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Domains of spiritual well-being and development and validation of the Spiritual Well-Being Questionnaire

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Abstract

Fisher (1998) proposed a spiritual well-being model, comprising the domains of personal, communal, environmental and transcendental well-being, and a single global spiritual well-being dimension. This paper reports on four studies aimed at testing Fisher's theoretical model, and establishing the validity and reliability of a new self-rating questionnaire (Spiritual Well-Being Questionnaire; SWBQ), developed to reflect this model. All four studies supported Fisher's model. The SWBQ showed good reliability (Cronbach's alpha, composite reliability and variance extracted), and validity (construct, concurrent, discriminant, predictive and factorial independence from personality). The SWBQ has the advantage over other existing spiritual well-being measures in that it is based on a broader and more empirically based conceptualization of spiritual well-being, and has well established psychometric properties.

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1. Introduction

The concept of “spiritual health” is doubly problematic in view of the way in which the two terms “spiritual” and “health” have themselves undergone considerable development and revisions in recent years. Classical definitions of spirituality have tended to concentrate on the religious, ecclesiastical, or matters concerned with the soul, while current studies in spirituality adopt much wider definitions, integrating all aspects of human life and experiences (Muldoon & King, 1995; Schneiders, 1986). There has been a similar widening in understanding of what counts as

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health and wellness, in that, current emphasis in medicine tends to give greater concern for the whole person, rather than just the treatment of disease. According to Coward and Reed (1996), wellness reflects a sense of well-being that is derived from an intensified awareness of wholeness and integration among all dimensions of one's being, which also includes the spiritual elements of life.

In recent years, several attempts have been made to link the two concepts of spirituality and health within the idea of spiritual well-being. For example, Hateley (1983) wrote about spiritual health in terms of relationship to self, empathy in the community, and relationship with God. Young (1984) mentioned the interrelatedness of body, mind, and spirit within the context of inner peace, and in terms of relationships with others and with nature. Goodloe and Arreola (1992) spoke of meaning and purpose with self-transcendence, social and spiritual actions with others, oneness with nature, and personal relationship with God. For Hood-Morris (1996), spiritual health included transcendent and existential features pertaining to an individual's relationships with the self, others and a higher being, coupled with interactions with one's environment. The National Interfaith Coalition on Aging (1975) suggested that spiritual well-being is the affirmation of life in a relationship with oneself (personal), others (communal), nature (environment), and God (or transcendental other). Integrating these concepts together, spiritual well-being can be defined in terms of 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.

Using the domains proposed by the NICA (1975) as a framework, Fisher (1998) interviewed 98 secondary school teachers in terms of what they thought were important indicators of spiritual well-being in their students. The interview used questions reflected in a number of measures for spiritual well-being. These included the Spiritual Well-Being Scale (Ellison, 1983), the Spiritual Orientation Inventory (Elkins, Hedstrom, Hughes, Leaf, & Saunders, 1988), the Mental, Physical and Spiritual Well-Being Scale (Vella-Brodrick & Allen, 1995), the Spiritual Assessment Inventory (Hall & Edwards, 1996), the Perceived Wellness Survey (Adams, Bezner, & Steinhardt, 1997), and the JAREL Spiritual Well-Being Scale (Hungelmann, Kenkel-Rossi, Klassen, & Stoltenwerk, 1996). Consistent with the NICA (1975) model, quantitative analyses of their responses led Fisher (1998) to also conclude that spiritual well-being reflects the extent to which people live in harmony within relationships with oneself (personal), others (communal), nature (environment), and God (or transcendental other).

According to Fisher (1998), the personal domain deals with how one intra-relates with oneself with regard to meaning, purpose and values in life. The communal domain expresses in the quality and depth of inter-personal relationships, between self and others, and includes love, justice, hope, and faith in humanity. The environmental domain deals with care and nurture for the physical and biological world, including a sense of awe, wonder and unity with the environment. The transcendental domain deals with the relationship of self with some-thing or some-one beyond the human level, such as a cosmic force, transcendent reality, or God, and involves faith towards, adoration and worship of, the source of mystery of the universe. Fisher also suggested that these four spiritual well-being domains cohere to determine a person's overall or global spiritual well-being. It is to be noted that in Fisher's model, the term "well-being" is associated with the different domains to cohere with existing literature, and to be consistent with the NICA (1975) model. Thus its use in Fisher's model does not necessarily imply positive or better well-being (Fisher, 1998).

In a subsequent study, Fisher, Francis, and Johnson (2000) used a questionnaire to examine primary school teachers' views about important indicators of spiritual well-being. The questionnaire comprised a checklist of items covering spiritual health in terms of personal, communal, environment, and transcendental domains. The items included were those that were identified as important for spiritual well-being in Fisher's (1998) earlier study. Factor analysis of the responses of this questionnaire supported Fisher's four dimensional model of spiritual well-being. Also, the items comprising the questionnaires were highly correlated with each other, raising the possibility that the four spiritual well-being domains may cohere to form a higher order global spiritual well-being dimension, as proposed by Fisher (1998).

In another study, Fisher (2001) used a questionnaire comprising items for each of the four spiritual well-being domains to explore teachers' views of current practice and priority for nurturing secondary school students' spiritual well-being. Factor analyses of responses for both current practice and priority supported Fisher's four dimensional model of spiritual well-being. Consistent with Fisher's (1998) view of a second order global spiritual well-being dimension, the items comprising the questionnaires were highly correlated with each other.

As noted earlier, currently there are a number of self-rating questionnaires that provide measures for spiritual well-being. However, no questionnaire exists that includes a balance in all the four domains identified by Fisher (1998). For example, the widely used Spiritual Well-Being Scale (Ellison, 1983; Ellison & Smith, 1991; Ledbetter, Smith, Fischer, Vosler-Hunter, & Chew, 1991; Tjeltveit, Fiordalisi, & Smith, 1996) has dimensions for existential well-being (fusion of Fisher's personal, communal, and transcendental domains) and religious well-being (comparable to Fisher's transcendental domain). The items of the Spiritual Orientation Inventory (Elkins et al., 1988) clusters around two dimensions, namely the experiential dimension and the value dimension (Tloczynski, Knoll, & Fitch, 1997). These questions essentially relate to personal and communal aspects of spiritual health, with fleeting references to the environment and a deliberate exclusion of religion and any mention of a transcendent other. The spiritual part of the Mental, Physical and Spiritual Well-Being Scale (Vella-Brodrick & Allen, 1995) has dimensions for existential and religious well-being. The Spiritual Assessment Inventory (Hall & Edwards, 1996) is entirely focused on relationship with God. The subscale for spiritual wellness in the Perceived Wellness Survey (Adams et al., 1997) is limited to the personal domain as proposed by Fisher. The JAREL Spiritual Well-Being Scale consists of questions focusing on self, on others, and on the transcendent, but not on the environment (Hungelmann et al., 1996). Spiritual well-being has been featured in a number of quality of life questionnaires, such as the McGill Quality of Life Questionnaire (Cohen, Mount, Bruera, Provost, Rowe, & Tong, 1997). According to Cohen et al. (1997), most quality of life instruments exclude the existential domain.

Overall, therefore, existing questionnaires do not provide an adequate operationalization of the definition of spiritual well-being as embraced by the four domains identified by Fisher (1998). Against this background, the aim of the studies reported here were to develop and validate a self-rating measure of spiritual well-being in terms of Fisher's (1998) model. The development of such a self-rating questionnaire for spiritual well-being would be useful as existing data show that some aspects of spiritual well-being (in particular the transcendental) may be associated negatively with happiness (Fehring, Brennan, & Keller, 1987), and other aspects of spiritual well-being (such as personal) are positively associated with psychological well-being (Barcus, 1999). Thus a broad based spiritual well-being questionnaire will enable data to be obtained for a more heuristic

model of spiritual well-being, and thereby facilitate advancement in research in this area. Using Fisher's (1998) model, four separate studies were conducted over a period of 3 years to develop a questionnaire (Study 1), examine its factorial structure using exploratory factor analysis (Study 2) and confirmatory factor analysis (Studies 3 and 4), and also its reliability and validity (Studies 2, 3 and 4).

2. Study 1

2.1. Overview

Study 1 reports on the development of a self-rating questionnaire for measuring personal well-being, communal well-being, environmental well-being, and transcendental well-being, as conceptualised in Fisher's spiritual well-being model. More specifically, beginning with an initial questionnaire containing 12 items for each of the spiritual well-being domains and using exploratory factor analysis, a shorter 20-item questionnaire, comprising five items for each spiritual well-being domain is outlined.

2.2. Method

2.2.1. Participants

The total sample comprised 248 students from four different types of secondary schools (State, Catholic, Christian Community, and other independent schools) in Ballarat, a regional city, and the western suburbs of Melbourne in Victoria, Australia. In all, four schools participated in the study. There were 120 males and 128 females. The participants' ages ranged from 11 to 16 years, with a mean of 13.80 (S.D. = 1.33).

2.2.2. Procedure and measure

For all participants, consent was obtained from parents, school principals and teachers, and students themselves. Participants were asked to complete a questionnaire, which was done in groups during school hours. The Preliminary Spiritual Well-Being Questionnaire (PSWBQ) contained 48 items, with 12 items for each of the spiritual well-being domains. For each domain, the 12 items were selected as follows.

Initially, a pool of 64 items, with 16 items per spiritual well-being domain was selected, based on those identified previously by Fisher (1998, 2001; Fisher et al., 2000). It will be recalled that many of Fisher's initial pool of items were derived from other spiritual well-being questionnaires (see Section 1). These items were listed in their respective domains. Following this, two independent researchers in the field of personality and spirituality were asked to rate their agreement with this classification in terms of either "yes" or "no". Thus, inclusive of the researchers, there were three ratings of the classification of the initial 64 items. Items selected for a domain by at least two raters were considered as belonging to that domain. Overall, there was high agreement among the three raters, with at least 12 agreements between two raters for all four domains. For each of the domains with more than 12 agreements (i.e. environmental and transcendental), the 12 most relevant items were selected, based on their loadings in Fisher's previous studies (Fisher et al., 2000).

Overall, therefore, all items that were included in the PSWBQ were selected through a process that involved selection of appropriate items from other spiritual well-being questionnaires, three studies of teachers' views of spiritual well-being, and two expert opinions. To allow self-ratings, participants were asked to indicate how they felt the statements in the items described their personal experience over the last 6 months, using a five-point Likert scale, ranging from very low (rated 1) to very high (rated 5).

3. Results and discussion

An exploratory factor analysis using principal component analysis with oblimin rotation was conducted with all items of the PSWBQ. This resulted in a four-factor solution, with eigenvalues more than 1. Together, these four factors accounted for 51.33% of the variance. Based on a factor loading of 0.35, Factor 1 included 10 personal well-being items and 4 communal well-being items. Factor 2 comprised 11 of the transcendental items and 1 communal item, while Factor 3 comprised all 12 environmental well-being items. Factor 4 included 6 of the communal items and one personal well-being item. Thus Factors 1–4 reflected mainly personal, transcendental, environmental, and communal spiritual well-being, respectively. The loadings are shown in [Table 1](#). In order to reduce the number of items in the four empirically derived factors, the five items with the highest loading in each factor were selected. This resulted in 20 items, with five items in each factor. For all four factors of this revised Spiritual Well-Being Questionnaire (SWBQ), the resultant items within each factor were those that were initially hypothesised to belong in them. Thus the exploratory factor analysis was generally supportive of the four domains of spiritual well-being model proposed by [Fisher \(1998\)](#).

4. Study 2

4.1. Overview

Study 2 examined the factor structure of the 20 items SWBQ (see also [Table 1](#)), using exploratory factor analysis. As noted earlier, [Fisher \(2001\)](#) has proposed that the four spiritual well-being domains are all subsumed by a second-order global spiritual well-being dimension. Study 2 also examined this hypothesis. In addition, it reports some data on the internal consistency, and convergent and discriminant validity of the SWBQ.

4.2. Method

4.2.1. Participants

The total sample comprised 537 students from four different types of secondary schools (State, Catholic, Christian Community, and other independent schools) in Ballarat, a regional city, and the western suburbs of Melbourne in Victoria, Australia. In all five schools participated in the study. There were 272 males and 265 females. The participants' ages ranged from 11 to 16 years, with a mean of 13.78 (S.D. = 1.38). The mean age for boys was 13.66 years (S.D. = 1.36), and it

Table 1

Primary factor loadings of the preliminary SWBQ in Study 1

Key feature of item	Factor 1	Factor 2	Factor 3	Factor 4
Self-esteem (P)	<u>0.41</u>	0.06	0.07	0.30
Purpose for life (P)	<u>0.50</u>	0.04	0.03	0.11
Contentment (P)	<u>0.48</u>	0.05	0.13	0.22
Integrity (P)	0.29	0.03	0.09	<u>0.44</u>
Patience (P)	0.29	0.09	0.05	0.34
Freedom (P)	<u>0.65</u>	0.21	0.09	0.02
Values (P)	<u>0.64</u>	0.08	0.04	0.07
Meaning (P)	0.69	0.15	0.07	0.03
Peace (P)	0.70	0.21	0.11	0.11
Identity (P)	0.70	0.06	0.10	0.05
Joy (P)	0.67	0.00	0.06	0.14
Self-awareness (P)	0.80	0.10	0.00	0.02
Empathy (C)	0.12	0.20	0.08	0.34
Love others (C)	0.17	0.23	0.00	0.52
Respect cultures (C)	0.11	0.02	0.33	0.27
Trust others (C)	0.29	0.01	0.05	0.51
Kind to others (C)	0.00	0.03	0.17	0.64
Faith in people (C)	0.30	0.18	0.09	<u>0.40</u>
Ethical to others (C)	<u>0.56</u>	0.14	0.04	0.05
Respect others (C)	0.23	0.02	0.18	0.47
Hope in others (C)	<u>0.48</u>	0.01	0.29	0.05
Respect others religious beliefs (C)	0.04	<u>0.81</u>	0.04	0.09
Forgive others (C)	<u>0.38</u>	0.16	0.01	0.42
Justice for all (C)	<u>0.56</u>	0.05	0.08	0.30
Positive attitude to environment (E)	0.15	0.02	<u>0.68</u>	0.13
Unity with environment (E)	0.11	0.08	<u>0.71</u>	0.02
Awe in nature (E)	0.08	0.13	<u>0.62</u>	0.03
Value in nature (E)	0.12	0.30	<u>0.41</u>	0.08
Wonder at universe (E)	0.32	0.01	<u>0.50</u>	0.05
Beauty in nature (E)	0.02	0.01	<u>0.61</u>	0.11
Environmental concern (E)	0.07	0.10	<u>0.69</u>	0.02
Environmental harmony (E)	0.09	0.04	0.74	0.03
Connect with nature (E)	0.04	0.03	0.77	0.10
Environmental magic (E)	0.08	0.03	0.83	0.20
One with nature (E)	0.04	0.01	0.74	0.07
Awe at view of nature (E)	0.22	0.01	0.77	0.01
Oneness with God (T)	0.16	0.85	0.00	0.17
Relate to godlike force (T)	0.12	<u>0.71</u>	0.14	0.13
Relation with divine (T)	0.23	0.88	0.04	0.11
Adoration of God (T)	0.31	<u>0.61</u>	0.02	0.19
Faith in God (T)	0.30	<u>0.68</u>	0.05	0.16
Intune with God (T)	0.04	<u>0.84</u>	0.02	0.05
Worship of God (T)	0.03	0.86	0.07	0.05
Believe in eternal life (T)	0.16	<u>0.70</u>	0.05	0.04
Prayerful life (T)	0.07	0.85	0.05	0.01
Believe in supernatural power (T)	0.29	<u>0.42</u>	0.29	0.34

(continued on next page)

Table 1 (*continued*)

Key feature of item	Factor 1	Factor 2	Factor 3	Factor 4
Peace with God (T)	0.03	<u>0.85</u>	0.01	0.04
Connected with sacred writings (T)	0.28	<u>0.27</u>	0.03	0.17
Eigenvalues	14.99	5.08	2.96	1.65
% Of variance	31.12	10.58	6.16	3.47

Loadings of 0.35 or more are underlined. The five highest loading in each factor are bold. P, C, E, and T are items representing the personal, communal, environmental, and transcendental well-being domains, respectively.

was 13.89 (S.D. = 1.39) for girls. There was no significant difference between the gender groups, t (d.f. = 535) = 1.90, ns.

4.2.2. Procedure and measure

For all participants, consent was obtained from parents, school principals and teachers, and students themselves. Participants were asked to complete the SWBQ (see Study 1), and also the Spiritual Well-Being Scale (SWBS; Ellison, 1983). As noted earlier, the existential well-being subscale of the SWBS has items reflecting Fisher's personal, communal and transcendental domains, while the religious well-being subscale has items reflecting the transcendental domain. Both the questionnaires were completed in groups during school hours. Half the number of participants completed the SWBS after completing the SWBQ, while the other half completed it before completing the SWBQ.

4.3. Results and discussion

4.3.1. Exploratory factor analysis of the SWBQ

In order to establish the factor structure of SWBQ, the 20 items of SWBQ were subjected to an exploratory factor analysis using principal component analysis with oblimin rotation. This was done for all participants together, and for males and females separately. As the results were very similar for males and females, the results for both groups together are presented here. Table 2 provides the results of the factor analysis. As shown, the analysis resulted in four factors. The items for personal, transcendental, environmental, and communal well-being loading together, but separately, in Factors, 1–4, respectively. The correlations of total scores of items comprising personal with transcendental, environmental, and communal domains were 0.30, 0.47, and 0.58, respectively. Transcendental correlated with environmental, and communal at 0.20, and 0.28, respectively. The correlation between environmental and communal was 0.40. In addition, all the primary factors correlated significantly and positively with the total score of the SWBQ. These were 0.76, 0.70, 0.71, and 0.72 for personal, transcendental, environmental, and communal, respectively. For the second order factor analyses, the total scores for items comprising the four primary factors were subjected to an exploratory factor analysis using principal component analysis with oblimin rotation. This resulted in a single higher order factor, accounting for 56% of the variance, and it comprised all the four primary factors, with an eigenvalue of 2.16, and loadings ranging from 0.54 to 0.83. Also, the intercorrelations of the four primary factors were all

Table 2
Primary factor loadings of the SWBQ in Study 2

	Factor 1	Factor 2	Factor 3	Factor 4
Developing a love of other people	0.05	0.19	0.08	<u>0.73</u>
Developing a personal relationship with God	0.08	<u>0.90</u>	0.03	<u>0.05</u>
Developing forgiveness toward others	0.28	0.02	0.03	<u>0.47</u>
Developing connection with nature	0.00	0.04	<u>0.83</u>	0.00
Developing a sense of identity	<u>0.72</u>	0.03	0.14	0.05
Developing worship of the Creator	<u>0.01</u>	<u>0.86</u>	0.02	0.00
Developing awe at a breathtaking view	0.17	0.04	<u>0.56</u>	0.09
Developing trust between individuals	0.06	0.05	<u>0.04</u>	<u>0.71</u>
Developing self-awareness	<u>0.73</u>	0.05	0.05	0.05
Developing oneness with nature	0.01	0.05	<u>0.83</u>	0.02
Developing oneness with God	0.02	<u>0.87</u>	0.01	0.01
Developing harmony with the environment	0.01	0.05	<u>0.83</u>	0.01
Developing peace with God	0.14	<u>0.83</u>	<u>0.05</u>	0.03
Developing joy in life	<u>0.69</u>	0.04	0.14	0.05
Developing prayer life	0.01	<u>0.84</u>	0.09	0.02
Developing inner peace	<u>0.57</u>	0.15	0.14	0.05
Developing respect for others	0.15	0.06	0.12	<u>0.57</u>
Developing meaning in life	<u>0.80</u>	0.12	0.08	<u>0.050</u>
Developing kindness towards other people	<u>0.09</u>	0.01	0.04	<u>0.82</u>
Developing a sense of magic in the environment	0.11	0.03	<u>0.89</u>	0.03
Eigenvalue	6.45	3.10	1.85	1.17
% Of variance	32.3	15.5	9.2	5.9

Values greater than 0.35 are underlined.

significant ($P < 0.01$). Taken together, these findings provide support for a hierarchical model in terms of the four spiritual well-being domains being components of a higher order global spiritual well-being dimension, as proposed by Fisher (2001).

4.3.2. Internal consistency of the SWBQ

The Cronbach's alpha values for personal, transcendental, environmental, and communal domains were 0.89, 0.86, 0.76, and 0.79, respectively, and this was 0.92 for all items together. These scores indicate high internal consistency for both the primary and secondary dimensions.

4.3.3. Convergent and discriminant validity of the SWBQ

The convergent and discriminant validity of the SWBQ were examined in terms of how the scores on this questionnaire correlated with the scores on the SWBS. As will be noticed in Table 3, the religious well-being dimension of the SWBS and the transcendental domain of the SWBQ were highly positively correlated, thereby supporting the convergent validity of the transcendental domain of the SWBQ. The correlations of the religious well-being dimension of the SWBS with all the other SWBQ domains were all low. This supports the discriminant validity of the personal and communal domains of the SWBQ. Although the existential well-being dimension of the SWBS correlated significantly with all the SWBQ domains, the correlations were especially strong for personal,

Table 3
Correlations for the SWBQ dimensions with SWBS dimensions

SWBQ dimensions	Spiritual Well-Being Scale (Ellison, 1983)		
	Existential	Religious	Overall
Personal	0.38**	0.10*	0.26*
Transcendental	0.27**	0.77**	0.70**
Environmental	0.18**	0.03	0.10*
Communal	0.31**	0.10*	0.41**
Global	0.38**	0.42**	0.49**

* $P < 0.05$; ** $P < 0.01$.

transcendental, and communal domains. Given that the existential well-being dimension of the SWBS is a fusion of Fisher's personal, transcendental, and communal domains, the findings here support the convergent validity of the personal, transcendental, and communal domains of the SWBQ. The global scores of both questionnaires correlated moderately. Taken together, the findings in the study support the convergent and discriminant validity of the SWBQ primary and global scales.

5. Study 3

5.1. Overview

Study 3 examined the factor structure of the SWBQ using confirmatory factor analysis (CFA). Based on the results of Studies 1 and 2, it first examined support for a four-factor oblique model in which the relevant items for personal, communal, environmental, and transcendental spiritual well-being loaded on four separate first order factors, with the factors freely correlated. It then examined a second order CFA model, in which all the four first order factors 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 are also provided.

5.2. Method

The participants comprised 832 individuals, with 416 male and 416 female participants, ranging in age from 18 to 42 years, with a mean age of 20.20 (S.D. = 2.95). Participants were students from six universities in Australia. All participants completed the SWBQ (developed in Study 1) at the end of lectures.

5.3. Results

Initial EFA of SWBQ ratings produced results similar to Study 1. In view of space limitation, the results are not shown, but are available from the authors. Thus EFA of three sets of data (Studies 1–3), across different age and gender groups, showed the expected four factors for the SWBQ. The mean (S.D.) were 19.97 (3.39), 13.00 (6.06) 16.69 (4.23), and 20.77 (3.16) for the

personal, transcendental, environmental, and communal domains, respectively. The Cronbach's alpha values were 0.82, 0.95, 0.83, and 0.82, respectively.

All CFA models tested used covariance matrix and maximum likelihood estimate. They were tested using LISREL 7.3 (Jöreskog & Sörbom, 1988). The results of CFA of the four-factor oblique model are reported in Table 4. As shown, all the fit indices for this model were good. The correlations of personal with transcendental, environmental and communal domains were 0.17, 0.53, and 0.86, respectively. The correlations of transcendental with environmental and communal were 0.16 and 0.18, respectively, while environmental and communal correlated at 0.44. All correlations were significant, suggesting that these latent factors may be related to a single higher order factor.

In order to test the hierarchical second order CFA model, the second order CFA model (i.e. all the four first order orthogonal factors loading on a single higher order spiritual well-being factor) was compared with a one-factor first order CFA model (i.e. all items loading on a single first order factor) and a four-factor orthogonal first order CFA model (i.e. the four first order factors not allowed to correlate with each other). As shown in Table 4, the fit scores for both the one-factor and 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.

Taken together, these results indicate evidence for the construct validity of the SWBQ, and also Fisher's model of spiritual well-being, and the hierarchical second order spiritual well-being model (1998, 2001).

6. Study 4

6.1. Overview

Study 4 also used CFA to examine the SWBQ models tested as part of Study 3. The reliability of the SWBQ was established by examining the composite reliability, variance extracted and

Table 4
Absolute goodness-of-fit indices for the CFA models of the SWBQ

Model	χ^2	d.f.	SNCP	GFI	AGFI	RMSR
<i>Study 3</i>						
Four-factor (oblique)	565	164	0.48	0.93	0.92	0.04
One-factor	5816	170	6.82	0.50	0.39	0.16
Four-factor (orthogonal)	1635	174	1.76	0.82	0.77	0.18
Hierarchical second order model	999	168	1.00	0.89	0.86	0.09
<i>Study 4</i>						
Four-factor (oblique)	488	164	0.71	0.90	0.87	0.05
One-factor	3455	170	7.21	0.48	0.36	0.18
Four-factor (orthogonal)	1180	174	2.20	0.78	0.74	0.24
Hierarchical second order model	731	168	1.24	0.86	0.83	0.10

AGFI, adjusted goodness-of-fit index; GFI, goodness-of-fit index; RMSR, root mean square residual; SNCP, scaled noncentrality parameter. Lower values of χ^2 , and SNCP indicate a better fit. RMSR values of ≤ 0.10 and GFI and AGFI values of ≥ 0.90 indicate good fit.

internal consistency of the four spiritual well-being factors and the overall spiritual well-being factor. The validity was established by examining (1) the factorial independence of the spiritual well-being dimensions from the personality dimensions, (2) the relationships of the spiritual well-being dimensions with Eysenck's (1967) personality dimensions (i.e. extraversion, neuroticism, and psychoticism) and happiness, and (3) if the spiritual well-being dimensions contributed additional variance over that of the personality dimensions in the prediction of happiness.

6.2. Method

The participants comprised 456 individuals, with 146 male and 310 female participants. Participants' ages ranged from 18 to 24 years, with a mean age of 20.20 (S.D. = 2.95). Participants were students from the University of Ballarat, and universities in England and Ireland, within a wide range of courses. All participants completed the SWBQ (developed in Study 1), the Adult Eysenck Personality Questionnaire-Revised Short Scale (EPQ-R/SS; Eysenck & Eysenck, 1991), and the Oxford Happiness Inventory (OHI; Argyle, Martin, & Crossland, 1989). These questionnaires were completed in groups at the end of lectures. The order of completion of the questionnaires was randomized across participants.

The Adult Eysenck Personality Questionnaire-Revised Short Scale (EPQ-R/SS; Eysenck & Eysenck, 1991) was used to measure extraversion, neuroticism, and psychoticism. It also has a lie score that can be interpreted as a measure of social desirability. The EPQ-R/SS is a 48-item "yes"/"no" questionnaire. It contains 12 items chosen from each of the four scales (extraversion, neuroticism, psychoticism, and lie) of the longer version of the EPQ-R (Eysenck & Eysenck, 1991). Eysenck and Eysenck (1991) have reported high internal consistency (Cronbach's alphas) for all the scales of the EPQ-R/SS.

The OHI (Argyle et al., 1989) is a 29-item measure of happiness. The OHI was developed mainly by reversing the items of the Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961) and adding more items of subjective well-being. For each item, the respondent is required to select one of four options, reflecting incremental increases in happiness. The total score provides a measure of overall happiness. Argyle et al. (1989) have reported an internal reliability (Cronbach's alpha) of 0.90 for the OHI, and studies have also supported its construct and concurrent validity (e.g. Argyle et al., 1989; Beck et al., 1961; Bradburn, 1969; Chan & Joseph, 2000; Furnham & Cheng, 1999; Hills & Argyle, 1998; Lu & Argyle, 1991).

6.3. Results and discussion

6.3.1. Confirmatory factor analysis and construct validity of the SWBQ

As shown in Table 4, 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 four-factor orthogonal models were outside the range considered good. Also, the correlations of personal well-being with communal, environmental, and transcendental well-being factors were 0.87, 0.54, and 0.31, respectively. The correlations of communal with environmental, and transcendental well-being factors were 0.42, and 0.20, respectively. The environmental and transcendental well-being factors correlated at 0.13. All these correlations were significant ($P < 0.01$). Taken together, these findings once again

support the hierarchical model of spiritual well-being, as proposed by Fisher (1998, 2001). They also provide evidence for the construct validity of the SWBQ.

6.3.2. Reliability of the spiritual well-being constructs of the SWBQ

Table 5 also shows the Cronbach's alphas for the four spiritual well-being and the overall spiritual well-being factors. The composite reliability, variance extracted and internal consistency of the four spiritual well-being factors and the overall spiritual well-being factor were computed by the methods provided by Hair, Anderson, Tatham, and Black (1998). Generally, composite reliability scores of above 0.70, and variance extracted scores above 0.50 are deemed acceptable. As will be noticed in Table 5, except for the reliability score derived from the variance extracted method for overall spiritual well-being, all other reliability measures showed acceptable levels. Overall, these results imply support for the reliability of the four spiritual well-being constructs and also the overall spiritual well-being construct.

6.3.3. Factorial independence of the SWBQ

The factorial independence of the spiritual well-being domains from the personality and lie dimensions was examined by conducting an exploratory factor analysis involving the four spiritual well-being domains of the SWBQ and the personality dimensions and lie scores of the EPQ-

Table 5
Reliability of the spiritual well-being dimensions of the SWBQ in Study 4

Well-being	Composite reliability	Variance extracted	Cronbach's alpha
Personal	0.84	0.52	0.80
Communal	0.86	0.55	0.84
Environmental	0.85	0.53	0.84
Transcendental	0.95	0.75	0.95
Global	0.73	0.41	0.89

Mean (S.D.) for personal, communal, environmental, transcendental, and global were 19.36 (3.85), 20.16 (3.59), 16.04 (4.44), 13.78 (6.51), and 69.35 (12.94), respectively.

Table 6
Joint factor analysis of the dimensions of the EPQ-R/SS and the SWBQ

	Principal component		
	1	2	3
Spiritual well-being: Personal	<u>0.87</u>	0.17	0.03
Spiritual well-being: Communal	<u>0.85</u>	0.03	0.04
Spiritual well-being: Environmental	<u>0.63</u>	0.02	0.03
Spiritual well-being: Transcendental	<u>0.43</u>	−0.22	0.18
Extraversion	0.31	<u>0.60</u>	−0.12
Neuroticism	0.04	<u>−0.81</u>	−0.32
Psychoticism	−0.33	<u>0.47</u>	<u>0.44</u>
Lie	−0.04	0.10	<u>0.89</u>

Values greater than 0.35 are underlined.

R/SS. Using principal component analysis, with oblimin rotation, three factors emerged with eigenvalues greater than 1. The results are shown in Table 6. As shown, Factor 1 was comprised of all four spiritual well-being domains, and it accounted for 29.13% of the variance. Factor 2 was comprised of the three personality dimensions, and accounted for an additional 16.66% of the variance. The third factor was comprised of the lie scale and psychoticism. This factor accounted for 13.39% of the variance. Of particular significance is that none of the spiritual well-being domains and personality dimensions loaded together on the same factor. This suggests factorial independence of the spiritual well-being domains from the personality dimensions.

6.3.4. Convergent and discriminant validity of the SWBQ

Table 7 shows the correlations of the global and domain scores of the SWBQ with EPQ-R/SS. It also shows the correlations of the SWBQ scores with the total OHI score. As shown, the lie score correlated significantly and positively with global, personal, and environmental well-being. Thus one's perception of one's spiritual well-being in these areas may be influenced by social desirability effects. In relation to the personality dimensions, psychoticism correlated significantly and negatively with all spiritual well-being measures. Extraversion correlated significantly and positively with the global, personal, and communal well-being measures, while neuroticism correlated significantly and negatively with personal well-being. Given that existing data show that spirituality (a concept related to spiritual well-being) is associated positively with extraversion, and negatively with psychoticism (MacDonald, 2000; Maltby & Day, 2001a, 2001b), the findings are therefore supportive of the convergent and discriminant validity of the spiritual well-being dimensions of the SWBQ.

As shown in Table 7, global spiritual well-being, and the spiritual well-being domains of personal, communal, and environmental correlated positively and significantly with happiness. Happiness was unrelated to transcendental well-being. In terms of past studies, Argyle and Hills (2000) found happiness to be associated with a spiritual factor ("Immanent") that reflects Fisher's personal and transcendental well-being domains, while Fehring et al. (1987) found a negative association between happiness and a spiritual well-being factors that reflected Fisher's transcendental well-being domain. Given these past findings, the findings here of positive association between personal spiritual well-being and happiness, and no relation between transcendental well-being and happiness can be inferred as supportive of the concurrent validity of the personal spiritual well-being domain, and the discriminant validity of the transcendental well-being domain.

Table 7

Correlations of the scores of the Oxford Happiness Inventory and Eysenck's Personality Questionnaire with the dimensions of the SWBQ

	Spiritual well-being (SWBQ)				
	Global	Personal	Communal	Environmental	Transcendental
Extraversion	0.15**	0.19**	0.17**	0.07	0.03
Neuroticism	−0.05	−0.11*	−0.03	−0.00	0.02
Psychoticism	−0.27**	−0.12**	−0.25**	−0.10*	−0.25**
Lie	0.12*	0.10*	0.09	0.11*	0.05
Happiness	0.29**	0.33**	0.34**	0.15**	0.08

* $P < 0.05$; ** $P < 0.01$.

6.3.5. Incremental validity

In relation to incremental validity, the additional variance contributed to happiness by spiritual well-being over that made by personality was examined using hierarchical regression analysis (Cohen & Cohen, 1983). Since the earlier analysis raised the possibility that social desirability effects could influence some of the spiritual well-being dimensions, the lie scores and the personality dimensions were entered in step 1, with the relevant spiritual well-being measure entered in step 2. Table 8 shows the results of the hierarchical regression analysis. As will be noticed, the changes in R^2 in step 2 were significant for the global, personal, communal, and environmental well-being measures. These findings imply that global, personal, communal, and environmental well-being contribute additional variance to happiness over that made by personality.

According to Eysenck (1983), happiness comprises high extraversion and low neuroticism, in that the positive affect in happiness is related to high and pleasant sociability and interactions with others that constitute extraversion, and low worries, anxieties and negative affect that constitute neuroticism. A number of studies have examined the relationships of extraversion, neuroticism, and psychoticism with happiness (e.g. Argyle & Lu, 1990; Brebner, Donaldson, Kirby, & Ward, 1995; Francis, 1999; Francis, Brown, Lester, & Philipchalk, 1998; Francis & Katz, 2000; Furnham & Brewin, 1990; Lu & Argyle, 1991;). In general these studies have shown that happiness is correlated positively with extraversion, and negatively with neuroticism. Also, happiness is not correlated with psychoticism. Given this, it can be argued that if spiritual well-being domains provide additional variance to the prediction of happiness over the personality dimensions included here, it would imply support for the incremental validity of spiritual well-being. This was found here for global, personal, communal, and environmental spiritual well-being. Thus the findings here support their incremental validity.

The findings here raise the possibility that the personal, communal, and environmental spiritual well-being domains are likely to be associated with other forms of well-being (such as life satisfaction), while the transcendental well-being domain may not be. This may imply that viewing the transcendental domain as well-being may be inappropriate. However, we wish to argue that as this study examined only happiness, this argument may be premature. It is possible that the transcendental well-being domain may be a critical factor in particular groups, such as those who

Table 8

Standardized beta and R^2 change for incremental effect for the dimensions of the SWBQ

	Spiritual Well-Being (SWBQ)				
	Global	Personal	Communal	Environmental	Transcendental
<i>Step 1</i>					
Extraversion	0.29***	0.28***	0.28***	0.31***	0.32***
Neuroticism	−0.34***	−0.34***	−0.35***	−0.36***	−0.36***
Psychoticism	−0.00	−0.04	0.00	−0.05	−0.05
Lie	0.02	0.01	0.02	0.02	0.79
<i>Step 2 (ΔR^2)</i>					
SWB	(0.05***)	(0.05***)	(0.07***)	(0.02**)	(0.00)
	0.22***	0.23***	0.27***	0.13**	0.06

*** $P < 0.01$; ** $P < 0.001$.

are religious, or older groups of individuals. Additionally, while the transcendental domain may not have an on-going association with the general well-being of individuals, its association with general well-being may be more evident during particular periods, such as during crises. Clearly, we need more studies in this area.

7. General discussion

Consistent with Fisher's model, the results of the exploratory factor analyses (Studies 1–3) and the confirmatory factor analyses (Studies 3 and 4) reported here indicated that spiritual well-being can be conceptualized in terms of the four domains of personal well-being, communal well-being, environmental well-being, and transcendental well-being. Also, in line with Fisher's model, there were significant and moderate to high correlations between these domains (Studies 2–4). Both exploratory (Studies 2 and 3) and confirmatory (Studies 3 and 4) factor analyses showed that these domains reflect primary dimensions that cohere to form a single higher second order or global spiritual well-being dimension. Across the studies, these findings were found for three different samples, and across gender and age groups. Given this, and that three previous studies that examined teachers' perceptions of indicators of spiritual well-being have all supported Fisher's model (1998, 2001; Fisher et al., 2000), it can be argued that Fisher's model does indeed provide a valuable conceptualization of spiritual well-being, and is worthy of further empirical study.

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. This questionnaire comprised five items for each of the four spiritual well-being domains. There was evidence of generally high internal consistency (Studies 2–4), composite reliability (Study 4), and variance extracted (Study 4) for the global and the four domains of the SWBQ. Both the exploratory factor analysis (Studies 2 and 3) and confirmatory factor analysis (Studies 3 and 4) indicated strong support for its construct validity. A joint factor analysis of the four SWBQ domains with Eysenck's personality dimensions (Study 4) showed that the spiritual well-being domains were independent of the personality dimensions, providing further support for the construct validity of the SWBQ and its dimensions. The SWBQ also showed good convergent and discriminant validity in that its global and domain scores correlated appropriately with the global and dimension scores of the widely used Ellison's (1983) Spiritual Well-Being Scale (Study 2). Also, consistent with predictions from existing theory and data, the SWBQ global and domain scores for personal, communal, and environmental spiritual well-being correlated as expected with extraversion, neuroticism, psychoticism, and happiness (Study 4). The demonstration that these SWBQ scores contributed additional variance over that of the personality dimensions in the prediction of happiness indicates support for their incremental validity as well.

In conclusion, the studies reported here demonstrate support for Fisher's (1998) spiritual well-being model, and the SWBQ as a reliable and valid measure of spiritual well-being. The SWBQ has the advantage over other existing spiritual well-being measures in that it is based on a broader conceptualization of spiritual well-being, compared with other spiritual well-being measures. Thus it could have a high degree of relevance for those interested in research on the interrelations between spiritual life experience and well-being, in general. Such studies would be useful as existing data (Barcus, 1999), and also this study have shown that some aspects of spiritual life

experience is associated positively with psychological well-being. Since a major component of happiness is low depression, the findings here of incremental validity of global, personal, communal, and environmental well-being in the prediction of happiness suggest that these spiritual life experience constructs may be valuable in the understanding of both happiness and depression.

References

- Adams, T., Bezner, J., & Steinhardt, M. (1997). The conceptualization and measurement of perceived wellness: integrating balance across and within dimensions. *American Journal of Health Promotion*, 11(3), 208–218.
- Argyle, M., & Hills, P. (2000). Religious experiences and their relations with happiness and personality. *The International Journal for the Psychology of Religion*, 10(3), 157–172.
- Argyle, M., & Lu, L. (1990). The happiness of extraverts. *Personality and Individual Differences*, 11(10), 1011–1017.
- Argyle, M., Martin, M., & Crossland, J. (1989). Happiness as a function of personality and social encounters. In J. P. Forgas, & J. M. Innes (Eds.), *Recent advances in social psychology: an international perspective* (pp. 189–203). North Holland: Elsevier Science Publishers.
- Barcus, S. M. (1999). *The relationship between religious commitment, spiritual well-being, and psychological well-being of college students*. PhD thesis, Ball State University.
- Beck, A. T., Ward, C. H., Mendelson, M., Mock, J., & Erbaugh, J. (1961). An inventory for measuring depression. *Archives of General Psychiatry*, 4, 561–571.
- Bradburn, N. M. (1969). *The structure of psychological well-being*. Chicago, IL: Aldine.
- Brebner, J., Donaldson, J., Kirby, N., & Ward, L. (1995). Relationships between happiness and personality. *Personality and Individual Differences*, 19(2), 251–258.
- Chan, R., & Joseph, S. (2000). Dimensions of personality, domains of aspiration, and subjective well-being. *Personality and Individual Differences*, 28(2), 347–354.
- Cohen, J., & Cohen, P. (1983). *Applied multiple regression analysis for the behavioral sciences* (2nd ed.). Hillside, NJ: Erlbaum.
- Cohen, S., Mount, B., Bruera, E., Provost, M., Rowe, J., & Tong, K. (1997). Validity of the McGill Quality of Life Questionnaire in the palliative care setting: a multi-centre Canadian study demonstrating the importance of the existential domain. *Palliative Medicine*, 11, 3–20.
- Coward, D. D., & Reed, P. G. (1996). Self-Transcendence: a resource for healing at the end of life. *Issues in Mental Health Nursing*, 17(3), 275–288.
- Elkins, D., Hedstrom, L., Hughes, L., Leaf, J., & Saunders, C. (1988). Toward a humanistic-phenomenological spirituality. *Journal of Humanistic Psychology*, 28(4), 5–18.
- Ellison, C. (1983). Spiritual well-being: conceptualization and measurement. *Journal of Psychology and Theology*, 11(4), 330–340.
- Ellison, C., & Smith, J. (1991). Toward an integrative measure of health and well-being. *Journal of Psychology and Theology*, 19(1), 35–48.
- Eysenck, H. J. (1967). *The biological basis of personality*. Springfield, IL: Thomas.
- Eysenck, H. J. (1983). *I do: your guide to a happy marriage*. London: Century.
- Eysenck, H. J., & Eysenck, S. B. G. (1991). *Eysenck Personality Scales (EPS adult)*. London: Hodder & Stoughton.
- Fehring, R. J., Brennan, P. F., & Keller, M. L. (1987). Psychological and spiritual well-being in college students. *Research in Nursing and Health*, 10, 391–398.
- Fisher, J. W. (1998). *Spiritual health: its nature, and place in the school curriculum*. Unpublished doctoral dissertation, The University of Melbourne, Melbourne, Victoria, Australia.
- Fisher, J. W. (2001). Comparing levels of spiritual well-being in state, Catholic and independent schools in Victoria, Australia. *Journal of Beliefs and Values*, 22(1), 113–119.
- Fisher, J. W., Francis, L. J., & Johnson, P. (2000). Assessing spiritual health via four domains of spiritual wellbeing: the SH4DI. *Pastoral Psychology*, 49(2), 133–145.
- Francis, L. J. (1999). Happiness is a thing called stable extraversion: a further examination of the relationship between

- the Oxford Happiness Inventory and Eysenck's dimensional model of personality and gender. *Personality and Individual Differences*, 26, 5–11.
- Francis, L. J., Brown, L. B., Lester, D., & Philipchalk, R. (1998). Happiness as stable extraversion: a cross-cultural examination of the reliability and validity of the Oxford Happiness Inventory among students in the U.K., U.S.A., Australia, and Canada. *Personality and Individual Differences*, 24(2), 167–171.
- Francis, L. J., & Katz, Y. J. (2000). Internal consistency reliability and validity of the Hebrew translation of the Oxford Happiness Inventory. *Psychological Reports*, 87, 193–196.
- Furnham, A., & Brewin, C. R. (1990). Personality and happiness. *Personality and Individual Differences*, 11(10), 1093–1096.
- Furnham, A., & Cheng, H. (1999). Personality as predictor of mental health and happiness in the East and West. *Personality and Individual Differences*, 27(3), 395–403.
- Goodloe, R., & Arreola, P. (1992). Spiritual health: out of the closet. *Health Education*, 23(4), 221–226.
- Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (1998). *Multivariate data analysis*. NJ: Prentice-Hall.
- Hall, T. W., & Edwards, K. J. (1996). The initial development and factor analysis of the Spiritual Assessment Inventory. *Journal of Psychology and Theology*, 24(3), 233–246.
- Hateley, B. J. (1983). *Spiritual well-being through life-histories*. Paper presented at the November Conference of the Scientific Meeting of the Gerontological Society, San Francisco, CA.
- Hills, P., & Argyle, M. (1998). Positive moods derived from leisure and their relationship to happiness and personality. *Personality and Individual Differences*, 25(3), 523–535.
- Hood-Morris, L. E. (1996). A spiritual well-being model: use with older women who experience depression. *Issues in Mental Health Nursing*, 17, 439–455.
- Hungelmann, J., Kenkel-Rossi, E., Klassen, L., & Stollenwerk, R. (1996). Focus on spiritual well-being: harmonious interconnectedness of mind-body-spirit—use of the JAREL Spiritual Well-Being Scale. *Geriatric Nursing*, 17(6), 262–266.
- Jöreskog, K., & Sörbom, D. (1988). *LISREL 7: a guide to the program and applications*. Chicago, IL: SPSS.
- Ledbetter, M., Smith, L., Fischer, J., Vosler-Hunter, W., & Chew, G. (1991). An evaluation of the research and clinical usefulness of the Spiritual Well-Being Scale. *Journal of Psychology and Theology*, 19(1), 49–55.
- Lu, L., & Argyle, M. (1991). Happiness and cooperation. *Personality and Individual Differences*, 12(10), 1019–1030.
- MacDonald, D. A. (2000). Spirituality: description, measurement, and relation to the five factor model of personality. *Journal of Personality*, 68(1), 153–197.
- Maltby, J., & Day, L. (2001a). Spiritual involvement and belief: the relationship between spirituality and Eysenck's Personality Dimensions. *Personality and Individual Differences*, 30, 187–192.
- Maltby, J., & Day, L. (2001b). The relationship between spirituality and Eysenck's personality dimensions: a replication among English Adults. *Journal of Genetic Psychology*, 162(1), 119–123.
- Muldoon, M., & King, N. (1995). Spirituality, health care, and bioethics. *Journal of Religion and Health*, 34(4), 329–349.
- National Interfaith Coalition on Aging. (1975). *Spiritual well-being: a definition*. Athens, GA: Author.
- Schneiders, S. (1986). Theology and spirituality: strangers, rivals or partners. *Horizons*, 13, 257–264.
- Tjeltveit, A., Fiordalisi, A., & Smith, C. (1996). Relationships among mental health values and various dimensions of religiousness. *Journal of Social and Clinical Psychology*, 15(3), 364–377.
- Tloczynski, J., Knoll, C., & Fitch, A. (1997). The relationship among spirituality, religious ideology, and personality. *Journal of Psychology and Theology*, 25(2), 208–213.
- Vella-Brodrick, D., & Allen, F. (1995). Development and psychometric validation of the Mental, Physical, and Spiritual Well-Being Scale. *Psychological Reports*, 77, 659–674.
- Young, E. (1984). Spiritual health: an essential element in optimum health. *Journal of American College Health*, 32, 273–276.