

The psychometric properties of the Turkish version of the Spiritual Well-Being Scale (FACIT-Sp-12) in older adults living in nursing homes

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ABSTRACT

Objective: This study was conducted to test the dimensionality, reliability and construct validity of the Spiritual Well-Being Scale (FACIT-Sp-12) for Turkish population. **Methods:** The cross-sectional design research was carried out with the elderly who lived in nursing homes in Manisa (n=133). The data were obtained by using the sociodemographic characteristics questionnaire, the FACIT-Sp-12 questionnaire reliability was assessed using the Cronbach's alpha coefficient, and test-retest reliability coefficients were assessed with Pearson's correlation. For the validity of the instrument; construct validity, exploratory factor analysis and confirmatory factor analysis were used. **Results:** Of the elderly who participated in the study, 60.9% were female, their mean age was 76.12±10.34. The mean score was 27.09±8.66 for the overall spiritual well-being scale, and 9.08±3.56 for the meaning subscale, 8.24±3.73 for the peace subscale, and 9.76±4.10 for the faith subscale. A statistically significant positive correlation was found between FACIT-Sp-12 scores and the three subdimensions. The Cronbach's alpha coefficient was 0.80 for the overall scale, 0.67 for the meaning subscale, 0.72 for the peace subscale, and 0.79 for the faith subscale. Fit statistics for the FACIT-Sp-12 scale for Turkish community met criteria: CFI= 0.95, RMSEA= 0.070, TLI= 0.91, SRMR= 0.07. The goodness of fit index indicate that the model-data fit is provided for the model tested. Other fit index exhibited an acceptable level (GFI= 0.92, RMR= 0.063, NFI= 0.90, IFI= 0.90 and RFI= 0.91). **Conclusion:** In validity analyses, construct validity was considered and tested by exploratory and confirmatory factor analyses to identify whether or not the three-factor model was verified. As a result, it was determined that the Spiritual Well-Being Scale is a valid and reliable tool and could be used for the elderly living in nursing homes in Turkey. (*Anatolian Journal of Psychiatry* 2019; 20(Suppl.2):22-28)

Keywords: Spiritual Well-Being Scale (FACIT-Sp-12), reliability, construct validity, nursing home, elderly

Huzurevinde yaşayan yaşlılarda Manevi İyilik Hali Ölçeğinin (FACIT-Sp-12) Türkçe sürümünün psikometrik özellikleri

ÖZ

Amaç: Bu çalışma Manevi İyilik Hali Ölçeğinin (FACIT-Sp-12) Türk toplumu için güvenilirlik ve yapı geçerliliğini test etmek amacıyla yapıldı. **Yöntem:** Kesitsel olarak gerçekleştirilen araştırmanın örneklemini Manisa'da iki huzurevinde kalan yaşlılar (s=133) oluşturdu. Veriler Sosyodemografik Bilgi Formu ve FACIT-Sp-12 ile elde edildi. Verilerin analizi SPSS paket programı kullanılarak tanımlayıcı istatistikler, güvenilirlik için Cronbach alfa katsayısı ve test-tekrar test güvenilirlik katsayıları Pearson korelasyonu ile değerlendirildi. Ölçeğin geçerliliği için yapı geçerliliği, açıklayıcı faktör analizi ve doğrulayıcı faktör analizi kullanıldı. **Bulgular:** Çalışmaya katılan yaşlıların %60.9'u kadın, yaş ortalaması 76.12±10.34 yılıdır. FACIT-Sp-12'nin toplam puanı 27.09±8.66, mana 9.08±3.56, huzur 8.24±3.73 ve

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maneviyat alt boyutunun ise 9.76 ± 4.10 'dur. FACIT-Sp-12 ölçeği ile üç alt boyutu arasında istatistiksel olarak anlamlı pozitif bir korelasyon saptandı. Ölçeğin iç tutarlılığını belirlemek için yapılan Cronbach alfa katsayısı tüm ölçek için 0.80, yaşamın manası 0.67, huzur 0.72 ve maneviyat alt boyutu için 0.79 olarak bulundu. Türkiye toplumu için FACIT-Sp-12 ölçeğini karşılayan ölçütler CFI=0.95, RMSEA=0.070, TLI=0.91, SRMR=0.07 olarak saptandı. Bu uyum iyiliği indeksleri test edilen model için model-veri uyumunun sağlandığını göstermektedir. Diğer uyum indeksleri kabul edilebilir bir düzeydedir (GFI=0.92, RMR=0.063, NFI=0.90, IFI=0.90 ve RFI=0.91). **Sonuç:** Geçerlilik analizlerinde, üç faktörlü modelin doğrulanıp doğrulanmadığını belirlemek için yapı geçerliliği açıklayıcı ve doğrulayıcı faktör analizleri ile değerlendirildi ve test edildi. Sonuç olarak, FACIT-Sp-12'nin Türkiye'de huzurevinde yaşayan yaşlılar için kullanılabilir yeterli güvenilirlik ve geçerlilik göstergelerine sahip bir araç olduğu saptanmıştır. (*Anadolu Psikiyatri Derg* 2019; 20(Ek sayı.2):22-28)

Anahtar sözcükler: Manevi İyilik Hali Ölçeği (FACIT-Sp-12), huzurevi, yaşlı, güvenilirlik, yapı geçerliliği

INTRODUCTION

According to the United Nations' (UN) 2010 report, people who are 65 years and over are estimated to constitute approximately 11% of the world's population, and this ratio is expected to increase to 26 percent in 2050.¹ As population ages, the disease profile changes and the prevalence of chronic diseases increases concurrently with the chronological, social and economic changes.²

In the past, spiritual dimension of an individual was evaluated only by being limited to religious connections. With the onset of the provision of the health care through a holistic approach, the spiritual dimension has gained importance as much as physical, emotional, psychological and social dimensions.³

Spirituality is defined as 'the overcoming of the self, the integration of the things the individual holds dear to himself such as his values, his life, and his existence'.⁴ There is a strong association between spirituality and coping with the chronic medical disease,⁵ reducing anxiety and depression,⁶ and improving quality of life.⁷

In recent decades, the number of studies on the relationship between spirituality and mental, physical and functional health in chronically ill adults has grown steadily.⁸⁻¹⁰ FACIT-Sp-12 originally included two subscales, measuring 'meaning/peace' and 'faith'. As stated by Peterman in the original validation study of the FACIT-Sp-12, the 'meaning/peace' subscale measures 'a sense of meaning, peace, and purpose in life', whereas the 'faith' subscale measures 'several aspects of the relation between illness and one's faith and spiritual beliefs'.¹¹ In another study Canada et al. proposed to use the 3-factor solution ('meaning', 'peace' and 'faith' factors) of the FACIT-Sp-12.¹² This three-factor model has further been confirmed by Murphy et al.¹³ and the study for Arabic patients with cancer.¹⁴

To our knowledge, there is a small number of

studies conducted with the elderly populations using this scale. One study was conducted by Bekelman et al. on elderly patients suffering from heart failure,¹⁵ another study was performed by Monod et al. on hospitalized elderly patients,¹⁶ and another study was carried out by Haugan in the elderly living in a nursing home. Today, health professionals acknowledge that in welfare of an individual, spiritual care is as important as physical and psychosocial requirements.¹⁷ In this case, there is a need for objective measurement tools to evaluate. Therefore, the purpose of this study was to investigate the dimensionality, reliability and construct validity of the existing Turkish version of the Functional Assessment of Chronic Illness Therapy-Spiritual Well-Being Scale (FACIT-Sp-12) for Turkish elderly population.

METHODS

This study designed as a cross-sectional study was conducted between April and May 2017. The sample included those in the 65 and over age group aged and had been residing in a nursing home in Manisa at least 6 months. In addition to the elderly population who voluntarily participated in the study. The research sample consisted of 150 elderly people. Of them, 17 refused to participate in the study. Therefore, the study was completed with 133 people (response rate 88.6%). Response rate is acceptable.

The inclusion criteria were as follows: 1) residential time of six months or longer, 2) informed consent competency recognized by a responsible doctor and nurse, 3) capable of being interviewed.

In addition to cognitive impairment was taken into consideration as a crucial inclusion criterion (4).

Elderly people unable to speak Turkish and those with significant cognitive impairment, described as a score lower than 20 on the Mini

Mental State Exam (MMSE) were considered unsuitable.¹⁸ Therefore, it was thought that they would not have the ability to correctly respond to the study questions.

The research questions of this study were:

- a) How well does the three-factor model fit to the observed Turkish data?
- b) Does the Turkish version of the FACIT-Sp-12 reveal good reliability and construct validity for the nursing home population?

Instruments

The Functional Assessment of Chronic Illness Therapy-Spiritual Well-Being (FACIT-Sp): The FACIT-Sp consists of 12-item scale and three subdimensions: meaning (2,3,5,8th items), peace (1,4,6,7th items), faith (9,10,11,12th items). Answers are scored on a 5-point Likert scale from 0 to 4. Each subscale is evaluated in the range of 0-16 points. Total scores range from 0 to 48, higher scores indicating higher spiritual well-being. The FACIT-Sp, translated into Turkish (version 4) by the FACIT Organization (<http://www.facit.org>).¹⁹ The questionnaire was administered through a face-to-face interview. It took approximately 20-25 minutes to complete the questionnaire.

Ethical considerations

Permission to use the FACIT-Sp was obtained from the FACIT Organization.¹⁹ The study was approved by the institutional ethical committee and written informed consent was obtained from all the study participants. Approval for the study was obtained from Manisa Celal Bayar University Dean of Faculty of Medicine the Ethics Committee of Health Sciences (dated 29 March 2017, protocol Number 11199, and decision number 03.2017-20.478.48-).

Statistical analysis

The data were obtained by using the socio-demographic characteristics questionnaire and the FACIT-Sp-12 questionnaire. For the validity of the instruments, the data were analyzed by the descriptive statistics and exploratory factor analysis (EFA) using the SPSS version 20 (IBM), and the confirmatory factor analysis (CFA) by means of LISREL 8.8.^{20,21}

Reliability analyses: For the reliability of the instruments, Cronbach's coefficient alpha was calculated as a measure of internal consistency. A commonly accepted values for Cronbach's coefficient alpha was calculated as a measure of internal consistency: values from 0.6-0.7 are

acceptable, whereas values greater than 0.7 are good.^{22,23}

Construct validity and reliability of the FACIT-Sp in Turkish community was assessed using the data collected from 133 people in nursing home population. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's test of sphericity (BTS) were applied to the data prior to factor extraction to ensure the characteristics of the data set were suitable for the exploratory factor analysis (EFA). The mean scores and standard deviations of the FACIT-Sp were calculated.²²⁻²⁵

Additionally 'if item deleted Cronbach's alpha values' were calculated for each of the items. If item deleted alpha values are expected to be lower than the overall alpha value of the dimension as a criterion of non-problematic item.

Test-retest reliability coefficients were assessed by Pearson's correlation used for the criteria of poor ($r < 0.20$), fair ($r = 0.21-0.40$), moderate ($r = 0.41-0.60$), good ($r = 0.61-0.80$), and excellent ($r > 0.81-1$).^{21,23}

Validity analyses: In validity analyses, mainly construct validity is considered and tested by exploratory and confirmatory factor analyses. Fit statistics included root mean square residual (RMR; criterion < 0.06), root mean square error of approximation (RMSEA; criterion < 0.06), the comparative fit index (CFI; criterion > 0.95), Tucker-Lewis Index (TLI; criterion > 0.95) and the standardized root mean square residual (SRMR; criterion < 0.08). Goodness of fit index (GFI), normed fit index (NFI), incremental fit index (IFI) and relative fit index (RFI) values were also used (Figure 1). In addition, an RMR or RMSEA value of ≤ 0.05 indicates perfect compatibility but a value of ≤ 0.08 is considered as showing acceptable compatibility.^{20,21}

For all the analyses, maximum type one error limit was considered as 0.05.

RESULTS

The mean age of the study participants was 76.0 ± 10.34 years (min-max 65-96). Of them, 60.9% were female. The mean score was 27.09 ± 8.66 for the overall spiritual well-being scale, and 9.08 ± 3.56 for the meaning subscale, 8.24 ± 3.73 for the peace subscale, and 9.76 ± 4.10 for the faith subscale (Table 1).

Test retest reliability coefficients were assessed by Pearson's correlation. A statistically signifi-

Table 1. The Spiritual Well-Being Scale (FACIT-Sp-12): item level descriptive statistics (n=133)

FACIT-SP item	Mean±SD
FACIT-Sp1 I feel peaceful	2.24±1.15
FACIT-Sp2 I have a reason for living	2.40±1.12
FACIT-Sp3 My life has been productive	2.28±1.09
FACIT-Sp4 * I have trouble feeling peace of mind	1.89±1.32
FACIT-Sp5 I feel a sense of purpose in my life	2.03±1.28
FACIT-Sp6 I am able to reach down deep into myself for comfort	2.12±1.20
FACIT-Sp7 I feel a sense of harmony within myself	1.98±1.35
FACIT-Sp8 * My life lacks meaning and purpose	2.35±1.46
FACIT-Sp9 I find comfort in my faith or spiritual beliefs	2.69±1.24
FACIT-Sp10 I find strength in my faith or spiritual beliefs	2.54±1.40
FACIT-Sp11 My illness has strengthened my faith or spiritual beliefs	2.04±1.38
FACIT-Sp12 I know that whatever happens with my illness/situation, things will be okay	2.48±1.16
<i>FACIT-Sp MEANING mean score (min.:0; max.:16)</i>	<i>9.08±3.56</i>
<i>FACIT-Sp PEACE mean score (min.:0; max.:16)</i>	<i>8.24±3.73</i>
<i>FACIT-Sp FAITH mean score (min.:0; max.:16)</i>	<i>9.76±4.10</i>
<i>FACIT-Sp: total means score (min.:0; max.:48)</i>	<i>27.09±8.66</i>

*: Item is reverse scored. The FACIT-Sp is based on a 5-point scale ranging from 0 (not at all) to 4 (very much).
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cant positive correlation was found between FACIT-Sp and test-retest scores of the three subdimensions ($p<0.05$). When the correlation coefficients were examined, strong correlations were found between the meaning and peace subscales ($r=0.62$, $p<0.05$). It was determined that there was a weak correlation between the meaning and the faith subdimension in the posi-

tive direction ($r=0.26$, $p<0.05$). There was a weak correlation ($r=0.22$, $p<0.05$) in the positive direction between the peace and the faith subdimension. For the reliability of the instrument; Cronbach's coefficient alpha was calculated as a measure of internal consistency: values from 0.6-0.7 are acceptable, whereas values greater than 0.7 are good.^{22,23,25} The mean of the scale

Table 2. Distribution and reliability of FACIT-SP-12 scores (n=133)

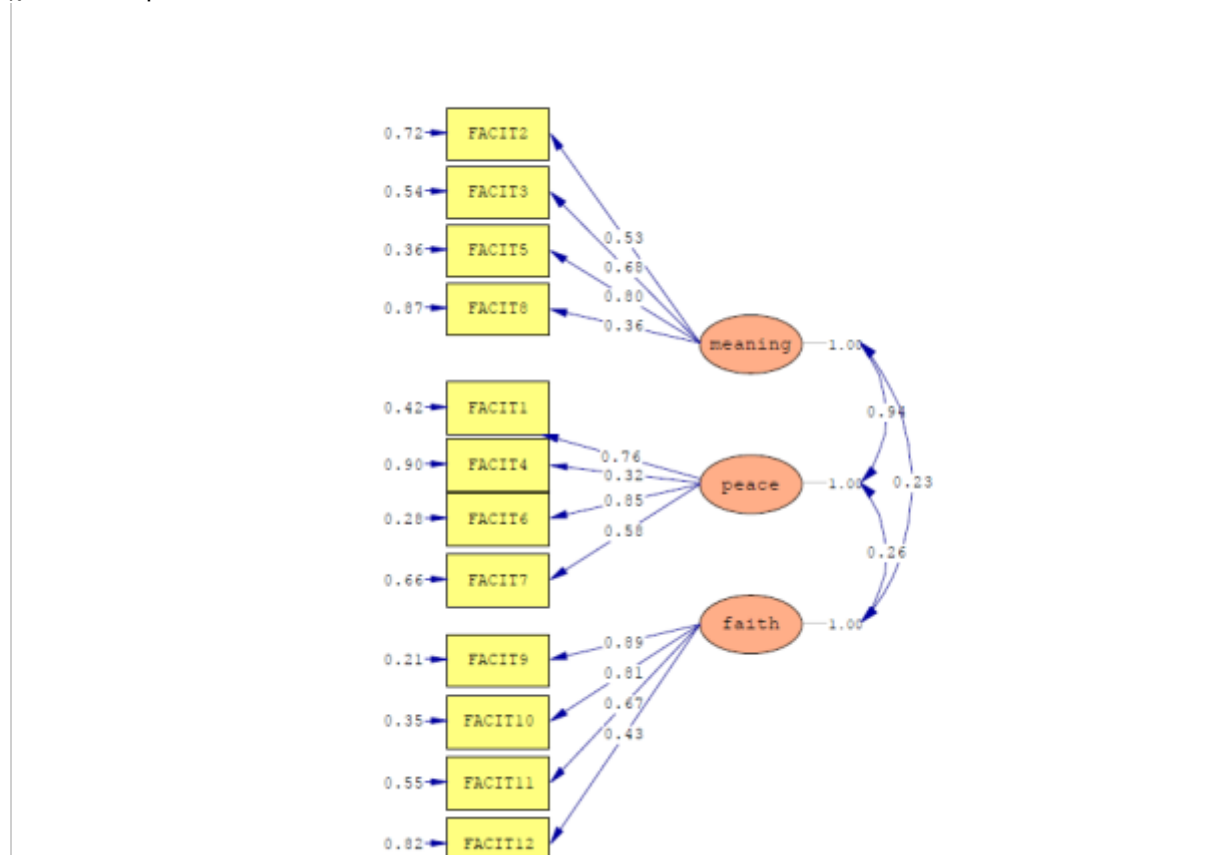
FACIT-SP item	r	p	Item-total correlations	If item deleted Cronbach's α
1. I feel peaceful	0.58	<0.001	0.58	0.63
2. I have a reason for living	0.48	<0.001	0.52	0.61
3. My life has been productive	0.55	<0.001	0.57	0.60
4. I have trouble feeling peace of mind	0.37	<0.001	0.37	0.75
5. I feel a sense of purpose in my life	0.32	<0.001	0.45	0.61
6. I am able to reach down deep into myself for comfort	0.66	<0.001	0.66	0.60
7. I feel a sense of harmony within myself	0.40	<0.001	0.48	0.69
8. My life lacks meaning and purpose	0.37	<0.001	0.34	0.71
9. I find comfort in my faith or spiritual beliefs	0.68	<0.001	0.69	0.71
10. I find strength in my faith or spiritual beliefs	0.61	<0.001	0.74	0.74
11. My illness has strengthened my faith or spiritual beliefs	0.55	<0.001	0.71	0.69
12. I know that whatever happens with my illness/situation, things will be okay	0.43	<0.001	0.31	0.82
Subscales				Cronbach's α
Meaning (2,3,5,8 th items)	0.62	<0.05		0.67
Peace (1,4,6,7 th items)	0.26	<0.05		0.72
Faith (9,10,11,12 th items)	0.22	<0.05		0.79
FACIT-Sp-12: total				0.80

scale was 27.09 ± 8.66 (range: 0-48) and the internal consistency coefficient was 0.80. The Cronbach's alpha value, which indicates the reliability coefficient, was found to be as high as 0.80 for this scale. The split-half and the Spearman Brown values were 0.67 for the meaning, 0.72 for peace, and 0.79 for the faith sub-dimensions of this scale. If item deleted alpha values revealed that, when the items 4, 8 and 12 are removed, the alpha values increases over the alpha values of their own sub-dimensions (Tablo 2).

Kaiser-Meyer-Olkin was found 0.74. It was observed that Bartlett's test of sphericity is $\chi^2=734.65$, $p<0.001$. It was found that correla-

tion coefficients are between 0.31 and 0.74 ($p<0.001$). The biggest factor after the varimax rotation the first factor that explained 54.3% of the variance. Total variance explained by factors was 73.6%.

In the exploratory factor analysis, CFA was performed to identify whether or not the three-factor model was verified. Fit statistics for the FACIT-Sp-12 for Turkish community met criteria: CFI=0.95, RMSEA=0.070, TLI=0.91, SRMR=0.07. Other fit indices exhibited an acceptable level (GFI=0.92, RMR=0.063, NFI=0.90, IFI=0.90 and RFI=0.91, given in Figure 1.



Chi-square=251.93, df=51, $p<0.001$, RMSEA=0.070

Figure 1. Results of confirmatory factor analysis of the Spiritual Well-Being Scale

DISCUSSION

Spiritual well-being assessment is quite important in the era of growing elderly populations. So this paper aims to cross validate a pre-developed Spiritual Well-being for Turkish on older adults. Previous research indicates that the

FACIT-Sp-12 scale is a psychometrically strong measure of spiritual wellbeing.^{10,12,13}

Internal consistency was assessed by Cronbach's alpha calculations and alpha values for all domains were found satisfactory, consistent with the previous studies in the literature. In the comparison of the Cronbach's alpha value of our re-

search with that of in a cognitively intact nursing home population Cronbach's alpha coefficient for the total scale was higher in our study (0.76) than that in Haugan's study.¹⁷ While Cronbach's alpha value of the scale ranged from 0.80 to 0.88,^{11,12,14,16} in other studies, it was 0.80 in the present study. This study shows that internal reliability and validity of the FACIT-Sp-12 items are good in older people living in nursing homes.

Additionally, in order to probe any problematic item in the scale, if item deleted alpha values were calculated for all of the scale items. These analyses showed that the alpha values was greater than the alpha values of their own sub-dimensions, when the items 4, 8 and 12th are removed, indicating these three items might be problematic items. In the CFA results, the item-total correlations and error residuals of these items are satisfactory.

Construct validity

The data were analyzed by means of the factor analysis and varimax rotation. In order to attain the best fitting structure and the correct number of factors, the following criteria were used: eigenvalues higher than 1.0 factor loadings higher than 0.30.²²⁻²⁵ Since the KMO and BTS results indicate the data satisfy the psychometric criteria for factor analysis; the exploratory factor analysis is performed.^{22,23,25}

A statistically significant positive correlation was found between FACIT-Sp scores and the three subdimensions ($p < 0.05$).

Authors' contributions: S.A.: literature review, statistical analysis, finding the subject, conducting research, writing the manuscript; T.G.: sample collection, applying scales; B.Ö.C.: statistical analysis; A.Ç.: sample collection, applying scales; A.A.P.: sample collection, applying scales.

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