THE ROLE OF MINDFULNESS IN THE RELATIONSHIP BETWEEN LIFE SATISFACTION AND SPIRITUAL WELL-BEING IN THE ELDERLY

By

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DECLARATION

I, Edelweiss Wilma Bester, declare that the article hereby submitted by me for the MA degree in Clinical Psychology at the University of the Free State is my own independent work and has not been previously submitted by me to another university/faculty. I furthermore cede copyright of the article in favour of the University of the Free State.

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Abstract

This study aimed to investigate whether mindfulness plays a role in the life satisfaction and spiritual well-being of elderly individuals. The elderly are the fastest growing population worldwide. However, a longer life does not guarantee good health or a high-quality life. One inevitable psychological consequence of aging is the confrontation with mortality (Nelson, 2012); still, the desire for life satisfaction remains universal (Diener, 1984). A non-experimental research design was employed in this study to investigate the role of mindfulness in the relationship between life satisfaction and spiritual well-being in a convenience sample of 122 elderly citizens residing in Bloemfontein, South Africa. The participants, 37 men and 85 women, were selected from two local retirement homes, all of similar socio-economic status. All participants were above the age of 60 years. A biographical questionnaire was administered in order to gather information regarding the age, marital status, gender, race, and home language of the sample. The Mindful Attention Awareness Scale (Brown & Ryan, 2003) was used to assess mindfulness, while spiritual well-being was measured by means of the Spiritual Well-Being Questionnaire (Gomez & Fisher, 2003). Life satisfaction was measured by the Satisfaction with Life Scale (Diener, 1984). Key findings were that the scores on the Mindful Attention Awareness Scale showed statistically significant relationships with scores from the Spiritual Well-Being Questionnaire and Satisfaction with Life Scale respectively for the sample in question. Also, a stronger positive correlation was indicated between the scores for the Satisfaction with Life Scale and for the Spiritual Wellbeing Questionnaire for the 25% of individuals with the lowest mindfulness scores (r=0.643; p=0.00) than for the 25% of individuals with the highest mindfulness scores (r=0.613; p=0.001). These findings clearly emphasise the importance of understanding the effect of mindfulness on the relationship between life satisfaction and spiritual well-being within this cohort.

Key Terms: positive psychology, mindfulness, spiritual well-being, well-being, life satisfaction, elderly, geriatrics.

Opsomming

Hierdie studie ondersoek die mate waarin indagtigheid ’n rol speel in die lewenstevredenheid en spirituele welstand van bejaardes. Bejaardes is die bevolkingsgroep wat wêreldwyd die vinnigste groei. ’n Langer lewe waarborg egter nie goeie gesondheid en hoë lewensgehalte nie. Een onvermydelike sielkundige gevolg van veroudering is die konfrontasie met mortaliteit (Nelson, 2012); nietemin bly lewenstevredenheid ’n universele begeerte (Diener, 1984). ’n Nie-eksperimentele navorsingsontwerp is in die studie gebruik om die rol te ondersoek van indagtigheid in die verhouding tussen spirituele welstand en lewenstevredenheid in ’n gerieflikheidsteekproef, bestaande uit 122 bejaarde burgers van Bloemfontein. Die deelnemers, 37 mans en 85 vroue met soortgelyke sosio-ekonomiese status, is uit twee plaaslike ouetehuise geselekteer. Alle deelnemers is ouer as 60 jaar. ’n Biografiese vraelys is afgeneem met die doel om inligting oor die deelnemers se ouderdom, huwelikstatus, geslag, ras en huistaal in te samel. Die Indagtigheidskaal (Brown & Ryan, 2003) is gebruik om deelnemers se indagtigheid te assesseer. Hiermeesaam is spirituele welstand gemeet deur middel van die Spirituele Welstandsvraelys (Gomez & Fisher, 2003), en lewenstevredenheid met behulp van die Lewenstevredenheidskaal (Diener, 1984). Sleutelbevindinge is dat die tellings op die Indagtigheidskaal statisties beduidende verhoudings toon met tellings op die Spirituele Welstandsvraelys sowel as die Lewenstevredenheidskaal. So ook is ’n sterker korrelasie gevind tussen die Lewenstevredendheid- en Spirituele Welstandskale vir die 25% deelnemers met die laagste tellings op die Indagtigheidskaal (r=0.643; p=0.00) teenoor die 25% deelnemers met die hoogste tellings op hierdie skaal (r=0.613; p=0.001). Die studie beklemtoon hoe belangrik dit is om begrip te hê van die effek van indagtigheid op die verhouding tussen lewenstevredenheid en spirituelewelstand van hierdie kohort.

Sleutelterme: positiewe sielkunde, indagtigheid, spirituele welstand, welstand, lewenstevredenheid, ouer persone, geriatrie.

The role of mindfulness in the relationship between life satisfaction and spiritual well-being in the elderly

The elderly is the fastest growing population worldwide (Erber, 2013; Foos & Clark, 2008; Victor, 2010). With improved living conditions, education and advancing medical technology, the elderly population has tripled from 1950 to 2000 and is estimated to more than triple from 2000 to 2050, according to the World Health Organization (WHO, 2011). However, a longer life does not guarantee good health or a high-quality of life (Kobylarek, 2011; McCarthy & Pierpaoli, 2014), because improved longevity leads to increases in both disease and disability (Bergman et al., 2013; Phillipson, 2013; WHO, 2011).

Old age is associated with an increase in both physical and psychological challenges (Bergman et al., 2013). Life stressors in this group can include adapting to and coping with the following: change and loss, financial difficulty, increased illness, mental disorders, cognitive decline and increased limitations in functioning (Erber, 2013; McCarthy & Pierpaoli, 2014). All these factors have been found to have negative effects on the well-being of the elderly population (Diener & Chan, 2011).

It is a universal human desire to be satisfied with one's life and enjoy a high-quality life (Seligman, 2012; Diener, 1984). However, with aging, this desire can easily become thwarted by the plethora of obstacles that can occur (Phillipson, 2013). The field of positive psychology has devoted much research to what constitutes 'the good life' (Seligman, 2012). This study aimed to investigate whether mindfulness plays a role in the relationship between life satisfaction and spiritual well-being of elderly individuals.

The Elderly Population

The life stage of old age includes any individual aged 65 years and older (WHO, 2000). This concurs with Erikson's (1959) view that old age is entered at the age of 65. The psychosocial developmental theory, as posited by Erikson (Erikson, 1959;

Marcia & Josselson, 2013), is the most widely accepted developmental theory of aging. However, age alone is regarded as an insufficient criterion for determining old age in the developing world (United Nations [UN], 2013; WHO, 2000). In sub-Saharan Africa, for example, life expectancy at birth is approximately 55 years of age (UN, 2013). As individuals age, there is greater variance in what defines membership of a specific age group (Phillipson, 2013). Therefore, various categories are used to define older adulthood, including chronological age, change in social roles and change in capabilities (Phillipson, 2013).

Various theories have been developed in an attempt to explain the aging process in a systematic way (Stuart-Hamilton, 2012). Psychological theories of aging include the theory of selective optimisation (Baltes & Baltes, 1990), cognition and aging theory (Salthouse, 1991), personality and aging theory (Levinson, 1978), gerotranscendence theory (Tornstam, 2005) and lifespan developmental theory (Baltes, 1987). Even though all these theories are able to explain a part of the aging process, none of them offer an all-encompassing explanation (Phillipson, 2013). In this study, the lifespan developmental theory was chosen given its focus on the elderly's continuous capacity to develop despite the limitations brought about by the aging process (Baltes, 1987).

In his seminal work on lifespan development, Baltes (1987) proposed five principles that form a set of beliefs which guide the understanding of aging. First, development is a lifelong process, and every stage in the lifespan is influenced by what precedes and follows that period (Baltes, 1987). Every period is also regarded to serve a unique purpose and be equally important to all other stages (Baltes, 1987). Secondly, development is a multidimensional and multidirectional process and is ongoing in every aspect of an individual's life, each at a pace unique to the individual (Baltes, 1987). As people make progress or attain gains in one area, they could regress or lose in another area. This was demonstrated by O'Neill (2012) in his study on elderly drivers. Regardless of having the highest incidence of physical disabilities, the elderly has the safest driving profile because of cognitive gains such as wisdom, altruism, improved strategic thinking and superior tactical thinking (O'Neill, 2012). Thirdly, development is influenced by both culture and biology. As biological abilities decline with age, cultural mechanisms such as education and

relationships are strengthened and can serve as a compensatory factor (Baltes, 1987). In this regard, Rauers and colleagues (2011) found that 40 German elderly couples compensated for their loss of memory by relying on their spouses which, subsequently, strengthened their relationships when required to do memory tasks. Fourthly, Baltes(1987) contends that development is flexible, which means that abilities such as memory or strength can be improved with practice, even at an advanced age. In an American study, a sample of elderly adults participated in a six-week course covering memory (N=630), reasoning (N=698) and cognitive speed (N=698) (Jones et al., 2013). At a five year follow-up, participants were functioning at 5.8, 4.5 and 7.6 years younger respectively, compared to the control group (Jones et al., 2013). Finally, Baltes (1987) maintains that development occurs in a specific context and history. Consequently, the development of the elderly is affected in a unique way (Baltes, 1987).

Studies were conducted to compare the influence of context on the use of care facilities in 11 European countries. They confirmed that cultural context, welfare state context, and socio-economic and demographic factors all play a significant part in the use of care facilities by the elderly population (Suanet, van Groenou, & van Tilburg, 2012). Thus, the definition of old age needs to consider context as well due to the vast differences in population dynamics between the developed and developing world (Baltes, 1987; WHO, 2000).

In the developing world, old age is considered to be 60 years and older (UN, 2013). The 2013 midyear population estimates in South Africa indicated that approximately 5.43% of the total population is 65 years and older (Statistics South Africa [Stats SA], 2013). Racial population groups within the range of 65 years and older are as follows: 65% of the South African elderly population is black, 8.2% of the population is coloured, 3.3% is Indian/Asian, and 23.4% white (Stats SA, 2013). Also, with regard to gender, 61% of this population group is female, while only 39% is male (Stats SA, 2013). In 2013, 68% of persons older than 60 received old age pension from the South African Social Security Agency (South African Government Services, 2013; Stats SA, 2013).

Population aging in developing countries such as South Africa poses a considerable challenge for the public health and social development sectors (WHO, 2011; UN, 2013). The growth of the aged population represents a rise in the medical needs of the populace (Kobylarek, 2011; McCarthy & Pierpaoli, 2014). Aging is associated with a decline in physical, mental and cognitive capacities, as well as a greater need for chronic disease treatment and frail care (Bergman et al., 2013). This can overburden an already overwhelmed health-care system and render it unable to stay abreast of the increased need for medical assistance (WHO, 2011). Clearly, improved well-being holds several physical and psychological benefits for the elderly population (Diener & Chan, 2011; Ramirez, Ortega, Chamorro, & Colmenero, 2013).

Positive Psychology

Positive psychology is defined as the science of studying positive experience and positive individual traits (Seligman, Parks, & Steen, 2004). The field, which was formally introduced by Martin Seligman in 1998 (Fowler, Seligman, & Koocher, 1998), aims to balance the treatment of pathology with the prevention of illness and the improvement of quality of life (Seligman, et al., 2004). This is achieved by fostering individual fulfilment and productivity as a supplementary goal to treating mental illness (Seligman et al., 2004).

The search for the good life has been documented as far back as the symposiums of Socrates, Plato and Aristotle (Lopez & Gallagher, 2011). In the early to mid 20th century, the field of humanistic psychology emerged and was advocated by prominent theorists such as Maslow (1954), Jung (1933), Jahoda (1958), Allport (1961), Rogers (1956) and Adler (1979). They proposed that human beings strive to develop, grow and thrive in a quest to make life worth living (Lopez & Gallagher, 2011). Seligman and Csikszentmihalyi (2000) reintroduced elements that had been posited by prominent figures from the field of humanistic psychology, but argued that the movement lacked scientific research and results to substantiate its claims. Hence, positive psychology aims to fundamentally improve the well-being of

individuals, with interventions based on empirically sound research findings (Diener & Chan, 2011).

Positive psychology has been challenged, though (Christopher, Richardson, & Slife, 2008). First, critics of the field have posited that the notion of positive psychology encourages the assumption of the existence of a negative psychology, which reflects deleteriously on the progress made before the introduction of positive psychology in 2008 (Held, 2004). Also, the field has been criticised for its one-dimensional view of human suffering by ignoring the reality and functionality of pain and suffering in human existence (Ehrenreich, 2010; Held, 2004). In response, Seligman (2012) argues that positive psychology aims to supplement research on the treatment of pathology by providing a holistic description of mental functioning. Key authors have stated that much empirical work has been done on the use of positive psychology to not only eliminate pathology, but to also allow mental health care users and healthy individuals to recognise and pursue ways to make their lives worth living (Diener & Chan, 2011; Seligman, 2012). Seligman's introduction of positive psychology has led to a vast array of literature on what makes life worth living (Diener & Chan, 2011). Seligman and Csikszentmihalyi (2000) contend that the aim of positive psychology is not to ignore the presence and validity of psychopathology, but to improve well-being instead. In response to these discourses, researchers have focused on the dynamics of well-being in a quest to make the good life a possibility across the globe (Seligman, 2012).

Well-being

The search for well-being has been regarded as a fundamental goal in life since ancient times (Ryan & Deci, 2001). Various researchers have developed specific models of well-being in an attempt to define and describe the concept. Examples include the effect of life challenges on homeostasis (Cummins, 2010), dynamic equilibrium theory of well-being (Headey & Wearing, 1989), authentic happiness theory and well-being theory (Seligman, 2002, 2012). While well-being has been defined in various ways, theorists continue to disagree on whether it is a construct of

positive psychology or a state of being (Cummins, 2010; Headey & Wearing, 1989; Seligman, 2012).

There are two philosophical approaches to well-being, namely eudaimonia and hedonia, which had already been delineated by the 4th century BCE (Ryan & Deci, 2001). Eudaimonia was defined by Aristotle as the true way of attaining well-being by achieving the best in oneself in alignment with deeper personal values (Deci & Ryan, 2008). In the same vein, self-determination theory posits that eudaimonia plays a fundamental role in the realisation of well-being (Deci & Ryan, 2008). This theory also states that autonomy, competence and relatedness are basic psychological needs and their fulfilment will lead to both subjective well-being and eudaimonic or psychological well-being (Deci & Ryan, 2008).

The second form of well-being, hedonia, was defined by Aristippus, who purported that pleasure, enjoyment and comfort were the way to achieve well-being (Waterman, 2008). His definition has since been elaborated to include the concept of 'subjective well-being' (Huta & Ryan, 2010). Subjective well-being comprises a cognitive and an affective component (Diener, 1984). The cognitive component refers to individuals' evaluation of how satisfied or happy they are with their lives, while the affective component pertains to their experience of high positive emotions and low negative emotions (Diener, Suh, Lucas, & Smith, 1999). In a review of international studies regarding subjective well-being, Diener and Chan (2011) found that high levels of subjective well-being positively predict health and longevity and can add between four to 10 years to an individual's life. Increased subjective well-being is a significant factor in healthy aging and is linked to extended longevity and improved mental health (Goodwin, 2000; Moskowitz, 2003; Suri & Gross, 2012). Owing to the fact that people are living longer, it is important to understand the dynamics of life satisfaction in the aging process (Erber, 2013).

Satisfaction with Life

For the purpose of this study, the cognitive component of subjective well-being, namely satisfaction with life, was investigated. Satisfaction with life is defined as the

evaluation of individuals' lives in accordance with their personal standards (Pavot & Diener, 1993). Therefore, satisfaction with life is determined by comparing one's ideal life circumstances with the way one perceives one's current quality of life (Lucas, Diener, & Suh, 1996). Life satisfaction entails the extent to which personal goals are met and how well one is doing in comparison to other people (Lucas et al., 1996). Satisfaction with one's life consists of various domains that are considered in an overall evaluation. The domains which are evaluated are dependent on the unique value system of the individual (Pavot & Diener, 1993). Areas that are likely to be evaluated include health, wealth and relationships (Lucas et al., 1996). Furthermore, individuals have different standards for success and ideas as to what comprises the good life (Diener, Emmons, Larsen, & Griffin, 1985). The level of satisfaction they have with their lives is, thus, determined according to their own criteria (Pavot & Diener, 1993).

Satisfaction with life is deemed to be a conceptually unique component of subjective well-being and it has been suggested that the separable elements of subjective well-being should be studied independently (Lucas et al., 1996). Mood and emotional states fluctuate, so satisfaction with life provides a more valid long term evaluation (Pavot & Diener, 1993). The construct of 'satisfaction with life' is deemed to be a more stable and reliable component of subjective well-being when compared to the transient nature of affectivity (Huebner, Suldo, & Gilman, 2006). Hence, satisfaction with life is often studied as an outcome in itself, because it surpasses and integrates mood states, influences behaviour and is considered to be a fundamental contributor to well-being (Huebner et al., 2006).

Frederickson and Losada (2005) propose that, in order to flourish or function optimally, individuals need to experience a positive to negative affectivity ratio of 2.9. A sample of 188 American undergraduate students, who experienced an affectivity ratio of 2.9, broadened their personal resources and endorsed positive outcomes in various areas of their lives (Frederickson & Losada, 2005). Thus, many theories assume that individuals who have extensive personal resources experience greater overall life satisfaction (Frederickson & Losada, 2005; Lyubomirsky, King, & Diener, 2005).

According to Diener (1994), many demographic variables have an impact on life satisfaction. For instance, in a study of 4900 South African adults, Botha and Booysen (2013) found that the life satisfaction of married and cohabitating couples was statistically significantly higher than in single adults. In this study, positive relationships, religious affiliation, perceived health, reported income and education contributed meaningfully to the life satisfaction of the participants (Botha & Booysen, 2013).

Many studies have indicated that life satisfaction and evaluation of well-being tend to increase with age in middle and older adults. For instance, Dzuka and Dalbert (2006) found that, in a sample of 122 East Slovakian adults, satisfaction with life increased from age 40 to 65. The life satisfaction of participants declined only when they became aware of their impending death (Dzuka & Dalbert, 2006). This study also indicated that participants' life satisfaction persisted even when controlling for subjective health and social contacts (Dzuka & Dalbert, 2006). Further, in an American telephone survey (N=340 847), the overall satisfaction with life was found to decrease slightly from age 50 to 53 and then rise continually until imminent death (Stone, Schwartz, Broderick, & Deaton, 2010). Finally, a Taiwanese study of 1040 elderly individuals showed that education, lifestyle, social activities, geographic location and levels of urbanisation were found to hold positive implications for life satisfaction (Liao, Chang, & Sun, 2012). From the above-mentioned studies, it can be deduced that the normal aging process can indeed entail greater life satisfaction.

Gomez and Fisher (2003) propose that spiritual well-being is also a critical component in the global conceptualisation of well-being. Research has indicated that spiritual well-being correlates strongly with life satisfaction (Ellison & Fan, 2008). However, it is crucial to note that the construct of 'spiritual well-being' is distinct from other components of well-being such as mental, physical and emotional well-being (Rowold, 2011). Advanced age leads the elderly to consider the transience of life more so than other population groups; thus, the pursuit of spiritual well-being could ease the uncertainty associated with thoughts on mortality and, in turn, improve life satisfaction (Nelson, 2012).

Spiritual Well-being

Aging individuals reflect on their lives to determine whether they have lived meaningfully (Erikson, 1959). Nelson (2012) deems that this search for meaning inevitably influences the spiritual development of the elderly. Consequently, late adulthood fosters a greater awareness of both mortality and the true meaning and purpose of life (Jong, 2013; Turesky & Schultz, 2010). The practice of spirituality and the experience of spiritual well-being do not require, but can include, membership or adherence to a specific religious group or denomination (Harlow, 2010). Historically, 'spirituality' and 'religiosity' were viewed as the same construct and used interchangeably for research purposes (Falb & Pargament, 2012). In recent years, these constructs have been separated and assigned distinct definitions (Falb & Pargament, 2012). Briefly, spirituality is able to exist in the absence of religiosity, but the opposite is not the case (Harlow, 2010).

Spiritual well-being is defined by Gomez and Fisher (2003) as the quest to find connectedness, energy and transcendence in life and to determine what makes life worth living. Earlier conceptualisations of spiritual well-being such as the theory by Paloutzian and Ellison (1982) included two components, namely religious and existential well-being. These authors argued that religious well-being should be viewed in a vertical dimension, and they defined the concept as well-being with regard to the relationship with God or any other transcendent dimension. In contrast, they saw existential well-being as well-being with regard to purpose in life and a sense of life satisfaction, and not in reference to a higher power (Paloutzian & Ellison, 1982).

More recently, this conceptualisation of spiritual well-being has been elaborated to include other dimensions. Gomez and Fisher (2003) posit that spiritual well-being consists of four dimensions, namely personal, communal, environmental and transcendental domains. The personal dimension of spiritual well-being refers to the way in which one intra-relates to oneself with regard to one's values, meaning and purpose in life (Gomez & Fisher, 2003). The communal dimension pertains to the quality of personal relationships such as friends and family (Gomez & Fisher, 2003), whereas the environmental component deals with respect and care for nature and

the physical world (Gomez & Fisher, 2003). Finally, the transcendental dimension of Gomez and Fisher's (2003) conceptualisation of spiritual well-being refers to a relationship with a transcendental figure or reality that can form part of an organised religion. The current study aligns itself with the theory of Gomez and Fisher (2003) in order to conceptualise 'spiritual well-being'.

The four dimensions of spiritual well-being have different consequences for life satisfaction (Rowold, 2011). Research conducted on German adults (N=207) indicated that higher personal spiritual well-being has predictive value for psychological well-being, happiness and decreased stress. In Rowold's study, the communal dimension of spiritual well-being was related to happiness only, and the environmental dimension was not found to relate to well-being or stress. Finally, the transcendental dimension of spiritual well-being showed positive significant effects on psychological well-being only. However, in a study on the American elderly aged 65 and older (N=6864), Skarupski, Fitchett, Evans, and de Leon (2013) found a positive correlation between spiritual well-being and life satisfaction. Therefore, spiritual well-being can have an effect on various indicators of well-being (Rowold, 2011) and serve as a positive resource for building life satisfaction in old age (Skarupski et al., 2013).

Similarly, spiritual well-being has been shown to have positive effects on various other areas of functioning. For instance, spiritual well-being can positively indicate biological health (Holt-Lunstad, Steffen, Sandberg, & Jensen, 2011). In a study on the effect of spiritual well-being on biological markers in married American adults (N=100), increased spiritual well-being was positively correlated with significantly lower inflammation (hs-C-reactive protein), fasting glucose, ambulatory systolic blood pressure (BP) and diastolic BP, and greater systolic BP nocturnal dipping (Holt-Lunstad et al., 2011). These results suggest the possibility that higher spiritual well-being reduces the levels of multiple cardiovascular risk factors, which indicates that spiritual well-being can promote cardiovascular health (Holt-Lunstad et al., 2011).

Spiritual well-being has positive implications for mental health. In a systematic review of studies on spiritual well-being, religious affiliation and mental health

conducted between 1971 and 2012, Koenig (2012) found that spiritual well-being has positive effects on mental health. These include statistically significant relationships between spiritual well-being and hope, optimism, well-being, meaning and purpose, self-esteem and a sense of control (Koenig, 2012). The review demonstrated the complex relationship between psychosis and spirituality, because increased spirituality could be related to hyper-religiosity in disorders such as schizophrenia and bipolar mood disorder (Koenig, 2012). However, it was found that spiritual well-being and psychiatric conditions such as depression, anxiety and suicidality have an inverse relationship (Koenig, 2012). Likewise, a multinational study of adults across 57 countries found that achieving a sense of spiritual well-being can predict increased health, decreased disability and higher levels of happiness and satisfaction with life (Lun & Bond, 2013). It has also been indicated that spiritual well-being aids recovery from terminal illness such as cervical cancer among South African women (Mabena & Moodley, 2012).

The benefits of spiritual well-being have been measured on a societal level. A secondary factor analysis of existing data sets that were used in other studies successfully demonstrated that spiritual well-being serves as a mediator between contextual factors such as race, socio-economic factors, infrastructural resources and well-being in South African black, white, child and adult populations (Temane & Wissing, 2006). These findings shed light on the possibility that spiritual well-being can play a causal role in the development of well-being in the South African context (Temane & Wissing, 2006). Thus, the benefits of spiritual well-being are well documented in a wide array of contexts.

Like spiritual well-being, mindfulness aids the meaning individuals attribute to their lives and improves their ability to engage with their environment in adaptive ways (Seligman, 2012). Ultimately, a certain level of spiritual engagement is regarded as a key mechanism in mindfulness (Kristeller, 2010). When one is actively living in the present moment without judgement, contact with oneself, others, the environment, and a transcendental figure is possible (Garland & Gaylord, 2007).

Mindfulness

The concept of ‘mindfulness’ originated from Buddhist teachings and is one of five Buddhist spiritual practices, along with faith, effort, concentration and wisdom (Greeson et al., 2011; Malinowski, 2013). Mindfulness has been popularised in the western world by Professor Jon Kabat-Zinn, who established the first Mindfulness Based Stress Reduction (MBSR) clinic in the United States during the 1970s (Kabat-Zinn, 1990; Malinowski, 2013). Since then, the construct has been defined in various ways, with each author emphasising a different aspect (Brown, Ryan, & Creswell, 2007; Kabat-Zinn, 2008; Langer, 1989).

Langer (1989) has written extensively on the construct of mindfulness, albeit from a different standpoint than that of Kabat-Zinn (Hart, Ivtzan, & Hart, 2013). She defines mindfulness as a process of continually drawing new and original distinctions between stimuli regardless of whether the presenting stimuli are regarded as trivial or important (Langer, 1989; 1992). Kabat-Zinn pays more attention to the notion that any experience derived from internal or external stimuli is perceived, recognised and accepted without being evaluated (Conn, 2011; Kabat-Zinn, 2008). Similarly, Brown and Ryan (2003) define mindfulness as responsive attention to and awareness of events and experiences as they occur in the present moment.

The ability to be mindful is an inherent human capacity (Brown & Ryan, 2003; Siegel, Germer, & Olendzki, 2011). Brown and Ryan (2003) distinguish between state and trait mindfulness: Trait mindfulness is believed to predict autonomous activity in daily life, while state mindfulness is associated with the temporary positive affect and experience of being in the present (Brown & Ryan, 2003). The effects of trait and state mindfulness are proposed to be independent although state mindfulness is more likely to be present in individuals who exhibit the trait (Brown & Ryan, 2003; Davidson, 2010). However, the mechanisms of state and trait mindfulness are not yet completely understood and require further study (Davidson, 2010). For the purpose of this study, the researcher aligned the conceptualisation of mindfulness with the definition posited by Brown and Ryan (2003). Furthermore, trait mindfulness was measured in this study.

The aim of mindfulness is to train the mind to be aware of what it is doing at all times, regardless of the perceived enjoyableness of the current experience (Brown & Ryan, 2003; Langer, 1989). The goal of being mindful is not to separate the practitioner from personal thoughts, emotions, behaviour or experiences; it is an attempt to more fully and vividly experience those elements that comprise daily living (Siegel et al., 2011). When individuals are mindful, they develop a frame of mind that is filled with wholesomeness and clarity regarding the true nature of reality (Cullen, 2011). The above-mentioned effects of mindfulness were demonstrated in a study of Spanish elderly, in whom stronger mindfulness was associated with reduced depressive symptoms and increased positive mood (Baños et al., 2012).

Mindfulness has been measured as having a direct impact on other factors that contribute to well-being. For instance, mindfulness has been studied in relation to life satisfaction. In the seminal work of Brown and Ryan (2003), mindfulness was correlated with various aspects of well-being and personality traits. Their sample included 1250 students and adults from across the US. Trait mindfulness was positively correlated with life satisfaction, emotional intelligence, openness to experience, attentiveness, impulsiveness and receptivity to experience. As expected, trait mindfulness was negatively correlated with self-monitoring, self-consciousness, social anxiety, depression, neuroticism and poor psychological well-being (Brown & Ryan, 2003). In another study, Christopher and Gilbert (2010) analysed the validity of the Mindfulness Awareness Assessment Scale (Brown & Ryan, 2003) and the Kentucky Inventory of Mindfulness Skills (Baer, Smith, & Allen, 2004). They found both scales to show statistically significant relationships with life satisfaction, specifically relative to self-esteem. These scales also displayed inverse relationships with negative cognitions and depression (Christopher & Gilbert, 2010). A Chinese study investigated the relationship between trait mindfulness and life satisfaction (Kong, Wang, & Zhao, 2014). The study was conducted in a sample of 310 Chinese adults between the ages of 18 and 50 years. They found that mindfulness has a significant positive relationship with life satisfaction (Kong et al., 2014).

Studies have also indicated a positive relationship between mindfulness and spiritual well-being. For instance, Garland and colleagues (2007) compared the

post-traumatic growth, spiritual well-being, anxiety, anger and mood disturbance in cancer outpatients after participating in either MBSR training (N=60) or creative arts participation (N=44). Participants in the MBSR training group showed greater improvement in all areas of functioning as compared to participants in creative arts (Garland, Carlson, Cook, Lansdell, & Speca, 2007). Further, Birnie, Speca and Carlson (2010) measured the self-compassion, empathy and spiritual well-being of American adults (N=51) aged 24 to 70 years after participating in MBSR training. They found that the self-compassion, empathy and spiritual well-being of participants showed statistically significant increases as their levels of mindfulness improved (Birnie et al., 2010). Participants' levels of personal distress, mood disturbance and symptoms of stress also decreased during the course of the study (Birnie et al., 2010). Thus, mindfulness shows promising results in its effects on spiritual well-being and the promotion of well-being.

With the above-mentioned information in mind, it is hypothesised that the benefits reaped from being mindful can have positive implications for the spiritual well-being and life satisfaction of elderly individuals who reside in retirement villages in South Africa. In a review of psychological research conducted in South Africa, Macleod and Howell (2013) found that older adults have consistently been ignored as participants in research. Thus, the current study aimed to address the lack of research on the South African elderly population (Macleod & Howell, 2013). Similarly, it investigated the role of mindfulness in the relationship between life satisfaction and spiritual well-being in the South African elderly population.

Methodology

The aim, research questions and design of the study will be described in the following section. The measuring instruments, the data collection process, and the individuals who participated in the research will also be described and defined. This section concludes with a discussion of the relevant ethical issues and the statistical procedure applied to the collected data.

The aim of this study was to investigate whether mindfulness moderates the relationship between life satisfaction and spiritual well-being in the elderly. In order to address the aim, the following research questions were posed:

1. Is there a significant relationship between mindfulness and life satisfaction in the elderly?
2. Is there a significant relationship between mindfulness and spiritual well-beingin the elderly?
3. Does mindfulness moderate the relationship between life satisfaction and spiritual well-being in the elderly?

Research Design

In order to answer the research questions, a quantitative, non-experimental study (Stangor, 2015) was conducted. In a non-experimental research design, the researcher is a passive agent who observes, measures and describes a phenomenon as it occurs or exists (Gravetter & Forziano, 2013). The advantage of this design includes its tendency to have a high level of external validity. In other words, it can be generalised to a larger population (Stangor, 2015). Non-experimental research also allows for measuring constructs as they exist without any manipulation (Stangor, 2015). This includes age and gender or current states of being such as the presence or absence of an opinion or experience (Stangor, 2015). In this study, mindfulness was the predictor variable, while spiritual well-being and satisfaction with life were the outcome variables.

Data Collection and Participants

The researcher obtained prior authorisation from two retirement villages in Bloemfontein in the Free State Province for collecting the data for the study on their premises. Participants included male and female adults who were older than the age of 60 years. Respondents were required to answer a total of 53 items as posed by the respective questionnaires.

The researcher endeavoured to make the research experience for the participants as comfortable as possible. Owing to the fact that residents in both retirement villages are Afrikaans speaking, permission was obtained from the authors of the questionnaires to translate them into Afrikaans. Furthermore, the questionnaires were printed in a large font in order to ease the task of reading for the participants.

Participants were recruited by means of non-probability convenience sampling (Stangor, 2015). This method focuses on participants residing in an area close to the researcher and holds time, cost and logistical advantages over other sampling methods (Gravetter & Forziano, 2013). However, convenience sampling does not provide for representation of a specific population (Maree & Pietersen, 2008). In this study, participants were not representative of the wider South African elderly population and the findings need to be interpreted with caution (Whitley & Kite, 2013).

Participants were requested to either leave the questionnaires at the administration office or in their post boxes for collection at a predetermined date and time. While a total of 450 questionnaires were distributed, 125 questionnaires were returned, which amounts to a response rate of 27.8%. Although this is below the expected response rate of 30% and 40% for mail questionnaires (Langbein, 2012), the context in which this study was conducted needs to be taken into account (Phillipson, 2013). The decline in the physical and cognitive abilities which is associated with aging could have had an impact on the response rate in this study (Phillipson, 2013).

Participants ranged from 60 to 92 years of age. The average age of participants was 73.6 years of age. A further breakdown of their characteristics is represented in table 1.

Table 1
Descriptive statistics for the current group of participants

Demographic	Breakdown	%
Gender		
	Male	27.00
	Female	72.00
	Preferred not to answer	1.00
Age		
	60-69 years	41.00
	70-79 years	29.00
	80-89 years	25.00
	90+	3.00
	Preferred not to answer	2.00
Race		
	White	100.0
Language		
	Afrikaans	100.0
Marital status		
	Single	5.00
	Married	53.00
	Divorced	5.00
	Widowed	36.00
	Preferred not to answer	1.00
Religious orientation		
	Christian	96.00
	Preferred not to answer	4.00

Table 1 indicates that the participants in the study were mostly female, aged 60 to 69, married and Christian. The sample in this study was unrepresentative of the South African population because, as mentioned earlier, the majority of the elderly population in South Africa is black (65%), while only 8.2% is white. Furthermore, in South Africa, there are considerably more elderly females (61%) than males (39%), which is even more the case in this sample, as 72% of the participants were female and only 27% were male. Thus, males were underrepresented in this study, as were black, Indian/Asian and coloured elderly adults. These aspects need to be kept in mind when interpreting the results of the study.

Instruments

The participants in the study were requested to complete a short biographical questionnaire and three self-report questionnaires (Stangor, 2015). The advantage of a self-report questionnaire is that it allows the researcher to obtain the view of the participants directly, easily and timeously (Gravetter & Forziano, 2013). A disadvantage of this data collection method is the absence of any guarantee that participants would have the desire to respond accurately or honestly to the questions posed (Roodt, 2013). The fact that respondents are aware that they are being observed could influence them to represent themselves in a more favourable light (Roodt, 2013). In this study, participants were requested to respond to the items in a manner that reflects their true experience, instead of what they believed their experience should be. Furthermore, participants were reminded that there are no incorrect or correct answers and were requested to respond as truthfully as possible. The following questionnaires were included in the self-report booklet:

1) A biographical questionnaire consisting of eight items. This questionnaire was compiled by the researcher in order to gather demographic information such as age, gender, race, marital status and religious orientation.

2) Mindfulness was measured by means of the *Mindful Attention Awareness Scale* (MAAS) developed by Brown and Ryan (2003). The scale assesses respondents' individual differences in the frequency of mindful states over a period of time (Brown & Ryan, 2003). The scale also focuses on the presence or absence of attention to and awareness of the present moment (Brown & Ryan, 2003). The MAAS is a 15-item Likert scale ranging from 'almost always' (rated 1) to 'almost never' (rated 6). An individual score can range between 15 and 90, where a high score indicates a high level of mindfulness, while a low score indicates a low level of mindfulness. An example of a question in the scale is: 'I find it difficult to stay focused on what's happening in the present'. The reliability and construct validity of the MAAS has been investigated in various populations (MacKillop & Anderson, 2007). For example, Lavender, Gratz and Anderson (2012) measured a Cronbach's alpha of 0.87 in 296 male university students in the US. More recently, O'Neill Wolmarans

(2013) found the internal consistency of the MAAS to be 0.91 in a sample of South African middle aged adults.

3) *The Satisfaction with Life Scale* (SWLS) (Diener et al., 1985) was applied to determine the participants' satisfaction with life as a whole, on a cognitive-judgemental level. The SWLS consists of a five-item, seven-point Likert scale ranging from 'strongly disagree' (rated 1) to 'strongly agree' (rated 7). A high score indicates high levels of satisfaction with life and a low score indicates low satisfaction with life. An example of a question in this scale is: 'I am satisfied with my life'. The scale's internal consistency has been measured at 0.87, and a two-month test-retest stability coefficient of 0.82 was obtained for North American undergraduate psychology students (Diener et al., 1985). Moreover, the internal consistency of the SWLS has been measured at 0.69 for adolescents of various cultural groups in the Free State (van Wyk, 2010).

4) The *Spiritual Well-being Questionnaire* (SWBQ) was used to measure participants' feeling of connection to specific life components (Gomez & Fisher, 2003). The SWBQ has four subscales, namely personal, communal, environmental and transcendental scales (Gomez & Fisher, 2003). The questionnaire consists of 20 items. Participants have to indicate the extent to which the statements describe their experiences of the past six months, using a five-point Likert scale ranging from 'very low' (rated 1) to 'very high' (rated 5). An example of a question in this questionnaire is: 'I feel a sense of identity'. The score of each subscale is determined by calculating the mean of the five items assigned to the subscale. To obtain a total score, the mean of the four subscales are calculated. A high total score indicates a high level of spiritual well-being and a low total score demonstrates a lower level of spiritual well-being. The reliability of the SWBQ was demonstrated to be 0.89 and the internal consistency was measured at 0.92 in Australian high school students (Fisher, 2010). In South Africa, Moodley, Esterhuyse and Beukes (2012) obtained a reliability of 0.888 and 0.878 for Afrikaans and English adolescents respectively.

The alpha coefficients were calculated for the above-mentioned questionnaires to determine the internal consistency of the data that were yielded by the scales and subscales for this specific sample (table 2).

Table 2
Descriptive statistics for scales, subscales and alpha coefficients

Scale	Minimum	Maximum	Mean	Std. deviation	Cronbach's α
Mindfulness	23	87	71.75	19.48	.87
Satisfaction with life	8	35	26.97	7.47	.87
Spiritual well-being (SWB)	52	100	87.46	15.63	.93
Personal (SWB subscale)	9	25	21.45	4.08	.78
Communal (SWB subscale)	5	25	20.95	4.27	.89
Environmental (SWB subscale)	9	25	21.73	3.88	.76
Transcendental (SWB subscale)	5	25	23.33	3.40	.93

High alpha coefficients were found for all the scales and subscales. This indicates that the data obtained in the present study can be considered to be reliable, and can be used for further analyses.

Ethical considerations

Permission was obtained from all the relevant authorities, including the Research Ethics Committee of the Faculty of the Humanities at the University of the Free State (UFS), as well as the managing director of the retirement villages in question. Informed consent was also obtained from all parties prior to their participation. Participants were informed regarding the purpose of the study in an information sheet attached to the questionnaire and it was emphasised that they had the right to withdraw their participation without any repercussions.

The principles of non-maleficence and beneficence were upheld in an attempt to avoid harm to the participants during the research process (Allan, 2011). Support for emotionally vulnerable participants was arranged. If any of the participants were to report emotional vulnerability due to participation in the study, they would be referred to the psychological services rendered by the students currently enrolled in the Psychology Master's Programme at the UFS, under strict supervision of lecturers. However, no referrals were necessary.

All data obtained in the study were kept confidential. The original list of participants was held by the primary researcher. All data were kept in a locked cabinet and the computers that were used during the study were password protected. The data will be kept for the prescribed period of at least one year (HPCSA, 2008). The researcher will retain any records used for research purposes in case of query or dispute.

Participants were informed that certain identifying features might come forth during the biographical questionnaire, but for those who did not wish to be identified, numbers were used to protect their anonymity. Participants were provided with detailed feedback of the findings from the study. During the course of this study, every effort was made to adhere to the HPCSA (2008) guidelines for ethical research especially as the research participants were regarded to be a vulnerable population group.

Statistical procedure

The analysis was conducted using SPSS version 22 (IBM Corp, 2013). In order to investigate the role of mindfulness in the relationship between life satisfaction and spiritual well-being in the elderly, a moderated multiple regression was used in analysis (Stangor, 2015). The moderator, or the interaction factor, is the product of mindfulness and life satisfaction. The dependent variable in this study was spiritual well-being.

To address the issue of multicollinearity as a precaution in the current study, the unstandardised scores of the independent variables were used. This was accomplished by centring both the independent variables on their respective sample means. This was done by subtracting the means of the total variable from the score. The equations for centring the two independent variables are:

- Centred scores for mindfulness = Total mindfulness score – Mean mindfulness score
- Centred scores for satisfaction with life = Total satisfaction with life score – Mean satisfaction with life score

The moderator, or interaction term, was the product of the two centred variables, identified by:

- Mindfulness score x Satisfaction with life score = Centred mindfulness score x Centred satisfaction with life score

Results

A correlation matrix was used to investigate whether a statistically significant relationship exists between the dependent variable, spiritual well-being and the centred independent variables, as well as the moderator, mindfulness. The results are shown in table 3.

Table 3

Correlation between mindfulness, satisfaction with life and spiritual well-being

		Mindfulness_ Average	SWL_ Total	SWB_ Average
Mindfulness_ Average	Pearson correlation	1.000	0.244**	0.319**
	Sig. (2-tailed)		0.007	0.000
	N	121.000	121.000	121.000
SWL_Total (Satisfaction with life)	Pearson correlation	0.244**	1.000	0.577**
	Sig. (2-tailed)	0.007		0.000
	N	121.000	121.000	121.000
SWB_ Average (Spiritual well-being)	Pearson correlation	0.319**	0.577**	1.000
	Sig. (2-tailed)	0.000	0.000	
	N	121.000	121.000	121.000

** Correlation is significant at the 0.01 level (2-tailed)

The table above indicates a significant positive correlation between mindfulness and satisfaction with life (r=0.244, p=0.007). Thus, an increase in mindfulness is associated with an increase in satisfaction with life. There was also a significant positive correlation between mindfulness and spiritual well-being (r=0.319, p=0.000). An increase in mindfulness can thus also be associated with an increase in spiritual well-being. Finally, a significant positive correlation was established between satisfaction with life and spiritual well-being (r=0.577, p=0.000). Thus, an increase in satisfaction with life is associated with an increase in spiritual well-being.

A moderated multiple regression was conducted with spiritual well-being as the dependent variable. The centred variables for mindfulness and life satisfaction were entered into block one, and the moderator, mindfulness, entered additionally into block two. The results are presented in table 4.

Table 4

Moderated multiple regression output

Model	R	R^2	Adjusted R^2	Std. error of estimate	Change statistics				
					R^2 change	F change	df1	df2	Sig. F change
1	0.606[a]	0.367	0.357	0.38713	0.367	34.244	2.000	118.000	0.000
2	0.624[b]	0.390	0.374	0.38183	0.022	4.297	1.000	117.000	0.040

a. Predictors: (Constant), SWL_centred, Mindfulness_centred

b. Predictors: (Constant), SWL_centred, Mindfulness_centred, Mindfulness_x_SWL

In model 1, the centred variables for mindfulness and life satisfaction were entered as independent variables. This model explains 36.7% of the variance in spiritual well-being (p>0.001). After entering the moderator in model 2, the total variance explained by the model is 39%. This is a statistically significant contribution as indicated by the Sig. F Change (p<0.001). Therefore, the ANOVA indicates that the model as a whole is significant (p<0.001).

The addition of the product term (Mindfulness x SWL) resulted in a significant increase in the variance explained in Spiritual Well-being [R^2change=0.022; F(1.117)=4.297; p=0.040]. This indicates that mindfulness is a significant moderator of the relationship between satisfaction with life and spiritual well-being in the elderly population. In other words, the relationship between satisfaction with life and spiritual well-being differs with different levels of mindfulness. The nature of the moderator effect will be explored further below.

In order to determine the nature of the moderator effect, a quartile analysis was conducted for the mindfulness variable. This analysis allows for determining the cut points for the top and bottom 25% of participants' mindfulness scores. Then, satisfaction with life was plotted against spiritual well-being, first for the top 25% of mindfulness scores, then for the middle 50% of mindfulness scores and, lastly, for the bottom 25% of mindfulness scores. The results are presented below.

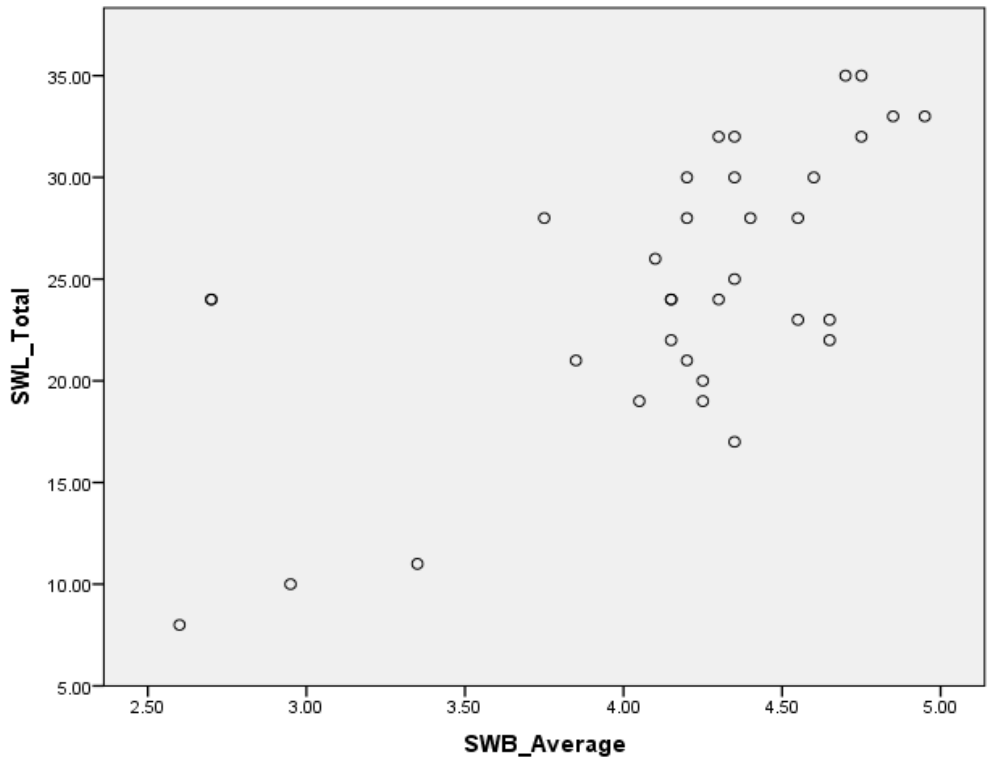

Figure 1

Relationship between satisfaction with life and spiritual well-being for the 25% of individuals with the lowest mindfulness scores

Figure 1 shows the relationship between satisfaction with life and spiritual well-being for the 25% of participants with the lowest mindfulness scores. More detail on this relationship is provided in table 5.

Table 5

Relationship between satisfaction with life and spiritual well-being for the 25% of participants with the lowest mindfulness scores

		SWB_Average	SWL_Total
SWB_Average (Spiritual well-being)	Pearson correlation	1.000	0.643**
	Sig. (2-tailed)		0.000
	N	34.000	34.000
SWL_Total (Satisfaction with life)	Pearson correlation	0.643**	1.000
	Sig. (2-tailed)	0.000	
	N	34.000	34.000

** Correlation is significant at the 0.01 level (2-tailed)

Figure 1 and table 5 clearly point to a moderate positive correlation between satisfaction with life and spiritual well-being for the 25% of participants with the lowest mindfulness scores (r=0.643; p=0.00).

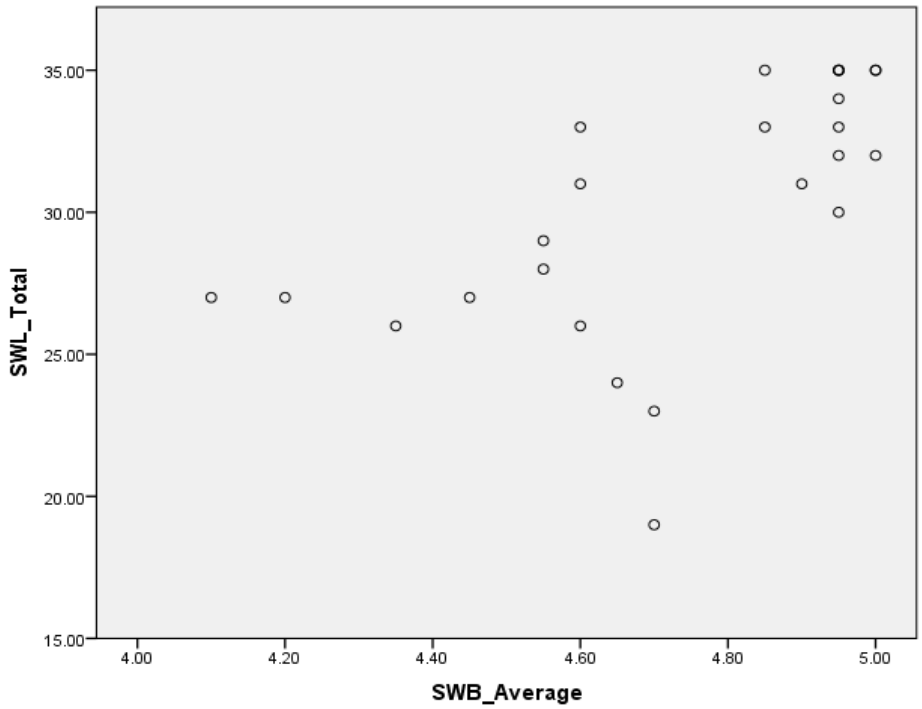

Figure 2
Relationship between satisfaction with life and spiritual well-being for the 25% of participants with the highest mindfulness scores

Figure 2 shows the scatterplot for the relationship between life satisfaction and spiritual well-being for the participants with the highest mindfulness scores. Similarly, table 6 indicates a moderate positive correlation (r=0.613; p=0.00) between life satisfaction and spiritual well-being for the participants with the highest mindfulness scores.

Table 6

Relationship between satisfaction with life and spiritual well-being for the 25% of participants with the highest mindfulness scores

		SWB_Average	SWL_Total
SWB_ Average (Spiritual well-being)	Pearson correlation	1.000	0.613**
	Sig. (2-tailed)		0.001
	N	25.000	25.000
SWL_Total (Satisfaction with life)	Pearson correlation	0.613**	1.000
	Sig. (2-tailed)	0.001	
	N	25.000	25.000

** Correlation is significant at the 0.01 level (2-tailed)

Figures 1 and 2 are scatterplots for the correlations between satisfaction with life and spiritual well-being for the 25% of participants with the lowest mindfulness scores and highest mindfulness scores. As seen in tables 5 and 6, moderate positive correlations were found for the 25% of participants with the highest (r=0.613; p=0.00) and lowest (r=0.643; p=0.00) mindfulness scores.

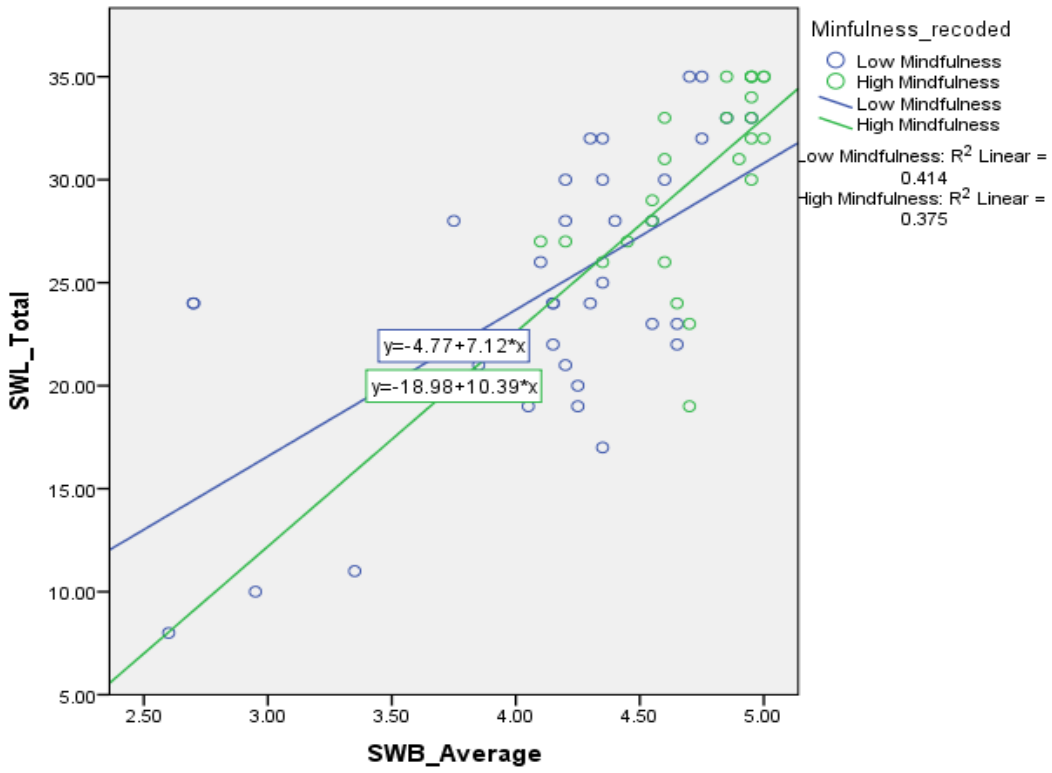

Figure 3
Regression slopes of high and low mindfulness as predictors of satisfaction with life and spiritual well-being in elderly individuals

Table 3 shows how high mindfulness and low mindfulness predict satisfaction with life and spiritual well-being in elderly individuals. The regression slopes (*b)* indicate that for the group of participants with high mindfulness (*b*=10.39), the relationship between spiritual well-being and life satisfaction is steeper than for individuals with low mindfulness (*b*=7.12).

In sum, a moderated multiple regression was conducted to assess whether mindfulness significantly moderates the relationship between satisfaction with life and spiritual well-being in elderly individuals. The assumptions of linearity, multicollinearity and homoscedasticity were met. The results indicated that there was a statistically significant moderator effect of mindfulness, as evidenced by the addition of the interaction term, explaining an additional 2.2% of the total variance (*p*=0.04). Further inspection of the moderator effect revealed that the slope of the relationship between satisfaction with life and spiritual well-being for the 25% of participants with the lowest mindfulness scores (*b*=7.12) is not as steep as for the 25% of participants with the highest mindfulness scores (*b*=10.39). This means that

high mindfulness scores is a stronger predictor of the relationship between spiritual well-being and life satisfaction than low mindfulness in the current sample of elderly individuals. These results will be discussed in the following section.

Discussion

The scores on the MAAS and SLS correlated significantly with one another. This result answers the first research question by indicating that the more aware the elderly participants were of their internal and external environments, the higher their evaluations of their lives. As mentioned previously, individuals have different standards for what comprises the good life (Diener et al., 1985; Pavot & Diener, 1993); hence, greater life satisfaction can co-exist with a stronger desire to live in the moment and delight in the fact that one's life corresponds with one's personal criteria for what the "good life" implies. Furthermore, the correlations that were found in this study correspond with results from earlier studies. For instance, Brown and Ryan (2003) have concluded that mindfulness is associated with higher life satisfaction in a sample of American adults (N=1250). In another study, on German adults, mindfulness was shown to have a positive relationship with life satisfaction (Christopher & Gilbert, 2010). More recently, Kong et al. (2014) also found a positive relationship between mindfulness and life satisfaction in a sample of Chinese adults (N=310). Therefore, it can be inferred that the relationship between mindfulness and life satisfaction appears to present similarly for different age and cultural groups.

Erikson (1959) described the crisis of old age as ego integrity versus despair. This indicates that individuals reflect on their lives as they enter the final stage of their psychosocial development (Erikson, 1959). Similarly, Baltes (1987) posited in his lifespan developmental theory that development is a lifelong process and every stage in the human lifespan is influenced by what precedes and follows a specific period. According to Christopher and Gilbert (2010), successful resolution of this crisis can lead to higher self-esteem which, in turn, would lead to higher life satisfaction. In this regard, Kong et al. (2014) found that individuals with higher levels of mindfulness also had higher core self-evaluations, which increased their satisfaction with life. This can explain why life satisfaction has been shown to

improve in later life (Dzuka & Dalbert, 2006; Stone et al., 2010). Baltes (1987) asserted that every life stage serves a unique purpose. It is thus plausible that individuals who feel they have made the most of their lives would experience increased life satisfaction and a greater willingness to be mindful of the present moment, possibly because they have been able to live up to their personal ideals.

Scores on the MAAS and SWBQ correlated significantly with one another. This indicates that participants who viewed their inner experiences without judgement also experienced better relationships with themselves, others, the environment and a transcendental figure. This finding answers the second research question and is supported by those from similar studies. For instance, in research conducted by Garland and colleagues (2007), participants who received mindfulness training experienced better spiritual well-being (N=60) in comparison to participants who received other interventions. In the same vein, research by Birnie et al. (2010) demonstrated that improved mindfulness led to inherent increases in the spiritual well-being in a sample (N=51) of American adults. Accordingly,Falb and Pargament (2012) emphasise that mindfulness does not exist in the absence of spirituality and cannot be divorced from its fundamental spiritual roots.

As mentioned earlier, development is influenced by both culture and biology (Baltes, 1987; Phillipson, 2013). As biological abilities decline with age, cultural support such as education and relationships is strengthened and can act as compensatory factors (Baltes, 1987). Most of the participants in the current study indicated that they were religious and belonged to a church denomination. However, it is relevant to note that, as individuals age, they become more aware of their mortality and are reminded regularly of this truth by their declining physical abilites (Nelson, 2012). Therefore, it is possible that the elderly participants in this study could have been counteracting biological decline by relying on cultural activities such as religious practice. Religious practice would, in turn, promote their spiritual well-being (Rowold, 2010). With improved spiritual well-being and an awareness that life is fleeting, it is plausible that the elderly could be experiencing greater mindfulness as a way of engaging as fullyas possible with the limited time that they have left.

Thirdly, the relationship between spiritual well-being and life satisfaction in the group with the highest mindfulness exhibited a steeper slope (*b*=10.39) than for the group with the lowest mindfulness*(b*=7.12). To account for this result, it is vital to consider Brown and Ryan's (2003) finding that high levels of mindfulness correlate with personality traits such as emotional intelligence, openness to experience, receptiveness and atttentiveness. In the present study, it is plausible that the presence of similar personality traits could have encouraged the elderly participants to be more mindful of their criteria of the good life and of their relationships with themselves, others, the environment and a transcendental figure. In turn, this could have allowed them to be acutely aware of their circumstances and actively pursue their idea of true meaning and the good life. Furthermore, Brown and Ryan's (2003) study demonstrated that individuals with higher levels of mindfulness are less vulnerable to the temptation to present themselves in a favourable light. The reason for this could be the reduction in self-consciousnessthat is associated with high levels of mindfulness (Brown & Ryan, 2003).

As with high mindfulness, it is possible that variables which had not been measured in this study had an impact on the role of mindfulness in the relationship between life satisfaction and spiritual well-being. For instance, Brown and Ryan (2003) found that social anxiety, self-consciousness, dishonesty and neuroticism negatively correlate with mindfulness. This could indicate that individuals with low mindfulness are more vulnerable to social desirability bias than individuals with high mindfulness. The reason that these individuals scored low on mindfulness –although a steep slope for the relationship between their life satisfaction and spiritual well-being was indicated – might be ascribed to the way in which the MAAS (2003) is worded. The statements in the MAAS are worded indirectly because Brown and Ryan (2003) aimed to control for social desirability bias (Roodt, 2013). They believe that mindlessness is more common than mindfulness and, therefore, regarded this approach to be more accurate (Brown & Ryan, 2003).

Another possible explanation for the positive slope of the relationship between life satisfaction and spiritual well-being in the participants with the lowest mindfulness is that, although many of the participants in the study exhibited exceptional vigour and heartiness for still being able to live independently, this does not mean that they

have been completely immune to the aging process. Impairments in immediate memory is expected in normal aging (Phillipson, 2013) and can have a negative impact on mindfulness. Such expected declines in immediate memory would reflect negatively in the MAAS (2003) on items such as 'I find it difficult to stay focused on what's happening in the present' and'I forget a person's name almost as soon as I've been told it for the first time'. Also, many of the participants who are at an advanced age might not have responded accurately on the item 'I drive to places on "automatic pilot" and then wonder why I went there'. This could account for the fact that the potential loss of abilities which contribute to mindfulness could be compensated for by improved satisfaction with life (Dzuka & Dalbert, 2006) and spiritual well-being (Nelson, 2012). This concurs with the lifespan developmental theory principle that, as individuals might be regressing or losing functioning in one area, they might experience improvement in another (Baltes, 1987).

This study endeavoured to supplement existing research in positive psychology by aiming to demonstrate the specific presentation of these constructs in the lives of the South African elderly population. For this purpose, the natural occurrence of mindfulness among the elderly population was measured. Results demonstrated that higher life satisfaction and spiritual well-being correlated positively with high mindfulness in the sample of elderly people residing in Bloemfontein, Free State. Consequently, the findings in this study confirm the theoretical assumptions made earlier that higher mindfulness in the elderly could be associated with higher spiritual well-being and life satisfaction. In turn, this might lead to reduced suffering. Furthermore, it was found that mindfulness had moderated the relationship between life satisfaction and spiritual well-being in the sample, albeit in an unexpected manner.

Conclusion

The aim of this study was to investigate whether mindfulness moderates the relationship between life satisfaction and spiritual well-being in a sample of elderly participants in Bloemfontein, South Africa. The study confirmed a statistically significant relationship between mindfulness, life satisfaction and spiritual well-being

among this group. Mindfulness was also found to be a moderator in the relationship between spiritual well-being and life satisfaction.

The present study addressed various gaps in the research base. First, it paid due attention to the elderly population in South Africa. As mentioned earlier, this population has been receiving less research attention than younger population groups (Macleod & Howell, 2013). Secondly, this study contributes to the limited knowledge regarding trait mindfulness as a naturally occurring quality in elderly people. The results also add to the body of research that explores the role of mindfulness in areas such as life satisfaction and spiritual well-being. Finally, the results can be used to improve understanding of the manifestation of life satisfaction and spiritual well-being in the elderly in the South African context.

In addition, results from this study can inform practice with regard to optimising life satisfaction and spiritual well-being in elderly adults. Diener and Chan (2011) believe that increased life satisfaction will improve the length and quality of life of the elderly. Similarly, Nelson (2012) posits that spiritual well-being plays a critical part in meaning making and general well-being of the elderly. In this regard, the results of this study indicate that mindfulness should be encouraged and facilitated in the elderly to improve their satisfaction with life and spiritual well-being. As mentioned earlier, more resources are required in order to care for the growing elderly population (Bergman et al., 2013). In turn, the improvement of their well-being could lead to better physical and mental health and alleviate the already overburdened health-care facilities in South Africa (Bergman et al., 2013; Diener & Chan, 2011; Greeson et al., 2011; Ramirez et al., 2013). Aiming to increase mindfulness in older adults could enhance their spiritual well-being and overall life satisfaction. Hence, mindfulness in the elderly population can lead to the improvement of their health and well-being.

The study had some limitations that need to be considered when interpreting the results. Convenience sampling was used to recruit participants in Bloemfontein; thus, the results cannot be generalised to the entire South African population. The sole use of self-report measures is associated with possible method variance or nuisance factors (Gravetter & Forziano, 2013). Also, the scale used to measure

mindfulness might not be suitable for use among the elderly, because some of the statements used to measure the construct are no longer applicable to this group. Furthermore, the sample size (N=122) was fairly small and consisted mostly of white, Afrikaans-speaking, educated and widowed females. The influence of gender, race, cultural background and relationship status on mindfulness, life satisfaction and spiritual well-being needs to be taken into account when interpreting the results of this study.

In future studies, samples that are representative of South African demographics need to be included. In addition, the elderly population has been subdivided into developmental groups such as young old (60-69 years), middle old (70-79 years) and very old (80+), each with its own developmental tasks (Phillipson, 2013). It is recommended that future studies take into account the nuances and impact of these developmental stages. Finally, a more comprehensive account is needed of the mindfulness, life satisfaction and spiritual well-being of elderly participants.

Another recommendation is that future studies include data-gathering methods other than self-report measures. Qualitative approaches to inquiry, such as structured interviews and focus groups, could assist participants in portraying their experiences (Silverman, 2013). This would allow the investigation of the affective component of subjective well-being and state mindfulness as well, which would yield a broader picture of the well-being and mindfulness of the elderly. Moreover, the finding that lower scores of mindfulness predict a stronger relationship between spiritual well-being and life satisfaction than higher scores of mindfulness indicates that the manifestation of mindfulness in the elderly population might require further study.

The measurement of mindfulness in the elderly might differ from other age groups, thus, the revision of measurement scales for the elderly population is recommended. The use of mixed methods in future research could provide deeper insight into the innumerable factors that influence the development of individuals' trait and state mindfulness (Gravetter & Forziano, 2013). This will allow increased generalisability of results because knowledge would be created with greater depth and clarity than

either qualitative or quantitative methods can provide alone (Stangor, 2015). Consequently, this approach will bring to the fore the voice of the older generation.

Owing to population aging, it is increasingly important to understand the factors that could contribute to the elderly population's flourishing. Further research regarding the benefits of mindfulness for the life satisfaction and spiritual well-being of the elderly is thus required. The effective increase of mindfulness in the elderly population provides a variety of possibilities for future research. Future longitudinal studies could provide insight into the possible changes in the relationships between mindfulness, life satisfaction and spiritual well-being across the lifespan.

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