



Spirituality, religion and health: assessing the relationship between spiritual and religious well-being, depression and quality of life in clinical and non-clinical populations

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ABSTRACT

Research exploring the association between spirituality, religion and health has grown exponentially over the past few decades with researchers such as Koenig (1997) acknowledging the beneficial impact of spiritual and religious well-being in association with health outcomes. However, the research collated in this area provides conflicting evidence and the majority is derived from clinical populations. In order to attend to this, the present study aimed to further explore the associations between spirituality, religion and health and the differences between participants based on health status; therefore, differences between student and patient populations in spiritual and religious well-being, depression and quality of life were assessed along with the relationships between the variables for each participant group. A total of 101 students and 31 patients were acquired for participation within the study. Significant differences were found between students and patients on existential (EWB) and religious well-being (RWB), depression and quality of life scores. No significant difference was found between students and patients regarding the spiritual well-being (SWB) summative score. With reference to the associations, significant inverse relationships were obtained between SWB and depression scores and EWB and depression scores for the students and between RWB and HADS scores for the patient population. Similarly, a significant positive relationship was also found between EWB and quality of life for the student population. However further relationships between the variables were found to be non-significant. An in-depth discussion of the results in relation to the implications of this research within healthcare is provided, along with recommendations for future subsequent research.

KEY WORDS:	SPIRITUAL AND RELIGIOUS WELL-BEING	DEPRESSION	QUALITY OF LIFE	STUDENTS	PATIENTS
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Introduction

According to Miller & Thoresen (2003), the exploration of religious and spiritual factors within health is clearly warranted, required and clinically relevant as the persistent, predictive relationships observed between spiritual and religious variables and health postulate significant implications for health-related practice and understanding. As a result of the role of a spiritual/religious facet within an individual's life and its prominence within both physical and mental health, the quantitative study of spirituality and religion has recently regained renewed interest and investigation (Koenig *et al.*, 1998a). To exemplify, spirituality and religion have emerged within the literature as beneficial resources in facilitating coping, prevention and in some instances recovery from mental and physical health problems (Larson *et al.*, 1997), even though the concepts are frequently misunderstood amongst physical and mental healthcare professionals (Larson & Larson, 1994).

Spiritual distress and religious struggle on the other hand have been associated with a heightened risk of poor health such as increased instances of mortality and morbidity according to Pargament *et al.* (2001). Correspondingly, the misuse of spirituality and religion to punitively manipulate is also linked with increased incidences of poor mental health (Larson *et al.*, 2002). The conflicting evidence derived within this domain suggests inconsistencies within the findings and literature, therefore postulating the requirement for further exploration and study.

Spirituality and Religion

Although the recent surge in research suggests a comprehensive understanding and appreciation of spiritual and religious research, historically these two constructs have been understudied within psychological enquiry; Weaver *et al.* (1998) reported through a systematic review that only 2.7% of quantitative studies taken from seven consecutive American Psychological Association (APA) journals included a religious or spiritual variable. Miller and Thoresen (2003) suggest that the attenuation of research in this domain is a direct consequence of a lack of understanding regarding what the terms religion and spirituality delineate. Therefore, in order to suitably explore spirituality and religion, it is important to clarify the distinction between the two varying constructs.

Religion and spirituality are often utilised interchangeably and perceived as a singular, unified construct. However in research terms they formulate two independent but overlapping multi-dimensional concepts, thus highlighting why the terms evade a succinct operational definition (Miller & Thoresen, 2003). The word 'religion' according to Cook (2000) and Hill *et al.* (2000) classifies practices and belief systems predominantly associated with social institutions such as churches. Religion is often perceived as an institutional phenomenon due to its social manifestation in terms of definitive beliefs and practices, group membership requirements and the modes of social organisation. Although religions may encompass spiritual or transcendent ideals, they are often defined and characterised by non-spiritual entities such as cultural or social concerns (Hill *et al.*, 2000).

Spirituality on the other hand specifically refers to an individual's personal journey towards transcendence and unity (Pargament, 1999) and is not bound to any religious practices, traditions or ideologies. In this sense as a fundamentally personal and individualistic entity, spirituality differs from religion which is largely considered a social phenomenon. The differences between the concepts have led to the polarisation of the terms, consequentially enabling individuals to categorise themselves as 'spiritual but not religious' and vice versa. Although Pargament (1999) vehemently opposed the division of spirituality and religion as he concluded that spirituality was encompassed in the larger construct of religion, research conducted by Zinnbauer *et al.* (1997) established that individuals were more likely to categorise themselves as either spiritual or religious rather than an amalgamation of both constructs. This therefore highlights the acceptance and understanding of the terms as independent concepts.

The measurement and assessment of the two variables within populations has provoked controversy and has been signified as an explanation of why spirituality and religion have traditionally been understudied in psychological literature (Miller & Thoresen, 2003). As a result of the subjective nature of religious and spiritual beliefs and experiences, the objective, scientific study of the variables has been questioned, consequentially attenuating the popularity of spiritual and religious research within scientific enquiry.

Hill and Pargament (2003) suggest that it is important to delineate religious and spiritual assessments that are functionally associated to mental and physical health within assessment in order to suitably infer causality and propose how and why the variables affect health. According to the authors, historically religion and spirituality have been assessed using global indices such as church attendance and frequency of prayer which fail to offer plausible explanations of the association between the variables and health. For example, religiosity in individuals with physical impairments is likely to be underestimated by such measures as a result of health impairments hindering church attendance and participation, as found by Levin and Markides (1986). Consequentially, the limited reliability of such scales attenuates the relationships between spirituality, religion and health, resulting in smaller effect sizes than would be acquired if the variables were measured utilising more reliable assessments (Hunter & Schmidt, 1990).

The Spiritual Well-Being Scale (SWBS; Paloutzian & Ellison, 1982) is an assessment of well-being that attends to both constructs of religion and spirituality through the incorporation of two independent sub-scales, therefore attending to the polarisation of the terms. Researchers such as Edmondson *et al.* (2005) indicate that religious well-being (RWB) and existential well-being (EWB) are independently affected, therefore it is useful to look at spiritual well-being (SWB) and religious well-being as two independent variables regarding their association with health-related outcomes (Miller & Thoresen, 2003). The SWBS has been successfully implemented within both clinical and non-clinical environments and has been extensively used in empirical investigations, predominantly within mental and physical health.

Spirituality, Religion and Physical Health

A growing body of literature has been formulated to support the hypothesis that links religion and spirituality to physiological processes which implicate physical health according to Seeman *et al.* (2003). To exemplify, religious and spiritual variables been associated with less hypertension (Koenig *et al.*, 1998b) and better immune function (Koenig *et al.*, 1997) in adults. Similarly, improved lipid profiles have also been associated with religion and spirituality (Hixson *et al.*, 1998). Significant relationships have also been established between meditation, an activity commonly ascribed to spirituality, lower cholesterol (Patel *et al.*, 1985) and less stress hormone reactivity under challenge (MacLean *et al.*, 1997). These associations highlight the potential ameliorating effect of spirituality/religion on physiological processes that can mediate health and well-being. Similarly in accordance with physical health, a meta-analysis of 42 studies conducted by McCullough *et al.* (2000) explored the association between mortality and spiritual activities and found a protective relationship between religious involvement and mortality, suggesting that mortality rates were significantly lower in individuals with high religious involvement than their non-religious counterparts.

The SWBS has been successfully utilised to measure associations between SWB and physical health outcomes; Edmondson *et al.* (2005) examined SWB in relation to stress, heart rate and systolic blood pressure and found inverse relationships between RWB, perceived stress and increased blood pressure and a negative relationship between EWB, heart rate and heart reactivity. This suggests that spirituality and religion may be able to independently alter physiological parameters which could have serious implications within healthcare.

According to Ganzevoort (1998) and Oxman *et al.* (1995), many individuals turn toward religion and spirituality as a result of extreme circumstances such as a terminal illness diagnosis. Cohen and Wills (1985) suggested that spiritual and religious well-being provide a resource of which patients can utilise to cope with their diagnosis and progressive illness, therefore proposing that patients often adhere to religion and spirituality to cope with circumstantial instances. Correspondingly, Reed (1987) found that individuals with terminal illness had higher levels of RWB when compared to other adults and that EWB positively correlated with psychological wellbeing, therefore providing further corroborating evidence for adherence to religion in times of adversity.

Conversely, religion and spirituality may increase one's susceptibility to illness; Courtenay *et al.* (1992) found a positive significant association between religiosity and physical health problems in a sample of 165 elderly people and suggested that severe health problems were likely to be a consequence of the ritualistic dimensions of religion.

Predominantly most of the empirical evidence on the impact of religion and spirituality on physical health has been undertaken within older sample groups or in clinical populations (Larson & Larson, 2003); therefore the impact of the variables on health in other sample groups such as students has been generally understudied. Similarly, there is a lack of evidence that addresses spiritual and religious variables in relation to health

in both clinical and non-clinical populations which would enable conclusions regarding any comparisons or differences between the two sample groups to be attained, therefore highlighting the requirement for further research. The small selection of studies that have studied younger sample populations generally provide corroborating evidence for the positive association between religion and spirituality and improved physical health; Wallace and Forman (1998) for example observed that the likelihood of students' participation in health-promoting behaviours was increased if the individuals were members of a religious community.

Behavioural patterns that are considered to enhance health are substantially influenced by religion and spirituality such as restricting substance use and compliance with a dietary regime (Hathaway *et al.*, 2004). The literature surrounding this area postulates that religion discourages health risk behaviours such as alcohol use and smoking (Wink & Dillon, 2001), a position emulated by Koenig (1997) who suggested that religiously-grounded values encourage the moderation of such personal habits.

Overall, the lifestyle that religion and spirituality encourages and the social consequences that stem from religious participation provide a buffer against the negative consequences of illness in general (Idler, 1995), therefore postulating that religious adherence promotes better physical health and lifestyle.

Spirituality, Religion and Depression

As well as being associated with physical health, spirituality and religion have also been found to be directly implicated within mental health as mediators and contributors of psychological dysfunction. The impact of spirituality and religion has been highlighted by the incorporation of 'religious and spiritual problems' into the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR; American Psychiatric Association, 2000) to encompass spiritual or religious issues that become a focus of clinical attention, for example loss or questioning of faith or spiritual values (American Psychiatric Association, 2000). Subsequently, a burgeoning body of systematic research into the relationships between spirituality, religion and mental health has developed with evidence suggesting that on balance, high spiritual values and religious involvement are generally conducive to better mental health (Dein, 2010). Tepper *et al.* (2001) proposed that religion could serve as a pervasive method of coping for individuals with significant psychological issues due to the association found between religious involvement and the attenuation of adverse psychological symptoms. Similarly, Russinova *et al.* (2002) found that adults with severe mental health problems such as schizophrenia and depression stated that the most advantageous activity that they participated in was spiritual activity.

Depression is the most commonly experienced mental health problem in the UK (Mental Health Foundation, 2006) affecting 1 in 5 people at some part in their lives (Rethink, 2012). The manifestation of depression differs to varying degrees however it is usually characterised by an amalgamation of symptoms including markedly diminished interest or pleasure in activities, feelings of worthlessness, depressed mood for a prolonged time period and experiences of insomnia or hypersomnia on a regular basis to

exemplify (DSM-IV-TR: American Psychiatric Association, 2000). Given its prevalence in the UK population, identifying resources that attenuate the manifestation of depression is required; therefore research exploring the potential ameliorating effects of religion and spirituality in relation to the disorder is clearly warranted.

In relation to patients, clinical depression is common according to Noorani and Montagnini (1997) in patients with terminal illnesses due to the advanced nature of the disease. Religious beliefs and practices have been linked to the reduction of depressive symptoms over the course of an individual's life in general populations (Strawbridge *et al.*, 1997). Fitchett *et al.* (2004) postulated that low RWB scores may also be indicative of loss of belief or religious struggle as a consequence of a terminal diagnosis, thus accentuating patient's distress and experience of depression as found by Koenig *et al.* (1998a). This therefore highlights the importance for clinicians to assess religious struggle in individuals with depressive symptoms (Hathaway *et al.*, 2004).

In addition, Benkelman *et al.* (2007) conducted a regression analysis and found that spiritual and religious well-being related to lower levels of depression in terminal illness patients. Koenig *et al.* (2001) suggest that this finding is representative of most of the research undertaken within this area of study as through a systematic review of the literature conducted prior to 2000, they found that the vast majority reported significantly positive relationships between spiritual involvement and improved mental health. Similarly, Ginsburg *et al.* (1995) found that spiritual support was one of the most common sources of emotional support in cancer patients. The research therefore suggests that enhancing a patient's sense of SWB may reduce or prevent the individual's experience of depression, thus improving quality of life and other health-related effects in this sample.

In relation to students, common life changes such as loss of familial support and the transition from familiar environments and experiences to novel situations at university can make individuals susceptible to stress (Beck & Young, 1978), which has been found to be a key contributor to depression (McMichael, 1974). As a mediating factor in the association between life change and depression, SWB has been found to facilitate the link between the variables; Cotton *et al.* (2005) utilised the SWBS to assess SWB in relation to depression in a sample of students and found that EWB and RWB accounted for 29% of the variability, suggesting therefore that higher SWB is associated with fewer depressive symptoms. Miller (1985) also found a negative association between SWB and depression which according to Fehring *et al.* (1987) is reflective of the relationship continually found in both physically healthy and ill individuals.

Masden and Vernon (1983) conducted a four-year longitudinal study of religious stability of university students in the United States and found that students generally become less religiously orthodox during university as they begin to formulate their own identities and are removed from parental instruction and direction (Pace, 2006). Similarly, Feldman (1969) observed that during university frequent religious changes occur including a decrease in the importance of religious values, increased skepticism about God and religious activities and lower levels of religious orthodoxy and fundamentalism as a result of identity development. Pargament *et al.* (1984) found evidence to suggest

that religious practices and beliefs were attenuated as a result of university progression, however an increase in SWB was also observed in terms of higher reported levels of individual prayer and personal growth which could provide a protective influence against the manifestation of depression in students. Oliver and Burkham (1979) found that depression negatively correlated with year of study therefore it could be suggested that spirituality and religion have an adverse effect of levels of depression in students as when spiritual and religious belief diminish during university progression, depression levels decrease.

In relation to this, Schafer (1997) reported that the higher the importance of religion within an individual's life, the greater the personal distress encountered; according to Pace (2006) this suggests that as university is a time of questioning and sometimes rejecting one's religious upbringing, new experiences could challenge an individual's beliefs which could potentially increase personal distress and depression. Correspondingly in a sample of 5472 university students, Johnson and Hayes (2003) also found that 25% of the participants experienced considerable psychological distress about religious or spiritual concerns suggesting that these variables could be directly implicated in the decline of psychological stability in relation to depression in students.

Koenig *et al.* (2001) also found evidence to suggest that religion and spirituality can negatively affect depression; the researchers suggest that feelings of guilt and shame or vulnerability could be generated as a result of being ostracised as a religious minority. Similarly, research dictates that as a result of the strict guidelines established by religious denominations, abstinence from these guidelines, referred to as 'sinning', can result in heightened levels of depression (Andreasen, 1972). According to Exline and Rose (2005), the negative effects of religion and spirituality manifest particularly in the context of spiritual struggles which encompasses different dimensions of spiritual/religious tension such as difficulty relating to a Higher Power and intrapersonal religious doubts.

Spirituality, Religion and Quality of Life

Similar to the concept of spirituality and religion, quality of life (QoL) evades a simplistic definition. However in order to consider to assess the association between QoL and spirituality and religion, the homogenous collection of operational definitions derived from previous research on QoL need to be summated into a concise definition. Mytko and Knight (1999) conducted a literature review of the research assessing the association between spirituality and QoL and suggested that QoL refers to a multi-faceted concept that encompasses an individual's perspective of overall QoL and the measurement of individual components that relate to QoL, such as physical, psychological and social well-being. This distinction highlights distinct components of QoL which are pervasive and pertinent in the understanding of the prospective association between spirituality, religion and QoL, referring specifically to the subjective nature of QoL that incorporates other concepts such as psychological well-being. Spirituality and religion, according to Mytko and Knight (1999), can be perceived as either independent components of QoL or an overarching perspective that influences

QoL domains such as physical or social factors, thus highlighting the problem with the concept of QoL as a unified phenomenon. Therefore in this study, the term QoL will refer to one's subjective experience of various elements of everyday life, such as employment, recreation and physical health (Beckie, 1997).

Religion and spirituality have been found to positively correlate with well-being in patients with terminal diagnoses, thus improving the patients' perception of QoL as highlighted by Tate and Forchheimer (2002) who found that spirituality positively contributed to perception of life satisfaction in cancer patients. Similarly, research suggests that participation within religious activities can provide moral and emotional support whilst promoting a healthy lifestyle, which subsequently heightens one's satisfaction with life and physical health status (George *et al.*, 2002). Also, O'Connor *et al.* (2007) provided corroborating evidence for the link between spirituality and QoL as they found that SWB accounted for 61% of the variance in quality of life scores in a terminal illness population.

Brady *et al.* (1999) postulate the requirement of incorporating spirituality as a core domain within the assessment of QoL in terminal illness populations as a result of the substantial evidence base which highlights the prominence of spirituality within QoL. Furthermore, the authors found that SWB was related to the capability of enjoying life even in the midst of terminal illness, making this field a potentially significant clinical target which further highlights the importance of research within this area.

Religion and spirituality, as proposed by the stress buffering model (Cohen & Wills, 1985), have also been found to buffer the negative impact of physical and mental illness in patients; although this does not instantaneously result in improved quality of life *per se*, the variables buffer the impact of stressors on psychological well-being and eventually ameliorate quality of life as a consequence, thus providing a powerful coping resource (Pargament *et al.*, 1998b).

Predominantly most of the research exploring the relationship between spirituality and quality of life has been conducted within chronic illness populations (Larson & Larson, 2003), therefore postulating a niche for future subsequent research on a healthy population sample. Using the online literature search engine PsycINFO (APA, 2012a), only one study was found exploring the link between spirituality, religion and quality of life in students using the search terms 'spirituality', 'religion', 'quality of life' and 'students'; Hsu *et al.* (2009) explored the relationship between these factors in a sample of students from New Zealand and found that religion and spirituality significantly correlated with psychological QoL, suggesting that spirituality/religion enable students to cope with the transition to university, thus increasing QoL. PsycARTICLES (APA, 2012b) derived no results, therefore highlighting the lack of empirical evidence collated within this domain.

The assessment of QoL is becoming increasingly utilised within healthcare as an indicative assessment of the patient's perspective of care and well-being, therefore generic and disease-specific QoL questionnaires and scales have been developed to

attend to varying QoL concepts. According to Kane *et al.* (1984) and Tang *et al.* (2004) most QoL assessment tools fail to incorporate all dimensions of QoL for patients with terminal illnesses, such as independence which can significantly affect a patients' perception of their QoL. The Quality of Life Scale (Burckhardt, 2003) was originally devised by Flanagan (1982) to befit the subjective definition of QoL. The scale has since been adapted by Burckhardt (2003) to be utilised within clinical populations but has also been successfully used in healthy population samples.

Explanations of the Associations

Most research undertaken within this field postulates the existence of a relationship between spirituality, religion and health, therefore it is important to consider why these variables are prominent within health domains and identify the mechanisms through which the prospective advantages manifest. Rather than arguing the existence of a Higher Power or assuming that the impact of spiritual or religious activities is reflective of the intervention of a higher being, other factors may be accountable for the potential benefits of the relationship.

Coping, in relation to religion, has been described as a mediator in the association between spirituality and physical and psychological health, particularly when dealing with stressors (Cohen & Wills, 1985; Kim & Seidlitz, 2002). Empirical evidence posits that religious coping is commonly used by individuals in times of stress, such as terminal illness diagnoses (Koenig *et al.*, 1995) and religious activities like personal prayer are key in sustaining coping strategies (Pargament, 1990). Researchers within this domain have established a typology of religious coping (Pargament *et al.*, 2000); a collaborative coping style refers to an individual who perceives a problem and the prospective solution as a shared process between the individual and God, whereas individuals who take a passive role in the resolution of problematic issues therefore entrusting the issue with God adopt a deferring style. Fabricatore *et al.* (2004) dictate that an individual who assumes a self-directing coping style will accept full responsibility of a problem but will be provided by God with the necessary skills to successfully cope with the issue. A substantial amount of research has been collated to support the model of coping styles with Fabricatore *et al.* (2004) positing that a collaborative coping style is beneficial in coping with and accepting mental health problems. Self-directing styles and a fourth style developed by Yangarber-Hicks (2004) entitled 'plead' which is characterized by an individual who looks to God for a miracle in order to achieve personally desirable outcomes, have been related to greater distress and poorer mental health and are largely considered maladaptive styles of coping in relation to religion (Pargament *et al.*, 2000). It is postulated that the negative impact of self-directing and pleading coping styles could be explained utilizing the cognitive concepts of attribution styles and locus-of-control perceptions (Seybold & Hill, 2001). With specific reference to physical health, positive religious coping approaches such as seeking spiritual assistance have been linked with improvements in health whereas negative coping relating to religion such as interpersonal religious discontent are indicative of a decline in health according to Pargament *et al.* (2004).

The way in which individuals perceive and attribute events has also been considered as a pervasive component particularly within mental health; the perception of positive events as internally initiated and negative events as externally caused is often considered an optimistic attribution style, thus is largely associated with enhanced psychological health and well-being (Seybold & Hill, 2001). Correspondingly, an internal locus of control is also conducive to better mental health as a result of the individual feeling they have power and control over a given outcome (Peterson *et al.*, 1981). Margetic and Margetic (2005) constructed a review of the literature surrounding religion and health outcomes and found evidence to suggest that religious beliefs encourage individuals to reinterpret uncontrollable events, thus retaining power over the situation. This shift in cognitive processing therefore enables individuals to understand the distress associated with particularly mental health problems. In relation to physical health, Sethi and Seligman (1993) proposed that fundamental religious beliefs were directly implicated within optimistic attribution styles with individuals perceiving negative events such as physical illness or disease as the will of God, thus beyond the control of the individual.

Conversely, some aspects of spirituality and religion have resulted in the formation of negative attribution styles which cause adverse effects on mental health; mental health has historically been perceived by particular fundamental religions as the possession of demons which conveys negative connotations and adversely impacts on the individual's understanding and acceptance of a mental health issue (Rethink, 2012). As a result of the confusion surrounding the causality of mental illnesses within religious tradition, these 'negative events' were historically interpreted as a consequence of sin (Pfieffer, 1994), and therefore resulted in the formation of an internal, uncontrollable attribution style. This consequently could be utilised to hypothesise why increased anxiety and stress is often observed in individuals with a strict, religious up-bringing (Trenholm *et al.*, 1998) or a punishment-based interpretation of God (Margetic & Margetic, 2005).

As one of the key mediators in the association between spirituality, religion and health (Hill & Pargament, 2003), social support provided by members of religious organisations can heighten self-esteem and provide a source of companionship and practical help for individuals to cope with health problems (Cohen & Wills, 1985). Social support provided by spiritual and religious communities has been found to protect individuals from isolation, provide people with a sense of belonging and offer spiritual and religious assistance in times of adversity, thus enhancing one's sense of well-being (Idler, 2008). In accordance with these benefits, Hill and Pargament (2003) propose that the support provided by religious and spiritual organisations is more advantageous in comparison to other social or cultural networks; the authors suggest that spiritual and religious networks offer support that is constant throughout the duration of an individual's life and is not transitory. Therefore although the specific members may change, religion and spirituality provide a basis for like-minded individuals to integrate and interact, especially in times of adversity such as illness.

The ameliorating effect of social support can be further reinforced by other related religious activities such as the awareness of prayers being offered. This concept is defined as the subject-expectancy effect which postulates that an individual can

unconsciously affect an outcome through the expectation of a result which in this case can be used to explain why when an individual believes prayers are being offered to them, they experience positive results, similar to self-fulfilling prophecies. Byrd (1988) for example reported a significant relationship between intercessory prayer and improved medical outcomes in critically ill patients. Prayer has also been found to reduce stress and anxiety and Francis *et al.* (2008) reported that a higher frequency of prayer was associated with better mental health.

Seybold and Hill (2001) have found evidence to suggest that specific components of spirituality can have a positive impact on certain physiological mechanisms which are directly involved in aspects of health; the researchers suggest that emotions encouraged by spiritual and religious traditions can affect the neural pathways that connect to the endocrine and immune systems. Most religious organisations discourage negative emotions such as hate or anger according to Silberman (2005) which have been found to initiate the release of norepinephrine and the endocrine hormone cortisol (Larson & Larson, 1998). High levels of these neurotransmitters can result in increased infection risk and elevated blood pressure, thus heightening one's risk of cardiovascular disease and strokes and the inhibition of the immune system (Hill & Pargament, 2003). Norepinephrine and cortisol levels have however been found to decrease as a result of meditation and private prayer as relaxation achieved through these spiritual and religious activities has been found to reduce individual's experiences of stress and anxiety which subsequently lower cortisol levels and alleviate associated health problems (Cornah, 2006) .

The proposed beneficial effects of spirituality and religion could have dramatic implications within healthcare, therefore highlighting the importance of further psychological enquiry (Hill & Pargament, 2003). However, most of the research collated within this area has been undertaken cross-culturally. In order to draw accurate conclusions from the research and in order to generalise the literature to populations within the UK, Miller and Thoresen (2003) highlight the requirement of research incorporating spiritual and religious variables which is executed in the UK.

In light of the prospective implications of this research domain within healthcare, the research niches described in-text and the conflicting evidence regarding the impact of spiritual and religious well-being on health, the present study intended to investigate the differences between patients and students in spiritual and religious well-being, depression and QoL. Based on the literature presented, it was hypothesised that patients would report significantly higher levels of SWB and RWB than the student population and would demonstrate higher levels of depression and lower QoL scores as a result of their physical health status. Students were predicted to have higher levels of EWB based on the literature presented. The study also intended to explore the relationships between each of the SWBS sub-scales and depression and QoL in both populations; it was hypothesised that significant, negative relationships would be acquired between each of the spiritual and religious variables and depression and QoL would be positively associated with each of the SWBS sub-scales in both target populations, although to differing extents.

Method

Design

A survey design was utilised within the present study in order to explore differences and subsequent relationships between spiritual and religious well-being, the independent variables, and depression and quality of life, the dependent variables, between the selected populations.

Participants

Student and patient participation was acquired through convenience sampling at a university in North Yorkshire and a Hospice in Lancashire. With regards to the student participants, the total sample consisted of 101 undergraduate psychology students (male = 23, female = 78) aged between 18 and 24 years ($M = 19.22$, $SD = 1.45$). One student only completed the Hospital Anxiety and Depression Scale (HADS; Snaith & Zigmond, 1994), therefore $n + 1$ participants were included in the depression analysis and for the rest of the analyses n participants were included. The patient sample originally consisted of 32 participants attending a day therapy unit at a hospice, all of which had differing palliative diagnoses. One patient was withdrawn from the study prior to participation as a result of anxiety regarding the questionnaire thus the final sample consisted of 31 participants. The patient sample were aged between 42 and 92 years ($M = 66.52$, $SD = 14.49$) and a total of 12 males and 19 females were acquired for participation. Inclusion and exclusion criteria were established prior to the data collection process; if more than 50% of the scale questions remained unanswered, the participant's responses were subsequently removed from the dataset to avoid erroneous conclusions being attained. However no data were required to be removed in this way. For the remaining dataset, any missing data impacted results by lowering the total scores derived for each participant group therefore resulting in a more conservative study. As a consequence, the results accumulated within this research are likely to be an underestimation of the actual situation.

Materials

The Hospital Anxiety and Depression scale (HADS; Zigmond & Snaith, 1983; 1994) is a self-rating instrument often administered within clinical environments to assess psychological problematic issues. The 14-item scale consists of two subscales which assess anxiety and depression and are thus scored independently. For the purpose of this research, the depression subscale was utilised in isolation to suitably measure levels of depression. The HADS D-scale consists of seven items predominantly focused upon loss of interest and diminished pleasure responses as components of depression. Each item is rated on a four-point scale providing a summative maximum score of 21 for depression. A total score of 15 or above is an indicator of 'severe' psychological morbidity and depression whilst a score of 0-7 represents a 'normal' psychological disposition (Snaith & Zigmond, 1994); a score of 7-15 indicates mild or moderate depression. Depression subscale scores can also be categorised as mild or moderate. Bjelland *et al.* (2002) examined the concurrent validity of the HADS through a meta-analytic review of 747 papers and found significant convergent validity (Cronbach's

alpha, 0.83); similarly, the subscales have been found to have high reliability and validity with Cronbach's coefficients for depression of 0.76 (Mykletun, Stordal & Dahl, 2001).

The Spiritual Well-Being Scale (SWBS) developed by Ellison (1983) and Paloutzian and Ellison (1982) is a 20-item self-report measure consisting of two subscales implemented to assess religious well-being (RWB) and existential well-being (EWB). RWB depicts one's well-being in relation to a higher religious or spiritual power, whereas EWB is defined by the authors as how well an individual is adjusted to one's self, community and surroundings, referring specifically to life purpose, satisfaction and relations with others. Each of the scales consists of 10 items. In consideration of the cultural context of this study and in accordance with similar research (Hungelmann *et al.*, 1985), the word 'God' in the RWB scale was replaced by the non-sectarian term 'Higher Power' to attend to issues of varying religious beliefs as suggested by Ellison and Paloutzian (n.d.); the EWB items do not contain any specifically religious connotations. Each item in the SWB scale is rated on a 6-point Likert Scale, with response options ranging from 'strongly agree' (6) to 'strongly disagree' (1) with no mid-point and a high score is indicative of higher levels of spiritual and religious well-being. To attend to the potential issue of response bias, nine of the presented items are worded in a reverse direction so that disagreement with the item represents higher well-being, thus the responses are reverse scored. All responses are totalled to yield three scale scores relating to a total SWB score ranging from 20-120 and a score for each of the RWB and EWB subscales ranging from 10-60. A high score (SWB = 100-120; RWB = 50-60; EWB = 50-60; Paloutzian & Ellison, 1982) represents higher levels of spiritual well-being, a positive view of one's relationship with God and a high level of life satisfaction and purpose in one's life respectively. Bufford *et al.* (1991) attempted to yield norms for various sample groups based on a systematic review of research which had utilised the SWBS as a measure of well-being and indicated that the normative scores for Non-Christian student populations were 70.47 (SWB), 41.55 (EWB) and 29.65 (RWB); as religion denominations was not requested within this study, the Non-Christian data were utilised to avoid generalising religions. Correspondingly, normative data derived for the Combined Patients sample group were 83.68 (SWB), 38.84 (EWB) and 44.87 (RWB). Boivin *et al.* (1999) conducted Cronbach's alpha coefficients on the SWBS and found high internal consistency between the scales, 0.89 (SWB), 0.87(RWB) and 0.78 (EWB). The test-retest reliability coefficients were 0.93 (SWB), 0.96 (RWB) and 0.86 (EWB), therefore suggesting high reliability for the SWBS.

Adapted by Burckhardt and Anderson (2003), the Quality of Life scale is a 16-item self-report instrument utilised within chronic pain populations to assess quality of life but has also been successfully utilised with healthy adults (Burckhardt & Anderson, 2003). As an extension of Flanagan's (1982) original scale, the instrument measures six conceptual domains of quality of life; material and physical well-being, relationships with others, social, community and civic activities, personal development and fulfillment, recreation and independence (Burckhardt & Anderson, 2003). The items are administered with a 7-point response scale with responses ranging from 'delighted' (7) to 'terrible' (1) regarding levels of satisfaction with a selection of listed activities and

relationships. Response scores are accumulated to yield a total score for the QoL instrument. Scores can range from 16-112 with a higher QoL score indicating higher QoL. In a normative healthy population, the average summative total is a score of 90 (Burckhardt & Anderson, 2003), thus this score can be utilised as a criterion for interpreting the QoL scores. The scale takes approximately five minutes to complete. Burckhardt and Anderson (2003) assessed the internal consistency and test-retest reliability of the scale and found high internal consistency ($\alpha = 0.86$ to 0.92) and high reliability ($r = 0.78$), thus providing evidence for the validity of the measure.

Procedure

A private hospice was contacted regarding potential participation within the study. Patients and university undergraduate Psychology students were approached in their respective settings and asked for their voluntary participation within a questionnaire study assessing the association between spiritual and religious well-being, depression and quality of life. Prospective participants were provided with a synopsis of the research aims and procedure before active consent was required by signing the attached consent form. The scales were administered to students during their regular class hours at the end of the lecture as discussed with the lecturer concerned. Regarding the patient population, the participants were approached within the day therapy unit at a hospice. Whilst patients were awaiting activities, they were presented with the questionnaire and the experimental aims were provided both visually and orally with further explanation provided to patients requiring assistance with reading or understanding the information sheet and consent form. Consenting individuals were then asked to complete the three short questionnaires provided which would assess their spiritual/religious and psychological well-being, levels of depression and quality of life. All participants were asked to complete the questionnaire in reflection of their views, opinions and feelings derived from the past week as required by the questionnaires for an accurate depiction of their status of their QoL, depression and spiritual and religious well-being. Participants were requested to complete the questionnaires individually and no time restrictions were provided. On completion of the questionnaires, participants were thanked for their involvement and asked for any questions regarding the experimental procedure or any issues that arose as a result of the questionnaire.

Ethical Considerations

Ethical approval was sought and approved by the Psychology ethical committee at York St. John University in accordance with the ethical guidelines provided by the British Psychological Society (2006). Ethical approval regarding participation was initially requested from the hospice prior to the formation of the subject populations through oral communication and written approval.

Due to the sensitive nature of the issues raised within the questionnaire, the contact details of the psychotherapists and the spiritual advisor at the hospice and details of counselling services for the students were provided. Participants were also assured that they could avoid any questions that provoked any discomfort or unintended distress. Subsequently, as the researcher had a duty of care regarding the patient population, participants were informed that if their collated scores suggested either high levels of

depression or low quality of life then a member of the clinical team would have to be informed, thus breaching confidentiality in this sole instance. To attend to this issue, each questionnaire was assigned a participant number which each participant was requested to memorise or take a note of in order to successfully adhere to the guidelines regarding anonymity. All participants were also informed that apart from the example previously listed all individual answers and responses would remain confidential and anonymous within the dataset by keeping the consent forms separate from the coded data.

Any participants that demonstrated any signs of distress were subsequently removed from the research; after seeking reassurance from the researcher who reiterated the individual's right to withdraw from the study, one patient was removed from the research in this way prior to commencement of the questionnaire after portraying signs of anxiety regarding the experimental measures and was subsequently signposted to further assistance.

As a form of debrief, any individuals who supplied the researcher with an email address on the consent form were provided with the overall results of the study on completion to fulfill the requirements established by the BPS (2006).

Results

As highlighted in Table 1, mean scores for the patient population were higher on the SWB, RWB and HADS scales compared to the student participants; however students reported higher scores on the EWB and QoL scales.

Table 1

Descriptive statistics split by student and patient populations.

	Students		Patients	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
SWB	71.32	16.01	76.43	13.88
RWB*	26.59	12.87	37.61	8.94
EWB*	44.73	8.34	38.87	7.15
HADS*	3.17	2.60	5.45	3.22
QoL*	89.46	10.47	80.00	11.96

*Significantly different at $p < 0.05$.

Results of a Levene's test for homogeneity of variance found that the scores collated for the SWB and EWB did meet the homogeneity of variance assumption; SWB, $F(1, 128) = 1.89$, $p = ns$ and EWB, $F(1, 128) = 0.05$, $p = ns$. Scores derived for the RWB and QoL

scales however failed to meet the assumption therefore did not have homogeneity of variance; RWB, $F(1, 128) = 36.41, p < 0.05$ and QoL, $F(1, 128) = 4.30, p < 0.05$. For the HADS variable, the Levene's test could not be calculated statistically therefore homogeneity of variance was calculated by dividing the largest standard deviation by the lowest standard deviation (Howell, 2002); the data were found to meet the homogeneity of variance assumption ($3.22/2.60 = 1.24, p = ns$). Kolmogorov-Smirnov tests were used to examine the distribution of the data and the SWB scores for students, $D(99) = 0.19, p = ns$, the RWB scores for patients, $D(31) = 0.15, p = ns$, the EWB scores for patients, $D(31) = 0.15, p = ns$, the QoL scores for both student and patient populations, $D(99) = 0.08, p = ns, D(31) = 0.12, p = ns$ and the HADS scores for patients, $D(31) = 0.14, p = ns$ were found to be normally distributed. However, scores collated for SWB for patients, $D(31) = 0.14, p < 0.05$, RWB scores for students, $D(99) = 0.13, p < 0.05$, EWB scores for students, $D(99) = 0.11, p < 0.05$ and HADS scores collected for the student population, $D(100) = 0.19, p < 0.05$, were not normally distributed.

As the data were therefore not found to meet the assumptions of parametric statistics, differences between the student and patient populations were examined using a Mann-Whitney U test. Significant differences were calculated between students and patients for RWB scores, $U = 773.50, n^1 = 100, n^2 = 31, p < 0.05, r = -0.37, power = 0.99$, EWB scores, $U = 827.50, n^1 = 100, n^2 = 31, p < 0.05, r = -0.34, power = 0.99$, scores for HADS, $U = 901.00, n^1 = 101, n^2 = 31, p < 0.05, r = -0.31, power = 0.99$, and QoL scores, $U = 862.50, n^1 = 100, n^2 = 31, p < 0.05, r = -0.33, power = 0.99$. The difference between students and patients for scores on SWB however was found to be non-significant, $U = 1241.50, n^1 = 100, n^2 = 31, p = ns$.

Regarding the relationships between the variables, Table 2 illustrates the correlations between the variables for the student and patient populations. Negative relationships were found within both participant populations between HADS scores and each of the spiritual/religious well-being scales (SWB, RWB and EWB). In general, positive relationships were found between QoL scores and SWB and EWB derived for both participant groups, however a negative association was found between QoL and RWB for the student group.

Table 2
Correlation Coefficients for the student and patient populations

Scale	Students		Patients	
	HADS	QoL	HADS	QoL
SWB	-0.22*	0.14	-0.27	0.11
RWB	-0.01	-0.04	-0.33*	0.19
EWB	-0.40*	0.34*	-0.08	0.12

* Correlations significant at $p < 0.05$.

As the data failed to meet the assumptions of parametric statistics as previously highlighted, relationships between the variables were analysed using Spearman's Rho correlations. The data indicate that a significant positive relationship, which accounted for 12% of the variance, was found between the EWB and QoL scores for students, $r_s(100) = 0.34$, $p < 0.05$, $r^2 = 0.12$, power = 0.27. Similarly for the student population, significant negative relationships were found between EWB and HADS, $r_s(100) = -0.40$, $p < 0.05$, $r^2 = 0.16$, power = 0.64, and SWB and HADS, $r_s(100) = -0.22$, $p < 0.05$, $r^2 = 0.05$, power = 0.27, which accounted for 16% and 5% of the variance respectively. For the patient population, a significant inverse relationship was obtained between RWB and HADS, $r_s(31) = -0.33$, $p < 0.05$, $r^2 = 0.12$, power = 0.13, which accounted for 12% of the variance between the variables. The relationships between all of the other variables were found to be non-significant (see Appendix V for a comprehensive list of analyses and scatter graphs).

Discussion

As previously depicted in the results section, significant differences were found between the patient and student populations for scores on the EWB, RWB, HADS and QoL scales as predicted by the hypothesis. The difference between scores for SWB however was found to be non-significant.

The majority of the literature undertaken within the field of spirituality and physical health postulates an inverse relationship between spirituality, religion and physical health, therefore suggesting that religion and spirituality are often utilised to cope with the adverse implications of terminal diagnoses (Koenig *et al.*, 1995). The results from this study highlight the differences between students and patients in RWB, therefore suggesting in accordance with the research that patients may have higher levels of RWB as a consequence of turning to religion as a result of a terminal diagnosis.

Conversely, it could also be suggested that the difference between students and patients regarding RWB could be reflective of societal changes and not health status; Gallup (1999) reported that since 1977, religion since has lost its influence on Western societies therefore as there was an uncontrolled generational gap between the two populations, the difference in RWB could be a consequence of religious stability in the patient population, suggesting that the patient sample have substantially more religious beliefs in comparison to the students. This point could also be utilised as a plausible explanation of the large standard deviations accumulated for the RWB variable as they could be indicative of the variability of religious beliefs within society.

On the other hand, religion could contribute to a decline in physical health, thus increasing the likelihood of physical illness in religious individuals as suggested by Courtenay *et al.* (1992). The religious reliance on hope and faith as integral religious attributes could have adverse implications on physical health, for example individuals may avoid requesting professional advice regarding a physical health problem and

choose to turn to prayer to attenuate the pain or issue which could subsequently result in markedly poorer health. However, this argument contradicts research which accentuates the positive association between religion and healthy lifestyles (Levin, 1994; Koenig, 1997).

Both of these suggestions imply that high levels of RWB could have been present in the patient population prior to their terminal diagnosis. This therefore proposes that the illness may not have caused the accumulation of religious beliefs but the individual could have already executed high levels of RWB prior to diagnosis. It could therefore be useful when conducting research exploring spirituality and religion to assess the variables longitudinally to thus obtain a better perspective of the religious/spiritual stability of the populations involved.

The results also provide corroborating evidence for Feldman (1969) and Masden and Vernon (1983) who suggested that students generally become less religiously orthodox as a result of the transition to university as, according to Pace (2006), they begin to question aspects of their religious upbringing. Correspondingly, research by Knox *et al.* (1998) postulated that religiosity decreases in students as they progress through their academic careers as they found that older students reported lower levels of religiousness than younger students referring to year of study. This evidence could also be used to explain the variability in RWB scores derived for the student participants as participants from all years of study were required for participation within this study.

With reference to EWB, the results support the literature previously presented which dictates that as a consequence of the university transition, life change gives students new perspective and life purpose as they begin a personal journey of discovery (Pargament *et al.*, 1984). This therefore can be utilised to explain why students scored significantly higher scores on the EWB when compared to the patient population.

Correspondingly, it could be suggested that only individuals who possess high levels of EWB pursue a university career due to the independent lifestyle university encourages; it could be argued that individuals require self-awareness and direction and acknowledge meaning and purpose in life in order to leave familiar environments and pursue an independent, academic career. This suggests that only individuals who possess these characteristics commonly associated with spirituality will go to university which could explain the heightened levels of EWB observed in the student population.

Lack of purpose or meaning in life are central components of both depression and spirituality which therefore highlights a direct association between the two variables. Thus, as both spirituality and depression attend to similar aspects of well-being, higher levels of depression are likely to be associated with lower EWB as highlighted in the results of the present study suggesting that physical illness could prompt patients to question the meaning and purpose of their life.

The significant differences observed between patients and students in relation to depression and QoL as predicted by the research aims provide supporting evidence for Noorani and Montagnini (1997) who stated that clinical depression is particularly

prevalent within patients as a consequence of their palliative diagnoses, thus lowering an individual's perception of QoL as a further consequence.

However, for the summative SWB, the difference between the student and patient populations was found to be non-significant. It could be argued that as the scores derived for the sub-scales were not homogenous, this subsequently led to polarisation of the scores derived for RWB and EWB thus when collated eradicated any differences originally highlighted by the subscales to formulate a non-significant result. This finding adds further corroborating evidence for the polarisation of religion and spirituality as both the variables were affected differently depending on the participant group.

In relation to the correlations, it was predicted that depression would negatively correlate with the spiritual and religious variables; significant negative relationships were identified between the HADS depression scores and SWB and EWB for the student participants and between HADS and RWB for the patient sample thus supporting the previous prediction. Similarly, a significant positive relationship was identified between QoL and RWB in the patient population which also supported the hypothesis generated in this study. Although the other relationships calculated were non-significant, they still provided corroborating evidence for the hypotheses of this research.

The present findings are consistent with the stress buffering effects of spirituality (Cohen & Wills, 1985) which minimise the effects of stressors in times of psychological challenges; higher levels of EWB in students significantly correlated with lower levels of depression and significant inverse relationships were also found between SWB and depression in students and RWB and depression in patients, therefore substantiating the ameliorating impact of spirituality and religion in relation to depression. This consequentially leads to an increase in QoL which can be used to explain the positive correlation between EWB and QoL in the student population. However, the present study did not assess the levels of stress and daily hassles experienced in the sample of patients and students, therefore conclusions about the stress-buffering effects of religion/spirituality are purely speculative. However, given the wealth of evidence of the nature of stressors (Koenig *et al.*, 2001), the assumption appears to be warranted.

The results suggest that other moderating variables could be implicated within the associations between spiritual and religious well-being, depression and QoL as highlighted by the small amount of variance accounted for by the spiritual/religious variables; depression and QoL are affected by numerous physical, social and psychological factors, therefore it is difficult to establish causal relationships due to the multi-faceted nature of the constructs. Similarly, this argument could also be utilised to explain the disparity in results as highlighted by the large standard deviations which could explain why most of the relationships between the SWBS variables, depression and QoL were found to be non-significant.

Year of academic study has been found to impact on QoL, depression and spirituality (Oliver & Burckham, 1979; Pargament, 1984), with the researchers suggesting that QoL improves and levels of depression and spiritual/religious well-being decreases as a result of university progression, which could also be attributed to age. This suggests that as student participants were selected from over 3 years of study, variation in

responses as a result of year of study could explain the large variation in results. Future research could identify whether year of study or age in particular specifically impacts on scores of QoL, depression and SWB/RWB.

Similarly, Mori (2000) and Khawaja & Dempsey (2007) found that university poses additional stressors for international students when compared to domestic students which can lead to a significant reduction in psychological well-being. This therefore proposes that although students formulate a unified sample group, specific differences within the sample group not accounted for by the present research could have had an adverse effect the significance of the findings particularly in relation to QoL, therefore explaining the variation of results collated.

As an alternative factor, the stage of diagnosis and one's adjustment and acceptance of an illness could significantly mediate the relationships between the spiritual and religious variables and depression and QoL. Patients for example who have been able to deal and come to terms with a palliative diagnosis could be more satisfied with their self and be beginning to regain their purpose and meaning in life which may have been initially displaced as a result of a diagnosis. This could therefore result in higher levels of SWB, RWB, EWB, QoL and lower depression scores in comparison to those who may have a newly diagnosed terminal illness who may be contemplating and reflecting on their life, thus negatively impacting on scores. Similarly, Vodermaier *et al.* (2011) found that patients that were given a poor prognosis in relation to a cancer type or individuals diagnosed with disease progression were more likely to report emotional distress compared to patients with early stage disease. These factors therefore highlight the complexity of research attained within healthcare environments and the multi-faceted nature of health which should be recognised and attended to in future, subsequent studies of this nature. They also could account for the disparity of results collated within this research as highlighted by the large standard deviations.

Similarly, research suggests that the type of diagnosis can affect well-being; according to van Ede *et al.* (1999), depression is particularly prevalent in patients with chronic obstructive pulmonary disease for example which therefore suggests that the type of diagnosis can also affect the relationship between religion, spirituality and psychological health.

It is worth highlighting that hospice patients formulate a distinctively different sample population than a general patient population due to the specialist care provided by hospice environments, therefore caution should be taken when interpreting the results of this study. As a primarily palliative care environment, hospices provide specialist medical, psychological and spiritual assistance (Grey, 1996) and are specifically designed to promote QoL in patients with terminal diagnoses. Hospices offer tangible emotional support for patients with palliative care needs; social support in this instance has been found to not only positively correlate with spirituality (Reed, 1994) but a significant relationship has also been found between social support and QoL in patients (Cohen *et al.*, 1996). According to Edmonds and Rogers (2003) healthcare professionals in hospitals rarely address important aspects of psychological and spiritual care. Similarly, Narayanasamy and Owens (2001) found that hospital nurses found it difficult to recognize and therefore address spiritual distress in hospital patients

which further highlights the requirement of health professionals to acknowledge spiritual and religious functioning as a clinically relevant functional domain (Hathaway *et al.*, 2004). As a consequence, SWBS, RWB, EWB and QoL scores collated for the patient population in this research are likely to be an overestimation of the actual status of spiritual, religious and psychological well-being in general patient population and the HADS depression scores are likely to underestimate the status of depression in general healthcare environments. Future study could explore the differences in spiritual and religious well-being, depression and QoL between patients in hospices environments and patients in alternative healthcare settings to see if this claim is warranted.

One significant limitation of the research was that age remained an uncontrolled variable and it could be postulated from the results that the differences between the two sample groups could be reflective of age differences and not the respective population group. According to Moberg (2005), spiritual and religious well-being tend to increase during later adulthood, therefore it could be suggested that the heightened levels of RWB and SWB derived for the patient population could be influenced by age rather than physical health status although this suggestion fails to account for the heightened EWB scores reported by the student sample group.

Religious denominations also failed to be accounted for by the current research therefore the results may not be reflective of all religious groups. To exemplify, Muslims believe in caring for the dying at home (Boussarsar & Bouchoucha, 2006) thus may not utilise hospice services. Therefore the sample acquired within this research may not be representative of all religions. Similarly, different religious denominations could have differing effects on the variables assessed in the present study; Cohen (2002) found that spirituality along with religious coping and belief were better predictors of QoL and psychological well-being for Christians than for Jews. Conversely, Genia and Shaw (1991) found that religious affiliation was unrelated to psychological distress which therefore highlights the requirement for future research to investigate the effect of religious denominations on psychological health.

The patient population was informed that as a duty of care, any results that could be indicative of psychological distress would have to be reported to the clinical team. This could have potentially inhibited the severity of the patients' responses as participants may have been conscious of not scoring highly on HADS or low on QoL to avoid clinical and psychological intervention as overheard by the researcher during data collection. Therefore the scores accumulated within the present study may be underestimated in light of this or subject to a higher incidence of missing data. Patients were assured that any information provided would remain anonymous during all stages of the research however caution when interpreting the findings should be implemented as the reliability of the responses as a result of the self-report method may be questionable.

Due to the multi-faceted nature and understanding of spirituality and religion, assessing spirituality and religion quantitatively may not be the most appropriate means of assessment. According to Cornah (2006), quantitative research attempts to isolate the impact of one activity such as personal prayer upon another (e.g. level of depression), which may not always capture the rich and complex interactions of other factors on any association found. There is still considerable ambiguity in research findings and

uncertainty about the mechanisms that drive the spirituality–health connection and research in this area is beset with specific conceptual and methodological problems (Kohls & Walach, 2008). To gain a better insight into the association between spirituality and religion within health, future research should look to incorporate a combination of methodologies that provide a holistic analysis of the variables and allow the complexities of the associations to be suitably explored.

Similarly, in order to gain a greater insight into the effects of spirituality and religion on psychological factors of well-being, it is important that researcher begins to investigate the causes of the associations which cannot be inferred from correlation analyses. Understanding the underlying causes of the relationships will further improve knowledge surrounding the ameliorating effects of spirituality and religion not only within health but in other aspects of life. Therefore as the majority of research undertaken within this area is primarily focused on spirituality and religion and their potential associations and relationships with other variables, future research should begin to establish cause and effect in relation to spirituality and religion.

However, the present study does add to the limited amount of literature on spiritual and religious well-being in relation to depression and quality of life in non-clinical populations by providing data which suggests that the ameliorating effects of spirituality and religion in relation to depression and QoL found in clinical populations can be extended to non-clinical sample groups. By utilising a sample of university students, this study also adds corroborating evidence to the relatively small number of studies that found evidence of this effect in young adults (Kim & Seidlitz, 2002).

In conclusion, the present study provides a level of support for previous research regarding the beneficial impact of religion and spirituality on psychological well-being (Koenig *et al.*, 2001). The study also highlights the differences between clinical and non-clinical populations particularly in relation to EWB and RWB and also provides evidence of the positive effects of spiritual and religious well-being derived from populations in the UK. As the notion of holistic care becomes more prevalent in health settings, the importance of spiritual and religious assessment particularly within healthcare in order to potentially improve patients' experiences of health is further highlighted. The present study also provides increasing evidence for the implementation of spiritual assistance in general patient populations and for students within universities in order to accentuate the positive effects associated with spiritual and religious well-being.

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