variables into account, including the level of posttraumatic growth at admission. It seems, therefore, that benevolent religious appraisal of one's health event shortly after the event has occurred facilitates the adjustment and coping process both immediately following the event and several weeks after discharge from inpatient medical rehabilitation. Specifically, benevolent religious appraisal consistently and strongly contributed to positive life changes in domains such as personal strength, appreciation for life, and spiritual change. In contrast, sacred loss and desecration demonstrated less consistent associations with posttraumatic growth. The results of the present study indicated that individuals who appraised their health event in a benevolent religious or spiritual framework were more likely to engage in positive forms of religious coping. Conversely, based on the mediational findings from this study (discussed in detail below), appraisals of sacred loss and desecration were more likely to lead to a mobilization of many forms of religious coping, including negative approaches, and less likely to facilitate personal and spiritual growth.

Religious Coping

Consistent with hypotheses, greater perceptions of sacred loss and desecration were associated with higher levels of both positive and negative

forms of religious coping. Also in line with previous studies among medical patient samples (Lavery & O'Hea, 2010; Trevino et al., 2012; Zwingmann et al., 2006), positive and negative religious coping were significantly associated with one another in the present sample. Taken together, these findings support the theory that religiousness and spirituality often play a mobilizing role and are therefore employed in all their forms (i.e., positive, negative, and neutral) to cope in the face of a significant life stressor (Fitchett et al., 1999; Pargament et al., 1998). In the present sample, the stressor was a sudden physical health event that was associated with the loss or violation of sacred aspects of life for many individuals. Accordingly, religious and spiritual means of coping in response to losses or affronts to sanctified domains of life substantiates existing models of stress, appraisal, and coping within a religious and spiritual framework (see Lavelock, Griffin, & Worthington, 2013 [this volume]). Interestingly, levels of both positive and negative religious coping did not change from admission to follow-up assessment, which signifies that individuals continued to engage in similar levels of religious and spiritual coping well after the health event occurred.

In support of our hypotheses, the cross-sectional mediational results of the present study suggest that the type of religious coping employed following initial religious and spiritual appraisals significantly affects mental health outcomes. Specifically, following appraisals of sacred loss and desecration, positive religious coping facilitated posttraumatic growth, whereas negative religious coping contributed to anxiety and depression. Moreover, the longitudinal mediational findings that negative religious coping acted as a significant mediator between both sacred loss and desecration at admission and both anxiety and depression at follow-up indicate that individuals with appraisals of sacred loss and desecration at admission are more likely to engage in forms of negative religious coping, which in turn are linked to greater symptoms of anxiety and depression over time. Thus, individuals who perceive higher levels of sacred loss and desecration at admission are indeed at risk for anxiety and depression following discharge from rehabilitation. It may well be that initial appraisals of sacred loss and desecration, combined with use of negative religious coping styles, lead to what scientists of psychology and religion and spirituality are calling "religious or spiritual struggles" (Exline & Rose, 2005; Pargament, Murray-Swank, Magyar, & Ano, 2005c), because of their reliable association with poor adjustment and heightened symptoms of mental and physical health problems. Longitudinal studies that follow rehabilitation patients for a longer duration, perhaps 2–5 years after discharge,

would be helpful for sorting out the lasting implications of religious and spiritual appraisals and various forms of religious coping following rehabilitation for an unexpected health event or new medical diagnosis.

Finally, the results of the mediation analyses from this investigation provide credence to theory and research that suggests religiousness and spirituality may exert their impact on health via religious and spiritual means (Ellison & Levin, 1998; Pargament, Magyar-Russell, & Murray-Swank, 2005b). In the present rehabilitation sample, religious coping certainly appeared to be an important mechanism through which religious and spiritual appraisals related to health outcomes.

Clinical Implications

The present investigation of sacred loss and desecration among medical patients has several broad, as well as more explicit, clinical implications that can be utilized by a variety of health professionals in applied settings.

Assessment

Appraisals are the first step in the stress and coping process. Thus, identifying individuals with religious and spiritual appraisals of sacred loss and desecration related to their injury or illness alerts clinicians to the potential for adverse psychological and religious and spiritual outcomes. Furthermore, continued evaluation of the aspects of life that the health event impacted, whether or not these domains hold religious and spiritual meaning for the individual, and the religious and spiritual coping strategies used during the rehabilitation process are important areas of ongoing vigilance for the clinician. Because levels of both sacred loss and desecration went down significantly from baseline to post-discharge assessment in this sample (see Table 2), perhaps good indicators for individuals at risk for adverse religious, spiritual, and psychological outcomes are levels of sacred loss or desecration that stay consistent, or worsen, over even a relatively short period of time, such as the 6–8 month follow-up period observed in this study. Equally important for assessment is the finding that early benevolent religious appraisal consistently and strongly contributed to positive life changes in domains such as personal strength, appreciation for life, and spiritual change.

Mental health professionals in particular may find it beneficial to inquire about patients' religious and spiritual beliefs and practices as part of a comprehensive evaluation and should not be reluctant to inquire

about the spiritual needs of their patients. For instance, in their study with rehabilitation patients, Fitchett et al. (1999) found that participants who reported that they discussed spiritual issues with a psychologist in the rehabilitation hospital were more likely to evaluate the counseling they received as "very helpful" (67% v. 29%). Clinicians might consider using an open-ended format that either implicitly or explicitly inquires about sacred aspects of life (Pargament, 2007). Equally effective might be the use of a more formal, explicit measure of religious and spiritual appraisals, such as the Sacred Loss and Desecration Scale used in the present study (Pargament et al., 2005a), especially for clinicians who are less experienced in religious and spiritual assessment.

Moreover, as demonstrated in the present investigation, and in several studies conducted with medical patients (Fitchett et al., 1999; Fitchett et al., 2004; Koenig, George, & Titus, 2004; Pargament et al., 2001; Pargament et al., 2004; Cotton et al., 2013 [this volume]; McGee, Myers, Carlson, Funai, & Barclay, 2013 [this volume]; Pedersen, Pedersen, Pargment & Zachariae, 2013 [this volume]), certain negative expressions of religiousness (i.e., perceptions of sacred loss or desecration, feeling abandoned or punished by God) are predictive of adverse religious and spiritual, mental, and often physical health outcomes when used over a prolonged period of time. Thus, screening for religious and spiritual appraisals and coping strategies is potentially clinically important, but a seldom implemented strategy, for identifying individuals who are more vulnerable to adverse health outcomes as a result of "underdeveloped, conflicted, overwhelmed, or negative spirituality" (Fitchett, 1999, p. 4). Of interest, among 200 newly admitted medical and surgery patients, those who were in high need of spiritual intervention and had few spiritual resources were less likely to request spiritual assistance in comparison to those with less need and greater spiritual resources (Fitchett, 1999), underscoring the importance of religious and spiritual assessment. Moreover, rehabilitation staff members often refer patients who identify themselves as having strong religious and spiritual beliefs and who typically have moderate or high levels of spiritual resources (Fitchett, 1999). Thus, those in greatest need are often overlooked by health professionals.

To this end, Fitchett and Risk (2009) developed the Rush Protocol (RP) which is a 3-item screening protocol (6 items total; a decision tree is followed for each patient with a maximum of 3 questions possible per patient) that can be administered by any health professional with brief training to identify individuals who may benefit from a more in-depth religious assessment by a chaplain or an appropriately trained mental

health professional (Fitchett & Risk, 2009). Utilizing the RP, or a similar religious struggle screening protocol, could increase the efficiency and productivity of chaplains and mental health care providers by focusing their therapeutic efforts on individuals at greatest risk for religious struggle and its associated patterns of distress (see also Grossoehme & Fitchett, 2013 [this volume]).

Intervention

The present study suggests that in addition to pastoral counselors, mental health professionals trained in cognitive behavioral therapy may be able to effectively intervene at the level of religious and spiritual appraisals, as well as assist patients in modifying maladaptive coping strategies in response to negative life events. For instance, several widely practiced cognitive techniques could be successfully applied to spiritual appraisals, such as gaining an understanding of patients' idiosyncratic religious and spiritual meaning systems through guided association, helping patients identify the origin of their religious and spiritual assumptions and automatic thoughts, and challenging absolute or dichotomous thinking when appropriate (Richards & Bergin, 2000; Shafranske, 1996; Worthington, Kurusu, McCollough, & Sandage, 1996). Behavioral strategies could also be effectively adapted to assist patients in their religious and spiritual coping process (Miller & Martin, 1988; Propst, 1988; Propst, 1996). Techniques such as activity scheduling may be used to plan times for contemplation, meditation, or prayer, and relaxation and breathing exercises could be integrated into these religious and spiritual activities as well. Bibliotherapy with religious and spiritually oriented works, as well as behavioral experiments in which patients practice asking for spiritual support (e.g., prayers, requests for religious rituals or sacraments, engaging in discussions about God, spirituality, or meaning) from loved ones or clergy, may also be options in clinical interventions aimed at modifying maladaptive religious and spiritual coping methods (Miller, 1999; Miller & Martin, 1988). Psycho-spiritual interventions (Pargament, 2007), in which religious and spiritual issues are the focus of clinical attention, have recently begun to be scientifically developed, empirically tested, and practiced in applied settings. Continued basic and applied research in this area is necessary to further the development of effective and appropriate interventions for people of various religious faiths and spiritually-oriented belief systems. The importance of discussing patients' views of secular (i.e., non-clergy) input regarding their thinking about religious or spiritual appraisals and coping needs to be solicited as part of this process as well.

Limitations

A number of limitations of the present study should be acknowledged. First, characteristics of the study sample may compromise the generalizability of findings. Specifically, the current study included patients with several medical diagnoses, some more related to likelihood of functional recovery than others (e.g., orthopedic injuries versus spinal cord injuries). Unfortunately, sub-groups of patients were not large enough to allow separate analyses. The diagnostic diversity of this sample may have obscured some of the relations between religious, spiritual, and psychological variables central to the adjustment and recovery process for some patients groups. Therefore, religious and spiritual appraisals and coping strategies should be studied with larger, more homogeneous rehabilitation samples. In addition, this sample was almost exclusively Caucasian (94%), from Christian religious traditions (87%), from the Mid-western United States, and somewhat over-representative of individuals with high levels of education. Thus, it is uncertain how applicable these findings may be to medical rehabilitation patients from different racial, social, geographic, and religious and spiritual backgrounds. Studies with more diverse patient samples should be carried out, including consideration of adapting measures of religiousness and spirituality to align more closely to different religious and spiritual faith traditions and worldviews.

Additionally, measurement of benevolent religious appraisals was conducted with a subscale of the full RCOPE, a measure of a wide range of religious and spiritual coping methods, rather than an instrument developed to assess comprehensively the variety of benevolent primary religious and spiritual appraisals. There is not, however, to our knowledge an established measure of benevolent religious appraisal equivalent to the Sacred Loss and Desecration Scale (Pargament et al., 2005a); thus, we adapted the instructions of an already established measure for use in this study. Researchers should consider the development and validation of measures of primary benevolent religious appraisals in future studies. Finally, longitudinal analyses in the present study were not path analytic, which would require a larger sample size. Even so, a strength of the longitudinal models was the stringent control for significant covariates, severity and negativity of the health event, global religiousness, and the outcome variable at admission (i.e., anxiety, depression, posttraumatic growth) in order to isolate the unique contribution of religious and spiritual appraisals in the prediction of outcomes. Future longitudinal studies with rehabilitation patients should both follow participants for a longer duration and use structural equation modeling to provide more clarity regarding

the long-term mental and physical health implications of religious and spiritual appraisals, and various forms of religious coping, following medical rehabilitation.

Conclusions

The present investigation contributed to the study of religiousness, spirituality, and health by applying an established model of stress, appraisals, and coping (Lazarus, 2007; Lazarus & Folkman, 1984) to the religious and spiritual dimension of people's lives. Religious and spiritual appraisals, in conjunction with religious and spiritual coping responses, provided unique and clinically useful insight into the immediate, as well as more extended, adjustment process of patients undergoing acute medical rehabilitation. The current study not only supported previous findings regarding the importance of the sacred in the human experience of major negative life events, but it offered new knowledge about the prevalence and implications of religious and spiritual appraisals and the coping process over time. The results suggest that, although important, religious and spiritual appraisals do not influence outcomes in isolation. Instead, how individuals respond to, or cope with, their initial religious and spiritual appraisals may be fundamental to predicting psychological outcomes following inpatient medical rehabilitation. Finally, this investigation pointed to new practical directions for a more spiritually-sensitive and integrated approach to facilitating the health and well-being of patients undergoing medical rehabilitation.

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Appendix

Case Examples and Sample Items used to measure Sacred Loss, Desecration, Negative Religious Coping, and Positive Religious Coping

Case Examples	Sample Items
Sacred Loss	
Case I. "I don't understand. I had a stroke and I'm only 21. Why did God let this happen to me?" Lauren is a soft spoken, unassuming young woman who lives at home with her mother and siblings and has worked as a housekeeper since age 17 to save up for college. She had recently been accepted to university and was 10 days away from attending her first college lecture when she suffered a cerebral artery occlusion. Lauren was devastated. She acknowledged feeling confused, cheated of her youth, and most troubling of all, she felt she had lost her chance to earn a college degree. Throughout her schooling Lauren had always been told how smart she was. She had a God-given ability to almost effortlessly solve difficult mathematics and physics problems. She wanted to be a mechanical engineer, and she thanked God for her intellect because she knew it was her chance for getting out of manual labor. Why would God give her a gift for 21 years, only to take it away just when she was going to use it to its full potential to better her life? Lauren identified feeling as though she lost abilities that were given to her by God, including her intellect, health, and ability to work to earn money. She also reported that her identity as a Christian (Baptist) was shaken, yet she didn't want to tell fellow church members for fear of what they would think of her. She remarked that she felt she no longer knew God. God had never let serious harm come to her. Now she didn't know what to think. Had she done something to displease God?	*Sacred Loss* I suffered the loss of something that was given to me by God My life lacks something that once gave me a sense of spiritual fulfillment Something from God was torn out of my life. *Negative Religious Coping* Felt punished by God for my lack of devotion Wondered whether my church had abandoned me Wondered what I did for God to punish me

Appendix (*cont.*)

Case Examples	Sample Items
Case II. Deloris had been widowed for the past 15 years and now lived with her adult daughter and her husband. By all standards Deloris was "as healthy as a horse," taking nothing but vitamins at age 88. She was proud of this fact. Without warning, Deloris suffered a right hemispheric ischemic stroke and right internal carotid artery stenosis. She experienced impulsive behavior, mood changes, trouble swallowing, speaking, reading, writing and paralysis in the left side of her body. She reported feeling a loss of control and independence. Deloris was fearful that this might be the first of many health problems that would lead to a poor quality of life and a slow, miserable death process. Deloris noted that her previous good health was a blessing from God. Although she worked hard at eating well and walked around the neighborhood every day, she credited God with giving her "good genes" that kept her strong and healthy. Following her stroke, she felt she had lost her status as a "healthy person," physical abilities, mental acuity, and her sense of security: all things she previously credited to God's grace and goodness. Deloris nevertheless remarked, "I'm 88. I suppose something is going to go wrong with my old body. I'm human, so I can't expect God to keep me perfectly healthy forever." She turned her worry and disappointment into building a closer relationship with both God and her daughter. She began to reflect on her end-of-life wishes and shared them with her daughter. She felt closer to God than prior to the stroke.	*Sacred Loss* Something I held sacred is no longer present in my life A part of my life in which I experienced God's love is now absent Something that gave sacred meaning to my life is now missing *Positive Religious Coping* Sought God's love and care Tried to see how God might be trying to strengthen me in this situation Focused on religion to stop worrying about my problems
Desecration *Case I.* It was Christmas Eve day. Janice, age 40, and her husband, Ron, decided at the last minute that they would go out and get a real Christmas tree. They had both been busy	

Appendix (*cont.*)

Case Examples	Sample Items
with work and holiday preparations and previously could not commit to either buying a real tree or putting up the artificial tree they had had for years. But today, the sun was shining, there was a thin layer of fresh snow on the ground and the temperature outside was mild; it was perfect for walking in the field, picking their own tree, chopping it down and tying it on top of their sport utility vehicle (SUV). With the tree atop their SUV, Christmas carols on the radio, and fresh cups of coffee in the cup holder, they set off for home to adorn the tree with ornaments. Five minutes later, Janice and Ron's lives would never be the same. They were hit by an intoxicated driver at 1:00 in the afternoon. Ron was driving and sustained minor injuries, Janice sustained a cervical spinal cord injury (C_5) and, as she later learned, would not walk again.	*Desecration* Something evil ruined a blessing in my life A sacred part of my life was violated This event was an immoral act against something I value
During her inpatient rehabilitation, Janice recalled the smell of coffee and how she watched it trickle through the cracks of the broken windshield as she waited for a rescue crew to arrive. She was not in pain but was painfully aware that she could not move. She recalled thinking about the person that hit them, "that evil man ruined our lives."	
The intoxicated driver took many things from her that day, among them sacred qualities and experiences. Janice felt he violated "her very being," including her physical body and the strength and energy that had been given to her by God. Moreover, she believed she could no longer have sex with her husband, for her a sacred act, in the same manner, and the values of trust, freedom, and fairness she had previously held were violated. She no longer knew what to believe in and certainly felt anger and resentment toward this man, as well as toward God for "allowing it to happen." How could someone do something so irresponsible, immoral, and malicious? And why did God let this happen to me?	*Negative Religious Coping* Questioned God's love for me Wondered whether God had abandoned me. Decided the devil made this happen

Appendix (*cont.*)

Case Examples	Sample Items
Case II. John, age 57, was aware that the chemical plant next door filled the air with an unnatural smell. For the last 10 years he had followed the company's profile and noted that they had received fines for illegally dumping waste into a nearby river. He did not like living near the plant, but he could not afford to sell his home and move. Suddenly, John was diagnosed with Guillain-Barrè syndrome, a serious autoimmune disorder that damages the nerves causing loss of muscle function (paralysis). Although the cause of Guillain-Barrè is not known, John was convinced that chronic exposure to the chemicals used at the plant, via air and ground water, caused him to develop these symptoms. John noted his perception that the chemical company violated his right to breathe clean air and drink clean water, natural gifts that God provides. He stated that he felt that not only had the company damaged his health, but they purposely dishonored the environment by polluting the water with chemicals, which in turn impacts the lives of many people. John was disgusted with the actions of the company and felt that the people who own the company should be punished for their immoral actions.	*Desecration* This event was both an offense against me and against God The event was a sinful act involving something meaningful in my life Something sacred that came from God was dishonored Something symbolic of God was purposely damaged
Although upset and angry, largely at the chemical company, John was able to see another side to his situation. He was able to work collaboratively with God and his family to think creatively about his rehabilitation process, including how to heal from this difficult medical diagnosis emotionally and spiritually. John left his job and eventually was able to sell his home to move in with this sister and her family, which included attending church on Sundays once he learned to manage his symptoms with assistive devices.	*Positive Religious Coping* Sought help from God in letting go of my anger Tried to put my plans into action together with God Looked for a stronger connection with God

Note: Names and details of case examples have been changed to protect patient anonymity.