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ORIGINAL PAPER

ADAPTATION INTO TURKISH AND EVALUATION OF THE PSYCHOMETRIC PROPERTIES OF THE SPIRITUAL CARE COMPETENCE SCALE

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Abstract

Aim: This study was conducted to adapt the Spiritual Care Competence Scale (SCCS) into the Turkish language and to psychometrically test it for use with Turkish midwives. *Design*: A methodological study. *Design:* A methodological study. *Methods:* The study sample consisted of 250 midwives working at a state hospital in Turkey. First, the linguistic and content validity of the scale were evaluated. Next, the scale was tested in a pilot study. Finally, the construct validity and reliability of the scale were analysed. *Results:* In this study, the content validity ratio value of each item on the SCCS as adapted into Turkish was found to range between 0.86 and 1.00, and the content validity ratio for the total scale was calculated at 0.99. The total variance explained by the scale was 69.1%. The SCCS for Turkish midwives (SCCS-TM), which consists of 27 items and five subscales, was tested by exploratory factor analysis. In the reliability analysis of the scale, Cronbach's alpha value was 0.92, and the subscales ranged from 0.72 to 0.93. *Conclusion:* The present study provides evidence of the SCCS-TM's validity, and reliability. The scale is suitable for use with Turkish midwives.

Keywords: midwifery, psychometric evaluation, spiritual care competence.

Introduction

Spirituality is a multidimensional concept that manifests itself in the human search for meaning in life, the inner worlds of people as they strive for happiness and peace, and the relationships that individuals have with the people around them (Boztilki & Ardıç, 2017). "Spiritual care" implies that healthcare professionals determine the spiritual needs of patients and provide care accordingly (Çınar & Eti Aslan, 2017). As a basic human need, spiritual care is a component of holistic care. It consists of many practices, including showing respect for patients' religion, faith, and cultural beliefs; establishing clear communication with patients by listening to and talking with them; providing compassionate care; showing empathy; offering support; facilitating participation in religious rituals; promoting a sense of well-being; and referring patients to clergy or other professionals as appropriate (Attard et al., 2014; Kalkim et al., 2018). Such provision of spiritual care allows patients to connect with their personal values and beliefs and can foster inner peace, strength, and hope. As such, spiritual care positively contributes to holistic care and patient care outcomes (Attard et al., 2014; Ross et al., 2018).

Spiritual care is an important part of midwifery practices. According to Gaskin (2010), the process of birth is an extraordinary phenomenon. The midwife, who accompanies the mother during delivery, witnesses the spiritual energy that is released at birth (Gaskin, 2010). The transition of women to the new lifestyle that begins with gestation is a unique period of time that needs to be observed and evaluated by midwives in terms of the spiritual care needs of expectant mothers (Mermer et al., 2019). Indeed, midwives play a significant role in women's health in general and especially during pregnancy (MacDonald & Johnson, 2017).

"Spiritual competence" can be understood to refer to the ability to deal with spiritual and religious views, specifically patients' individually constructed spiritual worldviews (Hodge, 2018). Spiritual care competence involves the empathic understanding of the healthcare professional, sensitivity to the individual differences between patients, and the ability to design and apply care appropriate to the spirituality of the individual. Healthcare professionals must possess spiritual competence to offer spiritual care.

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Both midwives and nurses should be competent in spiritual care. Although spiritual competence is necessary for both occupational groups, it has a special importance for midwives, since midwives do not regard pregnant women as patients. Pregnancy is a natural, special, and unique physiological state that has spiritual aspects, and childbirth is a significant life event. Spiritual care supports the positive realization of the childbirth process. Since midwives are the closest supporters of pregnant women during childbirth, they should be especially competent in meeting the spiritual needs of pregnant women (Crowther & Hall, 2015).

To date, many tools have been designed to help facilitate spiritual care. These tools are generally intended to help healthcare providers determine the spiritual care needs of patients or to measure the views, perceptions and quality of spiritual care of nursing students (Daaleman et al., 2014; Halil & Kardaş, 2017; Musa & Pevalin, 2016; Otuzoglu & Talas, 2019; Tiew & Creedy, 2012). Some of these tools, most of which were developed for student nurses and professional nurses, have a Turkish version. For example, the Spirituality and Spiritual Care Rating Scale, developed by Mcsherry et al. (2002), is one of the most widely used scales (McSherry et al., 2002). A Turkish version of this scale, which rates the views of nurses and students regarding spirituality and spiritual care, is available (Ergul & Temel, 2007). Another scale related to spiritual care, also available in a Turkish version (Coban et al., 2017), is the Spiritual Care-Giving Scale developed by Tiew and Creedy (2012), measuring nursing students' perceptions of spirituality and spiritual care.

The commonly used Spiritual Care Competence Scale (SCCS) was developed by Van Leeuwen et al. (2009). This scale evaluates areas of spiritual care competence specific to nurses, including accepting and acknowledging the beliefs, values, and cultural differences of patients; collecting information about patients' spirituality and determining their needs; evaluating spiritual care that is planned with and reported to other team members; offering spiritual care and sharing with other team members; and contributing to the quality and development of spiritual care. In this context, the scale measures the competence of those who provide spiritual care within this framework.

In Turkey, currently, there is no validated tool available for evaluating midwives' competence in spiritual care. Hence, data are lacking on the spiritual competencies of midwives. The study was, therefore, prompted by the need for reliable instruments to measure the spiritual care competence of Turkish midwives.

Aim

The aim of the study was to adapt and evaluate the psychometric properties of the Turkish version of the Spiritual Care Competence Scale for Turkish midwives.

Methods

Design

This study has a methodological design.

Sample

The sample consisted of midwives working in a state hospital in a city in central Turkey. There were 292 midwives in the hospital where the study was conducted, making up the study universe. Sample size formula analysis indicated that a sample size of 203 in this study would have 99% power and a significance level of 0.5. In addition to this, for a validity and reliability study of a scale, experts generally recommend sampling five-ten times the total number of items in the scale (Boateng et al., 2018; Carpenter, 2018). The original scale contained 27 items. In this study, it was decided to include ten midwives per item. Therefore, no sampling procedure was employed; instead, the whole universe was targeted. Finally, the study sample comprised 250 midwives who volunteered to participate in the study.

The midwives who were absent at the time of the study (including those who were on sick leave) and those who were unwilling to participate were not included in the study.

Data collection

The study data were collected between 30 December 2017 and 30 March 2018. The study was conducted with the participation of midwives working in a state hospital. Potential participants were informed about the study verbally and in writing and invited to take part. The data collection forms were then completed by a researcher using a face-to-face interview technique with the midwife volunteers. The forms took approximately 20 minutes to complete.

Instrument

In this study, a questionnaire and the SCCS were used as data collection tools. In the questionnaire, there were eight questions to determine the socio-demographic characteristics of midwives, such as age, educational status, marital status, and years of working.

The Spiritual Care Competence Scale

This scale was developed by Van Leeuwen et al. in 2009 to measure the spiritual care competence of healthcare professionals. The scale consists of 27 items and six subscales. The headings of the subscales are "Assessment and implementation of spiritual care"; "Professionalization and improving the quality of spiritual care"; "Personal support and patient counseling"; "Referral to professionals"; "Attitude towards patients' spirituality"; and "Communication". The SCCS uses a five-point Likert-type scale, with items scored between 1–5. The responses to each item vary from 1 – "totally disagree" to 5 – "totally agree". No inverse scoring exists in the scale. The scale score is calculated by dividing the total score by 27 (the total number of items). Accordingly, midwives who score less than 3.5 are considered "incompetent", those who score between 3.5 and 4.0 are considered "competent", and those who score above 4.0 are considered "very competent". In the study of Van Leeuwen et al. (2009), Cronbach's alpha values obtained from the scale were 0.82, 0.82, 0.81, 0.79, 0.56, and 0.71 for each subscale, respectively (Van Leeuwen et al., 2009).

Procedure: The flow chart of this study was presented in Figure 1.

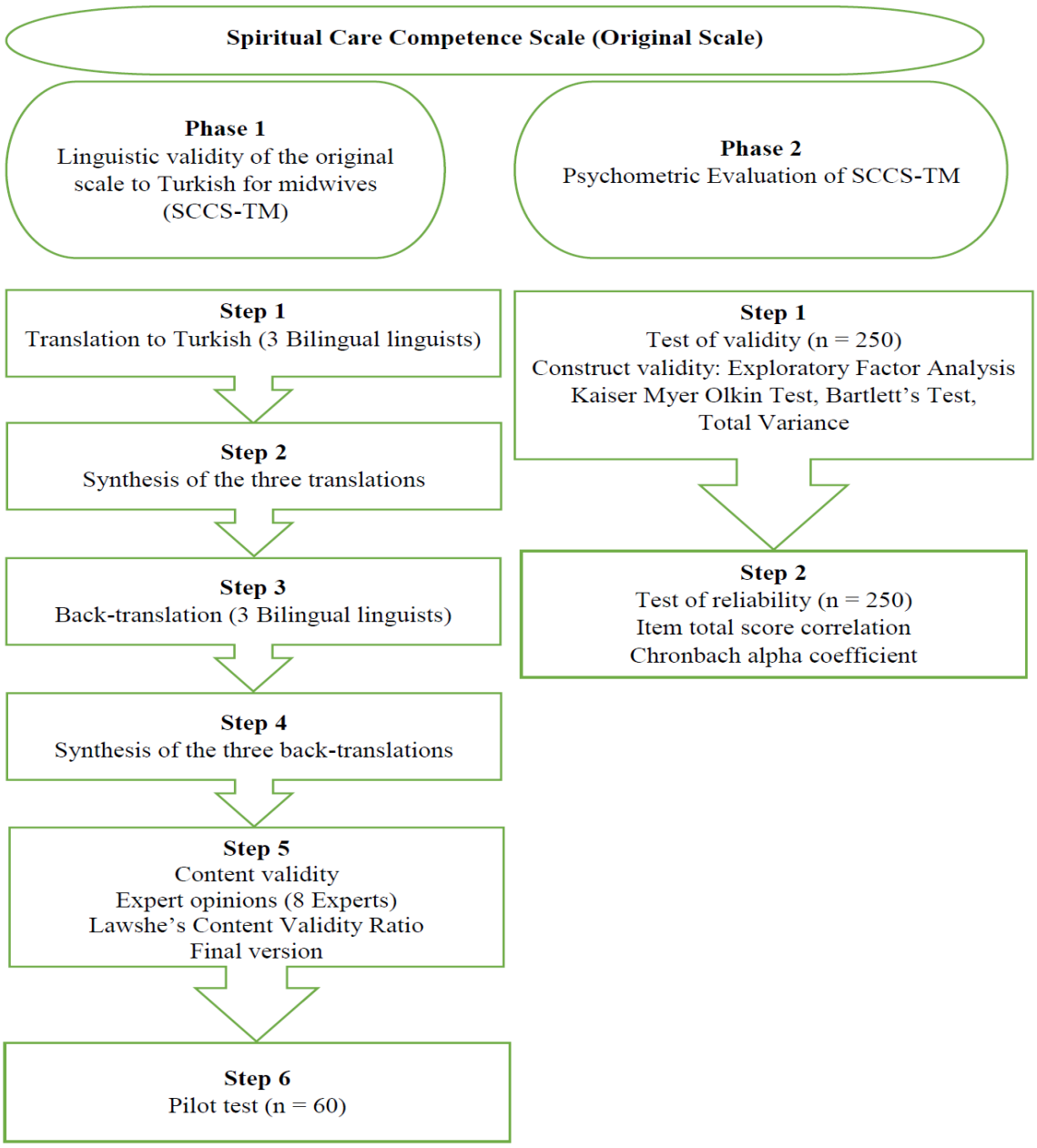

Figure 1 Procedure' flow chart of this study Lawshe's

Procedure for Phase 1: Linguistic and content validity of the scale adapted to Turkish for midwives

While obtaining permission to study the validity and reliability of the scale, the original author was asked whether the scale would also be suitable for measuring the competence of midwives. With the subsequent approval of the author, the word "nurse" in the items was replaced with "midwife". The scale was translated into Turkish by three linguists fluent in Turkish and English. After the scale was checked by the researchers in terms of intelligibility in Turkish, it was translated back to English by three different linguists. The back-translated version of the scale was compared to its original form, and they were found to be identical.

For content validity, the scale was submitted to the opinions of eight experts. The experts were asked to rate the scale items as "inappropriate", "partially appropriate", "appropriate", and "fully appropriate", and to suggest any items they found inappropriate. After obtaining the experts' opinions, Lawshe's Content Validity Ratio (CVR) formula was used to evaluate the content validity of the scale.

The final form of the scale was established from expert opinions. A pilot test was then performed on a sample of 60 midwives working in the hospital. The results of the pilot study were not included in the study. No problems were encountered relating to the intelligibility and administration of the scale. The final Turkish version of the scale was named the Spiritual Care Competency Scale in Turkish Midwives (SCCS-TM).

Procedure for Phase 2: Psychometric evaluation of the SCCS-TM

In this phase of the study the validity and reliability of the SCCS-TM were tested on a sample of 250 midwives.

Procedure for data collection: The data collection forms were completed using a face-to-face interview technique with participants.

Data analysis

The data obtained from the study were analyzed in the SPSS (version 25.0) statistical software package. Midwives' socio-demographic data were analyzed with percentage and average. For the validity analysis of the scale, CVR and correlation coefficient analysis and exploratory factor analysis (EFA) were performed. Regarding reliability analysis, Pearson's correlation analysis was used for item analyses. Cronbach's alpha analysis was employed for the internal consistency of the total scale and subscales. The research includes only one data set of the study sample. Therefore, confirmatory factor analysis (CFA) could not be performed.

Results

Characteristics of the sample

The mean age of the midwives was 37.97 (± 7.06) with a minimum age of 23 and maximum of 53, and the mean years of service was 16.23 (± 8.5) with a minimum of one year and a maximum of 35 years. Half of the midwives were university graduates and 84% were married (Table 1).

Phase 1 results

For content validity, the CVR value, which was calculated for the content validity of the scale in line with the scores given to the items by the experts, was found to range between 0.86 and 1.00 for the items, while this value was determined to be 0.99 for the total scale.

Phase 2 results

Tests of validity: Regarding the construct validity study of the scale, the Kaiser Meyer Olkin test (KMO) coefficient, calculated to determine whether the data set was appropriate for factor analysis, was found to be 0.88. On the other hand, the result of the Barlett's test ($\chi^2 = 4683.29$; df = 351; $p < 0.000$) was highly significant. Accordingly, the sample size was

Table 1 The socio-demographic characteristics of the midwives (n = 250)

		n	%
		(mean ± SD)	(min.– max.)
Demographic variables	age	37.97 ± 7.06	23–53
	working duration	16.23 ± 8.50	1–35
Marial status	married	210	84.0
	single	40	16.0
Educational level	health vocational high school	18	7.2
	associate's degree	83	33.2
	bachelor's degree	130	52.0
	master's degree	19	7.6

SD – standard deviation; min. – minimum; max. – maximum

adequate for the 27-item scale, and since significant relationships existed between variables, the data set was appropriate for factor analysis. Principal component analysis, varimax rotation technique, and percentage of total variance method were used to test the EFA of the scale. Accordingly, five factors (subscale) with eigenvalues greater than 1 were obtained on the scale (Table 2). Five factors explained 69.1% of the total variance in this study. The factor loadings of the SCCS-TM items ranged between 0.50 and 0.89, and accordingly, no items were excluded from the scale. The first five factors (subscale) obtained according to factor loadings were termed "Assessment and implementation of spiritual care", "Improving the quality of spiritual care", "Consultancy", "Referral to professionals", and "Attitude towards the patient" (Table 2). Subscale headings were determined according to the content of the items.

Table 2 Exploratory factor analysis results of the Spiritual Care Competence Scale (n = 250)

	Factor loadings of subscales				
Items	**Assessment and implementation of spiritual care**	**Improving the quality of spiritual care**	**Consultancy**	**Referral to professionals**	**Attitude towards the patient**
1	0.58				
2	0.53				
3	0.75				
4	0.74				
5	0.66				
6	0.56				
7		0.71			
8		0.75			
9		0.80			
10		0.84			
11		0.85			
12		0.81			
13			0.69		
14			0.56		
15			0.52		
16			0.70		
18				0.84	
19				0.89	
20				0.84	
21				0.50	
22					0.80
23					0.89
24					0.86
25					0.87
26					0.79
27					0.79
17					0.61
Eigenvalues	9.50	4.01	2.28	1.51	1.41
Explained variance (%)	35.3	14.8	8.45	5.61	5.21
Explained total variance (%)			69.1		
KMO			0.88		
Bartlett χ^2, df (p)			4683.29; 351; (0.000)		

KMO – Kaiser Myer Olkin Test; Bartlett χ^2 – Bartlett's test; df – degree of freedom; p-value – $p < 0.05$

Tests of reliability: The examination of the reliability coefficients between the total score of the scale items indicated that the correlation values varied from 0.45 to 0.72. The item-total score correlation was found to be positive and statistically highly significant ($p < 0.001$). When the correlation of the subscales of the Turkish version of the SCCS with the total scale score was examined, the correlation values of the subscales were found to be 0.79, 0.80, 0.73, 0.64, and 0.64, respectively and they were found to be positively, strongly, and statistically highly significant ($p < 0.000$) (Table 3). Cronbach's alpha coefficient was calculated to examine the reliability of the scale and the scores obtained from the factors that make up the scale. In the analysis conducted to test the internal consistency of SCCS-TM and

subscales, Cronbach's alpha reliability coefficient was found to be 0.92 for whole scale items. Cronbach' alpha values of the subscales of the scale were determined to be 0.84, 0.93, 0.72, 0.84, and 0.92, respectively (Table 4).

Table 3 Item scale total score and subscale total score corrected correlations (n = 250)

Subscales	Items	Corrected item total score correlation r	Corrected item subscale total score correlation r	p-value
Assessment and implementation of spiritual care	1	0.54	0.58	
	2	0.53	0.51	
	3	0.57	0.70	
	4	0.51	0.65	
	5	0.56	0.66	
	6	0.60	0.62	
Improving the quality of spiritual care	7	0.72	0.79	
	8	0.69	0.81	
	9	0.72	0.86	
	10	0.61	0.78	
	11	0.63	0.82	
	12	0.58	0.73	
Consultancy	13	0.53	0.53	
	14	0.55	0.57	0.001
	15	0.45	0.47	
	16	0.48	0.50	
Referral to professionals	18	0.46	0.74	
	19	0.48	0.80	
	20	0.45	0.74	
	21	0.50	0.47	
Attitude towards the patient	17	0.56	0.62	
	22	0.48	0.74	
	23	0.46	0.82	
	24	0.46	0.78	
	25	0.48	0.82	
	26	0.50	0.77	
	27	0.52	0.77	

r – correlation; p-value – p < 0,05

Table 4 Reliability analysis of Spiritual Care Competence Scale total and subscales score correlation and internal consistency reliability coefficients (n = 250)

	Scale and Subscales	mean ± SD	Total scale subscale correlation coefficients r	p-value	Cronbach's alpha α
	Spiritual Care Competence Scale (Total)	3.61 ± 1.09			0.92
Subscales	Assessment and implementation of spiritual care	3.36 ± 1.18	0.79	0.000	0.84
	Improving the quality of spiritual care	3.25 ± 1.06	0.80	0.000	0.93
	Consultancy	3.64 ± 1.17	0.73	0.000	0.72
	Referral to professionals	3.24 ± 1.01	0.64	0.000	0.84
	Attitude towards the patient	4.25 ± 1.05	0.64	0.000	0.92

SD – standard deviation; r – correlation; p-value – p < 0.05; α – Cronbach's alpha

Discussion

Evaluation of scale validity

The linguistic validity of a scale is highly important when it is adapted to another language. In this study, the translation of the SCSS from English to Turkish, control of the intelligibility of items, and back-translation studies from Turkish to English were all conducted by linguists. As a result, consistency was found between the two translations. Translation of the scale into Turkish was conducted successfully and linguistic validity was achieved.

The fit / unfit between expert opinions obtained through a content validity test sets out the extent to which each item serves the purpose of the scale (Yesilyurt & Capraz, 2018). In this study, the CVR value of each item on the scale was found to range between 0.86 and 1.00, and the CVR for the total scale was calculated as 0.99. The result of the CVR calculation indicates that no items should be excluded from the 27-item scale. Accordingly, all the items of the SCCS-TM were found to be appropriate and to have achieved content validity.

In this study, the KMO test was employed before EFA was performed to determine whether the sample was suitable for data analysis. In the test, the data set is considered "excellent" when the KMO value is between 0.90 and 1.00, "very good" between 0.80 and 0.89, "good" between 0.70 and 0.79, "moderate" between 0.60 and 0.69, "poor" between 0.50 and 0.59 and "unacceptable" below 0.50 (Ercan & Kan, 2004). The KMO value in this study was found to be 0.88, which indicated that the sample size was "very good" in accordance with the assessment scale in the literature. In addition, the result of Bartlett's test found that $p < 0.05$. These results indicated that the data were suitable for factor analysis. Therefore, the KMO test result should be 0.50 or greater and Bartlett's test result should be statistically significant (Yaslıoglu, 2017). Given the high correlations between the variables, the scale items can thus be considered as suitable for factor analysis.

In this study, factor loads of the scale were found to gather in five subscales according to total variance value. The total variance value of the scale explained by the five subscales (factors) for midwives was 69.1%. In multifactorial scales, a ratio of 40%–60% for the total variance explained is considered adequate (Agyar & Uzun, 2018). The original scale consisted of six subscales, and the factor loads explained 53% of the total variance (Van Leeuwen et al., 2009). The total variance explained in other adaptation studies with this scale is over 60% (Daghan et al., 2019; Dezorzi et al., 2019; Khalaj et al., 2013). According to these findings, the explained total variance in our study and other studies was above the lower limits, which was an acceptable variance value level. In a study by Daghan et al. (2019), three sub-scales were determined in the scale, and in this study, five sub-scales were determined. This difference may be due to the participants in the Daghan et al. (2019) study. Daghan et al. (2019) conducted the study with student nurses and recommended that it be performed with nurse clinicians. For this reason, our study was conducted with midwife clinicians to increase the reliability and applicability of the scale.

To analyze the construct validity of the scales, the subscales of the items in the scale were evaluated by looking at the factor loads. It is recommended that factor load value / factor coefficient, which explains the relationship of the items to the factors, be greater than 0.40 in practice (Matsunaga, 2010). When the factor loads of the items were examined in the validity analysis of the scale, the highest factor load was calculated to be between 0.50 and 0.89. In this study, the factor loads of the items were found to be adequate. The factor loads of all items in the 27-item scale were in a suitable range, and no items were excluded from the Turkish version of the scale.

The results of the validity analysis in this study, which support the construct validity of the scale, reveal that the SCCS-TM is a valid tool.

Evaluation of scale reliability

A reliable scale is one that makes measurements with no errors (Ercan & Kan, 2004). The internal consistency reliability coefficient represents a measure of the consistency of the items with each other (Gungor, 2016). The higher the correlation coefficient, the better the reliability of the items will be. The accepted minimum value is 0.25 (Daghan et al., 2019). In the study, the correlation value between item scores and total scale scores of the SCCS-TM was between 0.45 and 0.72. According to this result, the reliability correlation coefficients of the SCCS with the total item score were at a satisfactory level.

When the correlation of the subscales of the SCSS-TM in this study was examined, the internal consistency reliability coefficients were found to range from 0.64 to 0.79. A high significance was found in the correlation analysis conducted for the factor loads of the subscales ($p < 0.05$). With these results, the internal consistency coefficients of the scale were found to be high, and the internal consistency was found to be adequate. Likewise, internal consistency was reported to be adequate in the original scale and in other scale adaptation studies (Chung et al., 2016; Daghan et al., 2019; Dezorzi et al., 2019; Van Leeuwen et al., 2009). The Cronbach's alpha coefficient used to evaluate the internal consistency of the scales has high reliability – between 0.80 and 1.00 (Kartal & Dirlik, 2016; Kılıç, 2016). Cronbach's alpha reliability coefficient was found to be 0.92 for whole scale items. Total internal consistency of the scale was found to be highly reliable in this study. The Cronbach's alpha value of the whole scale was not provided in the original study. In other scale adaptation studies, the Cronbach's alpha value was

found to be over 0.90 (Chung et al., 2016; Daghan et al., 2019; Dezorzi et al., 2019). These results indicate that Cronbach's alpha value of the scale was highly reliable in our study and other studies. In the present work, the Cronbach's alpha value of the subscales of the scale ranged from 0.72 to 0.93. In Van Leeuwen et al. (2009) and other adaptation studies, the Cronbach's alpha values of the subscales can be said to be reliable (Chung et al., 2016; Daghan et al., 2019; Dezorzi et al., 2019; Van Leeuwen et al., 2009).

As a result of the analyses conducted regarding the reliability of the scale in midwives, the scale was found to be a reliable measurement instrument in general.

Limitation of study

In this study, valid methods, analyses and results for language adaptation and psychometric tests of a scale were used. This study was carried out with Muslim midwives. Although this is unlikely to have affected the results of the study, we recommend that studies be conducted with midwives of different religious beliefs. Another limitation of the study is that the sample consists of only one data set (from 30 December 2017 – 30 March 2018), which will not affect the results of the validity and reliability analysis of the scale; nevertheless, it would be useful to carry out confirmatory factor analysis studies with multiple data sets. In new studies conducted using the SCCS-TM, the spiritual care competence levels of midwives may vary.

Conclusion

In conclusion, this study was the first attempt to translate and evaluate the psychometric properties of the SCCS-TM into Turkish for midwives. In this study, the SCCS-TM was verified to be a valid and reliable instrument for midwives in Turkey. The reliability of the scale is high, and it can assess midwives in terms of their spiritual care competence. The SCCS-TM can, therefore, be recommended for assessment of spiritual care competence of midwifery students and other healthcare professionals in Turkey.

Ethical aspects and conflict of interest

All procedures in this research were performed in accordance with the ethical standards laid down in the 1964 Declaration of Helsinki and its later amendments, or comparable ethical standards. The written permission of the authors who developed the scale was obtained by email. Written approval from the ethics committee was obtained (Protocol date / number: 04.10.2017-80558721) for the study. Written informed consent was obtained from the midwives who agreed to participate in the study.

The authors declare that they have no conflict of interest.

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Author contributions

Conception and design (NÇ, EK), data analysis and interpretation (NÇ, EK), manuscript draft (NÇ), critical revision of the manuscript (NÇ, EK), final approval of the manuscript (NÇ).

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