Evaluation of the Spiritual Well-Being Scale in a Sample of Korean Adults

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Abstract This study explored the psychometric qualities and construct validity of the Spiritual Well-Being Scale (SWBS; Ellison in J Psychol Theol 11:330–340, 1983) using a sample of 470 Korean adults. Two factor analyses, exploratory factor analysis and confirmatory factor analysis, were conducted in order to test the validity of the SWBS. The results of the factor analyses supported the original two-dimensional structure of the SWBS—religious well-being (RWB) and existential well-being (EWB) with method effects associated with negatively worded items. By controlling for method effects, the evaluation of the two-factor structure of SWBS is confirmed with clarity. Further, the differential pattern and magnitude of correlations between the SWB subscales and the religious and psychological variables suggested that two factors of the SWBS were valid for Protestant, Catholic, and religiously unaffiliated groups except Buddhists. The Protestant group scored higher in RWB compared to the Buddhist, Catholic, and unaffiliated groups. The Protestant group scored higher in EWB compared to the unaffiliated groups. Future studies may need to include more Buddhist samples to gain solid evidence for validity of the SWBS on a non-Western religious tradition.

Keywords Spiritual well-being · Religious well-being · Existential well-being

Introduction

Considering Korea's increasing interest on the topic of well-being, spiritual well-being (SWB) is expected to become more critical. The term 'spirituality' is frequently used

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together with SWB and has also been used with religiosity interchangeably (Holt et al. 2006). According to the National Interfaith Coalition on Aging (NICA 1975), the definition of SWB is "the affirmation of life in a relationship with God, self, community and environment that nurtures and celebrates wholeness" (p. 1). This definition describes that SWB includes both religious and existential dimensions (Ellison 1983). However, the concept of SWB is not equivalent to spirituality, spiritual health, spiritual maturity, or religiosity and is also not synonymous with mental health or psychological stability (Ellison 1983; Palouzian et al. 2012).

The Spiritual Well-Being Scale (SWBS) has been used to explore the spiritual dimension of an individual's overall wellness in various contexts, such as mental, psychological and physical health care, clinical practice, university, and congregational assessments (Bufford et al. 1991; Ellison 1983; Ellison and Smith 1991; Palouzian and Ellison 1991). Further, the SWBS has been used extensively with various participants, including religious and non-religious groups, college students, outpatients in mental health, and hospitalized patients (Bufford et al. 1991). In addition, the SWBS has demonstrated high reliability and internal consistency as well as good validity (Bufford et al. 1991; Ellison 1983; Ellison and Smith 1991). However, several researchers have pointed out the lack of factorial validity in the SWBS (Fernander et al. 2004; Genia 2001; Ledbetter et al. 1991; Miller et al. 1998; Utsey et al. 2005).

The SWBS was originally evaluated with Ellison's (1983) two-dimensional model, using a sample obtained from 206 students at three religious colleges. According to Ellison's (1983) study, the SWBS is correlated with other scales and social-psychological factors. Existential well-being (EWB) is highly related to the purpose in life test (Crumbaugh and Maholick 1969), whereas religious well-being (RWB) is highly related to the intrinsic religious orientation (Allport and Ross 1967). As the original SWBS was being designed, the results in Ellison's study supported the two-dimensional structure of the scale. In a study by Fernander et al. (2004), the two-scale factor of SWBS was utilized to assess data from a prison population indicating the validity of a two-factor structure. Genia's (2001) study of college students with different religions used the principal axis factor analysis in order to examine the validity of the SWBS with other religious and psychological variables. Genia (2001) supported the two-dimensional model of the SWBS. Gow et al.'s (2010) study also supported the two-factor model of the SWBS by using two types of analyses, the principal components analysis (PCA) and the Mokken scaling procedure (MSP).

However, researchers have concluded the lack of factorial validity for the two-factor model (Gorsuch 1984; Miller et al. 1998; Utsey et al. 2005). Gorsuch (1984) provided support for the one-factor model of the SWBS. Ledbetter et al. (1991) study did not support either the one-factor or the two-factor models of the SWBS, but rather indicated that the two-factor model was more acceptable than the one-factor model. Utsey et al.'s (2005) research addressed that no models of the SWBS were able to confirm data from the African-American population based on the confirmatory factor analysis (CFA). In addition, even though Genia's (2001) research supported the two-dimensional structure of the SWBS, she suggested testing the factor structure of the SWBS using other populations and statistical methods.

Miller et al. (1998) expanded Ellison's (1983) study and examined the SWBS between Caucasians and African-Americans. With regard to ethnicity, the findings of the factor analyses supported three factors (RWB, life satisfaction/purpose, and future) for Caucasians and five factors (connection with God, satisfaction with God and day-to-day living, future/life contentment, personalized relationship with God, and meaningfulness) for

African-Americans. They explained that the findings are attributed to a cultural difference. African-Americans emphasized the role of spirituality in their lives; the vertical relationship (factor four) between the individual and God influences the horizontal relationship (factor five) between the individual and the community.

Therefore, the primary purpose of this study is to examine the psychometric qualities and construct validity of the SWBS using a non-Western sample. To our knowledge, the SWBS has not been validated using a Korean population. Hence, it is important to examine the SWBS in a Korean population due to the fact that little empirical research related to the SWBS exists in non-Western samples.

Methods

Participants

A total of 470 Korean adults were solicited to participate in the current study. Individuals were recruited from community-sponsored events, an adult learning center, and two universities, all located in South Korea. Of the 470 participants in the study, 309 were female (65.9 %) and 157 were male (33.5 %); there were four missing values for gender (.6 %). The participants ranged in age from 17 to 55 years, with a mean age of 22.34 and a standard deviation of 4.73. Of the 470 participants, 71 % identified themselves as Protestants, 6 % were Catholic, 3 % were Buddhists, and 20 % were religiously unaffiliated. The participants' education level varied as follows: 13 (2.8 %) completed high school, 76 (16.2 %) were currently enrolled in college, 277 (59.16 %) had a bachelors degree, and 95 (20.3 %) had a graduate degree. There were three (.4 %) missing values for education.

It is ideal to conduct exploratory factor analysis (EFA) and the subsequent confirmatory factor analysis (CFA) with distinct samples of participants. Conducting CFA with an independent sample strengthens the analytic findings. Therefore, we selected two random samples from the total data set. The exploratory factor analysis used study sample 1 ($N = 235$; 68.2 % female; $M_{age} = 22.56$ years; $SD_{age} = 5.31$), and the confirmatory factor analysis used study sample 2 ($N = 235$; 63.8 % female; $M_{age} = 22.12$ years; $SD_{age} = 4.07$). To rule out the possibility of having confounding results, we conducted t tests between the two samples across study variables. Results showed that there were no significant differences at the $p < .05$ level across the two random samples for scores in educational level, self-esteem, depression, perceived belief, and frequency of worship attendance.

Measures

Spiritual Well-Being Scale

The Spiritual Well-Being Scale (SWBS) was developed by Ellison and Paloutzian to measure one's perception of the spiritual quality of life and life satisfaction (Ellison 1983; Palouzian and Ellison 1991; Palouzian et al. 2012). This scale is divided into two areas: religious well-being (RWB) and existential well-being (EWB). RWB assesses a sense of relationship with God and is considered a vertical component in SWB. EWB assesses the purpose and meaning in life and is considered a horizontal component of SWB. There are a total of 20 items in the SWBS, consisting of 10 odd-numbered items on the RWB subscales and 10 even-numbered items on the EWB subscales. Each item is scored on a six-point

Likert scale, ranging from 1 to 6. Negatively worded items (item numbers 1, 2, 5, 6, 9, 12, 13, 16, and 18) have reversed scores so that higher scores represent a greater level of well-being.

Religious Measures

Participants also indicated the religiousness of their faith on a scale from 1 (not religious at all) to 4 (very religious). The frequency of worship attendance was also measured.

Psychological Measures

To examine the validity of the SWBS, depression and self-esteem were included in the current study. In recent studies, the SWBS was correlated with self-esteem and depression (Genia 2001) on a sample of 211 Americans. To test the validity of the I/E scale, Han (2001) examined the effects of intrinsic and extrinsic religiosity on mental health factors including depression and self-esteem on 827 Korean participants.

Depression was measured using the Beck Depression Inventory (Beck et al. 1961). Self-esteem was measured utilizing the Rosenberg self-esteem scale (Rosenberg 1965). The measures used in this study were examined widely in extant research in Korea. For the current sample, depression and self-esteem had high alpha coefficients (e.g., .92 and .87, respectively). These levels of reliability were similar to those found in other research studies on Korean samples (e.g., .93 and .79, respectively, Baek et al. 2010; .78 and .77, respectively, Kim et al. 2008).

Procedures

Translation procedures were implemented in order to create a Korean version of the SWBS in several steps. First, the SWBS was translated into a Korean version by a team consisting of three doctoral students in a theological seminary program. After translating the SWBS items into the Korean language, all three people checked whether the items were culturally relevant and whether each item has the same meaning with that of the English version. Second, the SWBS was translated by a bilingual-bicultural Korean graduate student in linguistics trained in social-emotional assessment. This preliminary translation was subsequently back-translated into English by another trained bilingual-bicultural Korean graduate student in linguistics, who provided additional feedback regarding how well the items preserved their original intent, rather than merely a literal translation of the measure. After two translation–feedback procedures, a bilingual-bicultural Korean psychologist, who holds a Ph.D. degree in psychology, and a bilingual-bicultural Korean linguist, who holds a Ph.D. degree in linguistics in English, prepared the Korean translated version. This translated measure was piloted with Korean-speaking adults, and the wording was adjusted based on their feedbacks. This study represents the first step in establishing the reliability and validity of the Korean version of the SWBS.

Statistical Analyses Overview

Analyses were conducted in two stages of the factor analyses. First, the exploratory factor analysis (EFA) was employed using the split-half random sample 1 in order to explore the underlying structure of variables included in the SWBS. After conducting the EFA,

confirmatory factor analysis (CFA) was conducted using the split-half random sample 2 in order to test the fit of the proposed factor structure to a second sample. Because the SWBS items are ordinal variables which violate the assumption of a multivariate normality, the analysis was based on a robust weighted least squares (WLS) estimation using Mplus 5.0 (Muthen and Muthen 2006).

Exploratory Factor Analysis (EFA)

EFA is a method examining how the scale items may optimally be grouped together into distinct subsets in order to measure the overall construct in the most parsimonious fashion. Empirical techniques, such as creating an eigenvalue cutoff or minimum factor loading, can be used to identify the ideal number of factors. However, an over-reliance on the statistics of a particular EFA can lead to results that fit only one sample, but which are neither theoretically sound nor true for the population estimated. Thus, we considered empirical data within a theoretical framework that explains the item groupings.

Confirmatory Factor Analysis (CFA)

CFA allows researchers to test a priori models by plotting the proposed factor structure with the measured variables loading onto the proposed or "latent" variables (Kline 1998). The fit of the proposed model was evaluated based on the comparative fit index (CFI; Bentler 1990), non-normed fit index (NNFI; Bentler and Bonett 1980), and root-mean-square error of approximation (RMSEA; Steiger and Lind 1980). The CFI provides a measure of fit, which assesses the improvement of the fit in a hypothesized model relative to a null model. Although it is generally accepted that a CFI value equal to or greater than .90 represents a well-fitting model (McDonald and Ho 2002), a revised cutoff value close to .95 has been recommended (Hu and Bentler 1999). The NNFI and RMSEA were also included. We chose these indices because they are relatively independent of the sample size and also take into account the model complexity, which is an important property for comparing several alternative models with different degrees of complexity. Values of .95 or above for NNFI (Hu and Bentler 1999) and values around .08 for RMSEA indicate a fair fit, while values of .05 or less for RMSEA indicate a good fit (Browne and Cudeck 1993).

Results

Stage 1: Exploratory Factor Analysis (EFA)

To our knowledge, the SWBS has not been previously used for a Korean sample; therefore, an EFA was conducted for the current study. A robust WLS estimation was used with a promax rotation with study sample 1 ($N = 235$). Oblique rotation was used given the correlation between the SWBS dimensions. Empirical approaches, such as a scree plot test and pattern of factor loading, were considered within the theoretical framework based on extant literature, to confirm that the final factor selection was interpretable and substantively plausible. Through this process, a three-factor model emerged as the most meaningful and parsimonious model. The fit of the three-factor solution in RMSEA and SRMR was acceptable. The value of RMSEA was .07, and the value of SRMR was .03. Table 1 displays items related to each of the three obtained factors and reports pattern coefficients.

Table 1 Standardized pattern and structure coefficients for Spiritual Well-Being Scale (SWBS) exploratory factor analysis (EFA) three-factor structure and confirmatory factor analysis (CFA) three-factor solution

SWBS items	EFA factors and coefficient			CFA factors and coefficients		
	I	II	III	ME	RWB	EWB
1. I don't find much satisfaction in private prayer with God	**.59**	.04	.11	.51	.32	
2. I don't know who I am, where I came from, or where I'm going	**.70**	**.40**	.16	.53		.30
3. I believe that God loves me and cares about me	−.02	**.90**	.06		.90	
4. I feel that life is a positive experience	−.10	.25	**.71**			.72
5. I believe that God is impersonal and not interested in my daily situations	**.44**	**.63**	−.08	.70	.52	
6. I feel unsettled about my future	.15	.16	**.56**	.41		.40
7. I have a personally meaningful relationship with God	.09	**.88**	.04		.87	
8. I feel very fulfilled and satisfied with life	−.10	.08	**.90**			.70
9. I don't get much personal strength and support from my God	**.47**	**.45**	.11	.73	.50	
10. I feel a sense of well-being about the direction my life is headed in	.15	.15	**.68**			.66
11. I believe that God is concerned about my problems	.08	**.82**	.09		.89	
12. I don't enjoy much about life	**.38**	.28	**.64**	.54		.26
13. I don't have a personally satisfying relationship with God	**.66**	.02	.11	.53	.32	
14. I feel good about my future	.29	.23	**.72**			.58
15. My relationship with God helps me not to feel lonely	.01	**.72**	.22		.77	
16. I feel that life is full of conflict and unhappiness	.29	−.23	**.64**	.65		.42
17. I feel most fulfilled when I'm in close communion with God	.05	**.96**	.08		.84	
18. Life doesn't have much meaning.	.22	−.21	**.56**	.55		.34
19. My relation with God contributes to my sense of well-being	−.02	**.95**	−.04		.90	
20. I believe there is some real purpose for my life	.23	.12	**.56**			.62

Coefficients above .30 are in bold type; *ME* method effect, *RWB* religious well-being, *EWB* existential well-being; in an original SWBS, 10 odd-numbered items are on the RWB subscales and 10 even-numbered items are on the EWB subscales

Stage 2: Confirmatory Factor Analysis

The second stage sought to explore the factor structure of the SWBS based on the proposed EFA three-factor model and the original two-factor model using study sample 2

Table 2 Fit indexes for confirmatory factor models

	χ^2	df	CFI	NNFI	RMSEA
One-factor model	1,294.23	170	.585	.591	.168
Original two-factor model	1,000.65	169	.692	.618	.145
Two factor with ME	384.65	134	.911	.912	.079

ME method effects, *CFI* comparative fit index, *NNFI* non-normed fit index, *RMSEA* root-mean-square error of approximation

($N = 235$). When we analyzed the EFA three-factor model, we noticed that among nine negatively worded items, four items were double-loaded. Therefore, using a second random sample, we also investigated whether there was a method effect factor with negatively worded items. We labeled this model *two-factor model with method effects*. We also evaluated the one-factor model. This examination was conducted on an exploratory basis because EFA and CFA are not typically performed on the same participants.

The results of the four CFA models are shown in Table 2. For the current study sample, the fit indices indicated that the two-factor model with a method effect yielded a better fit compared to the other models. Improvements were seen for all of the model fit indices. The fit of the two-factor model with a method effect solution in CFI (.911), NNFI (.912), and RMSEA (.079) was acceptable. Cronbach's alpha coefficients for the two factors and a method effect were .81, .91, and .71, respectively. The two factors were named as "religious well-being (RWB)" and "existential well-being (EWB)."

The correlation patterns of the two-factor SWBS scales were also examined in order to check the validity. Intercorrelation between the two factors was not too high (.62), thereby suggesting a discriminant validity of the SWB scales. Therefore, the two-factor model with a method effect emerged as the most meaningful and parsimonious model using both the substantive and statistical criteria. Standardized factor loadings for the final factor model are provided in Table 1. The results demonstrated that the standardized factor loadings of each construct are substantively large (ranged .26–.90), suggesting that all factors are well determined with valid indicators.

Correlations Between Study Variables

Table 3 presents the correlations between the SWB scales and religious and psychological variables. In general, RWB and EWB were positively associated with self-esteem, faith, and worship attendance. Yet, RWB and EWB were negatively associated with depression. However, the pattern and magnitude of the correlation coefficients varied across the different types of religion affiliations.

Table 4 conveys the mean and standard deviations for the subfactors of the SWBS across religion affiliations. According to the results, there was a statistically significant difference at the $p < .05$ level in RWB scores across the four religious groups $[F_{(3, 446)} = 3.52]$ and in EWB scores across the four religious groups $[F_{(3, 446)} = 106.78]$. The Protestant group showed a higher score compared to all the other groups for RWB. The Protestant group showed a higher score compared to the unaffiliated groups for EWB.

Table 3 Correlations between Spiritual Well-Being Scales and psychological variables		Depression	Self-esteem	Faith	Worship attendance
		All subjects (N = 470)			
	RWB	−.21**	.19**	.62**	.10*
	EWB	−.50**	.62**	.30**	.57**
		Protestant (N = 338)			
	RWB	−.27**	.34**	.52**	.24**
	EWB	−.49**	.62**	.32**	.02
		Buddhist (N = 12)			
	RWB	−.56	.59	.34	.20
	EWB	.10	.12	.41	.26
		Catholic (N = 29)			
	RWB	.08	.20	.75**	.87**
	EWB	−.57**	.73**	.37	.22
		Unaffiliated (N = 91)			
RWB religious well-being, *EWB* existential well-being	RWB	−.20	.15	.10	−.11
** *p* < .01, * *p* < .05	EWB	−.56**	.68**	−.24	−.11

Table 4 Means and standard deviations for SWBS subscales

	All sample	Protestant	Buddhist	Catholic	Unaffiliated
RWB	4.45 (.81)	4.52 (.85)[a]	3.43 (1.12)[a]	3.68 (.88)[a]	2.45 (.94)[a]
EWB	4.08 (1.18)	4.51 (.79)[a]	4.40 (.74)	4.63 (.74)	4.14 (.83)[a]

[a] Group difference is significant at *p* < .05

Discussion

The primary purpose of this study was to test the construct validity of the SWBS using a sample of Korean adults. Two factor analyses (EFA and CFA) were conducted for the current study. Results indicated that the SWBS assessment of the original two factors representing RWB and EWB with method effects was acceptable for Korean adults. Participants responded to negatively worded items in a sensitive way; thus, we needed to control for this method effects in the factor analytic model. Method effects were present across all religious types in this population. By controlling for method effects, the evaluation of factor structure of the SWBS is confirmed with clarity. This finding is a statistical advancement from the extant research on psychometric evaluation of the SWBS.

Presence of method effects are acknowledged by many researchers. Discussion of method effects can be found in one of the extensive psychometric literature on Rosenberg's (1965) self-esteem scales (Tomás and Oliver 1999; Wang et al. 2001). To our knowledge, this study is the first to yield results indicating that the SWBS with method effects was associated with negatively worded items on religious measurement study. Given that previous studies showed inconsistent results on the SWBS factor structure solution, method effects for negatively worded items need to be controlled for a clear factor structure solution in future studies.

The results of the intercorrelations for all participants also supported the two-factor solution except for those in the Buddhist group. For the total sample, in the correlations between the SWB scales and religious and psychological variables, higher RWB and EWB scores were positively associated with higher self-esteem, faith, and worship attendance and negatively related to depression, in general. Correlation coefficients ranged from .10 to .62 and mostly indicated the moderately small sizes of relationships between variables. For Buddhists, however, RWB and EWB were not related to any of the religious and psychological variables. However, given the small sample size of Buddhists ($N = 12$), non-significant results are not surprising. Correlation coefficients for participants in the Buddhist group ranged from .10 to .59, which could have higher chances of becoming statistically significant relationships between variables if more samples are included for future studies.

RWB and EWB were positively associated with self-esteem, faith, and worship attendance, but were negatively associated with depression among Protestants. However, there was an observed correlation between EWB and psychological variables (i.e., depression and self-esteem) but no correlation between RWB and those variables among Catholics. Interestingly, this finding from Catholics is similar to the unaffiliated group. Kang et al. (2007) argued that Korean Catholics had followed in the direction of overall individualism and that their religiousness was continuously weakened. Kang and his colleagues expressed concern about the situation that while the population of Catholics was gradually increasing, inactive and lapsed Catholics were steadily increasing. In addition, a sense of community and pride as a believer was decreased. The similar finding from Catholics and unaffiliated might be caused by the weakened religious lives of Catholics.

The results of factor means indicated that among the two subfactors of SWBS, RWB was found to be related to religious types. According to Ellison's (1983) study, born-again Christians have more positive SWB, RWB, and EWB compared to ethical Christians or non-Christians. In our study, those who identify themselves as a Protestant had higher scores for RWB than those who considered themselves as Buddhist, Catholic, or religiously unaffiliated. RWB, the vertical component of SWB, was connected to the relationship with God. Simpson et al. (2009) argued that positive relationship with God (PRG), as an internal conception which is to become involved and connected with God, was positively related to private religious activities. Christian ministries emphasize private religious activities as ways to grow their spiritual lives and to have an intimate relationship with God (Vos 2012). Korean churches emphasize private religious activities, such as prayer, meditation, and Bible reading or studying. Kang (2000) insisted that prayer among spiritual disciplines played an essential role in the rapid growth of Korean churches. This factor might influence the higher score of Protestants compared to Buddhists and Catholics for RWB.

This study revealed the presence of method effects in addition to the original two-factor structure of the SWBS (RWB and EWB) for a Korean adult population since the development of the SWBS (Ellison 1983). Current findings call researchers' attention the potential influence of method effects in future evaluations of SWBS studies with either Western or non-Western samples. Previous studies (DiStefano and Motl 2006; Quilty et al. 2006) suggested that the method effects associated with negatively worded items were related to personality traits such as apprehensiveness of negative evaluations by others or self-consciousness. Other studies (Clarke 2000; DiStefano and Motl 2009) suggested that method effects associated with negatively worded items might be linked with cultural or racial factors. Studies (Smith et al. 2002; Smith 2004) have shown that both extreme response style and acquiescence response style have been impacted by race and culture.

Future studies should explore personality traits or cultural factors that can help understand the cause and meaning of method effects associated with negatively worded items in the SWBS.

There are also limitations of the study. This study had an extremely small Buddhist sample compared to the Protestant sample. This can cause the nonsignificance of correlation coefficients among study variables for the Buddhist group. Study results showed nonsignificant correlations between the SWB scales and psychological health factors among Buddhists. This finding indicated that the SWBS may not be as useful for studying persons of non-Western religious tradition or, alternatively, that SWB is not associated with less depression and higher self-esteem for those who identify as Buddhist. Therefore, the validity of the SWBS for a Korean adult population should be interpreted with a caution. The study sample was restricted by the fact that the demographic background of the sample was limited, with the number of females almost doubled the number of males. In addition, the participants of this study were exclusively college students and college educated, which may limit the ability to generalize the findings to other Korean populations. Further examination of the SWBS should be undertaken with a representative sample from various demographic backgrounds.

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