














Validation Study of the Revised Spirituality and Spiritual Care Rating Scale (SSCRS): A Cross-Sectional Survey in Poland

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Introduction: The use of a validated scale, Spirituality and Spiritual Care Rating Scale (SSCRS) to measure nurses' perceptions of spirituality and spiritual care.

Aim: The purpose of this study was to analyse selected psychometric properties of the Polish version of the SSCRS, among them the applicability of the dimensions of spiritual care in nursing, ie, spirituality, spiritual care, religiosity and personalized care, to Polish conditions.

Methods: Poland-wide multicentre study with a cross-sectional validation design. The study was conducted between March and June 2019. Seven Polish Nursing Faculties accepted the invitation to participate in the study. A representative sample of 853 nurses enrolled in MSc (postgraduate) programs in nursing participated. After translation and cultural adaption of the SSCRS, the instrument underwent a full psychometric evaluation of its construct validity using (exploratory and confirmatory factor analysis), internal consistency (Cronbach's alpha and correlation analysis), reliability (test-retest analysis), known-group validity (Student's *t*-test) analysis.

Results: The exploratory and confirmatory factor analysis demonstrated that the Polish version of the SSCRS was a three-factor model with "Activity-centred spiritual care" (9 items), "Emotional support-centred spiritual care" (5 items) and "Religiosity" (3 items) domains. The Cronbach's alpha coefficient for the whole scale was 0.902, and the alpha values for the individual domains were 0.898, 0.873 and 0.563, respectively. The three domains mentioned above seemed to provide a comprehensive understanding of spiritual care perceived subjectively by Polish MSc in nursing students.

Conclusion: This study demonstrated a substantial degree of similarity in the selected psychometric characteristics of the Polish version of SSCRS and the original scale.

Keywords: spirituality, holistic nursing, nursing care, postgraduate nursing education

Introduction

Spiritual care (SC) is increasingly recognized by both international and national nursing organizations as an important component of holistic care.¹⁻⁴ Some organizations have been developing guidelines with regards to the education of nursing personnel in SC and they emphasize the importance of spirituality in complex patient management.^{2,4} Providing SC has also shown to significantly improve the patients' compliance and well-being.⁵⁻⁷ The growing role of SC in nursing practice was reflected in various initiatives, such as the National Coalition for Hospice and Palliative Care,³ and international projects, eg, "Enhancing Nurses' and Midwives' Competence in Providing Spiritual Care through Innovative Education and Compassionate Care."⁸

According to the North American Nursing Diagnosis Association (NANDA) International 2018–2020 guidelines,⁹ states identification of patients' spiritual needs should be a component of nursing diagnosis. One of the recommendations is to develop and to implement courses on spirituality and SC in nursing schools.⁸ Unfortunately, nursing professionals are not prepared well enough to provide SC.¹ Similar opinions have also been shared by the Spiritual Care Association.^{10,11} Moreover, some authors claimed that SC offered by nurses is typically intuitive, instead of being based on relevant knowledge and skills.¹²

SC is an important element considered by accreditation organizations, and hence, adequate preparation of nursing candidates for providing this care should be an essential component of university curricula.¹³ Education in this matter should centre around the primary principles of SC, such as listening, spending time with patients, respecting their privacy and dignity, maintaining religious practices, and delivering care with kindness and concern.^{14–16}

The question of what constitutes SC has been discussed extensively.¹⁷ This debate is associated with the subjective nature of spirituality, which to a large degree depends on an individual's own worldview and interpretation of the concept.¹⁸ There are different understandings and definitions of spirituality used in healthcare context.^{19,20} One of the widely agreed upon definitions is provided by the European Association for Palliative Care (EAPC), in which there are three dimensions of spirituality underlined: existential challenges, value-based considerations and attitudes, and religious considerations and foundations.²¹ A systematic review conducted by de Brito Sena, Damiano, Lucchetti and Peres²⁰ analysing 166 sources, they propose a new framework and define spirituality as (1) a human individual, dynamic characteristic; (2) expressed through beliefs, practices, and experiences in the search for connection with something that promotes meaning and personal growth; and (3) leads to the development of values and positive inner feelings.

The importance of spirituality and the concept of spiritual care in nursing have been included in theoretical foundations of this profession from its beginning. Florence Nightingale, Joyce Travelbee or more recently, Jean Watson developed their nursing model indicating spirituality as a component of holistic nursing practice.¹⁷ Even though spirituality is differentiated from religiosity, for many nurses spiritual care means to fulfill religious needs of patients.¹⁷ Martsof and Mickley²² provide a useful review of the place spirituality holds in several nursing theories.

Different perspectives when discussing the concept of spirituality in healthcare may hinder adequate involvement of nurses in meeting the spiritual needs of their patients.²³ Frequently observed is the claim that insufficient level of SC might also pose a challenge to contemporary nurses education.^{11,24} This warrants the use of dedicated instruments, not only to measure nurses' skills in SC but also to analyse the spiritual needs of their patients. However, when the concept is difficult to define, it is also difficult to measure, and despite different instruments available, there is debate regarding their construction and applicability.²⁵

The psychometric instruments that can be used to examine the phenomenon of spirituality, attitudes and needs related to SC include those dedicated to students and medical personnel (also nurses), as well as patient scales.^{19,26–30} The latter group includes such instruments as the Spiritual Needs Assessment for Patients (SNAP),³⁰ Spiritual Needs Questionnaire (SpNQ, version 1.2.),²⁶ and Quality of Spiritual Care (QSC).²⁷ All these provide information about the spiritual needs of patients, as well as about the satisfaction of patients and their relatives with the SC received. All these instruments are invaluable in supporting the work of nurses.

Questionnaires dedicated to medical personnel include such instruments as the Spirituality Assessment Scale (SAS),²⁸ Spirituality Measurement Scale (SMS),²⁹ and Spirituality and Spiritual Care Rating Scale (SSCRS).¹⁹ SAS consists of four subscales: purpose and meaning in life, interconnectedness (connectedness to others and environment), innerness (inner peace and inner strength in times of difficulties), and transcendence.²⁸ In turn, SMS measures five dimensions: transcendence, self-engagement, self-efficacy, self-awareness, and service towards others. This instrument examines the spirituality of an individual based on the assumption that every person is a spiritual being; it is, however, the awareness of one's spirituality that differentiates between two individuals.²⁹ Another important scale to determine the spirituality and nurses' attitudes towards spiritual care is the SSCRS. The authors of this scale identified four domains: spirituality, spiritual care, religiosity and personalised care, which are structured around following concepts referring to spirituality: hope, meaning and purpose, forgiveness, beliefs and values, spiritual care, relationships, belief in God or deity, morality, creativity and self-expression.¹⁹

The lack of adequate competencies in terms of SC results in nurses' feeling inadequately preparedness to support these needs.³¹ This warrants activities to enhance the effectiveness of SC in practice. According to Ross,³² such activities should also be included in the continuing education programs for nurses. Through adequate training, nurses could gain competencies necessary to provide SC more effectively. As a result, they would not only better understand the underlying ideas of SC but could also utilize

this knowledge in clinical practice.³³ To adequately prepare nurses, effective training programs are required that will increase nurses' competence in providing SC. To establish the efficacy of education one needs scales that comprehensively measure and characterize the issues related to SC. One such scale seems to be the SSCRS which distinguishes between the religiosity and spirituality, and measures nurses' attitudes towards SC.¹⁹ Unlike the Spirituality Assessment Scale²⁸ and Spirituality Measurement Scale,²⁹ both focusing primarily on the awareness of one's spirituality, SSCRS is suitable for a comprehensive analysis of the personal resources, and hence, can help strengthen those resources through a well-designed training programme.

The aim of the study was to analyse selected psychometric properties of the Polish version of the SSCRS (SSCRS_P), establishing the applicability of the dimensions of spiritual care proposed by McSherry, Draper and Kendrick,¹⁹ ie, spirituality, spiritual care, religiosity and personalised care, to Polish contexts.

Material and Methods

Design

This Poland-wide multicentre study using a cross-sectional validation design included a representative sample of 853 nurses enrolled in MSc programs in nursing. The study was conducted between March and June 2019.

Sample and Setting

A total of 16 academic faculties offering MSc programs in nursing were invited to participate in the study. The number of nurses enrolled on the MSc programs (level VII according to the European Qualifications Framework) at those faculties is approximately 6000, which corresponds to 90% of all Polish post-graduate students.³⁴ A formal invitation email was sent to Heads of Nursing Faculties. Seven Nursing Faculties, which educates a total of 2000 nurses pursuing the MSc title, accepted this invitation. Complete data were obtained from 853 respondents (response rate 42.65%). Considering this sample size and the overall number of nurses enrolled in the MSc programs in Poland (N = 6000), the error margin was 3.17% (95% confidence level and proportion 0.50).³⁵

Ethical Considerations

Before the study, verbal informed consent to participate was obtained from each recruited nurse. Information about the objectives of the study, the methods of data analysis and archiving were provided in a written form. Moreover, the respondents were assured that their personal data would be used solely for research purposes. Each participant could withdraw from the study at any stage. According to the Local Inspector for Personal Data Protection, considering the type of data collected within the framework of the study, no additional consent for personal information processing had to be sought from the participants. The protocol of the study was approved by the Bioethics Committee at the Medical University of Warsaw (AKBE/152/16). This study complies with the Declaration of Helsinki.

Instrument

The Spirituality and Spiritual Care Rating Scale (SSCRS) was developed by McSherry, Draper and Kendrick¹⁹ to measure perceptions of spirituality and spiritual care in nursing. The SSCRS is a 17-item instrument with four factor-based subscales. Subscale I "Spirituality (existential elements)", consists of five statements about the broader concept of spirituality incorporating existential elements. Sample item: I believe spirituality is about finding meaning in the good and bad events of life. Subscale II "Spiritual Care" includes five statements referring to the main rudiments of spiritual care. Sample item: I believe nurses can provide spiritual care by arranging a visit by the hospital Chaplain or the patient's religious leader if requested. Subscale III "Religiosity" has three statements according to which spirituality is not only a concept associated with religion. Sample item: I believe spirituality does not apply to Atheists or Agnostics. Subscale IV "Personalised Care" consists of three statements about personalised care, specific to the individual. The link between the spirituality and one's beliefs, values, morals and relationships are vital in the context of personalised care. Sample item: I believe spirituality involves personal friendships, relationships.

The original SSCRS demonstrated a reasonable internal consistency rate, for a newly developed scale with a Cronbach's alpha coefficient of 0.64.¹⁹

Translation and Cultural Adaptation of the SSCRS

Linguistic-cultural adaptation and validation of the Polish version of the SSCRS were carried out in line with the guidelines developed by Sousa and Rojjanasiriat³⁶ The translation and validation procedure consisted of four phases. The original SSCRS, in the form published by McSherry, Draper and Kendrick,¹⁹ was translated into Polish by two independent interpreters. After reaching a consensus, the two translated versions of the SSCRS were combined into a single scale. Then, this version was translated back into English by two independent bilingual interpreters (a healthcare professional bilingual in English and Polish, and a native Polish with a university degree in English), both blinded to the original version of the SSCRS. The two back-translated scales were reviewed by McSherry, the author of the original SSCRS. Based on his feedback, a multidisciplinary team of experts carried out a transcultural equivalence analysis of the original SSCRS and SSCRS_P. The multidisciplinary team consisted of an expert in statistical validation methods, all members of the research team, and three interpreters involved in the translation during the first two phases. The members of the team reached a consensus and developed the version of the SSCRS_P to be used during the pre-testing phase. The Polish version of the SSCRS was pretested in a randomly selected cohort of 10 nurses enrolled in the MSc programs. The pre-test confirmed that all questions were understandable, but some minor lexical changes were implemented. This revised version of SSCRS after back-translation was approved by the scale developer. Eventually, the final Polish version of the SSCRS was developed and used during further validation stages to determine its psychometric properties (see [Supplementary Material](#)).

Data Collection

The data were collected with a self-report survey. The questionnaires were completed by a group of nurses enrolled in the MSc programs, gathered in a single classroom after regular academic classes. The trained questioners provided the respondents with verbal information about the objectives of the study and instructed them on how to complete the survey. Then, the questioners collected completed surveys and secured them until they were sent to the central unit coordinating the study. The questioners were not previously involved in the education of the respondents from whom they collected the surveys to eliminate any form or coercion, discomfort, and pressure inherent to the teacher-researcher role. The data collected with the paper surveys were digitalized using ABBYY® FlexiCapture version 9.0 software. Then, the database was screened for atypical and erroneous records and cleaned with automatic instruments. Whenever possible, corrections were made based on the inspection of the paper surveys. Incomplete surveys (less than 10% of the total) were excluded from the validation process. The digitalized data were secured and archived for 5 years, in line with the standard operating procedures of the Medical University of Warsaw.

Data Analysis

A full psychometric evaluation of the SSCRS_P was carried out, to determine construct validity using (exploratory and confirmatory factor analysis), internal consistency (Cronbach's alpha and correlation analysis), reliability (test-retest analysis), known-group validity (Student's *t*-test) analysis of the scale. The psychometric evaluation of the SSCRS_P was carried out in line with the guidelines published by Boateng, Neilands, Frongillo, Melgar-Quinonez and Young.³⁷

Item analysis concerned the assessment of the results using descriptive statistics (mean (M), standard deviation (SD), skewness and kurtosis). The compliance of the SSCRS_P score with the normal distribution was also estimated (D'Agostino's K-squared test). Floor or ceiling effects were considered present if more than 15% of the participants reported either the highest or the lowest possible SSCRS_P scores.³⁸

The exploratory and confirmatory factor analysis were performed independently on a random half of the collected data. This is consistent with the guidelines for factor analysis.³⁹ Exploratory factor analysis (EFA) with direct oblimin rotation was used to evaluate the theoretical relevance of the scale. The number of factors was determined based on Kaiser's criteria.⁴⁰ Items to be included in respective factors were identified on a priori grounds, ie, as items that loaded at more than 0.40 on one factor and at least 0.10 lower on another factor.⁴¹ The principal component analysis was used for the extraction method.

Confirmatory factor analysis (CFA) was carried out to estimate the goodness of fit of the obtained results to the imposed structure based on the original SSCRS study by McSherry, Draper and Kendrick¹⁹ or derived from the new EFA results. The expected values of recommended indices were as follows: χ^2 divided by the degrees of freedom (χ^2/df ratio)

≤ 3.00 ; the Root Mean Squared Error of Approximation (RMSEA); the Comparative Fit Index (CFI) and the Tucker–Lewis index (TLI) > 0.90 .⁴² The maximum likelihood estimation technique was used.

Internal consistency of the SSCRS_P was estimated based on Cronbach's alpha, with the alpha greater than 0.700 considered as a satisfactory internal consistency rate.⁴³ The SSCRS_P was compared with the global score, and inter-item correlations (Pearson's correlation coefficients) were determined.

Test-retest reliability: A subset of students ($N = 70$) were asked to complete the SSCRS_P once again approximately two weeks after the first survey.⁴⁴ Absolute stability of the scale was measured based on intraclass correlation coefficients (ICCs).

Construct validity of the scale was tested based on the assumption that there would be a negative association between the professional activities and the SSCRS_P score (Student's t -test). Known-group validity: students with a history of spiritual care training, and those who attended a communication skills course were expected to have higher SSCRS scores (Student's t -test).

All statistical calculations were carried out with STATISTICA version 13.3 package (TIBCO Software Inc., Palo Alto, California, United States) and Mplus version 7.0 software (Los Angeles, California, United States).⁴⁵ The statistical null hypothesis was rejected if the two-tailed $p < 0.05$.

Results

Participant Characteristics

Most of the participants were women ($N = 801$, 93.3%), who were living in cities with >500 thousand residents ($N = 267$, 31.3%). In Poland, only 5–6% of the nursing staff are men. The study sample reflects this trend. About two-thirds of the participants ($N = 553$, 64.8%) were under the age of 30. The majority of the participants ($N = 720$, 84.4%) had more than 3 years of clinical experience in nursing. Most of the respondents declared no communication skills training ($N = 684$, 80.2%). On the other hand, nearly $\frac{3}{4}$ of the respondents ($N = 608$, 71.3%) has declared to take part in spiritual care training. A detailed overview of the participants' demographics is presented in Table 1.

Table 1 Participant Demographic Characteristics

	1st Year (N = 350)		2nd Year (N = 503)		Total (N = 853)	
	N	%	N	%	N	%
Gender						
Female	329	94.0	472	93.8	801	93.9
Male	21	6.0	31	6.2	52	6.1
Place of residence						
Countryside	79	22.6	89	17.7	168	19.7
Village (population up to 50,000)	52	14.9	82	16.3	134	15.7
Small town (51,000–200,000)	45	12.9	75	14.9	120	14.1
Large town (201,000–500,000)	59	16.9	102	20.3	161	18.9
City $>500,000$	115	32.9	152	30.2	267	31.3
Missing data	0	0.0	3	0.6	3	0.4
Age (years)						
≤ 30	239	68.3	314	62.4	553	64.8
31–40	20	5.7	41	8.2	61	7.2
41–50	69	19.7	103	20.5	172	20.2
>50	20	5.7	32	6.4	52	6.1
Missing data	2	0.6	13	2.6	15	1.8

(Continued)

Table 1 (Continued).

	1st Year (N = 350)		2nd Year (N = 503)		Total (N = 853)	
	N	%	N	%	N	%
Clinical experience (years)						
≥3	269	76.9	451	89.7	720	84.4
<3	72	20.6	41	8.2	113	13.2
Missing data	9	2.5	11	2.1	20	2.4
Spiritual care training*						
Yes	249	71.1	359	71.4	608	71.3
No	98	28.0	133	26.4	231	27.1
Missing data	3	0.9	11	2.2	14	1.6
Communication skills training**						
Yes	52	14.9	88	17.5	140	16.4
No	292	83.4	392	77.9	684	80.2
Missing data	6	1.7	23	4.6	29	3.4

Notes: *Declared participation in training covering the issues of spirituality, spiritual care and spiritual needs of patients;
**Declared participation in a communication skills course.

Item Analysis

Mean overall SSCRS_P score for the study group was 60.66 (SD = 10.94), with individual results ranging between 17.0 and 85.0. The results were skewed left (skewness = -0.92) and lacked normal distribution. None of the items had SD equal to zero. The scores for most items were not distributed normally (D'Agostino's K-squared test) (Table 2). The lowest and the highest possible overall scores of SSCRS_P were obtained in 2 (0.23%) and 3 (0.35%) respondents, respectively (no floor and ceiling effect).

Table 2 Descriptive Statistics for SSCRS_P Scores

Item	Mean	SD	Skew	Kurtosis	K ²	p-value**
SSCRS_1	4.13	1.31	-1.41	0.71	179.220	<0.001
SSCRS_2	4.09	1.29	-1.42	0.79	181.486	<0.001
SSCRS_3	3.73	1.17	-0.67	-0.31	58.842	<0.001
SSCRS_4*	4.07	1.27	-1.27	0.47	150.682	<0.001
SSCRS_5	3.55	1.39	-0.60	-0.93	169.444	<0.001
SSCRS_6	3.89	1.19	-1.04	0.25	111.050	<0.001
SSCRS_7	3.99	1.19	-1.21	0.57	143.032	<0.001
SSCRS_8	3.58	1.24	-0.57	-0.59	66.663	<0.001
SSCRS_9	3.63	1.17	-0.58	-0.37	49.480	<0.001
SSCRS_10	3.58	1.21	-0.56	-0.49	54.608	<0.001
SSCRS_11	3.84	1.23	-0.97	-0.07	98.545	<0.001
SSCRS_12	3.74	1.24	-0.79	-0.31	76.611	<0.001
SSCRS_13*	3.17	1.27	0.01	-0.99	176.461	<0.001
SSCRS_14	4.11	1.13	-1.35	1.07	177.943	<0.001
SSCRS_15	3.85	1.14	-0.85	-0.04	79.377	<0.001
SSCRS_16*	3.66	1.25	-0.62	-0.50	62.888	<0.001
SSCRS_17	3.83	1.19	-0.90	0.01	87.699	<0.001
Total score	60.66	10.94	-0.92	1.28	115.147	<0.001

Notes: *Reverse score items; **D'Agostino's K-squared test.
Abbreviation: SD, standard deviation.

Exploratory and Confirmatory Factor Analysis

First, it was verified if the study dataset satisfied the conditions of the EFA. The determinant of a correlation matrix was near zero (<0.001). Also, the sphericity condition was satisfied (Bartlett's test, $\chi^2 = 7293.059$, $df = 136$, $p < 0.001$). The sampling adequacy measure, assessed using Kaiser–Meyer–Olkin Measure of Sampling index, was 0.916 ($KMO > 0.5$).

EFA demonstrated that up to 17 items included in the SSCRS_P satisfied Kaiser's criteria for three factors, unlike in the original scale, which consisted of four domains. Cumulatively, 60% of the variance was accounted for by the three factors (Table 3).

Although the three-factor model was not consistent with the four-domain concept of the original SSCRS, it was easier for interpretation than the latter. Based on the content of the items retained in the three identified factors, the following three domains were identified: "Activity-centred spiritual care (AcSC)" (9 items), "Emotional support-centred spiritual care (EsSC)" (5 items) and "Religiosity" (3 items). The items with their loadings on each factor are shown in Table 4.

Using the CFA, the goodness of fit of the study data was verified against the 4-factor model (original version of the SSCRS) and the 3-factor model (new version of SSCRS_P). The ratio of chi-square statistic to the degrees of freedom (χ^2/df) was found to be 17.50 for the original model structure ($\chi^2 = 1995.348$, $df = 114$) and 7.50 for the new model

Table 3 Principal Component Analysis

Initial Eigenvalues			
Component	Total	% of Variance	Cumulative %
1	7.018	41.285	41.285
2	1.897	11.158	52.443
3	1.269	7.462	59.905

Table 4 Pattern Matrix with Loadings for Each Item on Each of the Three Factors (Rotation Method: Oblimin; Extraction Method: Principal Component Analysis)

Item	Statement	Component		
		1	2	3
A	SSCRS_1 ... nurses provide spiritual care by arranging a visit by the hospital chaplain or the patient's own religious leader if requested	0.807	0.298	-0.219
B	SSCRS_2 ... nurses provide spiritual care by showing kindness, concern and cheerfulness when giving care	0.856	0.345	-0.223
C	SSCRS_3 ... spirituality is concerned with a need to forgive and a need to be forgiven	0.717	0.400	-0.020
D	SSCRS_4 ... spirituality involves only going to church/place of worship	-0.491	-0.144	0.618
E	SSCRS_5 ... spirituality is not concerned with a belief and faith in a God or supreme being	0.417	0.238	-0.357
F	SSCRS_6 ... spirituality is about finding meaning in the good and bad events of life	0.743	0.476	-0.292
G	SSCRS_7 ... nurses provide spiritual care by spending time with a patient, giving support and reassurance, especially in time of need	0.819	0.555	-0.286
H	SSCRS_8 ... nurses provide spiritual care by enabling a patient to find meaning and purpose in their illness	0.404	0.787	-0.043
I	SSCRS_9 ... spirituality is about having a sense of hope in life	0.384	0.838	-0.046
J	SSCRS_10 ... spirituality is to do with the way one conducts one's life here and now	0.341	0.797	-0.061

(Continued)

Table 4 (Continued).

Item	Statement	Component			
		1	2	3	
K	SSCRS_11	... nurses provide spiritual care by listening to and allowing patients time to discuss and explore their fears, anxieties and troubles	0.505	0.810	-0.225
L	SSCRS_12	... spirituality is a unifying force which enables one to be at peace with oneself and the world	0.457	0.810	-0.217
M	SSCRS_13	... spirituality does not include areas such as art, creativity and self-expression	-0.032	-0.080	0.774
N	SSCRS_14	... nurses provide spiritual care by having respect for privacy, dignity and religious and cultural beliefs of a patient	0.824	0.483	-0.329
O	SSCRS_15	... spirituality involves personal friendships, relationships	0.758	0.491	-0.210
P	SSCRS_16	... spirituality does not apply to Atheists or Agnostics	-0.359	-0.125	0.709
Q	SSCRS_17	... spirituality includes people's morals	0.635	0.357	-0.218

Note: Items in factor are grey.

structure ($\chi^2 = 869.479$, $df = 116$). The RMSEA for the original model and the new model was 0.139 (90% CI [0.134–0.144]) and 0.087 (90% CI [0.082–0.093]), respectively, whereas the TLI equalled 0.69 and 0.88, respectively, and the CFI value amounted to 0.74 and 0.90, respectively. The TLI and CFI values approximating 0.90 imply that the new 3-factor model structure of the SSCRS_P had a better goodness fit than the original 4-factor model structure. Detailed results of the CFA are depicted on the path diagram (Figure 1).

Internal Consistency

Cronbach's alpha values for the three domains of the SSCRS_P were 0.898 ("AcSC"), 0.873 ("EsSC"), and 0.563 ("Religiosity"), whereas the alpha for the whole scale was 0.902. Correlation coefficients between individual items and the total scale score minus the individual items ranged between 0.14 and 0.77 (see [Table S1: Supplementary Material](#)).

A bivariate intercorrelation matrix between the scores for all items in the SSCRS_P showed positive correlations at a 0.05 level or lower (most Pearson's correlation coefficients between 0.10 and 0.75) for all pairs of items except for item 13. No statistically significant correlations were found for three pairs including this item. Also, all three factors were correlated with one another. However, the "Religiosity" factor stood out as it was inversely correlated with the other two (see [Table S2: Supplementary Material](#)).

Test–Retest Reliability

Two-week test–retest reliability confirmed good stability of the SSCRS_P domains. The ICCs for the domains were within a satisfactory range ([Table 5](#)).

Known-Group Validity

An inverse association was found between the professional activities and the SSCRS_P score. More experienced nurses had significantly lower SSCRS_P scores than the less experienced ones (M: 59.98 vs 64.55, $t = -4.146$, $p < 0.001$, $d_{\text{Cohen}} = 0.42$, 95% CI [0.22; 0.62]).

Known-group validity was evaluated by comparing the scores for students who participated in a spiritual care training or a communication skills course and those who did not. The students who declared participating in SC training or a communication skills course had higher SSCRS_P scores than other respondents ([Table 6](#)). Effect of selected factors on the SSCRS_P subscale scores is presented in [Supplementary Material](#) (see [Table S3](#)).

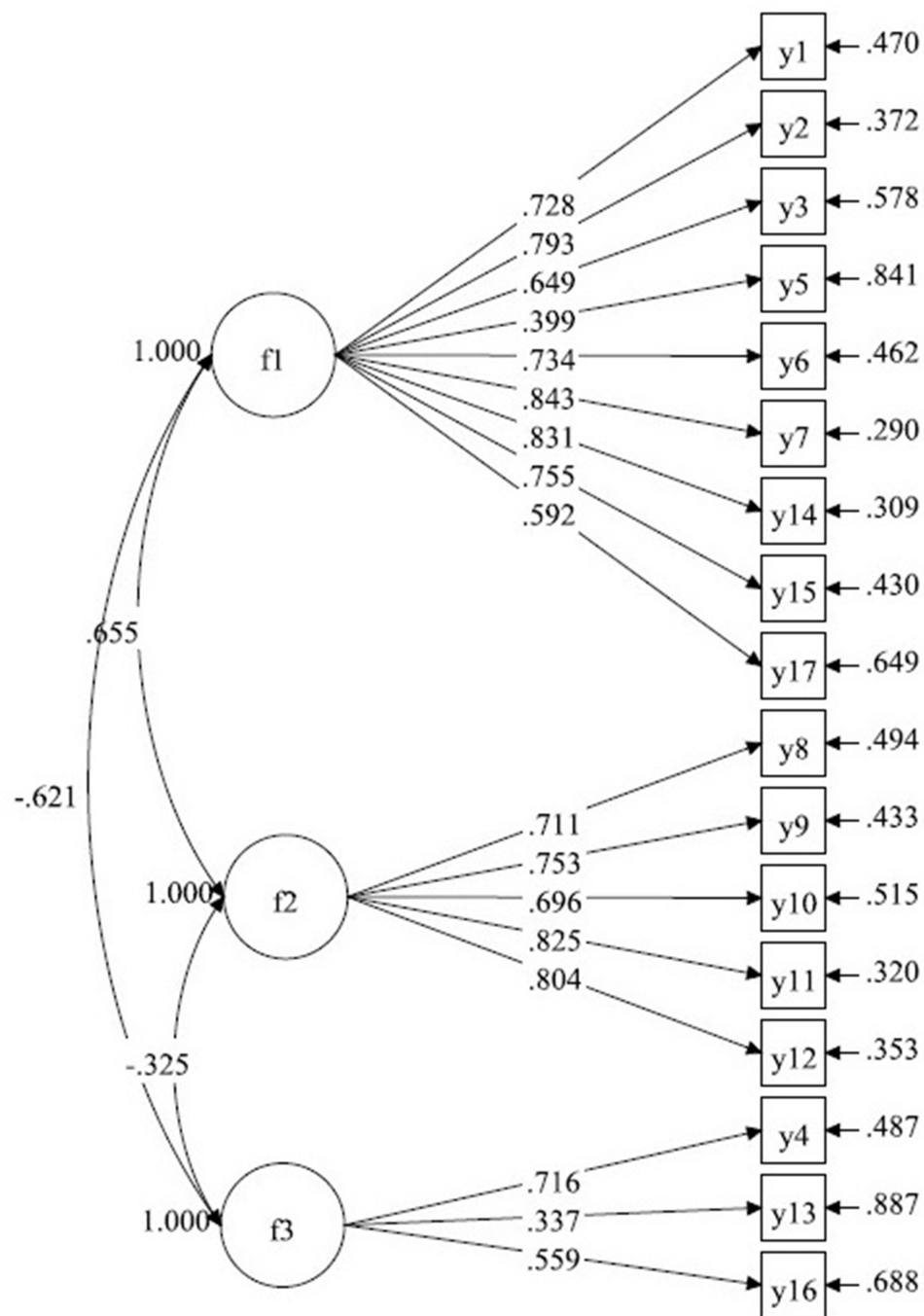


Figure 1 Detailed results of the CFA are depicted on the structural model.

Discussion

This study demonstrated a substantial degree of similarity in the selected psychometric characteristics of the SSCRS_P and the original scale.¹⁹ However, some significant differences were also observed. Factor analysis demonstrated that the SSCRS_P had a three-domain structure, whereas the original instrument consists of four domains.¹⁹ This difference might correspond to its lower theoretical accuracy. The true theoretical accuracy of a scale could not be verified using a criterial analysis because of the lack of gold standard such as alternative Polish-language spirituality and SC instrument.

Table 5 Test–Retest Reliability Analysis

Item	ICC	Domain ICC (95% CI)*
SSCRS_1	0.902	0.952 (0.933; 0.968) P < 0.001
SSCRS_2	0.583	
SSCRS_3	0.846	
SSCRS_5	0.913	
SSCRS_6	0.927	
SSCRS_7	0.576	
SSCRS_14	0.759	
SSCRS_15	0.572	
SSCRS_17	0.474	
SSCRS_8	0.599	0.904 (0.865; 0.935) P < 0.001
SSCRS_9	0.858	
SSCRS_10	0.823	
SSCRS_11	0.517	
SSCRS_12	0.835	
SSCRS_4	0.869	0.849 (0.781; 0.900) P < 0.001
SSCRS_13	0.873	
SSCRS_16	0.933	

Note: *ICCs values >0.75 indicated good reliability.

Abbreviations: ICC, intraclass correlation coefficient; 95% CI, 95% confidence interval.

Table 6 Results of the Between-Group Comparisons of the SSCRS_P Scores

	M	SD	t	p-value*	d (95% CI)
Communication skills course					
Yes	62.78	9.70	2.606	0.009	0.24 (0.06–0.42)
No	60.15	11.12			
Spiritual care training					
Yes	61.28	11.00	2.509	0.012	0.20 (0.04–0.35)
No	59.15	10.56			

Note: *Student's t-test.

Abbreviations: d, Cohen's d coefficient; 95% CI, 95% confidence interval.

Instead, the structure of the SSCRS_P was verified based on the goodness-of-fit analysis for two models, using the CFA method. The analysis confirmed that the scale reduced to three domains was a better solution than the four-domain scale. However, even the three-domain model is not perfect as TLI = 0.88 and CFI = 0.90 with RMSEA = 0.087 failed to exceed the threshold (>0.90 and <0.080, respectively). Therefore, it should be assumed that the proposed three-domain structure SSCRS_P has its limitations. The authors of the Polish version of the SSCRS recommend using the global score in the study, not in subscales.

The inconsistencies in the results of both validation studies can be partially associated with the translation process and cultural differences. As the original SSCRS was developed in the UK, its adaptation for another cultural group required modification of some statements. Considering this, as well as cultural and linguistic differences, the factorial model created in this validation study could be considered correct but imperfect. What is more, McSherry, Draper and

Kendrick¹⁹ suggested that additional research with similar populations and samples large enough to permit the CFA is recommended in order to validate and to refine this newly developed instrument.

The first domain identified in the SSCRS_P was “AcSC”. Based on the content of its items, this domain refers to some specific activities that are associated with patients’ expectations and nurses’ beliefs related directly to those expectations. This dimension covers such activities as enabling the patient to undertake religious practices during hospital stay (eg, by arranging a visit by the hospital chaplain or the patient’s religious leader, having respect for religious and cultural beliefs of a patient, etc), providing the patient with comfort, dignity and safety, and strengthening interpersonal relations (eg, allowing patient’s time for conversation, etc).

The second identified domain was “EsSC” which included providing emotional support to patients in difficult life situations, especially those who experience strong emotions searching for a purpose and meaning in life, hope and intrinsic harmony. This dimension puts a particular emphasis on maintaining the patients’ psychological well-being through providing an adequate response to their emotional needs.

The third identified domain was “Religiosity”, a three-item domain also included in the original version of the SSCRS and supporting the statement that spirituality is not only a concept associated with religion.

It needs to be stressed that the two domains identified in this validation study, “AcSC” and “EsSC”, did not correspond directly with the three dimensions included in the original version of the SSCRS,¹⁹ but were compilations of the latter. After the adaptation of the SSCRS_P, the active tasks centring around the patients’ needs were separated from those aimed at providing them with emotional support. Using this approach, we emphasize the practical applicability of these two domains, defining two principal routes through which the nurses can provide SC to their patients. This does not mean that both ways of SC are mutually exclusive, on the contrary, it may overlap. This approach is consistent with the holistic concept.¹⁹ Analysing their personal resources, nurses can decide flexibly which route of SC is expected by the patient. Such attitude seems justified given current problems with shortage of nurses, a huge number of patients served by a single nurse and resultant work overload.^{46,47} It may be a barrier to provide the whole spectrum of SC. Under such circumstances, the nurse can give priority to the AcSC to solve the patient’s problems promptly and effectively. AcSC, EsSC care and both of them should be integrated and used as results of patient’s expectation. The use of AcSC or/and EsSC should be adequate to meet the emotional and needs of individual patients. In the case of emotional case, the support can be provided in various ways, eg, through showing interest and discussion about the patient’s problems.

Considering all the above, the two dimensions seem to complement each other, and thus, to cover the full spectrum of SC. Furthermore, they reflect two equally important routes of SC provision, that is responsive to nurse’s personal resources, specific situational contexts and the patient-nurse relationship. Our results are consistent with previously published data showing that SC may include a plethora of activities addressed to both patients^{19,24} and their families.⁴⁸ SC may be offered through various activities consistent with patients’ expectations (eg, respecting their dignity and privacy),¹⁹ and/or be oriented on providing emotional support (eg, for patients who pursue a purpose and meaning in life.^{19,24} These two dimensions seem to be complementary, which was also reflected by the results of the factor analyses.

Among other psychometric properties of the SSCRS_P scale, its internal consistency, expressed by Cronbach’s alpha, is worth mentioning. The values of Cronbach’s alpha were satisfactory, well above the recommended threshold of 0.70 for two out of three identified domains. Only for the “Religiosity” domain, the alpha value was below the threshold, probably because of the low number of items included in this domain. Another reason may be the use of negative (reverse) statements in the domain of Religiosity. Such statements may be difficult for some participants, leading to confusion in the correct understanding of the content. As the original version of the SSCRS was developed with the use of reverse statements, this concept was retained in the Polish translation. The Cronbach’s alpha for the entire SSCRS_P was highly satisfactory, confirming good internal consistency of the adapted version.

The results of the test–retest reliability analysis suggest that the SSCRS_P has good absolute stability. Regardless of the domain, the results obtained during the retest did not differ significantly from those recorded at the baseline.

Determination of the SSCRS_P’s potential to distinguish between various groups of respondents was based on two assumptions. The first of them was the difference in the attitudes to SC and the perception of spirituality in two different groups: experienced and inexperienced groups. It is known that receiving spiritual care education during nurse training

may have a positive impact on the perception of its importance in practice.⁴⁹ In the curricula of nursing students in Poland, spiritual care has been introduced relatively recently. Therefore, the older generation of nurses had very limited access to training in this field. That is why Polish nurses with shorter experience, paradoxically, have a higher level of acceptance and a more positive attitude to spiritual care than nurses with longer experience. In-depth studies of this phenomenon are needed in the future.

The second of known-group validity was the difference in the attitudes to SC and the perception of spirituality in persons who previously participated in a communication skills course (CSC) and those who did not. Communication skills (CS) was chosen since they are included in the education standards for nurses and might support the provision of SC. During the education of nurses, questions related to SC, eg, holistic care and patients' right to receive support from a religious leader, are addressed mainly during the ethics classes. The assumption mentioned above was confirmed during the analysis of the known-group validity of the SSCRS_P. Participation in CSC had a beneficial effect on nurses' attitudes towards SC and their perception of spirituality, which was reflected by the results obtained with the SSCRS_P. Participation in CSC was previously postulated to improve the effectiveness of spiritual communication, and nurses who completed this kind of training seem to have fewer problems with an effective conversation with patients about their spiritual needs, purpose in life and issues around death and dying.⁴³ This implies that CS might be an essential component during the provision of SC. This warrants the development of a spiritual communication curriculum and dedicated SC communication training.⁵⁰ The critical role of CS was also highlighted among the objectives of the EPICC project.⁸ However, it needs to be stressed that the history of participation in a CSC was based solely on the respondents' declaration, and hence, the training might have taken various forms and covered a plethora of different topics. Therefore, the results of the discriminant validity analysis should be interpreted carefully and this require verification in an interventional study with pre- and post-testing.

The second assumption verified during the discriminant validity analysis was the ability of the SSCRS_P to distinguish between the respondents who received SC training during previous education and those who did not. The analysis demonstrated that this kind of training influenced the respondents' attitudes toward SC, as well as altered their perception of spirituality. Our observations in this matter are consistent with the results published McSherry, Draper and Kendrick¹⁹ Ross, van Leeuwen, Baldacchino, Giske, McSherry, Narayanasamy, Downes, Jarvis and Schep-Akkerman⁵¹ Ross, Giske, van Leeuwen, Baldacchino, McSherry, Narayanasamy, Jarvis and Schep-Akkerman⁵² Ross, McSherry, Giske, van Leeuwen, Schep-Akkerman, Koslander, Hall, Steinfeldt and Jarvis⁵³ as well as with the findings of Lewinson, McSherry and Kevern⁵⁴ according to whom appropriate educational activities (eg, training) promote spiritual awareness which in turn contributes to a better quality of SC. Furthermore, appropriately designed education programs help nurses to identify their knowledge gaps in relevant areas.^{54,55}

The SSCRS_P may find practical application in the determination of attitudes towards SC and perception of spirituality among nurses pursuing an MSc or post-graduate qualification. The instrument consists of three domains with similar psychometric characteristics. The attitudes towards SC might be examined in newly employed nurses, and the results could constitute the basis for individual programs of competence development through the strengthening of personal resources. Moreover, the SSCRS_P could be used by the participants of continuing education programs, either as an element of self-assessment or as an additional instrument to measure the impact of teaching delivered by lecturers. Finally, the SSCRS_P may find application in the modification of postgraduate training curricula for nurses, to strengthen their soft skills in the area of SC.

A further consideration around the continuing development and use of the SSCRS_P is confirming how the findings of this research compare with others that have been published. This type of research and activity may help identify how different cultures and contexts impact on nurses and patients' understanding of spirituality. It will also enable the comparison of how the SSCRS_P performs in relation to other versions that have been published.

Study Limitations

One drawback of the SSCRS_P is the fact that it cannot directly measure nurses' skills in terms of SC. The score reflects solely subjective attitudes of respondents towards SC. However, nurses could use the self-reported SSCRS_P score as guidance to improve their skills in terms of SC. Another potential limitation stems from the fact that this validation study

included solely postgraduate students in nursing. Another limitation is that the authors did not gather any information on religious affiliation and practice, as this may also account for the significant differences in the performance of the new scale against the original. Thus, the results should be interpreted carefully and not necessarily can be generalized onto the entire population of professionally active nurses.

Conclusion

Activity-centred spiritual care, emotional support-centred spiritual care and religiosity provide a comprehensive understanding of SC perceived subjectively by Polish MSc students in nursing. All these three dimensions can be measured with the SSCRS_P, and the results can serve for either an individual (eg, to improve one's personal resources) or a group (eg, to revise the study curricula at nursing schools). Further validation studies of the SSCRS_P should include other specific groups of nurses (eg, nurses working within diverse clinical settings such as critical care, care of the older person, community, mental health and children's services). Furthermore, the reference ranges should be identified to standardize the SSCRS_P scores.

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