

## Factor Analysis of the Spiritual Well-being Questionnaire Using a Sample of South African Adolescents

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### Abstract

In 2003 Gomez and Fisher developed the Spiritual Well-being Questionnaire (SWBQ) based on a theoretical model of spiritual well-being proposed by Fisher. According to Fisher, spiritual well-being comprises the personal, communal, environmental and transcendental domains, which are interrelated and cohere to create a global spiritual well-being dimension. Their study showed that the SWBQ was reliable and valid. A further study in 2005 using item response theory analysis of the SWBQ suggested general support for the psychometric properties of the SWBQ. However, there were indications that certain items in the questionnaire needed to be improved. The present study was undertaken to do a factor analysis of the SWBQ using a sample of South African adolescents to gauge its suitability. Gomez and Fisher's recommendation was considered and certain items were added to the SWBQ for factor analysis with the aim of replacing some of the original items. The factor structure that was found in this study corresponds with that in Gomez and Fisher's study. Acceptable coefficients of internal consistency for the different subscales (factors) and for the global score of the SWBQ were found. Moreover, in line with Gomez and Fisher's recommendation, this revised SWBQ scale seems to have been improved in terms of its psychometric properties and appears to be a reliable instrument in measuring the spiritual well-being of adolescents.

### Keywords

spiritual health, spirituality, well-being, adolescents, SWBQ Questionnaire

## 1. Introduction

Studies focussing on adolescence and spirituality and/or religion generally indicate that they still play a role in the lives of many adolescents. Wallace, Forman, Caldwell and Willis<sup>1</sup> investigated the presence of religion in the lives

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<sup>1</sup> J. M. Wallace et al., "Religion and U.S. Secondary School Students: Current Patterns, Recent Trends, and Sociodemographic Correlates," *Youth & Society* 35, no. 1 (2003): 98–125.

of American adolescents by using data from the University of Michigan's *Monitoring the Future*-study of about 80 000 high school students in the 8th, 10th and 12th grades in 1998 and 1999. Both genders were almost equally represented.

The findings indicated that approximately 60% of American young people felt that religion was “pretty important” or “very important” to them. About 50% attended church services regularly (monthly or more) and the vast majority (more than 80%) reported an affiliation with a specific religion. In South Africa there seems to have been very little research into spirituality/religion amongst adolescents, despite indications that they play an influential role in the lives of most of the South African youth. According to the 1999–2001 World Values Survey, 62,1% of young South Africans between 18 and 24 indicated that religion was a very important factor in their lives; 98,7% reported that they believed in God; and 69,3% reported that God was very important in their lives.<sup>2</sup> Other reasons for researching spirituality/religion (and related aspects) amongst South African adolescents, are the findings of many studies worldwide that spirituality/religion could have a mediating influence on adolescents' well-being and behaviour.

Well-being is one of the central issues when measuring spirituality during research. Gomez and Fisher's<sup>3</sup> Spiritual Well-being Questionnaire (SWBQ) shows acceptable psychometric properties. However, this instrument has not yet been evaluated for the South African context. Therefore, the purpose of this study was to determine whether the factor structure of this instrument is the similar for a South African population. Before this research is discussed, it is imperative to consider the meanings of spirituality and religion and ascertain how they are related.

## 2. Defining the Concepts: *Spirituality and Religion*

Traditionally, spirituality has been closely related to or synonymous with the concept of religiousness; and yet, despite much work having been done over the years, little consensus has been reached about what these two terms

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<sup>2</sup> L. H. Lippman and J. D. Keith, “The Demographics of Spirituality Among Youth: International Perspectives,” in *The Handbook of Spiritual Development in Childhood and Adolescence* (ed. E. C. Roehlkepartain et al.; Thousand Oaks, Calif.: Sage, 2006), 110.

<sup>3</sup> R. Gomez and J. W. Fisher, “Domains of Spiritual Well-Being and Development and Validation of the Spiritual Well-Being Questionnaire,” *Personality and Individual Differences* 35 (2003): 1975–1991.

actually mean,<sup>4</sup> with various definitions having been suggested by different scholars.

Kelly<sup>5</sup> posits that that spirituality is a subjective experience of the transcendental nature of the universe; whilst religion is perceived to be the institutional and religious expression of spirituality. Thus, spirituality is perceived to be a universal experience, less strained by the doctrines associated with specific religions.<sup>6</sup> Reich<sup>7</sup> mentions four possible ways of describing the relationship between religiousness and spirituality:

- they are synonymous;
- one is a subdomain of the other;
- they are separate domains; or
- they are distinct but overlapping domains.

Benson, Roehlkepartain and Rude<sup>8</sup> support the possibility that there is a significant overlap between religion and spirituality but maintain that both religious development and spiritual development have dimensions that fall beyond the domain of the other. Elkins, Hedstrom, Hughes, Leaf and Saunders<sup>9</sup> view spirituality as, “a way of being and experiencing that comes about through awareness of a transcendent dimension and that is characterized by certain identifiable values in regard to self, others, nature, life, and whatever one considers to be the Ultimate”. Emmons<sup>10</sup> suggests that a typical definition of spirituality encompasses a search for meaning, for unity, for connectedness, for transcendence, and for the highest human potential. In a similar vein, Wagener and Malony<sup>11</sup> suggest that spirituality has the potential to address the ultimate questions that are intrinsic to the experience of being human: spirituality includes experiences of transcendence, an awareness of good and evil, the

<sup>4</sup> B. J. Zinnbauer et al., “Religion and Spirituality: Unfuzzifying the Fuzzy,” *Journal for the Scientific Study of Religion* 36, no. 4 (1997): 549–564.

<sup>5</sup> E. W. Kelly, *Spirituality and Religion in Counseling and Psychotherapy: Diversity in Theory and Practice* (Alexandria, Va.: American Counseling Association, 1995), 4.

<sup>6</sup> P. J. Polanski, “Exploring Spiritual Beliefs in Relation to Adlerian Theory,” *Counseling and Values* 46 (2002): 127–136.

<sup>7</sup> K. H. Reich, “A Logic-Based Typology of Science and Theology,” *Journal of Interdisciplinary Studies* 8 (1996): 149–167.

<sup>8</sup> P. L. Benson et al., “Spiritual Development in Childhood and Adolescence: Toward a Field of Inquiry,” *Applied Developmental Science* 7, no. 3 (2003): 205–213.

<sup>9</sup> D. N. Elkins et al., “Toward a Humanistic Phenomenological Spirituality: Definition, Description and Measurement,” *Journal of Humanistic Psychology* 28, no. 4 (1988): 5–18.

<sup>10</sup> R. A. Emmons, *The Psychology of Ultimate Concerns: Motivation and Spirituality in Personality* (New York: Guilford, 1999), 5.

<sup>11</sup> L. M. Wagener and H. N. Malony, “Spiritual and Religious Pathology in Childhood and Adolescence,” in *The Handbook of Spiritual Development in Childhood and Adolescence* (ed. E. C. Roehlkepartain et al.; Thousand Oaks, Calif.: Sage, 2006), 140.

feeling of belonging and connectedness, and those of meaning and purpose. It is an integrative function leading to an experience of personal wholeness and defines the links between the self and the rest of creation, locating the individual within a transcendent system of meaning. Religion, on the other hand, is a shared belief and social structure within which spirituality is primarily shaped for most (but not all) people. Pargament<sup>12</sup> defines religion in its broadest sense as a multidimensional construct including both institutional religious expressions, such as dogma and ritual; and personal religious expressions, such as feelings of spirituality, beliefs about the sacred and religious practices.

Given the views of Zinnbauer et alii,<sup>13</sup> the writer adopts the stance that spirituality and religion are interrelated,<sup>14</sup> and that religion is a multidimensional construct embracing both institutional religious expression and personal religious expressions, including feelings of spirituality.<sup>15</sup> Thus, the terms spirituality and religion will be used interchangeably in this article.

### 3. Spiritual Well-being

The concept of spiritual well-being is related to that of spirituality/religion and is equally complex. The National Interfaith Coalition on Aging (NICA) proposed one of the earliest attempts at a wide definition of spiritual well-being in 1975. NICA perceived spiritual well-being as an affirmation of life in a relationship with oneself (personal), others (communal), nature (environmental), and God (or the transcendental other).<sup>16</sup> Ellison<sup>17</sup> views spiritual well-being as an expression of an underlying state of spiritual health. He compares this situation

<sup>12</sup> K. I. Pargament, *The Psychology of Religion and Coping: Theory, Research, Practice* (New York: Guilford, 1997), 4.

<sup>13</sup> Zinnbauer et al., "Religion and Spirituality," 364.

<sup>14</sup> P. L. Benson, "Spiritual Development in Childhood and Adolescence: Toward a Field of Inquiry," *Applied Developmental Science* 7, no. 3 (2003): 205–213.

<sup>15</sup> Pargament, *The Psychology of Religion and Coping*, 4.

<sup>16</sup> C. W. Ellison, "Spiritual Well-Being: Conceptualization and Measurement," *Journal of Psychology and Theology* 11, no. 4 (1983): 330–340; J. W. Fisher et al., "Assessing Spiritual Health via Four Domains of Spiritual Well-Being: the SH4DI," *Pastoral Psychology* 49, no. 2 (2000): 133–145; R. Gomez and J. W. Fisher, "Domains of Spiritual Well-Being and Development and Validation of the Spiritual Well-Being Questionnaire," *Personality and Individual Differences* 35 (2003): 1975–1991; R. Gomez and J. W. Fisher, "Item Response Theory Analysis of the Spiritual Well-Being Questionnaire," *Personality and Individual Differences* 38 (2005a): 1107–1121; R. Gomez and J. W. Fisher, "The Spiritual Well-Being Questionnaire: Testing for Model Applicability, Measurement and Structural Equivalencies and Latent Mean Differences across Gender," *Personality and Individual Differences* 39, no. 8 (2005b): 1383–1393.

<sup>17</sup> Ellison, "Spiritual Well-Being," 332.

to the colour of someone's complexion and pulse rate as expressions of his/her health.

By integrating these concepts, Gomez and Fisher<sup>18</sup> define spiritual well-being as, "a state of being, reflecting positive feelings, behaviours, and cognitions of relationships with oneself, others, the transcendent and nature, that in turn provide the individual with a sense of identity, wholeness, satisfaction, joy, contentment, beauty, love, respect, positive attitudes, inner peace and harmony, and purpose and direction in life". A brief discussion of Fisher's proposed model of spiritual well-being follows.

#### 4. Fisher's Model of Spiritual Well-being

Fisher et alii propose a model of spiritual well-being,<sup>19</sup> based on the NICA domains of spiritual well-being (mentioned above). In this study, Fisher interviews 98 secondary school teachers to gauge their thoughts on what they consider to be important indicators of spiritual well-being in their students. The questions used in the interview reflect a number of the measures of spiritual well-being at the time, including the Spiritual Well-Being Scale,<sup>20</sup> the Spiritual Orientation Inventory,<sup>21</sup> the Mental, Physical and Spiritual Well-Being Scale,<sup>22</sup> the Spiritual Assessment Inventory,<sup>23</sup> the Perceived Wellness Survey,<sup>24</sup> and the JAREL Spiritual Well-Being Scale.<sup>25</sup> Quantitative analysis of Fisher's 1998 study is consistent with the NICA (1975) model and this leads Fisher to agree that spiritual health is a dynamic state of being. It is reflected in the extent to which people live in harmony within relationships in the following domains of spiritual well-being: relationships with oneself (personal), others (communal), nature (environmental), and God (or the transcendental other). Thus, it seems

<sup>18</sup> Gomez and Fisher, "Domains of Spiritual Well-Being," 1976.

<sup>19</sup> Fisher et al., "Assessing Spiritual Health," 135; Gomez and Fisher, "Domains of Spiritual Well-being," 1976; Gomez and Fisher, "Item Response Theory," 1108.

<sup>20</sup> Ellison, "Spiritual Well-being," 332.

<sup>21</sup> Elkins et al., "Humanistic Phenomenological Spirituality," 5.

<sup>22</sup> D. A. Vella-Brodrick and F. C. L. Allen, "Development and Psychometric Validation of the Mental, Physical, and Spiritual Well-Being Scale," *Psychological Reports* 77 (1995): 659–674.

<sup>23</sup> T. W. Hall and K. J. Edwards, "The Initial Development and Factor Analysis of the Spiritual Assessment Inventory," *Journal of Psychology and Theology* 24, no. 3 (1996): 233–246.

<sup>24</sup> T. Adams et al., "The Conceptualisation and Measurement of Perceived Wellness: Integrating Balance across and within Dimensions," *American Journal of Health Promotion* 11, no. 3 (1997): 208–218.

<sup>25</sup> J. Hungelmann et al., "Focus on Spiritual Well-Being: Harmonious Interconnectedness of Mind-Body-Spirit – Use of the JAREL Spiritual Well-Being Scale," *Geriatric Nursing* 17, no. 6 (1996): 262–266.

that the combined effect of spiritual well-being in each of the domains indicates spiritual health. The relationship between the domains was explained using the notion of progressive synergism where a domain builds on and in turn is built on by other domains.<sup>26</sup> The domains are portrayed below:

- In the personal domain one intra-relates with oneself about the meaning, purpose and values of life. The human spirit creates self-awareness relating to self-esteem and identity.
- The communal domain is expressed in the quality and depth of interpersonal relationships between the self and others. Morality, culture and religion are included in the communal domain which also comprises love, justice, hope, and faith in humanity.
- The environmental domain extends from care and nurture for the physical and biological components, to a sense of awe and wonder, and the notion (for some) of a unity and connectedness with the environment.
- The transcendental domain denotes one's relationship with "something" or a being beyond the human level, such as a cosmic force, a transcendent reality, or God. It involves faith in something as well as an adoration and worship of the source of the mystery of the universe. The quality of the relationship in each of the four domains reflects a person's spiritual well-being in that domain.

The four domains are not isolated, but interrelated. Fisher also proposes that they cohere to give a global or overall dimension of spiritual well-being. In other words, one's spiritual health can be enhanced by developing positive relationships in each domain and increased by embracing more domains.<sup>27</sup>

Fisher et alii<sup>28</sup> highlight the following shortcomings regarding specific spiritual health measures at the time:

- The Spiritual Well-Being Scale (SWBS)<sup>29</sup> comprises two dimensions: Existential Well-Being (EWB) and Religious Well-Being (RWB). Each is measured by ten questions. Both dimensions involve transcendence, or a stepping back from and moving beyond reality. Although partially distinctive, the two dimensions also affect each other – which implies some statistical overlap between them. The EWB's two subsets (life direction and life satisfaction) measure meaning, purpose and values in life. Those concerns only correspond with the personal domain of Fisher's model of spiritual well-being. Ellison does not consider relationships with others and with the

<sup>26</sup> Fisher et al., "Assessing Spiritual Health," 135.

<sup>27</sup> Fisher et al., "Assessing Spiritual Health," 135; J. Fisher, "Being Human, Becoming Whole: Understanding Spiritual Health and Well-Being," *Journal of Christian Education* 43, no. 3 (2000): 37–52; Gomez and Fisher, "Domains of Spiritual Well-Being," 1976; Gomez and Fisher, "Item Response Theory," 1108.

<sup>28</sup> Fisher et al., "Assessing Spiritual Health," 137.

<sup>29</sup> Ellison, "Spiritual Well-Being," 333.

environment. All ten items of the RWB scale include the term “God” – which restricts the scale to theocentric religions. Consequently, the RWB scale corresponds with relationships with the transcendent other in the transcendental domain of Fisher’s model.

- The Spiritual Orientation Inventory was developed by Elkins, Hedstrom, Hughes, Leaf and Saunders.<sup>30</sup> This measure of humanistic spirituality has 85 questions in nine subscales, clustered around two factors: the experiential dimension and the value dimension.<sup>31</sup> The questions essentially relate to personal and communal aspects of spiritual health with some reference to the environment and a deliberate exclusion of religion and any mention of the transcendent other.
- Kuhn’s Spiritual Inventory (1988)<sup>32</sup> consists of 25 questions focussing on relationships with the self, others and the transcendent – but not with the environment.
- Glik<sup>33</sup> uses Sorokin’s<sup>34</sup> theory of cultural value systems to develop a 19 item Index of Spiritual Orientation. This measure has three distinct factors which correspond conceptually to “Ideational beliefs” (nine items), “Salience of religion” (six items) and “Mysticism” (four items). The items included relationships with the self, the environment, God and some aspects of religion, but not interpersonal relationships – making the index a measure of religiosity rather than an index of spirituality.
- Cross<sup>35</sup> reports on the computer-driven questionnaire called the Problem Knowledge Coupler (PKC) Wellness Coupler. It comprises 268 questions, of which an unspecified number concern spiritual wellness (in particular, the personal domain) such as beliefs, purpose in life and death/suicide urges.
- The spiritual part of the Mental, Physical and Spiritual Well-being (MPS) Scale<sup>36</sup> comprise ten questions relating to two dimensions – the existential and the religious. Four of the questions relate to existential well-being, one is specifically religious and five can be interpreted from either a religious or an existential perspective. The ten questions relate to some aspects of the personal, communal and religious domains but none relate to the environmental domain.
- Hungelmann et alii<sup>37</sup> developed the JAREL Spiritual Well-Being Scale as an assessment tool to provide a way of establishing a nursing diagnosis of spirituality in older adults. The scale consists of 21 questions, 11 of which

<sup>30</sup> Elkins et al., “Humanistic Phenomenological Spirituality,” 5.

<sup>31</sup> J. Tloczynski et al., “The Relationship among Spirituality, Religious Ideology and Personality,” *Journal of Psychology and Theology* 25, no. 2 (1997): 208–213.

<sup>32</sup> D. D. McKee and J. N. Chappel, “Spirituality and Medical Practice,” *Journal of Family Practice* 35, no. 2 (1992): 201–208.

<sup>33</sup> D. C. Glik, “Participation in Spiritual Healing, Religiosity and Mental Health,” *Sociological Inquiry* 60, no. 2 (1990): 158–176.

<sup>34</sup> P. Sorokin, *Society, Culture and Personality* (New York: Harper & Row, 1947).

<sup>35</sup> H. D. Cross, “An Adolescent Health and Lifestyle Guidance System,” *Adolescence* 29, no. 11 (1994): 267–277.

<sup>36</sup> Vella–Brodrick and Allen, “Development and Psychometric Validation,” 659.

<sup>37</sup> Hungelmann et al., “Focus on Spiritual Well-Being” 262.

focus on the self, four on others, five on the transcendent and one which does not appear to fit into any spiritual domain. Although the “model of spiritual wellbeing, reflecting harmonious interconnectedness of the major themes of time and relationships” contains a reference to “Nature”, the JAREL Scale contains no reference to the environment.

- The Spiritual Assessment Inventory<sup>38</sup> focuses entirely on the relationship with God, investigating both the awareness and the quality of this relationship. In so doing, it excludes many aspects of a person’s relationship with himself or herself and totally excludes others and the environment.
- The Perceived Wellness Survey<sup>39</sup> contains a spiritual wellness dimension measured by six items. These items (three related to meaning and the other three to purpose in life) are limited to the personal domain, not to the broader relationships found in the communal, environmental and religious domains of spiritual well-being as proposed by Fisher’s model.
- Skevington, MacArthur and Somerset<sup>40</sup> developed some items for the World Health Organisation Quality of Life (WHOQOL) instrument. It proposes five domains of 33 facets of life for the WHOQOL. Four of these domains have items that relate to the self, one’s purpose in life, the community and the environment. It ranks happiness as the most important aspect of quality of life and religion, the least important (although it is highly valued in one sub-section). The free listing of concerns yields comments on the need for loving relationships and specific environmental concerns. This study contains some aspects of the personal, communal and environmental domains proposed by Fisher’s spiritual well-being model, but it does not include the transcendental domain.

Against this background, Gomez and Fisher<sup>41</sup> developed and validated their own model of spiritual well-being which they named the Spiritual Well-being Questionnaire (SWBQ).

## 5. The Development and Validation of the Spiritual Well-being Questionnaire (SWBQ)

Gomez and Fisher<sup>42</sup> believe that the four domains of spiritual well-being identified by Fisher in 1998<sup>43</sup> are not equally weighted in the existing spiritual

<sup>38</sup> Hall and Edwards, “The Initial Development and Factor Analysis,” 233.

<sup>39</sup> Adams et al., “The Conceptualisation and Measurement,” 208.

<sup>40</sup> S. M Skevington et al., “Developing Items for the WHOQOL: An Investigation of Contemporary Beliefs about Quality of Life Related to Health,” *British Journal of Health Psychology* 2, no. 1 (1997): 55–72.

<sup>41</sup> Gomez and Fisher, “Domains of Spiritual Well-Being,” 1975.

<sup>42</sup> Gomez and Fisher, “Domains of Spiritual Well-Being,” 1977.

<sup>43</sup> Fisher, “Being Human,” 43; Fisher et al., “Assessing Spiritual Health,” 135; Gomez and Fisher, “Domains of Spiritual Well-Being,” 1976.



health questionnaires. Consequently, they conducted four studies in order to develop and validate a self-rating measure of spiritual well-being, the 20-item instrument known as the Spiritual Well-Being Questionnaire (SWBQ). Their studies are described below.

The first study examined a sample of 248 Australian secondary school students (120 males and 128 females) from four different secondary schools. The participants' ages ranged from 11 to 16 years with a mean of 13.80 (S.D. = 1.33). In this study, the development of the questionnaire was undertaken, beginning with an initial instrument of 48 items (12 items per domain of spiritual well-being). Participants were asked to assess how the items in the questionnaire rated their personal experience over the previous six months, using a five-point Likert scale which ranged from low (rated 1) to very high (rated 5). Exploratory factor analysis, using principal component analysis with oblimin rotation, was used to outline a shortened twenty-item questionnaire comprising five items for each domain of spiritual well-being. The exploratory factor analysis was generally supportive of the four domains of spiritual well-being proposed by Fisher's model.

Study 2 involved a sample of 537 Australian secondary school students (272 males and 265 females) from five different secondary schools. The age range of the participants was 11 to 16 years with a mean of 13.78 (S.D. = 1.38). The mean age for males was 13.66 years (S.D. = 1.36) and for females 13.89 (S.D. = 1.39). There was no significant difference between the gender groups,  $t$  (d.f. = 535) = 1.90, ns. The factor structure of the 20 items of SWBQ was examined by conducting an exploratory factor analysis. The hypothesis that the four individual domains of spiritual well-being cohere to give a (secondary) global dimension of spiritual well-being was also examined. In addition, some data on the internal consistency, and the convergent and discriminant validity of the SWBQ were reported. Participants were requested to complete the SWBQ (see Study 1) as well as Ellison's SWBS,<sup>44</sup> because items of the existential well-being subscale of the SWBS reflect the SWBQ's personal, communal and transcendental domains. In addition, the religious dimension of the SWBS has items that reflect the transcendental domain of the SWBQ. Exploratory factor analysis using principal component analysis with oblimin rotation was used to establish the factor structure of the SWBQ.

The analysis resulted in four factors:

- The correlations of the total scores of items in various domains were: personal with transcendental, 0.30; environmental, 0.47; and communal, 0.58.
- The correlation of the transcendental domain with the environmental was 0.20 and with the communal domain was 0.28.

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<sup>44</sup> Ellison, "Spiritual Well-Being," 330.

- The correlation between the environmental and the communal domain was 0.40.
- In addition, all the primary factors also correlated significantly and positively with the total score of the SWBQ. The respective correlations were 0.76, for the personal, 0.70, for the transcendental, 0.71, for the environmental and 0.72 for the communal domains.

Second order factor analysis was done by subjecting the total scores for the items comprising the four primary factors to exploratory factor analysis using principal component analysis with oblimin rotation. The results indicated a single higher order factor that accounted for 56% of the variance, comprising all four factors with an eigenvalue<sup>45</sup> of 2.16 and loadings ranging from 0.54 to 0.83. The intercorrelations of the four primary factors were also significant ( $P < 0.01$ ). Taken together, these results support the concept that the four spiritual well-being domains are the components of the higher order, global, spiritual well-being dimension proposed by Fisher's model of spiritual well-being. Cronbach's alpha values indicated high internal consistency for both the primary and secondary dimensions and were calculated at 0.89 for the personal; 0.86 for the transcendental; 0.76 for the environmental and 0.79 for the communal domains. All items together totalled 0.92. The correlations of the scores of the SWBQ and SWBS were examined to determine the convergent and discriminant validity of the SWBQ. The results indicated a high correlation between the religious dimension of the SWBS and the transcendental domain of the SWBQ, thereby supporting the convergent validity of the transcendental domain of the SWBQ. There were low correlations of the religious well-being dimension of the SWBS and all the other domains of the SWBQ, thus supporting the discriminant validity of the personal and communal domains of the SWBQ. Although there were significantly strong correlations for the existential well-being dimension of the SWBS with all the SWBQ domains, the correlations were especially strong for the personal, transcendental and communal domains. One may thus conclude that these findings support the convergent validity of the personal, transcendental and communal domains of the SWBQ, given that the existential well-being dimension of the SWBS is a fusion of the SWBQ's personal, transcendental and communal domains. The global scores of both instruments correlated moderately and, in so doing, support the convergent and discriminant validity of the primary and global scales of the SWBQ.

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<sup>45</sup> "Eigenvalue is a statistic used in factor analysis to indicate how much of the variation in the original group of variables is accounted for by a particular factor. It is the sum of the squared factor loadings of a factor. Eigenvalues of less than 1.0 are usually not considered significant" cf. W. P. Vogt, *Dictionary of Statistics and Methodology: A Nontechnical Guide for the Social Sciences* (3d ed.; London: Sage, 2005), 103.

Study 3 involved a sample of 832 participants (416 males and 416 females) ranging in age from 18 to 42 years, with a mean age of 20.20 (S.D. = 2.95). Participants were drawn from six Australian universities and were required to complete the SWBQ developed in Study 1. This study examined the factor structure of the SWBQ using confirmatory factor analysis (CFA).

Against the background of the first two studies, this study firstly sought support for a four-factor oblique model in which the relevant items of each of the SWBQ's four domains loaded on four separate first order factors, with the factors freely correlated. Secondly, it examined a second-order CFA model, in which all the four first-order factors were loaded on a single higher order spiritual well-being factor, with the first order factors not correlated with each other (i.e. orthogonal). Reliability data were also provided. The initial exploratory factor analysis of SWBQ ratings produced similar results to Study 1. Thus, the analyses of Studies 1–3, showed the expected four factors for the SWBQ across different age and gender groups. The means (S.D.) were 19.97 (3.39) for the personal; 13.00 (6.06) for the transcendental; 16.69 (4.23) for the environmental; and 20.77 (3.16) for the communal domain. The Cronbach's alpha values were 0.82 (personal); 0.95 (transcendental); 0.83 (environmental); and 0.82 (communal). The CFA results of the four-factor oblique model indicated all good fit indices for this model. There were correlations of 0.17 for the personal with transcendental; 0.53 for the environmental and 0.86, for the communal domains. The correlations of transcendental with environmental and communal were 0.16 and 0.18 respectively. The correlation of the environmental with the communal domain was 0.44. All the correlations were significant which suggested that these latent factors might be related to a single higher order factor. The hierarchical second order CFA model (i.e. all the four first order orthogonal factors loading on a single higher order spiritual well-being factor) was tested by comparing it with the one-factor first order CFA model (i.e. the four first order factors were not allowed to correlate with each other). The fit scores for both the one-factor and the four-factor orthogonal models were outside the range considered as good fit, while all the fit scores of the second order CFA model were good. These results, when taken together, support the construct validity of the SWBQ as well as Fisher's model of spiritual well-being.

Study 4 comprised a sample of 456 participants drawn from an Australian university and from universities in England and Ireland. The participants' ages ranged from 18 to 24 years, and consisted of 146 males and 310 females with a mean age of 20.20 (S.D. = 2.95). CFA was used to examine the SWBQ models tested as part of Study 3. The SWBQ's reliability was established by examining the composite reliability, variance extracted and internal consistency of the four spiritual well-being factors and the global spiritual well-being factor. The validity was established by examining:

- the factorial independence of the spiritual well-being domains from the personality dimensions;
- the relationships of the spiritual well-being domains with Eysenck's personality dimensions (neuroticism, psychoticism, and extraversion) and happiness; and
- whether the spiritual well-being domains contributed additional variance over that of the personality dimensions in the prediction of happiness.

Participants completed the SWBQ, the Adult Eysenck Personality Questionnaire-Revised Short Scale (EPQ-R/SS, cited in Gomez and Fisher),<sup>46</sup> and the Oxford Happiness Inventory.<sup>47</sup> The EPQ-R/SS is a measure of neuroticism, psychoticism and extroversion. It also has a lie score that can be interpreted as a measure of social desirability. The OHI provides a measure of overall happiness. This study's findings are discussed in the paragraphs below.

### 5.1. *Confirmatory Factor Analysis and Construct Validity of the SWBQ*

The fit values of the four-factor oblique model and the second order CFA model were all good. The fit for the one-factor and the four-factor orthogonal models were outside the range considered good. The correlations of personal well-being with the communal was 0.87; with the environmental, 0.54; and with the transcendental, 0.31. The correlations of the communal with the environmental were 0.42, and the transcendental, 0.20. The correlation of the environmental with the transcendental well-being factor was 0.13. All the correlations were significant ( $P < 0.01$ ). Taken together, these findings once again support Fisher's hierarchical model of spiritual well-being and provide evidence for the construct validity of the SWBQ.

### 5.2. *Reliability of the Spiritual Well-being Constructs of the SWBQ*

Composite reliability scores for the different domains were: personal domain 0.84; communal domain 0.86; environmental domain 0.85; transcendental domain 0.95; and global spiritual well-being, 0.73.

Variances extracted were: personal domain, 0.52; communal domain, 0.55, environmental domain, 0.53; transcendental domain, 0.75; and global spiritual well-being, 0.41.

<sup>46</sup> Gomez and Fisher, "Domains of Spiritual Well-Being," 1985.

<sup>47</sup> M. Argyle et al., "Happiness as a Function of Personality and Social Encounters," in *Recent Advances in Social Psychology: An International Perspective* (ed. J. P. Forgas and J. M. Innes; North Holland: Elsevier Science, 1989), 189.

Cronbach's alpha scores were: for the personal domain, 0.80; communal domain, 0.84; environmental domain, 0.84; transcendental domain, 0.95; and global spiritual well-being, 0.89.

Generally, composite reliability scores of above 0.70 and variance extracted scores above 0.50 are considered acceptable. In this study, except for the reliability score derived from the variance extracted method for the global spiritual well-being domain, all other reliability measures showed acceptable levels. Thus, the results support the reliability of the four spiritual well-being constructs as well as the global spiritual well-being construct.

### 5.3. Factorial Independence of the SWBQ

Exploratory factor analysis using principal component analysis with oblimin rotation was used to examine the factorial independence of the SWBQ's four spiritual well-being domains from the lie scores and personality dimensions of the EPQ-R/SS. None of the spiritual well-being domains and personality dimensions loaded together on the same factor. This suggested factorial independence of the spiritual well-being domains from the personality dimensions.

### 5.4. Convergent and Discriminant Validity of the SWBQ

The domain and global scores of the SWBQ were correlated with the dimension scores of the EPQ-R/SS as well as with the total score of the OHI. There was a positive and significant correlation of the EPQ-R/SS's lie score with the global, personal and environmental well-being scores of the SWBQ. Thus, social desirability effects may influence one's perceptions of one's spiritual well-being in these areas. In terms of the personality dimensions, there was a significant and negative correlation of psychoticism with all the spiritual well-being measures. There was a significant and positive correlation of extroversion with the global, personal and communal well-being measures. Neuroticism correlated significantly and negatively with personal well-being. When considering that existing data indicate that spirituality (a concept related to spiritual well-being) is positively associated with extroversion and negatively with psychoticism,<sup>48</sup> the findings are supportive of the convergent and discriminant validity of the

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<sup>48</sup> D. A. MacDonald, "Spirituality: description, measurement and relation to the five factor model of personality," *Journal of Personality* 68, no. 1 (2000): 153–197; J. Maltby and L. Day, "Spiritual involvement and belief: The relationship between spirituality and Eysenck's personality dimensions," *Personality and Individual Differences* 30 (2001a): 187–192; J. Maltby and L. Day, "The relationship between spirituality and Eysenck's personality dimensions: A replication among English Adults," *Journal of Genetic Psychology* 162, no. 1 (2001b): 119–123.

spiritual well-being dimensions of the SWBQ. Global spiritual well-being, as well as in the personal, communal and environmental domains, correlated positively and significantly with happiness. Happiness was unrelated to transcendental well-being. Argyle and Hills<sup>49</sup> find happiness to be associated with a spiritual factor (the “imminent” aspect) that reflects Fisher’s personal and transcendental well-being domains; while Fehring et alii<sup>50</sup> indicate a negative association between happiness and the spiritual wellbeing factors that reflect Fisher’s transcendental domain. Given previous findings, the results in this study (of positive association between personal spiritual well-being and happiness; and no connection between transcendental well-being and happiness) can be inferred as supportive of the concurrent validity of the spiritual well-being domain and the discriminant validity of the transcendental well-being domain.

### 5.5. *Incremental Validity*

In terms of incremental validity, the additional variance contributed to happiness by spiritual well-being over that made by personality was examined by a hierarchical regression analysis. The findings implied that global, personal, communal and environmental well-being contributes additional variance to happiness over that made by personality.

The results of the Gomez and Fisher’s four studies<sup>51</sup> can be summarised as follows:

The results of an exploratory factor analysis (Studies 1–3) and the confirmatory factor analysis (Studies 3 and 4) supported Fisher’s model that spiritual well-being can be conceptualised in terms of four domains (viz. personal, communal, environmental and transcendental). There were also significant and moderate to high correlations between the domains (Studies 2–4), supporting Fisher’s model. Both exploratory (Studies 2 and 3) and confirmatory (Studies 3 and 4) factor analyses indicated that the four domains reflect primary dimensions of spiritual well-being that cohere to form a global dimension of spiritual well-being.

Based on the results of the first study, the SWBQ was developed to provide a self-rating questionnaire reflecting Fisher’s theoretical model of spiritual well-being. The questionnaire comprised 20 items, with five items representing each of the four domains of spiritual well-being. The findings of the studies indicated

<sup>49</sup> M. Argyle and P. Hills, “Religious experiences and their relations with happiness and personality,” *The International Journal for the Psychology of Religion* 10, no. 3 (2000): 157–172.

<sup>50</sup> Gomez and Fisher, “Domains of Spiritual Well-Being,” 1987.

<sup>51</sup> Gomez and Fisher, “Domains of Spiritual Well-Being,” 1989.

generally high internal consistency (Studies 2–4); composite reliability (Study 4); and variance extracted (Study 4); for the global as well as the four domains of the SWBQ. Strong support for construct validity was indicated by both exploratory factor analysis (Studies 2 and 3) and confirmatory factor analysis (Studies 3 and 4). A joint factor analysis (Study 4) of the four SWBQ domains with Eysenck's personality dimensions<sup>52</sup> provided added support for construct validity of the SWBQ and its dimensions. The global and domain scores of the SWBQ correlated appropriately with the global and dimensions scores<sup>53</sup> widely used by SWBS, thus showing good convergent and discriminant validity. In addition, in line with the predictions of existing theory and data, the scores of the global as well as the four domains correlated as expected with extroversion, neuroticism, psychoticism and happiness (Study 4). The demonstration that the SWBQ scores contributed additional variance over that of the personality dimensions in predicting happiness, indicated the support for their incremental validity as well. Overall, the four studies undertaken demonstrate support for Fisher's model and that the SWBQ is a reliable and valid measure of spiritual well-being. When compared with other measures of spiritual well-being, the SWBQ has the advantage because it is based on a broader conceptualisation of spiritual well-being.<sup>54</sup>

## **6. Investigating the Psychometric Properties of the SWBQ Scales Using Item Response Theory**

The studies mentioned above examined the psychometric properties of the SWBQ scales using scores based on the traditional classical test theory (CTT). In another study, Gomez and Fisher<sup>55</sup> advanced the investigation of the psychometric properties of the SWBQ by using item response theory (IRT). The sample in this study comprised 4 464 participants mainly from Australian secondary schools and universities, as well as some participants from the general Australian community (mainly church groups) and university students from the United Kingdom and Ireland. The participants' ages ranged from 15 to 32 years. They were required to complete the SWBQ.

IRT is a model-based measurement theory that aims to show the relationship between the responses to items and the trait or ability that each item is

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<sup>52</sup> Gomez and Fisher, "Domains of Spiritual Well-Being," 1985.

<sup>53</sup> Ellison, "Spiritual Well-Being," 3303.

<sup>54</sup> Gomez and Fisher, "Domains of Spiritual Well-Being," 1989.

<sup>55</sup> Gomez and Fisher, "Item Response Theory," 1107.

supposed to be measuring.<sup>56</sup> Emberston and Reise<sup>57</sup> claim that IRT has many advantages over CTT for evaluating the psychometric properties of measures. Gomez and Fisher<sup>58</sup> mention three advantages of particular relevance to their 2005 study:

- CTT provides a single score, derived from the scores of different items comprising the scale to represent a trait. In IRT trait scores are available at the item level.
- CTT only provides one reliability (such as internal constancy) value and one standard error (SE) value for all levels of the scores obtained in a measure. IRT, on the other hand, provides the reliability of each item at different levels of the underlying trait, controlling for the characteristics (e.g. difficulty) of the items in the scale.
- Because CTT psychometric properties such as reliability, item-total correlation and SE are sample dependant, they can vary across samples. Within a linear transformation, IRT psychometric properties are assumed to be group invariant or sample independent. Since IRT provides parameters at the item level, it allows for the identification of items that function differently in terms of their ability to discriminate, represent and reliably measure the traits at different levels of the underlying traits. In turn, this can facilitate the development and revision of measures.

For these reasons, Gomez and Fisher<sup>59</sup> believed that the IRT provides more valuable data on the psychometrics of the scales and items of the SWBQ and also provides useful guidance for their improvement.

This study used Samejima's<sup>60</sup> graded response model (GRM) to examine the psychometric properties of the items in the personal, communal, environmental and transcendental scales of the SWBQ. The findings of this study indicated acceptable IRT-based psychometric properties for all items in the personal and transcendental scales of the SWBQ. The study also indicated that, only two of the five items comprising the communal scale ("respect for others" and "kindness to others") have acceptable IRT based psychometric properties. The other three items ("love for others", "forgiving others" and "trusting others") are especially weak in their reliability at all trait levels. Findings related to the environmental scale indicated that the items "connect with nature", "oneness with

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<sup>56</sup> A. Birnbaum, "Some Latent Trait Models and their Use in Inferring an Examinee's Ability," in *Statistical Theories of Mental Scores* (ed. F. M. Lord and M. R. Novick; Reading, Mass.: Addison, 1968), 397–472; S. E. Emberston and S. P. Reise, *Item Response Theory for Psychologists* (Mahwah, N.J.: Lawrence Erlbaum Associates, 2000), 39.

<sup>57</sup> Emberston and Reise, "Item Response Theory," 39.

<sup>58</sup> Gomez and Fisher, "Item Response Theory," 1110.

<sup>59</sup> Gomez and Fisher, "Item Response Theory," 1110.

<sup>60</sup> F. Samejima, *Estimation of Latent Trait Ability Using a Response Pattern of Graded Scores* (Psychometrika Monograph Supplement 17; Richmond, Va.: Psychometric Society), passim.



nature” and “harmony with environment” have acceptable psychometric properties in terms of the IRT model used. In contrast, the other items on the environmental scale (“awe at view” and “magic in the environment”) did not have acceptable IRT psychometric properties. The communal scale, especially for the three items with low reliability, would thus benefit from a major revision. The two items on the environmental scale with low reliability may need to be revised to improve their reliability. The findings also indicated that even those items found to have acceptable psychometric properties would benefit from some changes that would allow the items to represent the relevant traits better at high levels and measure them more accurately. Moreover, the findings showed that the first two response options for the items in the personal, communal and environmental could be collapsed into a single response option. Thus, the items in these scales may be improved by having fewer response options at the lower end of the relevant spiritual well-being traits and more response options at the higher end of the relevant traits. For the transcendental items, it may be prudent to reduce the number of response options at both the lower and higher regions of this trait.

Gomez and Fisher<sup>61</sup> undertook another study using multigroup CFA to examine gender equivalencies (invariance) of the measurement (the number of factors and factor loadings) and structural (factor invariance and covariance) models of the SWBQ and the latent mean differences factors across these groups. The participants consisted of 3 101 females and 1 361 males, ranging in age from 15 to 32 years who completed the SWBQ. The findings in this study support the invariance in factor loadings across males and females for the SWBQ. There were mixed findings for the invariance in factor variances and covariances. In relation to statistical fit, the findings revealed no difference for the variances for personal, environmental and transcendental scales, and the co-variance between the transcendental and personal. Significant differences were found for the variance for the communal and the co-variances for the communal and personal; environmental and personal; communal and environmental; transcendental and communal; and transcendental and environmental. However, the practical fit indices supported the invariance for all variances and co-variances. Only the communal well-being domain, with females scoring higher, showed any difference in the test for latent mean difference. Overall these findings provide reasonable support for the gender equivalencies of the SWBQ across males and females.<sup>62</sup>

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<sup>61</sup> Gomez and Fisher, “The Spiritual Well-Being Questionnaire,” 1383.

<sup>62</sup> Gomez and Fisher, “The Spiritual Well-Being Questionnaire,” 1392.

Given the findings of Gomez and Fisher,<sup>63</sup> and as part of a broader study, the objective of this article was to report on the analyses of the factor structure of the SWBQ instrument by using information gathered by a South African sample.

## 7. Research Method

### 7.1. Participants

The total sample comprised 1 283 grade 8 to 12 learners from 10 public high schools in Cape Town, South Africa. The high schools were categorised according to their language of instruction at the outset. Thereafter, three English, three Afrikaans and four dual-medium schools were selected to participate in the study. Participants' ages ranged from 13–20 years. Since language could be an important factor in the (South African) context of this study, it was decided only to include responses of participants whose home languages were either English or Afrikaans or both in the final study. Table 1 below gives the frequency distribution of the participants in terms of home language.

*Table 1.* Frequency Distribution of Research Participants according to Home Language

Home language	N	%
English	509	39,7
Afrikaans	511	39,8
Xhosa	32	2,5
English and Afrikaans	164	12,8
English and Xhosa	27	2,1
Afrikaans and Xhosa	5	0,4
Other	29	2,3
No response	6	0,4
Total	1283	100,0

<sup>63</sup> Gomez and Fisher, "Domains of Spiritual Well-Being," 1989; Gomez and Fisher, "Item Response Theory," 1120.

From Table 1 it is evident that 99 learners were excluded from the final study since their home languages were neither Afrikaans nor English, nor both. The final research group thus consisted of 1 184 learners. Of these, 544 (45,9%) were males and 639 (54,1 %), females. One learner did not indicate his/her gender.

### 7.2. Procedure

Since the study was conducted at public schools, permission was sought and granted by the Western Cape Education Department, subject to certain conditions. The principals also had to give permission for the study, which would be conducted at times that suited them. In addition, the schools identified the participants, who also agreed to take part voluntarily in the study. They were required to complete questionnaires which were administered at the schools during school hours and which were to be completed within a school period (between 40 and 50 minutes long). The questionnaires were administered by the researchers with support being given by class teachers and/or helpers, depending upon the size of the group (which varied from 19 to 70 at a time). In this manner, the aforementioned researchers could monitor the process and respond to any questions from the participants. Questionnaires were filled in anonymously, with participants having been assured that all information would be used for the purposes of the study only and would be regarded as strictly confidential.

### 7.3. Measuring Instrument: Spiritual Well-Being Questionnaire (SWBQ)

Participants completed the SWBQ to measure their spiritual well-being. As mentioned above, spiritual well-being is measured by the SWBQ in terms of four domains (the personal, transcendental, environmental and communal). Taken together, these domains cohere to yield the global domain of spiritual well-being. Responses for each item are indicated on a five-point scale varying from 1 (very low) to 5 (very high). In other words, a high score suggests a high level of spiritual well-being within that domain. It follows that high levels of spiritual well-being across domains suggest a high level of global (or total) spiritual well-being.<sup>64</sup>

Both the reliability and the validity of the SWBQ were established above in the discussion of Gomez and Fisher's studies.<sup>65</sup> A brief description of the

<sup>64</sup> Gomez and Fisher, "Domains of Spiritual Well-Being," 1989.

<sup>65</sup> R. Gomez and J. W. Fisher, "Domains of Spiritual Well-Being and Development and Validation of the Spiritual Well-Being Questionnaire," *Personality and Individual Differences* 35(2003): 1975–1991.

relevant findings follows. The (2003) studies' findings indicated generally high internal consistency, composite reliability and variance extracted for the global as well as the four domains of the SWBQ. Strong support for construct validity was indicated by both exploratory factor analysis and confirmatory factor analysis. A joint factor analysis of the four SWBQ domains with Eysenck's personality dimensions<sup>66</sup> supports the construct validity of the SWBQ and its dimensions. The global and domain scores of the SWBQ correlated appropriately with the global and dimension scores of Ellison's<sup>67</sup> widely used SWBS, thus showing good convergent and discriminant validity. In addition, in line with the predictions of existing theory and data, the scores of the global as well as the four domains correlated with extroversion, neuroticism, psychoticism and happiness. The demonstration that the SWBQ scores contributed additional variance over that of the personality dimensions in predicting happiness indicated the support for their incremental validity.<sup>68</sup>

The SWBQ questionnaire was back-translated into Afrikaans by the University of Stellenbosch translation service. The language translators also made suggestions regarding the terminology used in several items of SWBQ (English version) to make them more comprehensible to the participants, in line with the local context of language use. Based on the findings of Gomez and Fisher's<sup>69</sup> item response study (i.e. that the SWBQ's communal and environmental subscales could be further improved) two items were adapted and six items were added. The item, "I feel a sense of 'magic' in the environment" – found to have lower levels of discrimination – was changed to "I feel a sense of 'fascination' in the environment". The term, "I feel awe when I see a breathtaking view," was changed to "I feel respect when I see a breathtaking view" (thought by the translation service to be more appropriate to the South African adolescent reader). Several questions were added: three exploring the communal domain, two exploring the environmental domain and one exploring the personal domain. All these questions emerged from Fisher's descriptions of the domains (2003). Changes in terminology and additional items are indicated in Addendum A.

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<sup>66</sup> Gomez and Fisher, "Domains of spiritual well-being," 1989.

<sup>67</sup> Ellison, "Spiritual well-being," 333.

<sup>68</sup> Gomez and Fisher, "Domains of spiritual well-being," 1989.

<sup>69</sup> Gomez and Fisher, "Item response theory," 1120.

7.4. Statistical Analyses

A statistical modelling design was followed. Firstly, an exploratory factor analysis was performed using principal axis factor analyses with an oblique rotation. To determine how many factors were to be evaluated, parallel analysis<sup>70</sup> was employed. Secondly, a confirmatory factor analysis by means of the EQS<sup>71</sup> evaluated the factor structures of the SWB measuring instrument.

8. Results

8.1. Exploratory Factor Analysis

In this study, raw scores were used rather than standardized scores. These were obtained by calculating the sum of items. The factor structure of the SWBQ was investigated by subjecting items to a principal axis factor analysis procedure, using the SAS-Programme.<sup>72</sup> The factors were rotated using the oblimin (oblique) procedure to improve factor interpretability. The results relating to the eigenvalues as well as the percentage of variance that are explained by the factors are indicted in Table 2.

The principal axis factor analysis yielded four factors with an eigenvalue greater than one. These four factors explained 56,9% of the total variance. The factor loadings of the 26 items that were rotated in terms of the oblique method appear in Table 3.

Table 2. Results of Extraction of Components – Spiritual Well-Being

Factor	Eigen value	Percentage of variance	Cumulative percentage of variance
Factor 1	7,9859	30,7	30,7
Factor 2	2,1922	11,2	41,9
Factor 3	2,4878	9,6	51,5
Factor 4	1,3962	5,4	56,9

<sup>70</sup> J. L. Horn, "A rationale and test for the number of factors in factor analysis," *Psychometrika* 30 (1965): 179–185.

<sup>71</sup> P. M. Bentler, *EQS 6 Structural Equations Program Manual*. 2006.

<sup>72</sup> SAS Institute, *SAS User's Guide*. Statistics Version 8.2 Edition. 2003.

Table 3. Item-Factor Loading Matrices for Spiritual Well-Being

Item	Factor 1	Factor 2	Factor 3	Factor 4
2. I feel a personal relationship with the Divine/God	,87	,01	,04	–,04
6. I worship the Divine/the Creator	,84	,04	–,02	–,02
11. I feel oneness with the Divine/God	,87	,002	,03	,02
13. I feel peace with the Divine/God	,84	–,02	–,003	,09
15. I feel prayer enriches my life	,86	–,05	,01	,03
4. I feel a connection with nature	–,07	,85	–,07	,001
7. I feel awe at a breath-taking view	,12	,51	,02	,04
10. I feel oneness with nature	,04	,84	–,07	,02
12. I feel harmony with the environment	,08	,70	,06	,004
20. I feel a sense of “magic” in the environment	–,06	,74	,07	–,01
22. I feel a sense of amazement in nature	–,06	,84	,008	–,04
24. I feel in harmony with nature	–,005	,83	–,005	,04
1. I feel a love for other people	,05	,004	,75	–,14
3. I feel forgiveness towards others	,07	,08	,51	–,04
8. I feel trust between individuals	–,09	–,02	,72	,02
17. I feel respect for others	,11	,02	,56	,04
19. I feel kindness towards other people	,11	,08	,68	–,05
21. I feel a connection between myself and others	–,02	,03	,61	,18
23. I feel I live in harmony with others	,007	,06	,55	0,19
26. I feel I have confidence in people	–,08	–,11	,71	,13
5. I feel a sense of identity	,06	–,06	–,19	,80
9. I feel self-awareness	,04	,03	,03	,68
14. I feel joy in life	–,10	,02	,22	,62
16. I feel inner peace	,16	,12	,19	,56
18. I feel meaning in life	,09	,004	,13	,66
25. I feel inner strength	–,004	,17	,08	,47

As already indicated, six items were added to the SWBQ. Any of these additional items that had a higher factor loading than the original SWBQ items, replaced the original SWBQ item, so that each SWBQ subscale (domain) had only five items. The “new” items were also evaluated within the theoretical context.

- The first factor includes items (2, 6, 11, 13 and 15) that relate to transcendental spiritual well-being.
- Factor two items (4, 10, 20, 22 and 24, with items 22 and 24 replacing items 7 and 12) relate to environmental spiritual well-being.
- Factor three items (1, 8, 19, 21 and 26, with items 21 and 26 replacing items 3 and 17) relate to communal spiritual well-being.
- Factor four items (5, 9, 14, 16 and 18) relate to personal spiritual well-being.

Table 3 clearly indicates that items that have a high loading on a certain (specific) factor, do not have high loadings (no loading is higher than 0,22) on any of the other factors. The factor intercorrelations vary between 0,19 and 0,37. On basis of exploratory factor analysis and subsequent parallel analysis, a four-factor structure for the SWB was suggested. The factor structure that was found in this study corresponds with that in Gomez and Fisher’s study.<sup>73</sup>

## 8.2. *Confirmatory Factor Analysis*

To investigate the validity of the original factor structure, confirmatory factor analysis was performed by means of the EQS programme. The four-dimensional structure had the following goodness-of-fit statistics ( $\chi^2 = 74,93$ ,  $df = 64$ ,  $RMSEA = 0,061$ ,  $SRMR = 0,048$ , and  $CFI = 0,934$ ). This result seems to indicate that the original four-dimensional structure associated with the SWB measuring instrument is applicable to the South African situation, especially to the adolescent group.

After the items had been identified according to factor, the reliability of the individual spiritual well-being (subscales) as well as the total score of the SWBQ was examined. The results are discussed in the following paragraph.

## 8.3. *Reliability*

The internal consistency for the different subscales (factors) and the global score of the SWBQ were calculated using Cronbach’s  $\alpha$ -coefficients with the use of the SPSS-computer programme.<sup>74</sup> The coefficients are indicated in Table 4 below. In calculating the internal consistency of the different subscales, a

<sup>73</sup> Gomez and Fisher, “Domains of Spiritual Well-Being,” 1989.

<sup>74</sup> SPSS Incorporated, *SPSS User’s Guide*. Version 12.0. 2003.

Table 4. Cronbach's  $\alpha$ -Coefficients for the Subscales and the Total Score Of The SWBQ

Instrument/scale	A-coefficients	
	Afrikaans	English
Environmental	0,840	0,941
Transcendental	0,852	0,893
Communal	0,753	0,808
Personal	0,721	0,782
Total score	0,888	0,878

distinction was made between the two main language groups since the SWBQ items had been translated from English to Afrikaans and administered in these two languages.

Table 4 clearly indicates acceptable coefficients for both language groups for all the subscales and the total score. The subscale, personal spiritual well-being indicates a slightly lower reliability coefficient in relation to the other subscales.

## 9. Summary

A number of the items of the original SWBQ instrument were adapted in line with certain concerns raised by Gomez and Fisher.<sup>75</sup> The terminology was changed for a number of items and others were added to the original list. Of the additional items, three explored the communal domain, two explored the environmental domain and one explored the personal domain. All these questions emerged from Fisher's descriptions of the domains.<sup>76</sup> In instances where the new item was found to have a higher factor loading than the original item, it replaced the original. Substitutions of new for old items are discussed below.

The exploratory factor loading analysis for the SWBQ items representing the transcendental and personal scales in the revised instrument did not indicate a need to substitute any of the original items<sup>77</sup> with the added items. The only changes made to some of the items measuring these two scales were changes in terminology, which were thought to be more appropriate for the South African adolescent sample (see Addendum A). In terms of the environmental and

<sup>75</sup> Gomez and Fisher, "Item Response Theory Analysis," 1120.

<sup>76</sup> Gomez and Fisher, "Item Response Theory Analysis," 1118.

<sup>77</sup> Gomez and Fisher, "Item Response Theory Analysis," 1118.



communal scales, changes in terminology to some of the items were made. Also, the factor loading analyses of these two scales indicated the substitution of four additional (new) items for the original items (two substitutions per domain). These substitutions, the other factor analysis finding and the internal consistency of the revised scale are discussed below.

In terms of the environmental spiritual well-being scale, the items: “I feel a sense of amazement in nature” and “I feel in harmony with nature” were amongst the items added to the adapted version of the SWBQ. They were found to have higher factor loadings than the original items and thus replaced the original items: “I feel awe at a breath-taking view” and “I feel harmony with the environment”. This was an improvement on Gomez and Fisher’s<sup>78</sup> findings in terms of the environmental scale that the following items (namely “connection with nature”, “oneness with nature” and “harmony with the environment”) have acceptable psychometric properties whilst the following two items (“awe at a breath-taking view” and “sense of magic in the environment”) did not have acceptable item response theory (IRT) psychometric properties.

In terms of the communal spiritual well-being scale, the items, “I feel a connection between myself and others” and “I feel I have confidence in people” were part of the added items in the adapted version of the SWBQ. They were found to have higher factor loadings than the original items and thus replaced the items: “I feel forgiveness towards others” and “I feel respect for others.” This was a definite improvement on the finding of Gomez and Fisher<sup>79</sup> that, for the communal scale, only two of the items (“respect for others” and “kindness towards other people”) had acceptable IRT-based psychometric properties whilst the other items (“love for other people”, “I feel forgiveness towards others” and “trust between individuals”) were especially weak in their reliability at all trait levels.

The exploratory factor analyses also found that items that had a high loading on a certain (specific) factor also did not have high loadings on any of the other factors. The confirmatory factor structure that was found in this study corresponds with the factor structure in Gomez and Fisher’s study.<sup>80</sup> The factor analyses of the adapted version of the SWBQ for a group of South African adolescents found acceptable coefficients of internal consistency for the different subscales (factors) as well as for the global score of the SWBQ.

Thus, in line with Gomez and Fisher’s<sup>81</sup> recommendation, the revised SWBQ scale presented in this study seems to be an improvement in terms of its

<sup>78</sup> Gomez and Fisher, “Item Response Theory Analysis,” 1119.

<sup>79</sup> Gomez and Fisher, “Item response theory analysis,” 1119.

<sup>80</sup> Gomez and Fisher, “Domains of spiritual well-being,” 1984.

<sup>81</sup> Gomez and Fisher, “Item response theory analysis,” 1120.

psychometric properties and appears to be a reliable instrument in measuring the spiritual well-being of adolescents.

## 10. Limitations and Recommendations

Participants in this study came from different cultural, religious and language groupings (although the participation prerequisite was that they had to be conversant in English or Afrikaans, or both). Measures of religion and spirituality should consider the issue of cultural sensitivity since differences in religious and spiritual beliefs and practices are interwoven into other cultural aspects.<sup>82</sup> Given that the South African adolescent population comprises different racial, religious and cultural groupings, 11 official languages (with many more dialects) and has many adolescents residing in rural areas, it may be difficult to generalize this study's findings to encompass the broader South African adolescent population. Furthermore, self report measures are prone to measurement error due to factors such as the possibility that participants may not properly understand the instructions in the assessment instrument, retrospective recall bias and problems with accuracy of reporting. Also, the use of a cross-sectional, single method design in assessing the factor validity may also be a limitation.<sup>83</sup>

Future South African studies on adolescent spiritual well-being could focus on the different adolescent groupings mentioned above to get better insight into how those factors (religion, culture, language, rural vs. urban, etc) influence adolescent well-being. Future studies should include different methods for gathering data, such as including qualitative research components to get a deeper understanding of contextual issues, given the complexity of the spiritual well-being construct.

## Bibliography

Adams, T., J. Bezner and M. Steinhardt. "The Conceptualisation and Measurement of Perceived Wellness: Integrating Balance across and within Dimensions." *American Journal of Health Promotion* 11, no. 3 (1997): 208–218.

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<sup>82</sup> P. C. Hill and K. I. Pargament, "Advances in the conceptualization and measurement of religion and spirituality: implications for physical and mental health research," *American Psychologist* 58, no. 1 (2003): 64–74.

<sup>83</sup> S. O. Utsey et al., "A Confirmatory Test of the Factor Validity of Scores on the Spiritual Well-Being Scale in a Community Sample of African Americans," *Journal of Psychology and Theology* 33, no. 4 (2005): 251–257.

- Argyle, M. and P. Hills. "Religious Experiences and their Relations with Happiness and Personality." *The International Journal for the Psychology of Religion* 10, no. 3 (2000): 157–172.
- Argyle, M., M. Martin and J. Crossland. "Happiness as a Function of Personality and Social Encounters." Pages 189–203 in *Recent Advances in Social Psychology: An International Perspective*. Edited by J. P. Forgas and J. M. Innes. North Holland: Elsevier Science, 1989.
- Benson, P. L., E. C. Roehlkepartain and S. P. Rude. "Spiritual Development in Childhood and Adolescence: Toward a Field of Inquiry." *Applied Developmental Science* 7, no. 3 (2003): 205–213.
- Bentler, P. M. *EQS 6 Structural Equations Program manual*. Multivariate Software. 2006.
- Birnbaum, A. "Some Latent Trait Models and their Use in Inferring an Examinee's Ability." Pages 397–472 in *Statistical Theories of Mental Scores*. Edited by F. M. Lord and M. R. Novick. Reading, Mass.: Addison, 1968.
- Cross, H. D. "An Adolescent Health and Lifestyle Guidance System." *Adolescence* 29, no. 11 (1994): 267–277.
- Emberston, S. E. and S. P. Reise. *Item Response Theory for Psychologists*. Mahwah, N.J.: Lawrence Erlbaum Associates, 2000.
- Elkins, D. N., L. J. Hedstrom, L. L. Hughes, J. A. Leaf and C. Saunders. "Toward a Humanistic Phenomenological Spirituality: Definition, Description and Measurement." *Journal of Humanistic Psychology* 28, no. 4 (1988): 5–18.
- Ellison, C. W. "Spiritual Well-Being: Conceptualization and Measurement." *Journal of Psychology and Theology* 11, no. 4 (1983): 330–340.
- Emmons, R. A. *The Psychology of Ultimate Concerns: Motivation and Spirituality in Personality*. New York: Gilford, 1999.
- Fisher, J. "Being Human, Becoming Whole: Understanding Spiritual Health and Well-Being." *Journal of Christian Education* 43, no. 3 (2000): 37–52.
- Fisher, J. W., L. J. Francis and P. Johnson. "Assessing spiritual health via four domains of spiritual well-being: the SH4DI." *Pastoral Psychology* 49, no. 2 (2000): 133–145.
- Glik, D. C. "Participation in Spiritual Healing, Religiosity and Mental Health" *Sociological Inquiry* 60, no. 2 (1990): 158–176.
- Gomez, R. and J. W. Fisher. "Domains of Spiritual Well-Being and Development and Validation of the Spiritual Well-Being Questionnaire." *Personality and Individual Differences* 35 (2003): 1975–1991.
- . "Item Response Theory Analysis of the Spiritual Well-Being Questionnaire." *Personality and Individual Differences* 38 (2005a): 1107–1121.
- . "The Spiritual Well-Being Questionnaire: Testing for Model Applicability, Measurement and Structural Equivalencies and Latent Mean Differences Across Gender." *Personality and Individual Differences* 39, no. 8 (2005b): 1383–1393.
- Hall, T. W. and K. J. Edwards. "The Initial Development and Factor Analysis of the Spiritual Assessment Inventory." *Journal of Psychology and Theology* 24, no. 3 (1996): 233–246.
- Hill, P. C. and K. I. Pargament. "Advances in the Conceptualization and Measurement of Religion and Spirituality: Implications for Physical and Mental Health Research." *American Psychologist* 58, no. 1 (2003): 64–74.
- Horn, J. L. "A Rationale and Test for the Number of Factors in Factor Analysis." *Psychometrika* 30 (1965): 179–185.
- Hungelmann, J. E., L. Kenkel-Rossi, L. Klassen and R. Stollenwerk. "Focus on Spiritual Well-Being: Harmonious Interconnectedness of Mind-Body-Spirit-Use of the JAREL Spiritual Well-Being Scale." *Geriatric Nursing* 17, no. 6 (1996): 262–266.
- Kelly, E. W. *Spirituality and religion in counseling and psychotherapy: Diversity in theory and practice*. Alexandria, Va.: American Counseling Association, 1995.
- Lippman, L. H. and J. D. Keith. "The Demographics of Spirituality among Youth: International Perspectives." Pages 109–123 in *The Handbook of Spiritual Development in Childhood and*

- Adolescence*. Edited by E. C. Roehlkepartain, P. E. King, L. M. Wagener and P. L. Benson. Thousand Oaks, Calif.: Sage, 2006.
- MacDonald, D. A. "Spirituality: Description, Measurement and Relation to the Five Factor Model of Personality." *Journal of Personality* 68, no. 1 (2000): 153–197.
- Maltby, J. and L. Day, "Spiritual Involvement and Belief: The Relationship between Spirituality and Eysenck's Personality Dimensions." *Personality and Individual Differences* 30 (2001a): 187–192.
- . "The Relationship between Spirituality and Eysenck's Personality Dimensions: A Replication among English Adults." *Journal of Genetic Psychology* 162, no. 1 (2001b): 119–123.
- McKee, D. D. and J. N. Chappel. "Spirituality and Medical Practice." *Journal of Family Practice* 35, no. 2 (1992): 201–208.
- Pargament, K. I. *The Psychology of Religion and Coping: Theory, Research, Practice*. New York: Guilford, 1997.
- Polanski, P. J. "Exploring Spiritual Beliefs in Relation to Adlerian Theory." *Counseling and Values* 46 (2002): 127–136.
- Reich, K. H. "A Logic-Based Typology of Science and Theology." *Journal of Interdisciplinary Studies* 8 (1996): 149–167.
- Samejima, F. 1969. *Estimation of Latent Trait Ability Using a Response Pattern of Graded Scores*. Psychometrika Monograph Supplement 17. Richmond, Va.: Psychometric Society.
- SAS Institute. *SAS User's Guide*. Statistics Version 8.2. 2003.
- Skevington, S. M., P. Mac Arthur and M. Somerset. "Developing Items for the WHOQOL: An Investigation of Contemporary Beliefs about Quality of Life Related to Health." *British Journal of Health Psychology* 2, no. 1 (1997): 55–72.
- Sorokin, P. *Society, Culture And Personality*. New York: Harper & Row, 1947.
- SPSS Incorporated. *SPSS User's Guide*. Version 12.0. 2003.
- Tloczynski, J., C. Knoll and A. Fitch. "The Relationship among Spirituality, Religious Ideology and Personality." *Journal of Psychology and Theology* 25, no. 2 (1997): 208–213.
- Utsey, S. O., A. Lee, M. A. Bolden and Y. Lanier. "A Confirmatory Test of the Factor Validity of Scores on the Spiritual Well-Being Scale in a Community Sample of African Americans." *Journal of Psychology and Theology* 33, no. 4 (2005): 251–257.
- Vella-Brodrick, D. A. and F. C. L. Allen. "Development and Psychometric Validation of the Mental, Physical and Spiritual Well-Being Scale." *Psychological Reports* 77 (1995): 659–674.
- Vogt, W. P. *Dictionary of Statistics and Methodology: A Nontechnical Guide for the Social Sciences*. 3d ed. London: Sage, 2005.
- Wagener, L. M. and H. N. Malony. "Spiritual and Religious Pathology in Childhood and Adolescence." Pages 137–149 in *The Handbook of Spiritual Development in Childhood and Adolescence*. Edited by E. C. Roehlkepartain, P. E. King, L. Wagener and P. L. Benson. Thousand Oaks, Calif.: Sage, 2006.
- Wallace, J. M., T. A. Forman, C. H. Caldwell and D. S. Willis. "Religion and U.S. Secondary School Students: Current Patterns, Recent Trends and Sociodemographic Correlates." *Youth & Society* 35, no. 1 (2003): 98–125.
- Zinnbauer, B. J., K. I. Pargament, B. Cole, M. S. Rye, E. M. Butter, T. G. Belavich, K. M. Hipp, A. B. Scott and J. L. Kadar. "Religion and Spirituality: Unfuzzifying the Fuzzy." *Journal for the Scientific Study of Religion* 36, no. 4 (1997): 549–564.

## Appendix A

Original SWBQ	SWBQ adapted for South African adolescents
<p>Spirituality can be described as that which lies at the heart of a person being human.</p> <p>Spiritual health can be seen as a measure of how good you feel about yourself and how well you relate to those aspects of the world around you which are important to you.</p>	<p>We want to know how you feel about yourself, others, the environment and your relationship with a spiritual or divine force/God</p>
<p>I feel</p> <ol style="list-style-type: none"> <li>1. a love of other people</li> <li>2. a personal relationship with the Divine/God</li> <li>3. forgiveness towards others</li> <li>4. connection with nature</li> <li>5. a sense of identity</li> </ol>	<p>I feel</p> <p>a love for other people</p> <p>a personal relationship with the Supreme Being/God (a divine force)</p>
<p>I feel</p> <ol style="list-style-type: none"> <li>6. worship of the Creator</li> <li>7. awe at a breath-taking view</li> <li>8. trust between individuals</li> <li>9. self-awareness</li> </ol>	<p>a connection between myself and nature</p> <p>I have an understanding of my identity (I know who I am)</p> <p>a reverence for the Creator (a divine force)</p> <p>respect when I see a breathtaking view</p> <p>confidence in others</p>
<p>10. oneness with nature</p>	<p>I have insight into myself as a person</p> <p>one with nature</p>
<p>I feel</p> <p>11. oneness with God</p>	<p>one with God (a divine force)</p>

Original SWBQ	SWBQ adapted for South African adolescents
12. harmony with the environment	in harmony with the environment
13. peace with God	at peace with God
14. joy in life	
15. prayer life	that prayer enriches my life
I feel	
16. inner peace	
17. respect for others	
18. meaning in life	
19. kindness towards other people	goodwill towards other people
20. a sense of “magic” in the environment	a sense of fascination in the environment
	I feel
	a connection between myself and others
	a sense of amazement in nature
	I live in harmony with others
	in harmony with nature
	inner strength
	I have confidence in people

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