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Cross-cultural validation of the Brazilian version of the spiritual care competence scale

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#### **Abstract**

**Objective.** This study describes the cross-cultural validation and psychometric evaluation of the Spiritual Care Competence Scale – Brazilian Portuguese version. This reliable and valid instrument is recommended in the literature to measure the outcomes of the education process in the development of spiritual care competences.

**Method.** This is a cross-sectional validation study following the stages proposed by Beaton et al.: translation into Portuguese, back translation into English, expert committee review for semantic equivalence, assessment of the clarity of the pre-final version, and evaluation of the psychometric properties of the final version in Portuguese. Health professionals working at a public hospital in South Brazil participated in the different stages of this study.

**Result.** Regarding internal consistency, total Cronbach's alpha was 0.92 and the mean interitem correlation was 0.29. The test-retest procedure showed no statistically significant differences in the six subscales. The intraclass correlation coefficient ranged from 0.67 to 0.84, demonstrating the stability of the scale.

**Significance of results.** The results support the psychometric quality of the scale and indicate that the adapted instrument is a valid and reliable scale with good internal consistency for measuring spiritual care competencies of health professionals in Brazilian healthcare settings.

## Introduction

Spirituality and spiritual care are considered essential elements of comprehensive healthcare and key indicators of quality care (Joint Commission International, 2014; Puchalski & Larson, 1998). The past decade has witnessed an exponential growth of studies in this area, stimulating the interest of health professionals in the issue. These studies have also highlighted the lack of training and development of professional competences as a potential barrier to the inclusion of spirituality in healthcare settings (Baldacchino, 2015; Lucchetti et al., 2013; van Leeuwen et al., 2008), and there are few validated and reliable instruments that can measure the impact of educational processes on the development of competences for spiritual care (van Leeuwen et al., 2009). These are two issues we aim to discuss to introduce our motivations for the present validation study.

One of the main problems of integrating spirituality and spiritual care into health education is related to the debate on concepts because they are subjective in nature and their inclusion in the curriculum poses a challenge to educators. Research, education, and health practices emerge in this discussion, with a view toward understanding how human spirituality permeates the contemporary care scenarios (Dezorzi & Crossetti, 2008). At the International Conference on Improving the Spiritual Dimension of Whole Person Care: The Transformational Role of Compassion, Love, and Forgiveness in Health Care, held in January 2013, the participants, many of which were researchers and professionals with experience in this area, defined by consensus a conceptual basis for this challenge. Spirituality was defined as:

A dynamic and intrinsic aspect of humanity through which persons seek ultimate meaning, purpose, and transcendence, and experience relationship to self, family, others, community, society, nature, and the significant or sacred. Spirituality is expressed through beliefs, values, traditions, and practices (Puchalski et al., 2014).

In the same vein, spiritual care is one that recognizes and responds to the needs of the human spirit, especially when faced with trauma, health problems, or sadness. The patient may want to find meaning for the lived moment and the changes in his or her life, seeking

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support in their faith, or may simply be looking for a sensitive listener. Spiritual care begins with encouraging human contact and a compassionate relationship, being able to move in whatever direction need requires (NHS, 2009). Although there is a large consensus on the importance of spiritual care in palliative care, only limited attention has been included in clinical practice (Gilberts et al., 2011) and in education process.

A multicenter study involving 12 Brazilian medical schools with 5,950 medical students showed the lack of training on spirituality and health. Most students had no training on this subject and believed that Brazilian medical schools were not adequately preparing to address spiritual/religious issues in clinical practice (Luchetti et al., 2013). Similarly, a study conducted with students and nursing teachers showed that there is a lack of information about spirituality. It confirms that teachers need to implement educational instruments that make it possible to prepare students to carry out this approach with their patients (Tomasso et al., 2011).

The outcomes of these studies have shown that it is highly necessary to improve a discussion about the place that spirituality should take in the health professional curriculum to achieve a more patient-centered care, especially regarding palliative care units. However, there are currently no assessment tools in Brazilian Portuguese to evaluate educational processes involving spiritual care competencies of students and/or health professionals in the institutional setting.

Spiritual care competency has been defined as the knowledge, skills, and attitudes required for spiritual care delivery (van Leeuwen et al., 2009), and a measure instrument has been previously assessed with adequate reported reliability and validity, called Spiritual Care Competence Scale (SCCS). This scale was originally developed in Dutch to measure competencies in spiritual care among nursing students and was later validated in English. It was the English version of the SCCS (van Leeuwen et al., 2009) that was chosen for the present validation study.

The scale contains 27 items scored on a 5-point scale ranging from "completely disagree" (1) to "completely agree" (5), indicating self-assessment of spiritual care competence. It has six subscales: assessment and implementation of spiritual care, professional development and improving the quality of spiritual care, personal support and patient counseling, referral to professionals, attitude toward patients' spirituality, and communication. The total score of this scale ranges from 27 to 135. A high overall score indicates higher levels of perceived competency. The SCCS is a valid and reliable measure of spiritual care competence. It has good homogeneity, average inter-item correlations (>0.25) and good test-retest reliability. Cronbach's Alpha scores range from 0.56 to 0.82 (van Leeuwen et al., 2009; van Leeuwen & Schep-Akkerman, 2015).

The SCCS is not yet validated for Brazilian Portuguese. The aim of our study was to carry out the cross-cultural adaptation/validation of the English version of the SCCS for Brazilian Portuguese and to evaluate the psychometric properties of the adapted questionnaire for use with all healthcare professionals.

## **Methods**

## Design and sample

This methodological and cross-sectional study involved the translation, adaptation, and validation of the SCCS for use with Portuguese-speaking health professionals in Brazil. The study was performed with health professionals of the Hospital de

Clínicas de Porto Alegre in south Brazil. It was conducted in two phases: (1) translation and adaptation of the SCCS and (2) evaluation of the psychometric properties of the adapted questionnaire. The number of participants for each of the validation phases was defined according to the recommendations of Beaton et al. (2000).

#### **Ethical considerations**

Prior authorization was obtained from the original developers of the questionnaire, who consented to the adaptation and evaluation of the psychometric properties of the SCCS for Brazilian culture. The study is conformed to the provisions of the Declaration of Helsinki and was approved by the Research Ethics Committee of the Hospital under protocol number 12-0456.

#### Procedures of cross-cultural validation

We followed the guidelines proposed by Beaton for the translation and cross-cultural adaptation of self-report measures (Beaton et al., 2000). In the first stage (initial translation), two bilingual translators, whose mother tongue is Portuguese and who have mastered the source language, produced two independent translations of the scale into Brazilian Portuguese. In the second stage (synthesis of the translations), versions were pooled and synthesized into a single common translation. In the third stage (back translation), working from the translated versions (T1 and T2) of the questionnaire and totally blind to the original version, two other translators, whose mother tongue is English and who have mastered Portuguese, produced two new independent translations into the original language of the scale (English).

The fourth stage was the expert committee review. The committee was composed of six professionals selected according to predetermined criteria (scientific production, clinical experience with patient spirituality and spiritual care, and experience with translation, adaptation, and validation of instruments), one language expert, and the principal investigator. Two face-to-face meetings were held during the review process. The role of the expert committee was to evaluate the original instrument and all translated versions and develop the pre-final version of the questionnaire for field testing. The decisions made by the committee to achieve equivalence between the source and target versions of the questionnaire were based on semantic, idiomatic, functional, and conceptual equivalence (Beaton et al., 2000).

The back-translated version was sent to the original developers of the questionnaire for appraisal and confirmation of the semantic adjustment and adaptations made to be used with all health professionals. The developers approved the back-translated version and consented to the continuation of the study. The fifth stage was the field test of the Portuguese version of the questionnaire for textual clarity. An invitation for voluntary participation in the survey was e-mailed to 40 health professionals working at Hospital de Clínicas de Porto Alegre. The e-mail contained a link to a web-based version of the instrument (SurveyMonkey, Palo Alto, CA) to ensure that all information collected was blinded upon receipt. All health professionals agreed to participate and completed the electronic survey instrument. Anonymous survey responses were then downloaded from the SurveyMonkey website for analysis following survey closure. After analyzing the responses and suggestions of the respondents, the final Brazilian Portuguese version of the questionnaire was drafted, called hereafter the SCCS - Brazilian version.

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## Psychometric testing of the SCCS - Brazilian version

Following this, the SCCS – Brazilian version was tested for its psychometric comparability with the English version. All health professionals working in the palliative care unit, adult intensive care unit, and pediatric intensive care unit at Hospital de Clínicas de Porto Alegre were eligible for participation in the psychometric testing of the translated questionnaire to ensure a heterogeneous sample. Sample size was calculated based on the suggested five to 10 participants per variable (Hair et al., 1998).

Data were collected from January to April 2016. An invitation for voluntary participation in the survey was e-mailed to 350 health professionals. The e-mail contained a link to the web-based questionnaire (SurveyMonkey) and a form to be completed with sociodemographic data: gender, age, level of education, length of professional experience, and spiritual and/or religious choices. By returning the completed questionnaire, the respondent agreed to participate and consented to the release of the results. All participants were assured of their anonymity.

The retest occurred at two to four weeks after the time of first questionnaire response. At this stage, 38 health professionals agreed to participate and completed the questionnaire a second time for the purpose of determining the test-retest reliability.

## Data analysis

The statistical analysis was performed using the SPSS statistical software (v. 18.0). Construct validity was evaluated by factor analysis and internal consistency was estimated with Cronbach's alpha and the mean inter-item correlation (MIIC). In the factor analysis, after extracting the factors, principal component analysis with Varimax rotation was performed to reduce the set of items to a smaller set of variables within each factor, thus facilitating the interpretation of data (Hair et al., 1998).

Reliability of the SCCS – Brazilian version was examined with the Cronbach's alpha internal consistency coefficient for each dimension of the scale (Cronbach, 1951; Pasquali, 2009). A Cronbach's alpha  $\geq$  0.70 was considered acceptable (Cronbach, 1951). Cronbach's alpha is essentially a function of two parameters: the number of scale items and the MIIC (Cortina, 1993). The MIIC should fall within an optimal range of 0.20 to 0.50 (Briggs & Cheeck, 1986) but should not be less than 0.15 (Clark & Watson, 1995). Therefore, to estimate the internal validity of the SCCS – Brazilian version, the following criteria were used: MIIC  $\geq$  0.25 and Cronbach's alpha  $\geq$  0.70 (Briggs & Cheeck, 1986; van Leeuwen et al., 2009).

Thus, quantitative variables with symmetric distribution were presented as mean and standard deviation, whereas asymmetric quantitative variables were presented as medians and interquartile range (25–75). Qualitative variables were expressed as absolute and percentage frequencies. Student *t* test was applied to compare the mean scores according to gender, spiritual, and/or religious choice and also in the test-retest. All statistical tests were performed at a significance level of 5% (Callegari-Jaques, 2003; Hulley et al., 2008).

#### **Results**

In the first phase of the study, all of the original 27 items were maintained in the pre-final version of the SCCS – Brazilian version. However, the expert committee excluded terms specifically related to nursing to allow the use of the questionnaire for all

health professionals. After the pretest, some terms were modified in the scale. For example, in questions 5 and 6, the expression "on a patient's spiritual functioning" was considered unclear and thus replaced with "how the patient exercises his or her spirituality."

# Sample characteristics

In the second phase of the study, for evaluation of the psychometric properties of the SCCS – Brazilian version, questionnaires were emailed to 350 health professionals. Of these, 181 agreed to participate and returned the questionnaire, with an overall response rate of 51%. The mean age of participants was 41.8 years (SD=10.0 years), and 77.3% were women. Regarding the level of education, 38.7% had academic specialization and 17.1% had a master's degree. The median professional experience was 15 years (range, 10 to 26 years), 78.5% reported a wide range of spiritual and/or religious choices, and 21.5% of the participants reported having no spiritual and/or religious beliefs.

## Factor analysis of the SCCS translated version

In the principal component analysis with Varimax rotation, although the SCCS – Brazilian version was subdivided into seven factors, and three items (numbers 3, 15, and 18) had factor loadings < 0.30 (Table 1). However, we decided, after a discussion between the investigators from Brazil and from the Netherlands, to maintain the original six factors (dimensions) and 27 items because this division or exclusion of items did not significantly change the Cronbach's alpha or MIIC values. This decision was made to preserve the original structure of the instrument and allow comparison of new cross-cultural studies with published values in these populations.

Table 1 shows the six dimensions with their respective items, the factor loading per item, and the Cronbach's alpha and MIIC of each dimension. The total Cronbach's alpha and MIIC of the SCCS – Brazilian version were 0.92 and 0.29, respectively, providing evidence of its validity and reliability.

Moreover, the data showed statistically significant differences (p < 0.001) in total scale scores when the health professionals had one or more spiritual and/or religious choices (Table 2).

Therefore, the six factors of the SCCS – Brazilian version explain 61.1% of the total instrument variance. The Kaiser-Meyer-Olkin measure of sampling adequacy was 0.88 and Bartlett's test of sphericity was significant (p < 0.001), indicating that the sample was adequate for factor analysis.

The test-retest procedure showed no statistically significant differences in the six subscales. The intraclass correlation coefficient ranged from 0.67 to 0.84, confirming the stability and reliability of the instrument. Additional data and tables can be made available via the corresponding author.

## **Discussion**

This study was a first step to provide a valid and reliable instrument in Brazilian Portuguese for the assessment of health professional competencies in spiritual care. The cross-cultural validation and psychometric testing of the SCCS for Brazilian Portuguese showed that the adapted questionnaire, with six subscales, has high internal consistency reliability and strong construct validity, being able to measure competencies in spiritual care among health professionals. The test-retest procedure demonstrated no statistically significant differences between tests at baseline.

Table 1. Principal component analysis of the Spiritual Care Competence Scale - Brazilian version

Dimensions	Factor loading	Cronbach's alpha	MIIC
Assessment and implementation of spiritual care		0.84	0.46
1. I can report orally and/or in writing on a patient's spiritual needs	0.64		
2. I can tailor care to a patient's spiritual needs/problems in consultation with the patient	0.33		
3. I can adapt care to a patient's spiritual needs/problems through multidisciplinary assessment	0.24		
4. I can record the contribution to spiritual care in the patient's care plan	0.66		
5. I can report in writing how the patient exercises his or her spirituality	0.74		
6. I can report orally how the patient exercises his or her spirituality	0.75		
Professionalization and improving the quality of spiritual care		0.87	0.52
7. Within the department/unit, I can contribute to quality assurance in the area of spiritual care	0.48		
8. Within the department/unit, I can contribute to professional development in the area of spiritual care	0.63		
9. Within the department/unit, I can identify problems relating to spiritual care in peer discussion sessions	0.55		
10. I can coach other health professionals in the area of spiritual care delivery to patients	0.79		
11. I can make policy recommendations on aspects of spiritual care to the management of the department/unit	0.80		
12. I can implement a spiritual-care improvement project in the department/unit	0.83		
Personal support and patient counseling		0.83	0.45
13. I can provide a patient with spiritual care	0.70		
14. I can evaluate the spiritual care that I have provided in consultation with the patient and the healthcare team	0.65		
15. I can give a patient information about spiritual facilities within the care institution	0.25		
16. I can help a patient continue his or her daily spiritual practices	0.67		
17. I can attend to a patient's spirituality during the daily care	0.63		
18. I can refer members of a patient's family to a spiritual counselor if they ask me and/or if they express spiritual needs	0.16		
Referral		0.72	0.46
19. I can effectively assign care for a patient's spiritual needs to another care provider/health professional	0.70		
20. I can in a timely and effective manner, at the request of a patient with spiritual needs, refer him or her to a spiritual/religious leader.	0.79		
21. I know when I should consult a spiritual advisor concerning a patient's spiritual care	0.34		
Attitude toward patient spirituality		0.67	0.34
22. I show unprejudiced respect for a patient's spirituality/religiosity regardless of his or her spiritual/religious background	0.75		
23. I am open to a patient's spiritual/religious beliefs, even if they differ from my own	0.78		
24. I do not try to impose my own spiritual/religious beliefs on a patient	0.56		
25. I am aware of my personal limitations when dealing with a patient's spiritual/religious beliefs	0.73		
Dimensions			
Communication		0.77	0.63
26. I can listen actively to a patient's life story in relation to his or her illness/special needs	0.88		
27. I have an accepting attitude in my dealings with a patient	0.80		
Total		0.92	0.29

MIIC, mean inter-item correlation.

When comparing our results with the original study of SCCS (van Leeuwen et al., 2009), almost all dimensions had similar Cronbach's alpha and MIIC (Table 1), only dimension "Attitude toward the patient's spirituality" had best Cronbach's alpha and MIIC than original. Although this dimension did not present an ideal Cronbach's alpha ( $\geq$  0.70), MIIC values

fall within an optimal range of 0.20 to 0.50 (Briggs & Cheeck, 1986).

The spiritual and/or religious choice has a statistical significant difference in the total score of SCCS-Brazilian version. These data are consistent with the studies have shown that the way a health professional relates to his or her own spirituality could influence

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Table 2. Scores on the Spiritual Care Competence Scale - Brazilian version and association with responses relating to spiritual and/or religious choice

Dimensions	Spiritual and/or religious choice Mean ( <i>SD</i> )	No spiritual and/or religious choice Mean ( <i>SD</i> )	р
Assessment and implementation of spiritual care	19.5 (4.5)	17.8 (4.7)	0.035
Professionalization and improving the quality of spiritual care	17.5 (4.7)	15.2 (4.8)	0.006
Personal support and patient counseling	19.5 (4.7)	16.5 (4.7)	<0.001
Referral	9.5 (2.6)	8.3 (2.3)	0.009
Attitude towards the patient's spirituality	18.2 (2.1)	17.4 (2.0)	0.026
Communication	8.9 (1.1)	8.6 (1.3)	0.061
Total	93.2 (14.5)	83.7 (14.6)	<0.001

in the quality of the spiritual care he or she will provide (Baldacchino, 2015; Highfield et al., 2000; Lemmer, 2010; Meyer, 2003; van Leeuwen, et al. 2008; Wasner et al., 2005). However, these differences will require additional investigation to determine the source of this relationship. In particular, it may be helpful to conduct qualitative research with health professional about the factors that are influencing this phenomenon. Also, the use of SCCS – Brazilian version in the continuing education process could clarify if this difference could be maintained.

In addition, consistent with what was suggested by the developers of the original SCCS (van Leeuwen et al., 2009), after the crosscultural validation process, the instrument was able to expand its spectrum of use. Based on a theoretical model designed for nursing students and professionals, after this adaptation, the SCCS – Brazilian version is also a valid and reliable scale for the measurement of spiritual care competencies of health professionals, which is applicable to more heterogeneous populations. Therefore, it is a suitable tool for measuring interdisciplinary health professional competencies in terms of the education process.

Among the limitations of our study was that no other instrument, at the time of data collection, was validated in Brazilian Portuguese for the measurement of health professionals' competencies in providing spiritual care to patients; thus, the criterion validity of the adapted questionnaire could not be determined. Therefore, we suggest that future studies in other populations should include criterion validity and confirmatory factor analysis.

#### **Conclusion**

On the basis of this study, the SCCS – Brazilian version showed satisfactory psychometric properties, confirming its potential to measure the competencies of health professionals in delivering spiritual care. In addition, our study intends to contribute to contemporary reflections on the inclusion of this topic in the university curriculum and in the continuing education process in healthcare institutions to provide holistic care that includes spirituality and spiritual care demands of patients and their families, mainly in palliative care.

**Supplementary material.** The supplementary material for this article can be found at https://doi.org/10.1017/S1478951518000159.

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Conflicts of interest. None.

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