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Spirituality and Well-Being in Frail and Nonfrail Older Adults

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Previous studies have identified that spiritual beliefs contribute to psychological well-being (PWB) in older people, but limited research has considered the effects of spirituality on PWB when physical health deteriorates and people become frail. We recruited 233 British participants from warden-controlled retirement housing to complete interviewer-administered questionnaires. Results showed that, after we controlled for marital status, age, education, other health problems, and gender, degree of frailty had a negative effect on PWB. Spirituality was also a significant predictor of PWB and moderated the negative effects of frailty on PWB. Therefore, this study suggests that spirituality is a resource in maintaining PWB, and that the use of this resource is more significant for individuals with greater levels of frailty.

WELL-BEING in older adults is generally reported in the literature as remaining stable with age (Diener, Suh, Lucas, & Smith, 1999; Kunzmann, Little, & Smith, 2000), although gender differences have been reported, with older men having higher levels of subjective well-being than older women (Smith & Baltes, 1998). Despite this general stability, research has shown that older adults who are classified as frail (Strawbridge, Shema, Balfour, Higby, & Kaplan, 1998), have chronic illness (Mangelli, Gribbin, Buchi, Allard, & Sensky, 2002), or have health constraints (Kunzmann et al., 2000) all report low levels of well-being. However, it has been observed that some people adjust better to frailty than others (Atchley, 1991), and some studies have reported high levels of well-being despite failing health and disability (Albrecht & Devlieger, 1999; Wong, 1989). One contributing factor suggested by research is the protective role of religious and spiritual beliefs.

Spirituality and religion have been found to play an important part in many older people's lives, and they have been found to be positively correlated with physical health (Koenig, 2001a; Levin, 1994), mental health (Koenig, 2001b), well-being (Daaleman, Kuckelmann Cobb, & Frey, 2001; Ellison, Boardman, Williams, & Jackson, 2001; Fry, 2001), a lower likelihood of hypertension (Krause et al., 2002), and lower mortality levels (McCullough, Hoyt, Larson, Koenig, & Thoresen, 2000). Research in this area has also consistently shown that gender and age differences exist, with the strongest spiritual and religious beliefs being held by women and older adults (Davie & Vincent, 1998; Ellison, 1991; Idler & Kasl, 1997a, 1997b; King, Speck, & Thomas, 2001).

Several studies have been carried out that examine how spirituality and religion affect older people in poor health. Idler, Kasl, and Hays (2001) reported that, as older people approached death, their religious attendance decreased, but they felt either a stable or small increase in religious feelings and felt strengthened and comforted by it. Dein and Stygall (1997) reviewed a number of studies that examine the use of religion in coping with chronic illness. They concluded that, particularly among older people, religion is effectively used as a coping strategy and can have positive effects on adjustment. Strawbridge, Shema, Cohen, Roberts, and Kaplan (1998) found that, although religiosity improved the effects of some stressors, it worsened the effects of others. This seemingly contradictory effect has been studied by Pargament, Koenig, and Perez (2000), who took into account both positive and negative types of religious coping in their research. They found that if religion was used in a negative way, this could contribute to higher levels of distress.

The relationship between religion and spirituality and health is not necessarily a direct one but perhaps is more complicated. Ellison and Levin (1998) suggested five possible models in which spirituality and religion may affect physical and mental health. These are prevention (where lifestyle and behaviors are affected), stressor response (also known as a mediator model, in which stressors lead to increased spirituality and religiosity), stressor effects (where stressors discourage or prevent spirituality and religiosity), moderator (spirituality and religion reduce the harmful effects of stressors), and offsetting or counterbalancing effects (where spirituality and religion have independent effects on health).

Most of the research carried out to date has investigated the prevention or counterbalancing effect of religion and spirituality on physical and mental health, and it has generally shown the effects of religion and spirituality to be beneficial (for a review, see Koenig, 2001a, 2001b). The research involving religious coping (Dein & Stygall, 1997; Pargament et al., 2000) could be described as examining the stressor response and effect. Less research has been carried out on the moderating effects of religion and spirituality. Idler and Kasl (1997a) found that religious involvement moderated the effect of disability on well-being, and Levin and Chatters (1998) reported direct effects of religiosity on well-being, as well as indirect effects through health.

In considering how these concepts of religion or spirituality, well-being, and health may be related, Davie and Vincent (1998) suggested that, as older persons' physical health deteriorates, they are led to confront their own mortality and cope with the increasing challenges that face them. This in itself appears to have a negative impact on well-being unless people have resources that they can draw on to buffer this effect (Albrecht & Devlieger, 1999; Wong 1989). Spirituality and

religion appear to be such a resource because they bring a sense of personal meaning; control beyond one's own resources; comfort; and intimacy with a higher power; and they are life transforming, leading people to replace old values with new (Pargament et al., 2000). Therefore, spirituality and religion allow people to transcend their current feelings and circumstances, enabling their well-being to be maintained.

An important issue to consider when reviewing the previous literature in the area of religion or spirituality and health is that most of the research carried out has been conducted in America. However, it cannot be assumed that British people will be affected by religion and spirituality in the same way that American people are, or that American measures are suitable or sensitive enough for the strength of belief in Britain. Strength of belief has been found to differ between different countries. Koenig (1993) reported that that 94% of Americans believe in God, compared with 76% of the British. In addition to this, there are also differences in the way that American and British Christians express their beliefs. Americans are more likely to attend church and generally have a much more public and outspoken expression than the British, who tend to express spiritual beliefs in a more reserved way, with beliefs generally considered as being personal and private. Therefore, given this difference, it would be prudent to use British measures of spirituality and religion, as they should be more sensitive and suited to the beliefs of British people. Currently, the only measure of spirituality and religion that has been developed and tested in Britain is the Royal Free Interview for Spiritual and Religious Beliefs by King and colleagues (2001). The authors defined religion as "the outward practice of a spiritual understanding and/or the framework for a system of beliefs, values, codes of conduct and rituals. It usually involves some form of communal religious observance." They defined spirituality as "a person's belief in a power apart from their own existence It is the sense of relationship or connection with a power or force in the universe that transcends the present context of reality. It is more than a search for meaning or a sense of unity with others. Some people use the word of God, others may be less specific" (King et al., 2001, p. 1015–1016). It is these definitions that are used in the current study.

To date, only a few studies have examined British spiritual and religious beliefs and their effects in relation to physical and mental health. Davie (2000) reported that, with each decade since the 1960s, the British have gradually decreased in their likelihood of attending or belonging to a church, but they still hold a belief in God or a higher spiritual power. Coleman, Ivani-Chalian, and Robinson (2004) found that, in their longitudinal study of aging (the Southampton Aging Project), only half of their participants reported that religion continued to have considerable meaning in their lives; one quarter of participants reported a decline in faith and church membership. This decline was due to disappointment with experiences of church life, such as support following bereavement. This reflects a stressor effect model of religion (Ellison & Levin, 1998) in which bereavement discourages religiosity. This model appears to be specific to religious but not spiritual beliefs, as Walsh, King, Jones, Tookman, and Blizard (2002) found that people with stronger spiritual beliefs had a quicker and more complete resolution of grief following bereavement, suggesting either a counterbalancing or moderating model. However, this effect is not clear; King, Speck, and Thomas (1999) found that, among a British population, stronger spiritual beliefs predicted poorer outcomes from illness, suggesting that the protective effects of spirituality on health reflected by American research might not be generalizable to Britain. The current study therefore aims to add to this growing body of research on the effects of religious and spiritual beliefs in Britain.

Another aim of the current study is to examine the effects of frailty on people before they become completely disabled or dependent. Frailty has been poorly defined within research, mainly because there is a lack of consensus as to what the components of frailty are and what contributes to it; in this way, it is a concept that is still under development (Cohen, 2000; Gillick, 2001). In the current study, frailty is defined as "a grouping of problems and losses of capability which make the individual more vulnerable to environmental challenge" (Strawbridge et al., 1998, p. s9). Frailty is often assumed to increase with age, and although this is often the case, it is something that can happen at different ages for different people, if it happens at all. Gender differences have also been consistently reported, with women being more likely to have chronic illnesses and a poorer general physical health than men (Smith & Baltes, 1998). Frailty has often been used interchangeably with disability and dependence, and although many frail people are disabled and dependent, these conditions are not necessary for a person to be frail (Rockwood, Fox, Stolee, Robertson, & Beattie, 1994). Because of this focus on disability, older adults who are still independent but experiencing increasing difficulties in their capabilities (frail but not disabled) are an underresearched group. Rockwood and colleagues (1994) suggested that frailty should not be seen as a dichotomous condition but rather as a continuous risk factor. Psychological factors have also been found to be involved in the perception of frailty. Kempen, Steverink, Ormel, and Deeg (1996) studied the relationship between performance-based and self-report measures, and they found that the relationship was not very strong. They reported that a low perception of physical competence and mastery or personal control and high levels of depression all confounded actual ability, leading people to underestimate their abilities. Despite this apparent unreliability of self-report measures of frailty, studies have found self-reported health to be an important predictor of mortality and successful aging (for a discussion, see Naglie, 2000). This raises the possibility that self-reports of frailty may measure different aspects of frailty to performance-based measures, suggesting that frailty is not purely physical. It is for these reasons that the current study aims to use a multidimensional, self-report measure of frailty.

For the purposes of this study, the most accessible place to find samples of frail but not disabled older adults is in sheltered or retirement housing. These are houses or apartments where people over the age of 60 years live independently but are required to move out of if their health deteriorates to the point where they need nursing care. Everyone is checked on daily by a warden, and all rooms are fitted with an alarm pull cord that alerts the warden or management company to an emergency. It is important to note that because the sample is recruited from this semi-institutionalized population, the results of the current study will not be generalizable to community-dwelling older adults in general, as Reyes-Ortiz, Ayele, and Mulligan (1996)

and Fry (2000) reported that spiritual and religious factors have a greater impact on the well-being of institutionalized older adults than those who still live in the community.

The current study therefore aims to examine the effects of frailty on well-being, using a multidimensional measure of frailty, and to examine the effect of spiritual beliefs on this relationship among a British sample of older adults who are heterogeneous in their strength of beliefs. On the basis of the previous literature, we hypothesize that frailty will have a negative effect on well-being, but that spiritual beliefs will moderate this effect (reducing the negative effect of frailty on well-being) in addition to having direct positive effects on well-being. In light of the different gender effects on all three variables (males having greater well-being, and females having greater frailty and spiritual beliefs), we also examine the effects of gender on well-being and its interactions with frailty and spiritual beliefs.

Methods

Participants

All participants were recruited from retirement housing estates. With the use of snowball sampling, the wardens of each estate were approached and asked to seek volunteers for the study that they felt matched the study criteria. The inclusion criteria were that residents had to be aged 65 or older, and they had to be able to hear, understand, and respond to the questions (in the opinion of the warden). Because participants were recruited by the warden, refusal rates and reasons were not recorded; however, none of the 11 wardens that were contacted refused to help with the study.

A total of 233 older adults participated in the study; 60 (26%) of the participants were male and 173 (74%) were female. The age range of participants was 65 to 95 years ($M = 80$ years; $SD = 6.69$), and all participants were White; 59 (25%) of the participants were married, 4 (1.7%) were living with a partner, 20 (8.6%) were divorced, 138 (59.2%) were widowed, 2 (0.9%) were separated, and 10 (4.3%) were single.

Seventeen (7.3%) of the participants had no religious or spiritual beliefs, and of those who did, 19 (8.2%) did not observe a religion. Of the remaining 197 (84.5%) that did observe a religion, 5 (2.5%) were Roman Catholic, 146 (74.1%) were Church of England or Anglican, 1 (0.5%) was Other Protestant, 4 (2%) were Evangelical Christians, 39 (19.8%) were Other Christians (including Salvation Army, United Reformed, Baptist, Methodist, Elim, and Church of Scotland), 1 (0.5%) was Buddhist, and 1 (0.5%) was German Lutheran. One hundred fifty nine (80.7%) of these religious participants prayed, 155 (78.7%) participated in religious ceremonies, 17 (8.6%) meditated, 65 (33%) undertook religious reading and study, 59 (30%) had contact with religious leaders, and 19 (9.6) did not do any of these religious practices.

Materials

The questionnaire battery contained some demographic questions concerning age, gender, marital status, ethnic origin, education, and current illnesses or health problems and standardized self-report questionnaires to measure frailty, well-being, and spiritual beliefs.

Frailty.—We used the Frailty Measure of Strawbridge and colleagues (1998) to classify participants as frail or nonfrail. The Frailty Measure was devised for use in community-dwelling older people who have not lost their independence. The measure is multidimensional, assessing 16 variables on a 4-point Likert type scale, grouped into four domains. These domains are physical functioning, nutritive functioning, cognitive functioning, and sensory problems. Strawbridge and colleagues classified participants as frail if they had one or more problems or difficulties (scoring a 3 or 4) in any variable in two or more of the domains. The validation study (Strawbridge et al., 1998) classified 26% of participants as being frail.

In addition to using this binary classification of frailty, in the current study we also calculate the frailty measure as a continuous score (by adding the scores for each variable together), in order to see if any effects relate to degree of frailty. Cronbach's alpha for this measure in this sample was .83.

Psychological well-being.—We used the 18-item version of the Psychological Well-Being Scale (Ryff, 1989) to measure psychological well-being (PWB). We chose this shortest version of the scale so that the questionnaire length could be kept to a minimum. The scale was devised following the analysis of empirical research on well-being, resulting in six key factors of well-being being identified. These are environmental mastery, personal growth, positive relations with others, purpose in life, self-acceptance, and autonomy. There are three questions per factor, and all questions are scored along a 6-point Likert type scale (ranging from strongly disagree to strongly agree), with a total possible score of 18 per factor. The measure does not contain questions involving mobility (e.g., going to see friends), as this might be a confounding variable that could lower the well-being score of less mobile frail participants.

Ryff (1989) validated the scale and reported good internal consistency for the 120-item (20 items per factor) parent scale (Cronbach's alpha ranging between .81 and .93), as well as stable test–retest reliability coefficients of .85 for self-acceptance, .83 for positive relations with others, .88 for autonomy, .81 for environmental mastery, .82 for purpose in life, and .81 for personal growth. However, because the 18-item version has only 3 items per factor, Cronbach's alpha scores were low to moderate (.59 for self-acceptance, .58 for positive relations with others, .48 for autonomy, .52 for environmental mastery, .37 for purpose in life, and .55 for personal growth; see Keyes, Shmotkin, & Ryff, 2002). However, confirmatory factor analyses of the scale reported that the six factors also belong to a single second-order latent construct of overall PWB (Ryff & Keyes, 1995). This score is achieved by summation of the six factor scores. Cronbach's alpha for this summed scale is .81 (Keyes et al., 2002). Therefore, in the current study we focus on total PWB but also look at the six factors separately.

Spiritual beliefs.—We measured spiritual beliefs by using the spiritual scale from the Royal Free Interview for Spiritual and Religious Beliefs (King et al., 2001). The spiritual scale is made up of five questions that require a response along a visual analogue scale (0–10) on the following: strength of belief, belief in the influence of a spiritual power or force, belief that a spiritual power or force enables one to cope, belief in a

Table 1. Means and Standard Deviations of Frailty, PWB, and Spiritual Scale Scores for Frailty Status and Gender

	Men		Women		Nonfrail		Frail		Effect Size
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*d*
Continuous frailty score	25.43	7.24	26.64	7.63	21.24	3.28	31.64	7.04	3.17
Total PWB	91.05	9.45	86.46	11.71	91.34	9.03	83.78	12.21	0.62
Environmental mastery	16.03	2.40	14.82	2.90	16.09	1.95	14.12	3.23	0.61
Personal growth	14.52	2.43	13.98	3.05	14.88	2.69	13.32	2.93	0.53
Positive relations with others	16.00	2.06	15.54	2.74	16.29	2.15	15.00	2.83	0.46
Purpose in life	13.68	2.53	12.77	3.21	13.44	2.97	12.55	3.13	0.28
Self-acceptance	14.60	3.04	14.00	3.12	14.73	2.82	13.55	3.28	0.36
Autonomy	16.22	1.72	15.35	2.60	15.90	2.29	15.23	2.53	0.24
Total spiritual scale	23.00	15.48	28.89	13.40	26.07	14.62	28.74	13.61	0.18
Strength of belief	6.28	3.49	7.52	2.59	7.04	3.27	7.37	2.45	0.10
Influence of power or force	4.77	3.80	5.99	3.30	5.34	3.56	6.04	3.34	0.20
Enables you to cope	5.08	3.91	6.61	3.47	5.98	3.75	6.46	3.53	0.13
Influence on world affairs	4.02	3.52	4.55	3.47	4.16	3.47	4.68	3.49	0.15
Influence on natural disasters	2.85	3.34	4.21	3.52	3.55	3.38	4.18	3.65	0.19

Notes: Effect sizes were calculated from frail and nonfrail groups by use of the method for independent means proposed by Cohen (1992). PWB = psychological well-being. For men, $n = 60$; for women, $n = 173$; for nonfrail persons, $n = 119$; for frail persons, $n = 114$.

spiritual power or force that has an influence on world affairs, and belief in a spiritual power or force that has an influence on natural disasters. King and colleagues (2001) reported acceptable Cronbach's alpha scores for this measure of .89 in Groups 1 and 2, who were people with religious or spiritual beliefs, and .74 in Group 3, who were members of the Christian congregation. Cronbach's alpha for this measure in the current sample was .85. The total scale and individual items were also significantly correlated with the Intrinsic Religious Motivation Scale (Hoge, 1972), indicating good criterion validity.

Procedure

Information sheets and a timetable of possible visiting times were sent to each warden. On their rounds, the wardens arranged convenient visiting times with residents who agreed to be interviewed. Participants were visited separately in their homes. When possible, the warden introduced the researcher to the participants (in order to ease any anxiety arising from a stranger knocking on their door, and to remind participants who had forgotten about the visit). The words "frail" and "nonfrail" were changed to "less active" and "active" when presented to participants, in case anyone was offended or upset by the word "frail." Informed consent was obtained before the interviewer administered the questionnaire, and all participants were left with a debriefing statement.

Results

The means, standard deviations, and effect sizes for frailty status (classified by use of the binary classification of frailty of Strawbridge et al., 1998) and gender are given for each construct under measurement in Table 1. Although the PWB scores are quite high, they are comparable with the scores of older adults presented by Ryff and Keyes (1995). There is a medium effect size (Cohen, 1992) for total PWB, with nonfrail people having higher scores than frail people. This effect is strongest for the domains of environmental mastery, followed by personal growth, and then positive relations with others. A smaller effect size exists for self-acceptance and for purpose in life, with the smallest effect being for autonomy. Small effect sizes are shown for all of the spiritual domains between frail and nonfrail people. Men show a trend toward higher total and subscale PWB scores than women but have lower frailty and spiritual scores.

We carried out a multiple regression analysis to investigate whether frailty (continuous score), gender, and spiritual beliefs could predict total PWB and whether the direct relationships were moderated by interactions among the three variables. Because the data were not normally distributed, we carried out nonparametric bivariate correlations to indicate the strength of the individual predictors. These correlations are shown in Table 2.

Frailty was negatively correlated with total PWB and all the subscales of PWB, but it was not correlated with spiritual beliefs or gender. Spiritual beliefs were correlated with gender (indicating women were more spiritual), and with total PWB, but only for the subscales of personal growth and positive relations with others. Gender was negatively correlated with total PWB (indicating men have greater total PWB), but this was only significant for the environmental mastery subscale.

We took three ordered regression steps to examine the hypothesis; the first step contained the covariates of age, education, marital status, and the presence of other health problems (ethnic origin was not included as a covariate, as all participants were White). We also entered gender into this step, so it would be adjusted for in relation to the other covariates. The second step then looked for any direct effects that gender, spirituality, and frailty might have on total PWB above and beyond the effects of the covariates. The third step contained interaction terms to look for further variance accounted for by indirect, moderating effects on total PWB. The interaction terms were (a) Spiritual Beliefs × Frailty, (b) Gender × Spiritual Beliefs, and (c) Gender × Frailty.

The results of this analysis indicated that the covariates (age, education, marital status, presence of other health problems, and gender) accounted for a significant amount of the variability in PWB, $R^2 = .087$, $F(5, 219) = 4.17$, $p < .001$. Of these variables, only the coefficients of marital status (being married or living with partner) and the absence of other health problems

Table 2. Correlation Coefficients (Spearman's rho) Among Total PWB and Subscales, Frailty, Spiritual Beliefs, and Gender

	Spiritual Beliefs	Frailty	Gender
Frailty	.030	—	—
Gender	.175**	.083	—
Total PWB	.135*	−.530***	−.145*
Environmental mastery	.015	−.497***	−.193**
Personal growth	.182**	−.381***	−.046
Positive relations with others	.177**	−.434***	−.024
Purpose in life	.047	−.243***	−.111
Self-acceptance	.115	−.352***	−.066
Autonomy	−.022	−.205**	−.115

Note: PWB = psychological well-being.
*$p < .05$; **$p < .01$; ***$p < .001$.

Table 3. Multiple Regression Analysis for Predictors of Psychological Well-Being

	I β	II β	III β	IV β
Marital status	−.182**	−.133*	−.152**	−.148*
Age	−.105	−.026	−.015	−.019
Education	−.023	−.015	−.007	−.009
Other health problems	−.136*	−.060	−.059	−.062
Gender	−.079	−.099	−.085	−.086
Frailty		−.540***	−.554***	−.557***
Spiritual beliefs		.197***	.214***	.213***
Frailty × Spiritual beliefs			.127*	.120*
Gender × Frailty			−.057	
Gender × Spiritual beliefs			.026	
R^2	.087	.390	.407	.403
R^2 change	.087	.303	.017	.14
F	4.17***	53.79***	2.05	4.92*

*$p < .05$; **$p < .01$; ***$p < .001$.

were significant (Marital status $\beta = -.182$, $p = .009$; health problems $\beta = -.136$, $p = .038$).

The second model (frailty, spiritual beliefs, and gender) accounted for a further significant variance in total PWB, R^2 change = .303, $F(2, 217) = 53.787$, $p < .001$. Of these variables, the coefficients for frailty and spiritual beliefs were significant (frailty $\beta = -.540$, $p < .001$; spiritual beliefs $\beta = .197$, $p < .001$). Gender had no direct effect on total PWB ($\beta = -.099$, $p > .05$).

The third step (interaction terms for Spiritual Beliefs × Frailty, Gender × Spiritual Beliefs, and Gender × Frailty) was not significant in predicting total PWB, R^2 change = .017, $F(3, 214) = 2.047$, $p > .05$. However, within this step, although the interaction terms involving gender were not significant (Gender × Frailty $\beta = -.057$, $p > .05$; Gender × Spiritual Beliefs $\beta = .026$, $p > .05$), the interaction term for Frailty × Spiritual Beliefs was significant ($\beta = .127$, $p = .023$).

Removing the gender interaction terms from the third step (leaving only Frailty × Spiritual beliefs in the third step) increased the fit, making it significant in predicting total PWB, R^2 change = .014, $F(1, 216) = 4.923$, $p = .028$.

We repeated the regression model for all the subscales of PWB, and the direct effects of frailty and spirituality were consistent for all subscales of PWB for frailty, but only the subscales of personal growth and positive relations with others for spiritual beliefs, and the moderating effect of spiritual beliefs was only consistent for the environmental mastery subscale of PWB.

Table 3 shows the standardized beta values and significance values of each of the predictors of total PWB, and Figure 1 shows a graph of the interaction effect of spiritual beliefs and frailty on total PWB. These results suggest that, after covariates are controlled for, frailty has a direct negative effect on total PWB; spiritual beliefs have a direct positive effect on total PWB; spiritual beliefs moderate the negative effect of frailty on total PWB, and gender has no direct effect on total PWB and does not interact with spiritual beliefs or frailty to affect total PWB.

Discussion

The purpose of this study was to examine how frailty, spiritual beliefs, and gender might affect the PWB of older adults. Given that most of the previous research on spirituality and religion has been carried out in America, it was also an opportunity for us to explore the spiritual beliefs of older adults in Britain, using a measure that was created to be more sensitive to the spiritual beliefs of British people.

The results showed that, after covariates were controlled for, frailty had a significant negative effect on total PWB, and spirituality was a weak but significant predictor of total PWB. Spirituality was also found overall to be a moderator, reducing the negative effect of frailty on total PWB. These findings are consistent with the hypotheses. It is interesting to note that entering the covariates (marital status, age, education, other health problems, and gender) into the analysis increased rather than decreased the significance of spiritual beliefs and Frailty × Spiritual beliefs on total PWB. This is not consistent with the findings from American and German samples, which report effects being reduced or lost once covariates are controlled for (Anson, Antonovsky, & Sagy, 1990; Powell, Shahabi, & Thoresen, 2003; Smith & Baltes, 1998). The additive effect of the covariates may possibly be a result of the choice of health problem researched (frailty) and the population from which participants were recruited; it may be a feature of the measurement scales used; or it could be a characteristic of British older people's spirituality. A study researching the effect of British spiritual beliefs on the outcome of bereavement, using the same scale used in the current study, found that controlling for age and sex did not affect the significance of the analysis (Walsh et al., 2002). More research is needed to confirm whether this is a feature of British research in this area, or if it can be accounted for by other factors.

It is interesting to note that frailty was a strong negative predictor of all six subscales of PWB, which shows that frailty negatively affects not just some but all dimensions of PWB.

The direct positive and moderating effect of spiritual beliefs on total PWB is consistent with the view that spirituality is a resource (Wong, 1989). These findings also support the research of Dein and Stygall (1997), who reported that religion and spirituality benefit the well-being of older adults. The combination of direct and moderating effects of spirituality on well-being also supports the research of Levin and Chatters (1998), who found that religion had both direct and indirect effects on well-being. The regressions for the subscales of PWB indicate that spiritual beliefs predict the subscales of personal growth and positive relations with others.

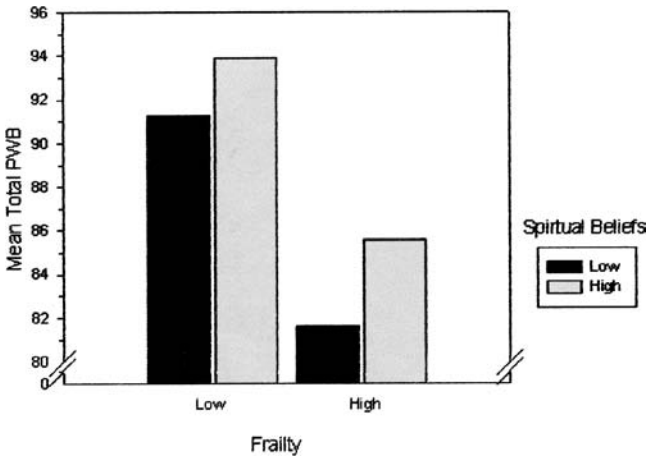

Figure 1. Interaction effect of spiritual beliefs and frailty on psychological well-being (PWB).

The absence of a correlation between frailty and spiritual beliefs conflicts with the findings of Idler and colleagues (2001), who reported that an increase in religious feeling occurred for elderly persons as they approached death; it also conflicts with the physical benefits of religion reviewed by Koenig (2001a). The effect of religious and spiritual beliefs on the physical health of British people is an area that has been neglected to date, and it should be considered in future research.

American samples have also shown gender to be a factor related to poor health, well-being, and spirituality, and yet the current study did not find gender to have any direct or moderating effects on well-being. Gender did correlate significantly with spiritual beliefs and well-being, but it was not a direct significant predictor of total PWB, or significant in interacting with spiritual beliefs or frailty to predict total PWB in the context of the other covariates, specifically marital status and poor health. This is consistent with the findings of Smith and Baltes (1998), who reported that older men are more likely to be married and have fewer illnesses than women. Therefore, it appears to be these factors rather than gender itself that carries the effect. This absence of effect may also be due to the more sensitive measure of frailty used (frailty rather than disability), as Strawbridge and colleagues (1998), who created the measure, also did not find any gender differences in the prevalence of frailty.

Methodological Issues

The study was limited by its use of a cross-sectional design and self-reported measure of frailty, and, because frailty self-report ratings may have been affected by well-being, the conclusions about directionality are not clear. The generalizability of the results may have been restricted by the use of participants who were recruited from retirement housing estates. Retirement housing offers people the security of being checked on regularly to make sure they are okay, and it offers a network of social contacts of people in similar circumstances. Therefore, older adults who choose to move into retirement housing may be characteristically different from those who choose not to do so. This must be confirmed in future research.

Frailer participants generally did not like the Likert-type and visual analogue formats that most of the questionnaire followed. Even though the questionnaire was administered by an interviewer, many participants did not like having to categorize their answers and did not like giving a generalized response, particularly when they felt that their response might vary from day to day. They also found the number of possible responses to be too many and confusing, with many people commenting that it would be easier if answers were just yes, no, or in between. Many preferred to explain their situation, providing a context and justification for their chosen answers. It may be more appropriate for researchers working with this population to explore the use of formats that are more qualitative, perhaps one in which the researcher could use semistructured questions and then use the answers to quantify responses after the interview.

Conclusions

The current study aimed to test a comparatively large sample of a population of older adults that were not exclusively religious or spiritual; it aimed to use a multidimensional measure of spiritual beliefs, an empirically based and multidimensional measure of well-being, and a clearly defined and multidimensional measure of frailty. The results of the study suggest that, for British older people with greater degrees of frailty, spiritual beliefs are a significant direct and moderating resource in maintaining an otherwise lower sense of well-being. Frailty appears to be an important dimension to include in future research on aging, spirituality, and well-being.

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