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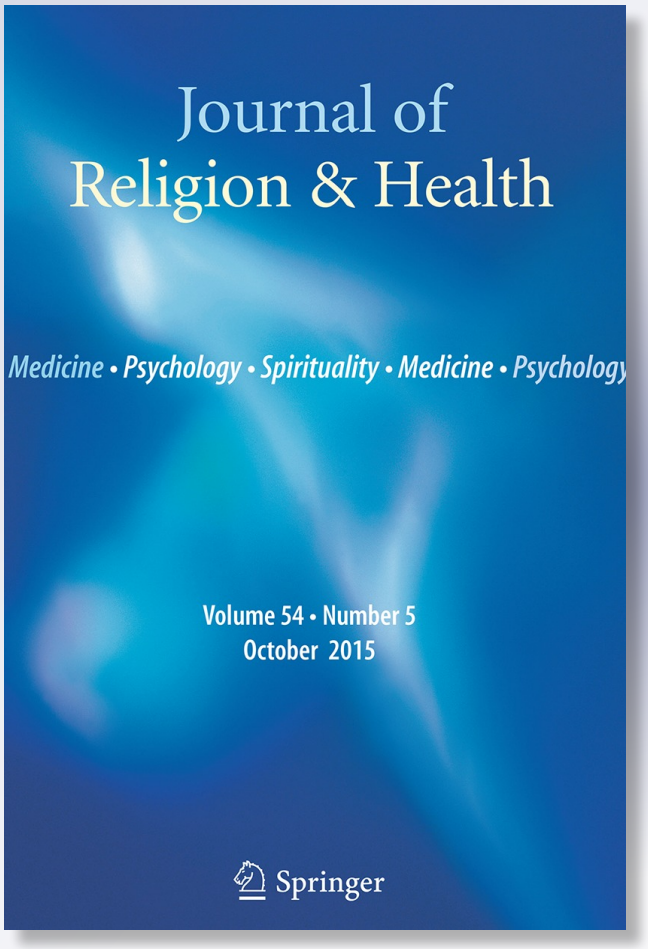

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ORIGINAL PAPER

Spirituality, Religion, and Health: The Role of Communication, Appraisals, and Coping for Individuals Living with Chronic Illness

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Abstract Currently, 10 % of Americans are living with a chronic illness. One coping mechanism for individuals living with chronic illness is religion and/or spiritual (R/S). To better explicate the relationship among R/S and psychological well-being, we conceptualize R/S as an interpersonal process involving conversations that may facilitate positive reappraisals. We use a mixed-method approach from data collected from 106 participants, involving a content analysis of R/S conversations and test Burleson and Goldsmith's (Handbook of communication and emotion: research, theory, applications, and contexts, Academic Press, San Diego, pp 245–280, 1998) appraisal-based comforting model. Partial support for the model was found. In addition, the majority of R/S conversations were considered positive, helpful, and supportive. Theoretical and practical implications are discussed.

Keywords Religion and spirituality · Appraisal-based comforting model · Chronic illness

Introduction

Chronic illness, which requires changes in lifestyle to manage, control, or palliate symptoms, is the leading cause of death and disability in the USA (Lowe and McBride-Henry 2012). According to the Centers for Disease Control and Prevention (CDC 2012), chronic illness accounts for 70 % (i.e., 1.7 million) of all deaths each year. Approximately one-fourth of people diagnosed with a chronic health condition have one or more daily activity limitations that require lifestyle alterations in order to manage symptoms (CDC 2011a). Although treatment advancements have increased the life expectancy for people living with chronic illness, new challenges surface as individuals must learn to cope with the

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prognosis (Maslow et al. 2011) in order to mitigate chronic pain and maintain quality of life (CDC 2011b). Decades of research show that an individual's capacity to cope over an extended period of time has a direct positive effect on the adjustment and outcome of the illness (Bombardier et al. 1990; Curtis et al. 2004; Jensen et al. 1991; Kraemer et al. 2011).

One way to cope with chronic illness is through spirituality and/or religious involvement (e.g., Koenig 2008; Kremer et al. 2009). In fact, Glover-Graf et al. (2007) found that many individuals report being more spiritual or religious after the onset of chronic pain conditions. Though conceptually different, both spirituality and religion have been associated with better health outcomes for those experiencing chronic illness. For example, Mosack et al. (2005) found that for some HIV-positive drug users, having a spiritual orientation enabled them to view HIV as an opportunity to experience personal growth. For other chronic illnesses, spirituality has been associated with lower anxiety and depression (Laurencelle et al. 2002). Spirituality has also been associated with improvement in glycemic control (Newlin et al. 2008) and self-management behaviors (Polzer and Miles 2007) for individuals living with diabetes. Similarly, religiosity has been associated with reductions in diseases such as diabetes (Koenig 2008) and improved immune and circulatory systems (Kline 2011). Finally, religious involvement has been related to states such as happiness, optimism, hope, gratitude, forgiveness, and altruism, which are all linked to positive health outcomes (Snyder and Lopez 2007).

Given the physical and psychological benefits associated with religious involvement and spirituality (herein referred to as R/S), health practitioners have incorporated principles of spiritual coping into medical and research interventions (Kremer et al. 2009; Litwinczuk and Groh 2007; Musgrave et al. 2002; Pargament et al. 2004). However, we do not yet have an adequate understanding about *why* there is a positive association among religion, spirituality, and emotional improvement, which limits the degree to which we can attribute positive intervention outcomes to specific R/S-related processes (Krause 2011; Peterson 2011). We suspect that one limitation pertains to how R/S is typically conceptualized, in that it is framed primarily as a system of isolated personal beliefs (Peterson 2011). Although some R/S practices are indeed intrapersonal (i.e., silent meditation), many R/S practices are interactive and involve communication (i.e., community spoken prayer, participating in religious services with a group of individuals who share similar beliefs, conversations with a spiritual mentor). These social and communicative components to R/S may be one reason *why* R/S leads to emotional improvement (Peterson 2009; Peterson et al. 2010). However, to date, we have a limited understanding of the interpersonal nature of R/S as a communication mechanism of social support within the context of chronic illness (Peterson 2011). Indeed, an understanding of the communicative features within R/S conversations may illuminate how different messages are associated with social support and psychological states, such as emotional improvement.

Appraisal Theory in the Context of Chronic Illness-Related Communication

Lazarus and Lazarus (1994) define coping as "what we do and think in an effort to manage stress and the emotions associated with it" (p. 152). Coping may be viewed as an effect or outcome of a particular emotion, or precede emotions that influence subsequent appraisals. As with religiosity, coping is often conceptualized as an intrapersonal process. In fact, Lazarus and Lazarus (1994) referred to coping as "the self-management of emotion" (p. 152). During times of stress, people do cope individually; however, many individuals turn to members of their social networks for help when confronting stressful circumstances like chronic illness (Burleson and Goldsmith 1998; Goldsmith 2004; Peterson 2011). In

instances when individuals seek help from others, coping becomes an interpersonal process that focuses on the communication between individuals, rather than individual psychological behaviors (Goldsmith 2004).

According to appraisal theory (Lazarus 1991; Lazarus and Lazarus 1994), a reappraisal is an evaluation of a stressor that results in an emotional reaction. One way a distressed emotional state can be alleviated is through positive reappraisals about the emotional distress (Lazarus 1991). For religious patients, cognitive positive reappraisals are considered to be a key underlying mechanism through which prayer has an effect on pain tolerance (DeZutter et al. 2011). However, not all R/S-identified individuals find R/S coping practices to be associated with positive appraisals. In some instances, religious coping is associated with more negative feelings about oneself and the future (e.g., Falb and Pargament 2013). These outcomes may occur regardless of the specific religion or spiritual home with which one practices or identifies (Ano and Vasconcelles 2005; Exline and Rose 2005; Tarakeshwar and Pargament 2001).

An examination of the communication about R/S within the context of chronic illness may provide insight to certain features associated with the benefits of R/S as a coping strategy. In considering the communicative components to coping, Burleson and Goldsmith (1998) advanced the appraisal-based comforting model to expand on principles (e.g., coping, reappraisal) first conceptualized in stress and coping theory (Lazarus and Folkman 1984) and appraisal theory (Lazarus 1991; Lazarus and Lazarus 1994). Within the model, conversations provide "a medium in which a distressed person can express, elaborate, and clarify relevant thoughts and feelings" in order to develop positive reappraisals about a stressor (Burleson and Goldsmith 1998, p. 260). Comforting is conceptualized as an interactive process during which messages from the supporter assist the distressed other in developing new and potentially more productive appraisals about the stressful situation.

Burleson and Goldsmith (1998) contend that effective comforting communication contains three key message features. First, such communication focuses on the individual's emotional experience. Supporters who use effective comforting communication encourage distraught persons to identify and elaborate on upsetting emotions (e.g., How did that make you feel?) and examine why those emotions are experienced (e.g., What made you so upset?). Second, the content of comforting communication reflects a descriptive and explanatory orientation by encouraging distraught individuals to express thoughts and feelings about an upsetting event. For example, individuals who use an explanatory orientation may ask, "What happened?" or say, "Tell me more." Third, the exchange of comforting communication exhibits sensitivity to facework. Facework is an individual's desired public self-image during an interaction (e.g., desiring to present oneself as strong and capable, despite having a chronic illness; Goldsmith 2004). Effective comforting communication that is sensitive to facework (i.e., saves face) validates the distraught person's emotions and generates a nurturing and caring environment where the distraught person feels safe to express their thoughts.

Comforting messages that contain these three properties are referred to as person-centered messages. In previous studies, messages that contain a high degree of person-centeredness yield favorable outcomes for people living with a chronic illness because these messages enhance personal well-being (High and Dillard 2012) and provide effective emotional support (Burleson 2008). Individuals living with chronic illness talk about spiritual practices providing a source of social support (Peterson 2011), and it is likely that certain messages are more favorable than others, especially since not all R/S coping practices are considered positive (e.g., sharing certain R/S perspectives or beliefs that make someone feel inferior and/or induce stress; Falb and Pargament 2013). An examination of the communication about R/S within the context of chronic illness may provide insight to

the benefits of R/S as a coping strategy and the role of person-centered messages in achieving emotional improvement and support and lend further empirical support to Burleson and Goldsmith's appraisal-based model. Again, conceptualizing R/S as an interactive process, we used a mixed-methods approach to test the principles of the appraisal-based comforting model and examine the content of conversations about R/S and one's illness. We examined the following research questions and associated hypotheses.

RQ1: What themes emerge in conversations linking R/S to chronic illness?
H1: Conversations that contain more person-centered messages will be rated with higher levels of emotional support, esteem support, and emotional improvement than conversations that contain fewer person-centered messages.
H2: Positive reappraisals will mediate the relationship between person-centered messages and emotional improvement.

Methods

Participants

A total of 146 English-speaking adults living with a chronic illness began an online survey. Eight participants were missing a significant amount of data and were removed from the aggregated data set. Of the remaining 138 participants, 106 reported having had a conversation where they linked R/S with their chronic illness and were used for hypothesis testing. From this group of 106, women comprised 71.7 % of the sample ($N = 76$). The average age of the participants was 44.92 (SD = 15.82), with ages ranging from 20 to 82. Participants were primarily of White/Caucasian ethnicity (84 %, $N = 89$), and overall, the majority of the sample was highly educated: approximately 66 % ($N = 70$) reporting having a bachelor's, master's, or doctorate degree. Over half of participants ($N = 59$) were married (56.2 %). A variety of religious affiliations were represented with the majority identifying with non-Catholic Christian denominations (46.2 %), followed by Catholic (33 %), Other (7.5 %), Unitarian Universalism (2.8 %), Jewish (2.8 %), no religion (1.9 %), Muslim (1.9 %), Buddhist (1.9 %), and Pagan (1.9 %). Participants reported having at least one of 41 different chronic illnesses (Table 1), with the most commonly named illnesses being diabetes ($N = 16$, 39 %, HIV/AIDS ($N = 10$, 24.4 %), and cancer ($N = 10$, 24.4 %)). Approximately 54 % of the individuals reported being diagnosed with more than one chronic illness. The length of the chronic illness spanned from less than 1 to 46 years ($M = 9.90$, SD = 8.99).

Procedure

Following approval by the university's Institutional Review Board, a convenience sample was recruited from non-profit organizations, clinics, targeted listservs, support groups, and social networking sites (e.g., Facebook) throughout the USA. Due to the online nature of the survey, as well as protection of individuals' personal information, we do not have a record of where participants reside. Interested organizations and individuals were emailed a web link to the online survey and encouraged to share the link with family and friends who met the eligibility criteria. In order to be eligible to participate in the study, participants had to meet two criteria: (a) diagnosed with a chronic illness that requires daily self-management or adaptive practices, and (b) self-identify as spiritual or religious. The online

Table 1 Type of chronic illness

Name	*N*	Percentage (%)
Diabetes	16	39.02
HIV/AIDS	10	24.39
Cancer	10	24.39
Lupus	8	19.51
Arthritis	8	19.51
Asthma	7	17.07
Multiple sclerosis	7	17.07
Depression	7	17.07
Cardiac disease	6	14.63
Attention-deficit/hyperactivity disorder	5	12.20
Anxiety	5	12.20
Parkinson's disease	4	9.76
Fibromyalgia	3	7.32
Anemia	3	7.32
Chronic migraines	3	7.32
Neuropathy	2	4.88
Coronary artery disease	2	4.88
Hypertension	2	4.88
Crohn's disease	2	4.88
Autoimmune deficiencies	2	4.88
Interstitial cystitis	2	4.88
Psoriasis	1	2.44
Irritable bowel syndrome	1	2.44
Cerebral palsy	1	2.44
Sciatica	1	2.44
Chronic fatigue	1	2.44
Ankylosing spondylitis	1	2.44
Transverse myelitis	1	2.44
Bipolar disorder	1	2.44
Inclusion body myositis	1	2.44
Neurofibromatosis	1	2.44
Ulcerative pancolitis	1	2.44
Nerve pain	1	2.44
Hydrocephalus	1	2.44
Lyme's disease	1	2.44
Cervical compression	1	2.44
Post-traumatic stress disorder	1	2.44
Multiple system atrophy	1	2.44
Fibromuscular dysplasia	1	2.44
Epstein Barr virus	1	2.44
Above-knee amputation w/severe phantom pain	1	2.44

survey took approximately 30 min to complete. All participants who completed the survey were entered into a drawing to receive a $50 gift card.

Eligible participants completed items about demographic information, degree of religiosity and/or spirituality, stress, depression, and illness intrusiveness. Participants were then asked whether they had a conversation where they "talked about things related to the illness and also talked about religion and/or spirituality." Participants who responded that they had a conversation were directed to the rest of the survey, which included open-ended questions about the conversation and several closed-ended measures (e.g., person-centered messages, conversation reappraisal, emotional improvement, perceived emotional and esteem support). Those who had not had a conversation linking R/S to chronic illness were redirected to the end of the survey and did not contribute data for this study.

Measures

Spirituality

Participants reported their level of spirituality using the Functional Assessment of Chronic Illness Therapy—Spiritual Well-Being Scale (FACIT-Sp; Peterman et al. 2002). The instrument comprises two subscales—an 8-item scale measuring a sense of meaning and peace, and a 4-item scale, which assesses the role of faith in illness. All items are measured on Likert scales with higher scores reflecting a stronger use of spirituality in the functional assessment of chronic illness therapy. For our sample, internal consistency was adequate for both the meaning and peace subscale ($\alpha = .79$) and the faith in illness subscale ($\alpha = .81$). We have combined the two subscales to create one summed score for each participant. The total internal reliability for our sample is moderate ($\alpha = .85$).

Religiosity

The Ironson–Woods Spirituality/Religiousness Index (SR) was used to capture both public and private (i.e., interpersonal and intrapersonal) dimensions of spirituality and religiosity (Ironson et al. 2002). Two subscales capture aspects of spirituality (sense of peace and compassionate view of other) and two subscales examine aspects of religiosity in the more traditional sense (faith in God, religious behavior). Items are measured on a Likert scales with higher scores reflecting higher levels of spirituality/religion. In our sample, all four subscales demonstrated acceptable internal consistency ($\alpha = .90$, .91, .87, and .78) for sense of peace, compassionate view of other, faith in God, and religious behavior, respectively. We used the summed total score (all 25 items).

Stress

The 10-item Perceived Stress Scale (PSS; Cohen et al. 1983) measures stress on a 5-point Likert scale, with higher scores reflecting higher levels of perceived stress. The internal reliability for the modified PSS scale was high ($\alpha = .90$).

Illness Intrusiveness

The Illness Intrusive Rating Scale (IIRS; Devins et al. 1983) measures the extent to which illness and/or its treatment interfered with a person's quality of life. The measure included

13 items that are rated from 1 (*not very much*) to 5 (*very much*). Scale items assessed interferences of illness on different aspects of life (e.g., sex life, religious expression, financial situation, community and civic involvement). Higher scores reflect the presence of more illness intrusiveness in daily life. Internal reliability for this measure was high ($\alpha = .92$).

Depression

The short form of the Depression Anxiety Stress Scale was used to assess symptoms of depression (DASS-21; Lovibond and Lovibond 1995). Items were measured on a 4-point Likert-style scale and included items such as "I felt down-hearted and blue" and "I found it difficult to work up the initiative to do things." Higher scores reflected the presence of more depressive symptoms. Internal consistency for this measure was excellent ($\alpha = .93$).

Person-Centered Messages

Participants who reported having a conversation linking R/S to chronic illness were asked to rate the extent to which person-centered messages were used in the recent memorable conversation described earlier. Since a scale of person-centered messages does not exist, we developed a 3-item measure based on the three features of person-centered messages outlined by Burleson and Goldsmith (1998). Items included whether the other person (a) focused on his or her emotions (i.e., During the conversation, the other person acknowledged my feelings.), (b) asked him or her to describe or explain the situation (i.e., During the conversation, the other person asked me questions as I was talking or said things like "what happened?" and "tell me more" to get you to talk more?), and (c) was sensitive to facework (i.e., during the conversation, the other person made me feel safe and appreciated as I shared with them my emotions and experiences.). Participants rated the 3 items on a Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*), with higher scores reflecting more person-centered messages. Reliability for this measure was good ($\alpha = .80$).

Conversation Reappraisal

As a reminder, only participants who reported having had a conversation linking R/S to chronic illness completed the conversation reappraisal measure. Conversation reappraisals were measured using a scale developed by Jones and Wirtz (2006). Participants were asked to reflect on the use of reappraisals in the conversation they described for the open-ended question. The measure contains five Likert scale items that range from 1 (*strongly disagree*) to 5 (*strongly agree*). Scale items include (a) "My conversational partner made me think about the events I described during the conversation," (b) "I feel that I ought to re-evaluate the event now after the conversation," (c) "I don't really see the conversation in a different light after the conversation (reverse coded)," (d) "Talking with my conversational partner about the event helped me get my mind off it," and (e) "I understand the situation better now that I talked about it with my conversational partner." Higher scores reflected the presence of more positive reappraisals during the conversation. Reliability for this measure was adequate ($\alpha = .62$).

Emotional Improvement

Emotional improvement was measured using a scale developed by Jones and Wirtz (2006). The measure contains 3 items on a Likert scale that range from 1 (*strongly disagree*) to 5 (*strongly agree*). Scale items include (a) "I feel better after talking with my conversational partner," (b) "My conversational partner made me feel better about myself," and (c) "I feel more optimistic now that I have talked with my conversational partner." Participants who reported having had a conversation were asked to answer these questions in reference to the recent memorable conversation that they described earlier. Higher scores reflected more emotional improvement. Cronbach's alpha for the scale was high ($\alpha = .93$).

Perceived Emotional and Esteem Support

Participants who described a conversation completed measures of perceived emotional (7 items) and esteem support (7 items) using items from the Experience Support Scale (Xu and Burleson 2001). Participants were asked to answer the items in relation to the conversation they referred to in response to the open-ended questions related to R/S-focused conversation about chronic illness (see below). Examples of items included, "promising to keep problems you discuss in confidence," "providing you with hope and confidence," and "assuring you that you are a worthwhile person." Participants rated their responses on a Likert scale from 1 (*Don't Receive At All*) to 5 (*Receive A Great Deal*), with higher scores reflecting more emotional and esteem support. Internal reliability for the emotional support ($\alpha = .90$) and esteem support ($\alpha = .93$) measures were high.

Results

As stated previously, 138 people completed the survey, and a majority of participants reported having had a conversation with someone where they linked R/S with their chronic illness ($N = 106$, 77 %). Of those persons who did not have a conversation with someone ($N = 32$, 23 %), 26 individuals (81.3 %) did not wish to have such a conversation in which they could discuss R/S in relation to their chronic illness. Descriptive data are illustrated in Tables 1 and 2. Significant differences were found between those who reported having had a conversation linking R/S to a chronic illness and those who did not for spirituality, $t(136) = 3.47$, $p < .05$, religiosity, $t(136) = 4.58$, $p < .001$, and illness intrusiveness, $t(136) = 3.36$, $p < .05$. Those who had a conversation reported having more spiritual orientation, reported being more religious, and reported a higher level of illness intrusiveness compared to those individuals who did not have the conversation. No differences in levels of depression or stress were found between those who reported having a conversation and those who did not.

The research questions and hypotheses were analyzed using only the 106 individuals who reported having R/S conversations with someone about their chronic illness. First, we discuss the qualitative findings, followed by the quantitative results.

Description of R/S-Focused Conversation About Chronic Illness

Three open-ended questions were asked. These questions were (a) describe a recent conversation that you had where you talked about R/S in relation to chronic illness (b) describe

Table 2 Comparison between participants who did and did not report having had a conversation about R/S and their chronic illness

Reported conversation	*N*	*M*	SD	Range
Spirituality				
Yes	106	47.68*	6.73	45.00
No	32	43.04*	6.25	22.00
Religiosity				
Yes	106	102.50**	14.36	67.00
No	32	89.40**	13.50	57.00
Stress				
Yes	106	26.99	6.53	36.00
No	32	28.16	4.98	16.00
Illness intrusiveness				
Yes	106	36.04*	10.14	51.00
No	32	29.35*	8.84	32.00
Depression				
Yes	106	11.26	3.96	21.00
No	32	11.78	4.35	14.00

* $p < .005$
** $p < .001$

the other person's response to what you were saying in the conversation, and (c) in thinking about the conversation, describe what happened after the conversation ended.

The first research question (i.e., *What themes emerge in conversations linking R/S to chronic illness?*) was examined using a summative approach (Hsieh and Shannon 2005) to qualitative content analysis. This process involves identifying and quantifying content to understand the contextual use of words or phrases. The first author used a modified open-coding approach (Corbin and Strauss 2008; Strauss and Corbin 1990) to identify specific words or phrases within the responses for the three open-ended questions. Once codes were applied and a preliminary categorical scheme was developed, the researcher met with two research assistants to review the codebook. After the initial training, both research assistants independently coded the data.

Cohen's kappa κ (Cohen 1960) was calculated to determine agreement between the two raters on each of the three open-ended questions (i.e., describe the conversation, describe the other person's reaction, describe what happened after the conversation ended). The coefficient κ indicates whether observed agreement is higher than or equal to chance agreement. Landis and Koch (1977) labeled ranges of values to determine the strength of agreement: 0–.20 = *slight*, .21–.40 = *fair*, .41–.60 = *moderate*, .61–.80 = *substantial*, and .81–.99 = *almost perfect*. Moderately strong interrater reliability existed for all three open-ended questions (κ = .71, .70, and .75, respectively). In the first question, individuals described the recent conversation that they had with someone. Five codes emerged within the data and were coded to examine the general content within these conversations. Twenty-seven responses were coded as *seeking help from others with similar religious or spiritual practices*. In these responses, participants described praying, attending bible study or religious services with those with whom they shared similar religious or spiritual perspectives and how engaging in these types were helpful. Twenty-five responses were coded as *purpose and meaning*, which included responses about how religion and spirituality allowed individuals to have a different perspective or approach toward understanding their chronic illness. In these responses, individuals made references to their illness being a part of God's plan; how the illness provided clarity about how to minister to others; and how

divine intervention or redemptive suffering (i.e., *understanding that suffering occurred for a greater purpose*) helped them to frame their illnesses. *Coping and comfort* was included in twenty-one responses. Here, participants mentioned how the conversation provided a reminder that they did not need to fear or worry because God's was in control of their illness. These conversations tended to provide the individual with greater strength, healing, peace, and thanksgiving for having their R/S to rely on during the illness. However, not all conversations contained messages that regarded R/S as a positive aspect to coping. Ten responses were coded as *questions or doubts in beliefs or practices*. During these conversations, participants expressed anger, resentment, blame, or difficulties associated with maintaining their R/S beliefs because of the illness. Thirteen responses were coded as other; these responses did not fit within the previous categories and were not categorically similar enough to be grouped into a single homogenous category.

For the second open-ended question, we asked individuals to describe the other person's response to the conversation. Forty-six responses were coded as *validation.* In these conversations, participants remarked how the other individual provided compliments or encouragement for sharing their thoughts and feelings and displayed supportive agreement for what was said in the conversation. Thirty responses were coded as *alternative perspectives or advice.* In these responses, individuals offered personal opinions or suggestions about information that was discussed in the conversation. Fifteen participants reported that there was *no response* from the other person about what was said in the conversation. A fourth code of *empathy* occurred five times. In these instances, the other person shared his or her own story to express similarity to what was said in the conversation. A final code, *lack of understanding* occurred four times. In these conversations, the other person responded by expressing disagreement with the other person or not being able to relate to the other person. These responses were considered unsupportive.

Finally, the third open-ended question was coded to understand what occurred after the conversation ended. Thirty-seven responses were coded as *positive emotions* wherein individuals reported experiencing feelings of happiness, peace, or contentment from the conversation. Twenty-three responses were coded as *adhering to advice*. In these responses, participants mentioned how they were following the prescribed advice or benefitting from a change in perspective resulting from the conversation. Seventeen responses were coded as *thinking about the conversation*, which included instances where individuals further reflected on or thought about the content after the conversation ended. Eleven responses that did not fit in any of the categories and were not conceptually homogenous enough to warrant their own category were coded as *other*. Finally, seven responses were coded as *nothing*; participants reported that nothing resulted from the conversation.

Quantitative Analysis

Hypothesis testing was conducted using only those participants who reported having had a conversation ($N = 106$). Means, standard deviations, and ranges for all variables of interest for the hypotheses are provided in Table 3. Person-centered messages and emotional improvement were both negatively skewed and transformed using a reflected log10 transformation for subsequent parametric testing.

In order to test hypothesis 1, that conversations that contain more person-centered messages will be rated with higher levels of emotional support, esteem support, and emotional improvement, a series of simple regression analyses were performed. Hypothesis 1 was supported, with person-centered messages significantly positively related to

Table 3 Descriptive data of appraisal-based comforting model

	N	*M*	SD	Range
Person-centered messages	106	12.00	2.70	12.00
Positive reappraisals	106	15.73	3.23	20.00
Emotional improvement	106	11.54	2.82	12.00
Emotional support	106	25.88	6.09	28.00
Esteem support	106	25.32	6.87	28.00

emotional support, $F(1, 104) = 20.21$, $p < .001$, esteem support, $F(1, 104) = 18.56$, $p < .001$, and emotional improvement, $F(1, 104) = 41.71$, $p < .001$.

Hypothesis 2 was tested using a mediation approach consistent with Baron and Kenny (1986). With this three-step approach, the regression of the outcome on the predictor was first tested ignoring the mediator (path *c* in Fig. 1). Next, the regression of the mediator on the predictor was tested (path *a*). Finally, the regression of the outcome on the mediator controlling for the predictor (path *b*) and the regression of the outcome on the predictor controlling for the mediator (path c') were calculated. The predictor (person-centered messages) and proposed mediator (reappraisal) were both centered for testing.

In Step 1 of the mediation model, the regression of emotional improvement scores on person-centered scores was significant, $b = .53$, $t(104) = 6.46$, $p = .001$. Step 2 demonstrated that the regression of the mediator, positive reappraisals, on person-centered messages was also significant, $b = 3.32$, $t(104) = 3.65$, $p = .001$. Step 3 of the mediation process illustrated that the mediator (reappraisal), controlling for the person-centered scores, was significant, $b = .04$, $t(104) = 4.43$, $p = .001$. Step 4 of the analyses revealed that, after controlling for the mediator (reappraisal), person-centered scores were still a significant predictor of emotional improvement scores, $b = .409$, $t(104) = 5.11$, $p = .001$, suggesting partial mediation. A Sobel test was conducted to test the significance of the indirect effect and found the partial mediation in the model to be significant ($z = 2.83$, $p = .005$). These results partially support hypothesis 2 (i.e., reappraisal partially mediated the relationship between person-centeredness of communication and emotional improvement) and are illustrated in Fig. 1.

Discussion

Our mixed-methods examination suggests that the enactment of R/S coping for some individuals living chronic illness patients is an interpersonal process. We discuss two primary insights from the data: (a) the majority of R/S conversations are considered positive, helpful, and supportive, and (b) conversations that contain more person-centered messages may play a role in social support and emotional improvement. That is to say, those who reported more person-centeredness during their recent conversations reported higher levels of perceived emotional support, esteem support, and more emotional improvement.

In the qualitative analysis, we found that the majority of conversations center around intentional help-seeking behaviors with other individuals who shared similar R/S beliefs. When talking about these conversations, individuals described how R/S provided purpose and meaning to the illness experience and/or comfort and coping during the difficult stages of the illness. The majority of the conversations were framed as being helpful or positive, followed by conversations where individuals provided validation or offered alternative

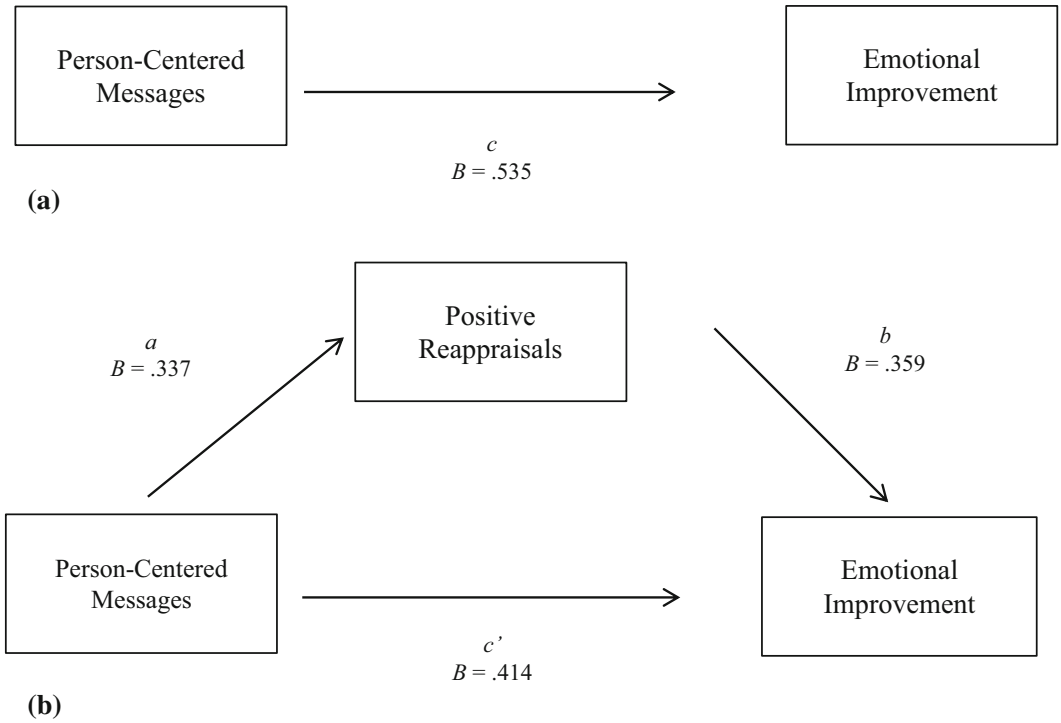

Fig. 1 Mediation analysis of appraisal-based comforting model. *B* represents the standardized regression coefficients. **a** Direct path, **b** mediated path

perspectives/advice about the information discussed in the conversation. As a result, individuals reported that these conversations were helpful and led to the experience of positive emotions and empowerment to take action based on the advice or perspective offered by the other person. As highlighted in previous research, a spiritual orientation provides individuals with an opportunity to experience personal growth (Mosack et al. 2005), and spiritual practices that involve conversations among individuals provide social support as new, potentially more productive perspectives on illness are being developed (Peterson 2011).

Although the majority of conversations were associated with positive outcomes, there were conversations where the discussion of R/S was perceived negatively (i.e., burden). A few individuals discussed how their illness caused them to question or doubt their R/S beliefs, and conversations about R/S provided an additional burden. In addition, some individuals reported that the R/S conversation involved a lack of understanding or sensitivity by the listener and the interaction was perceived as negative. Therefore, one must remember that not all R/S coping practices are positive, and conversations about R/S may sometimes lead to negative outcomes. Understanding the negative outcomes that may sometimes arise when using R/S coping is important because of its effect on adjustment and well-being (Falb and Pargament 2013). These outcomes may occur regardless of the specific religion or spiritual home with which one practices or identifies (Ano and Vasconcelles 2005; Exline and Rose 2005; Tarakeshwar and Pargament 2001).

Because not all R/S-identified individuals cope in the same way, (Falb and Pargament 2013) and R/S has been traditionally conceptualized as an intrapersonal construct (Peterson 2011), an examination of conversational features was needed to understand how certain features were associated with positive psychological outcomes. In testing Burleson and Goldsmith's (1998) appraisal-based comforting model, we found that indeed conversations

that contained more person-centered messages were associated with more positive psychological outcomes, not associated with stress or depression, and were partially mediated by conversational reappraisals. These findings are consistent with previous literature: cognitive positive reappraisals are considered to be the underlying mechanism between prayer and pain tolerance (DeZutter et al. 2011) and messages that contain a higher degree of person-centeredness yield favorable outcomes and enhance personal well-being (High and Dillard 2012).

Although the appraisal-based comforting model offers insight into our understanding of the underlying mechanisms in the relationship among religion, spirituality, and psychological health outcomes, our findings suggest that coping with chronic illness likely involves important interpersonal facets. In particular, it appears that person-centered messages for individuals living with a variety of chronic illnesses, with a closer examination of the messages' content and attention to facework, are important factors that influence how R/S messages are perceived and lead to psychological outcomes. By recognizing the interpersonal nature of R/S as a mechanism of social support by which individuals may start to positively reappraise their condition, health practitioners may be able to improve current interventions (Kremer et al. 2009; Litwinczuk and Groh 2007; Musgrave et al. 2002; Pargament et al. 2004) by incorporating principles of interpersonal, rather than intrapersonal spiritual coping. These improvements could include training on how to initiate R/S conversations and the types of messages that are considered particularly helpful and supportive when discussing R/S beliefs in relation to chronic illness. In particular, these interpersonal interventions would include ways in which to increase person-centeredness during R/S conversations, including acknowledging feelings, asking questions, and making patients feel appreciated in an effort to increase the positive reappraisals after these conversations that are associated with positive mental health outcomes.

Limitations

Although this study has a number of strengths (i.e., we recruited a diverse sample of individuals with respect to diagnoses, time living with the chronic illness, age) and this is the first study we found that employed mixed methods to understand the interpersonal nature of R/S coping conversations for chronic illness patients, it also contains some limitations. A primary limitation involves the model internal consistency reliability ($\alpha = .62$) of the conversation reappraisal measure. Reliability in the original study for this measure was moderate ($\alpha = .77$) and was developed and applied in an experimental design study on college students. This measure may not be a valid measure for this particular population, age group, topic, or data collection procedure (i.e., survey). However, other reappraisal measures that focus on conversations are non-existent, and "in early stages of research, modest reliability in the range of .5 and .6 will suffice" (Peters 1979, p. 15). Despite the relatively low reliability, reappraisals still partially mediated the relationship between person-centered messages and emotional improvement, esteem support, and emotional support. Perhaps the mediation effect would have been stronger if a more internally consistent measure of positive reappraisals were available and tested.

Additionally, as with any self-reported survey, participants may have provided socially acceptable responses with respect to emotional improvement, social support, or levels of religiosity/spirituality. For instance, the FACIT-Sp is contaminated with indicators of good mental health and positive emotions. The self-reported nature of this measure may have influenced participants to respond in a socially acceptable manner when responding to

these items. Additionally, as with any cross-sectional design, we are limited in our ability to infer causality about the relationships between variables. Because we did not measure two different points in time for the mediating variable and outcome variable, directionality and causality cannot be established (Kraemer et al. 2008). Furthermore, although we recruited a diverse sample, the sample is homogenous with respect to educational background and ethnicity, and is highly skewed toward those who identify as Christian.

Conclusions

Regardless of the limitations, these findings provide additional insight about the processes related to R/S discussions about chronic illness, which has previously lacked sufficient theoretical evidence (Krause 2011; Peterson 2011). The conversations containing more person-centered messages were considered to be more positive and supportive by chronic illness patients, and the use of person-centered messages tended to be associated with better outcomes. Furthermore, our test of the appraisal-based comforting model provides initial evidence of positive communication reappraisals as a significant mediator in the relationship between person-centeredness and emotional improvement. By understanding the interpersonal nature of R/S as a mechanism of social support within the context of chronic illness, health practitioners may be able to improve interventions by incorporating information about how to have effective conversations, and the types of messages that are considered particularly helpful and supportive when discussing R/S beliefs in relation to chronic illness.

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