

Reliability and Validity of the Spiritual Care-Giving Scale in a Turkish Population

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Abstract This study aimed to adapt an English version of the survey tool Spiritual Care-Giving Scale for Turkish students and to evaluate its psychometric properties. Spiritual care is a central element of holistic nursing, but is not often made explicit in the theoretical and practical components of preregistration nursing programs. A composite scale will assist in identifying students' perceptions and issues to be addressed in curricula and practice settings in Turkey. The scale was composed of 35 items and five subscales. Cronbach's α reliability coefficient was .96, and item–total point correlations were between .37 and .77. In addition, split-half reliability coefficient was .88. The Spiritual Care-Giving Scale was found to be a valid and reliable instrument for measuring the multifaceted perspectives of spirituality and spiritual care in practice by students. Further testing of this scale is required with other student populations and clinicians.

Keywords Spirituality · Care · Nursing · Scale

Introduction

Spirituality, an important and integral aspect of nursing care, is supported in nursing history and theory and validated in research and practice (Taylor 2002).

Holistic nursing, which emphasizes the care of the physical, psychological, social, and spiritual aspects of the person, is always the core of nursing practice. The goal of nursing care is not only to fulfill needs in relation to each of these dimensions but also to restore the

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harmony of the patient's life. Among the members of a healthcare team, it is nurses who spend the most time with the patients. It is therefore they who are in the best position to provide spiritual care. Usually, however, the spiritual needs of the patient are neglected by nurses (Burkhardt and Nagai-Jacobson 2005; Dellaney 2005; Lin et al. 2008).

Spiritual and religious beliefs and practices often give patients and family members some measure of acceptance of an illness, a sense of mastery and control, strength to endure the stressors of illness, and a source of hope and trust beyond what medical interventions can provide. Spiritual strategies are particularly helpful in times of crisis and uncertainty. When faced with significant life challenges, people need resources include faith in a higher power, support communities, a sense of hope and meaning in life, and religious practices. Patient and family spirituality affects their ability to cope with loss.

Spiritual care is recognized as a central element of holistic nursing (Miner-Williams 2006), but is not explicitly integrated into practice (Narayanasamy 2006; Milligan 2004). Some nurses may confuse spirituality with religious beliefs and refer this aspect of care to other professional groups (McClung et al. 2006).

In a review of papers on perceptions toward spirituality and spiritual care published from 2000 to 2012, 138 articles were identified but only 9 studies involved preregistration nursing students. A critical examination of these studies identified descriptions of spirituality content in curricula (Hoffert et al. 2007; Meyer 2003; Wallace et al. 2008) and impact of specific spiritual education modules or teaching strategies on students' spiritual perspectives (Mooney and Timmins 2007; van Leeuwen et al. 2008).

Little is known about the extent and outcomes of spiritual education in accredited undergraduate nursing programs (Baldacchino 2008; Lemmer 2002; Pesut 2002). Although the literature review identified the use of tools on spirituality and spiritual care, most measured a single component such as spirituality or spiritual care (Hoffert et al. 2007; McSherry et al. 2002). Therefore, Tiew and Creedy surveyed a large sample of nursing students and analyzed their perceptions and understanding of spirituality using a new tool. This is one composite tool that measured student nurses' perceptions about spirituality, spiritual care, and factors influencing the integration of spiritual care in practice (Tiew and Creedy 2012). To address this gap, this study aimed to evaluate reliability and validity of Spiritual Care-Giving Scale in a Turkish student population.

Methods

Design

This methodological study was conducted in health sciences faculty in Erzurum and Erzincan, in Eastern Anatolia region of Turkey. The study phases were: (1) translation of the Spiritual Care-Giving Scale (SCGS) into the Turkish language from the English version and back-translation into English; (2) content analysis by a panel of specialists; and (3) pretesting and psychometric testing (factor analysis, a reliability coefficient, and inter-item correlations).

Participants

The sample comprised 348 nursing students which were registered of two faculty of health science. Gozum and Aksayan (2003) suggested a sample size of 5–10 subjects per item to ensure a conceptually clear factor structure for factor analysis. The desired minimum sample size required was determined to be 175 participants based on 35 items.

The researchers recruited students to participate in the study who met the following eligibility criteria:

- being last nursing class of faculty
- no psychiatric history
- willing to volunteer to complete the scale.

Initial translation into the Turkish language

Translation of the SCGS was carried out by two Turkish individuals who worked independently on the translation. Both were lecturers involved in teaching English and who were native Turkish speakers. The two translated versions were compared by the author and analyzed until there was a consensus regarding the initial translation.

English Version

The initial translation into Turkish was subsequently back-translated into English by two different bilingual independent translators who were Turkish. Neither of these participated in the previous phase of the study. The purpose of the translation phase was to check for discrepancies between content and meaning of the original version and the translated instrument. All the versions were analyzed and compared by the author and a final version resulted.

Content Validity

To test item clarity and content validity, the translated version was submitted to ten nursing specialists who were informed of the measures and concepts involved. The SCGS uses a 5-point Likert scale with responses ranging from one (strongly disagree) to five (strongly agree). Later, the scale was back-translated into English by an English teacher and the scale viewed by the experts. The experts suggested minor changes in wording, and the translated scale was revised accordingly.

Finally, ten specialists reviewed the comprehensibility of the scale to determine its language validity.

Pretest

Once the translated instrument was developed, a pilot study using subjects selected from the target population was undertaken to test the psychometric properties of equivalency, reliability, and score distribution. An analysis of score distribution is particularly important in cross-cultural research because cultural biases often influence responses in language usage (Şeker and Gençdoğan 2006). A total of 348 nursing students in Turkey were the study participants. The final version of the translated instrument was applied to a small pilot group consisting of 20 participants to pretest the instrument. Following the pretest, none of the Turkish words in the scale were changed.

Psychometric Testing

Internal Consistency and Homogeneity

Item analysis was conducted to select items that were highly correlated with each other in each scale and to also reduce the number of items as much as possible, without decreasing internal consistency. The data were analyzed with the statistical computer program SPSS/

PC, and Cronbach's α was calculated by means of the reliability option. This resulted in a Cronbach's α of .96. The item–total correlation had to be larger than .30, and the value of Cronbach's α should not decrease substantially when an item is dropped. Item deletion started with the item with the lowest internal correlation. When this item was deleted, internal consistency was re-estimated and the item with the next lowest item–total correlation was then deleted (Karasar 2008).

Stability

The stability of the scale was established by measuring the split-half method (Spearman–Brown formula).

Construct Validity

The data were analyzed by means of factor analysis; more precisely, a principal component analysis (PCA) and varimax rotation were carried out. To attain the best-fitting structure and correct number of factors, the following criteria were used: eigenvalues higher than 1.0, factor loadings higher than .40, and the so-called elbow criterion regarding the eigenvalues (Norman and Streiner 2008; Tuffery 2011). Before conducting the factor analysis, the Kaiser–Meyer–Olkin measure of sampling adequacy (KMO) and Bartlett's test were conducted to evaluate whether the sample was large enough to perform a satisfactory factor analysis. A KMO value $>.50$ indicates that the sample size is adequate for factor analysis (Tashakkori and Teddlie 2010; Tuffery 2011)

Ethical Considerations

Permission to use the SCGS in this study was obtained from the developers (Tiew and Creedy 2012) before commencement. The study was approved by the Ataturk University Faculty of Health Science Ethics Committee, and informed consent was obtained from each participant. The study was also approved by the faculty administration. Students were invited to participate in the study and were fully informed before verbal and written consents were obtained.

Results

The study phases comprised translation of the SCGS into the Turkish language from the English version and translation into English; content analysis by a panel of specialists; and finally, pretesting and psychometric testing (factor analysis, a reliability coefficient, and inter-item correlations).

Sample Characteristics

The characteristics of the sample ($N = 348$) are summarized in Table 1. The majority of participants were female ($n = 258, 74.1\%$), with a median age of 21.49 ± 1.57 years.

Table 1 Characteristics of participating students ($n = 348$)

Characteristics mean \pm SD	n (%)
Age (years), 21.49 \pm 1.57	
<i>Gender</i>	
Male	90 (25.9)
Female	258 (74.1)
<i>Marital status</i>	
Married/cohabiting	14 (4.0)
Not married	334 (96.0)
<i>Economic status (TRY)</i>	
500–1000	102 (29.3)
1500–1999	85 (24.4)
1500–1999	52 (14.9)
2000–2500	53 (15.2)
2500 and above	56 (16.1)
<i>Geographical region</i>	
Eastern Anatolia region	121 (34.8)
Southeast Anatolia region	75 (21.6)
The Black Sea region	51 (14.7)
Inner Anatolia region	41 (11.8)
Mediterranean region	41 (11.8)
Marmara region	10 (2.9)
Aegean region	9 (2.6)
<i>Profession willingly selection</i>	
Yes	206 (59.2)
No	142 (40.8)
<i>Reasons for choosing the profession of nursing^a</i>	
The effect of the environment	124 (35.6)
Occupational my expectations	186 (53.4)
My family's socioeconomic characteristics	56 (16.1)
Higher education's transition points	84 (24.1)
My personality traits	73 (21)

^a Multiple options are marked

Content Validity

The translated scale, consisting of 40 items, was reviewed by the expert panel for its relevance and the phrasing of the items. For each item, the experts could suggest possible improvements in phrasing. Subsequent revisions of the Turkish version were made and discussed again by the panel members until agreement on content was reached.

Internal Consistency

The data were analyzed with the statistical computer program SPSS/PC, and Cronbach's α was calculated by means of the reliability option. This resulted in a Cronbach's α of .96. The Cronbach's α of the factors was .92, .92, .79, .89, and .73, respectively. If any item was

deleted, the Cronbach's α did not increase, so none of the items were deleted from the final scale. Pearson's product-moment correlation of the scale's items ranged from a minimum value of .37 to a maximum value of .77 (Table 2).

Table 2 Reliability and validity testing for SCGS ($n = 348$)

Factors/items	Mean \pm SD	Cronbach's alpha	Corrected item/total correlation
<i>1. General properties of spiritual care</i>			
31			.74
28			.71
32			.66
33			.76
34	47.82 \pm 8.02	0.92	.73
30			.64
27			.53
25			.69
26			.62
35			.61
29			.52
24			.65
<i>2. Spirituality perspectives</i>			
2			.73
3			.72
4			.70
5	36.96 \pm 6.59	0.92	.77
6			.65
1			.48
8			.74
9			.57
<i>3. Defining spiritual care</i>			
13			.57
14	18.80 \pm 3.64	0.79	.70
12			.46
10			.48
11			.72
<i>4. Spiritual care practices</i>			
18			.68
19			.69
17	23.74 \pm 4.43	0.89	.67
16			.77
23			.65
15			.69
<i>5. Spiritual care attitudes</i>			
22			.37
20	10.94 \pm 2.09	0.73	.69
21			.61
Total SCGS	138.29 \pm 21.6	0.96	.68

Stability

Spearman–Brown split-half reliability coefficient was .88, which was found to be statistically significant ($p < .001$).

Construct Validity

Before factor construction of the scale could be observed, the Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy tests and Bartlett’s test of sphericity were calculated (Norman and Streiner 2008). Analyses showed that the KMO was .963, indicating that the sample was large enough to perform a satisfactory factor analysis and that the sample size was sufficient for psychometric testing of a 35-item scale. The Bartlett’s test was 8518.975; it found that the results of both tests were statistically significant at the level of $p < .0001$ and were satisfactory for factor analysis.

Using SPSS/PC, a PCA was completed. The PCA revealed five factors with an eigenvalue higher than one. The post-rotational variances of the factors were 46.78, 6.02, 4.64, 3.23, 2.91 %, respectively. The five factors all together explained 63.60 % of the variance (Table 3).

The factor loadings were between .44 and .80 (item 21 and item 2), and because the factor loadings were all above .40, none of the items were deleted from the scale (Table 4). After the factor analysis, we gave the following names to the five factors:

- Factor 1: General properties of spiritual care
- Factor 2: Spirituality perspectives
- Factor 3: Defining spiritual care
- Factor 4: Spiritual care practices
- Factor 5: Spiritual care attitudes

Discussion and Conclusion

Our aim was to test the reliability and validity of the SCGS and to demonstrate its applicability for Turkish people. The reliability of a scale refers to the extent to which it is internally consistent. Reliability was assessed by using item–total scale correlations and Cronbach’s α coefficients. The desired criteria of item–total correlation were $>.30$, and alpha levels of .80 or greater were considered desirable, with .70 or above viewed as adequate (Karasar 2008). In this study, correlations between single items ranged from .37 to .77 and the internal consistency of the SCGS assessed by Cronbach’s α was .96. These

Table 3 The results of the principal component factor analysis for SCGS ($n = 348$)

Factor number	Eigenvalue	Percentiles of variance	Cumulative percentiles
1	16.376	46.788	46.788
2	2.110	6.029	52.817
3	1.625	4.643	57.460
4	1.132	3.235	60.695
5	1.020	2.913	63.608

Table 4 Factor loadings for the SCGS ($n = 348$)

Factors	Factor loadings
<i>1. General properties of spiritual care</i>	
31. Spirituality is influenced by individual's life experiences	.754
28. Spiritual care should be positively reinforced in nursing practice	.732
32. Spirituality helps when facing life's difficulties and problems	.718
33. Spiritual care requires the nurse to be empathetic toward the patient	.702
34. A trusting nurse–patient relationship is needed to provide spiritual care	.695
30. Spiritual care is important because it gives patient hope	.685
27. Spiritual care should be instilled throughout a nursing education program	.671
25. Nurses who are spiritual aware are more likely to provide spiritual care	.587
26. Spiritual care requires awareness of one's spirituality	.545
35. A team approach is important for spiritual care	.533
29. The ability to provide spiritual care develops through experience	.502
24. Spiritual care should take into account of what patients think about spirituality	.431
<i>2. Spirituality perspectives</i>	
2. Spirituality is an important aspect of human beings	.802
3. Spirituality is a part of a unifying force which enables individuals to be at peace	.787
4. Spirituality is an expression of one's inner feelings that affect behavior	.782
5. Spirituality is a part of our inner being	.768
6. Spirituality is about finding meaning in the good and bad events of life	.662
1. Everyone has spirituality	.619
8. Spirituality drives individuals to search for answers about meaning and purpose in life	.610
7. Spiritual well-being is important for one's emotional well-being	.588
9. Without spirituality, a person is not considered whole	.581
<i>3. Defining spiritual care</i>	
13. Nursing care, when performed well, is itself, spiritual care	.632
14. Spiritual care is a process and not a one-time event or activity	.612
12. Spiritual care is more than religious care	.604
10. Spiritual needs are met by connecting oneself with other people, higher power or nature	.570
11. Spiritual care is an integral component of holistic nursing care	.490
<i>4. Spiritual care practices</i>	
18. Nurses provide spiritual care by respecting the religious and cultural beliefs of patients	.648
19. Nurses provide spiritual care by giving patients time to discuss and explore	.619
17. Being with a patient is a form of spiritual care, their fears, anxieties, and troubles	.614
16. Sensitivity and intuition help the nurse to provide spiritual care	.473
23. Nurses provide spiritual care by respecting the dignity of patients	.466
15. Spiritual care is respecting a patient's religious or personal beliefs	.452
<i>5. Spiritual care attitudes</i>	
22. I am comfortable providing spiritual care to patients	.742
20. Spiritual care enables the patient to find meaning and purpose in their illness	.533
21. Spiritual care includes support to help patients observe their religious beliefs	.524

results were similar to the original scale (Tiew and Creedy 2012) where Cronbach's α was .86. Looking specifically at the items in the Turkish scale compared with the original scale, it appears that cultural characteristics may have been an influencing factor. This also calls into question the KMO procedure. The KMO was .96, indicating that the sample was large enough to perform a satisfactory factor analysis and that the sample size was sufficient for psychometric testing of a 35-item scale.

The PCA revealed five factors with an eigenvalue higher than one. After the factor analysis, these five factors were named as: (1) general properties of spiritual care, (2) spirituality perspectives, (3) defining spiritual care, (4) spiritual care practices, and (5) spiritual care attitudes. These results were similar to the original scale (Tiew and Creedy 2012). The split-half reliability of SCGS was .88, indicating good consistent reliability within scale. Our results showed that the validity and the reliability of the SCGS are extremely high, and it is an adequate measurement scale to determine, participants' knowledge, attitudes, and beliefs about spiritual care. In conclusion, the Turkish version of the SCGS has shown statistically acceptable levels of reliability and validity.

The SCGS may assist clinical managers interested in exploring staff perceptions and attitudes toward spirituality. Attending to patients' spiritual needs is a much neglected area of practice. This study was made to measure reliability and validity of the SCGS with a large sample of final year nursing students to assess their understanding of spirituality and spiritual care. While the SCGS was found to be reliable and valid, the instrument requires further testing with cohorts of students in different countries and contexts. Cross-cultural influence in health behaviors can only be meaningfully studied with reliable and valid instruments.

A recommendation is that this scale should be further evaluated with a large enough sample size, in different regions in Turkey and diverse populations worldwide. Once a valid and reliable scale is ready for use, it can be used to measure outcomes in an intervention study.

What is Already Known About the Topic

- There is little research on students' perceptions of spirituality and spiritual care.
- There is no one composite scale in Turkey measuring spirituality, spiritual care, and factors influencing spiritual care.

What This Article Adds

- Construct validity of the SCGS was further supported in a sample of nursing students.
- Spiritual care as an outcome of nursing care processes can be evaluated by the instrument.
- After further validation of the scale, nurses could use it to identify the nursing students' perspectives of spirituality, spiritual care, and factors influencing spirituality in practice.

Limitations

As the nature of spirituality is complex and multidimensional, exploring students' understanding and perceptions of spirituality and spiritual care using a questionnaire may not reflect all views. Even though the items were informed from a variety of sources such

as interviews with students and the published literature, some respondents may have different perspectives not reflected in the items.

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Compliance with Ethical Standards

Conflict of interest None.

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