



Original Article

# Reliability and validity of Farsi version of Parsian and Dunning spirituality questionnaire

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## Abstract

**Introduction:** Spirituality is being increasingly recognized as an important aspect of the health and wellbeing of people with chronic health conditions. Spirituality gives meaning to people's lives and may be an important coping resource that enables people with chronic conditions to deal with their condition. Thus the goal of this study was to investigate the psychometric characteristics of the spiritual questionnaire (Parsian and Dunning, 2009).

**Materials and Methods:** The research sample consisted of 348 university students (141 men and 206 women) (2012-2013). The participants were selected through convenience sampling method and they fulfilled spiritual questionnaire (Parsian and Dunning, 2009). Applied methods were: construct validity (explanatory factor analysis and internal consistency), convergent validity, reliability (internal consistency), and Pearson correlation index. Data analyzed by SPSS software version 20.

**Results:** In explanatory factor analysis, four factors (self-awareness, importance of spiritual beliefs, spiritual practices, and spiritual needs) were extracted. The reliability of this test was assessed and Cronbach's alpha for these factors was 0.84, 0.90, 0.77, and 0.82 respectively. The global Cronbach's alpha of the questionnaire was 0.90.

**Conclusion:** Considering the results of this study, this spirituality questionnaire has good validity and reliability, and can be used to evaluate spirituality in Iranian population.

**Keywords:** Questionnaire, Reliability, Spirituality, Validity

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## Introduction

Nowadays particular attention has been paid by professionals to the capacity having a role in quality of life. One of these components is spirituality. In recent years, spirituality construct has been a subject of interest to psychologists and therapists (1-3). There are numerous definitions of the concept of spirituality; these vary in their degree of commonality but do not reflect a consensus of thought. Swinton and Pattison consider spirituality as an aspect of human existence which it gives him the meaning; they also believe that spirituality is associated with the important structures of human

being and helping him to cope with life crisis (4). Vaughan considers spirituality as the highest level of maturity in the fields of cognition, morality and emotions among the people. He also regards spirituality as attitude and culminating experience including developmental domains (5).

There is a growing interest about the role of spirituality in health and disease (6) so that the World Health Organization named four dimensions for the definition of human including physical, psychological, social and spiritual. As it is observed in the world health organization's definition, the spiritual dimension of human excellence has been come in the development of human's life (7, 8). Spiritual health has been regarded as an important aspect of health by Gomez and John (9) Unterrainer et al (10). The World Health Organization quality of life assessment group (7,8)

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in general, spiritual health providing a balanced and integrated communication between the inner forces and it has been determined by the characteristics including stability in life, peace, harmony, feeling a close relationship with oneself, God, society and the environment (11). While the literature has largely focused on health outcomes, research does suggest that some domains of QoL, other than health-related dimensions, will be affected by spiritual or religious experience. This has largely centered on social and psychological aspects, showing positive relationships between a number of variables, such as positive feelings, social support and Self-esteem, depression, anxiety and hopelessness, personal growth, mastery, control, happiness and satisfaction (12-15).

Due to the heterogeneity in the field of evaluation of Spirituality, it seems substantial to achieve an Integrated and comprehensive concept of spirituality and also providing an important tool for assessment. In this regard, Parsian and Dunning (16) extracted components of spirituality. The draft of the questionnaires is derived of the relevant literature and the present four tools.

**Spirituality scale:** The internal consistency of subscales ranged from 0.59 to 0.97 (17); The **Spiritual Meaning Scale (SMS):** Cronbach's alphas of the subscales ranged from 0.60 to 0.62 (18). **Daily Spiritual Experiences Scale:** Cronbach's alpha correlation coefficient for the global scale was 0.90 (19). A survey used in a national study in the Higher Education Research Institute by the University of California to explore students' search for meaning and purpose. The internal consistency of the subscales ranged between 0.75 and 0.97. All of these scales were valid but focused on religion or higher being as a measure of spirituality (16).

The first edition of the 35-item of spirituality scale was composed of seven parts, including importance of spiritual beliefs, self-awareness, Environmental awareness, relationships, spiritual needs, spiritual experiences and was an open ended questions. The final version of 29-item of the questionnaire was prepared by Parsian in four subscales, including self-awareness, the importance of spiritual beliefs, spiritual experiences and spiritual needs. 62.0 of the variance was explained by these four subscales (16).

Due to the importance of spirituality subject playing a major role in mental health and coping with life crises and according to the theoretical and practical needs, the assessment among the Iranian so that the main objective of this study was preliminary to assess the psychometric properties of spirituality scale in the Iranian population. In other

words, the aim of the study is proving the Farsi version of spirituality scale by using appropriate statistical methods and finally to make the psychometric characteristics more practical culturally.

### Materials and Methods

The method of this research is Survey Research used to assess the validity and also to survey psychometric properties of the spirituality scale. Participants included all students at Ferdowsi University of Mashhad in 1391-92 years. 348 of college students between 18 to 54 years old were chosen as random samples and based on Morgan table, Including 206 females 59.2 and 142 boys 40.8. The consent of participants attending in the research obtained and we ensure them about the confidentiality of the information. Criteria of the present study were mental health of the participants which is proven by psychology and psychiatry professionals.

To evaluate the psychometric properties of the spirituality questionnaire, firstly, the questionnaire was translated into Persian by a qualified translator, who was a native speaker of Persian and proficient in English (forward translation), and then translated back into English by a qualified English translator, blind to the original English questions (backward translation). Then, the original, the translated and translation-back version were given to three Iranian psychology professors to evaluate face validity. As a pilot study, checking the understanding and interpretation of the translated items, the questionnaire was done on 30 students, the students were asked to put a note beside any ambiguous questions. There was no time limit for completing the questionnaire and the average time took 10 minutes. Based on the students' notes, the final version of spirituality questionnaire was prepared.

### Research Instruments

**A) Spirituality Questionnaire:** This scale is designed by Parsian and Dunning (16). To measure the importance of spirituality also assess its different aspects in human life. This tool is a 29-item self-report questionnaire which is Rated on a Likert scale of 1-4 where one represents strongly disagree=1, disagree=2, agree=3, and strongly agree=4. The total score and subscale scores of self-awareness (10 questions), importance of spiritual beliefs in life (4 questions), intellectual activity (6 questions) and spiritual needs (9 items) are measured separately. Parsian and dunning (2009) the items on the Spirituality Questionnaire (SQ) revealed factor loading  $\geq 0.5$ . Factor analysis suggests appropriate

construct validity of the questionnaire. Reliability processes indicated that the SQ is reliable: Cronbach's alpha 0.94 for the global SQ and between 0.80-0.91 for the four subscales

*B) Enrich Couple Scale (ECS):* This questionnaire comprises of 35 items and 4 sub-scales of marital satisfaction, communication, conflict resolution, and idealistic distortion. This questionnaire was developed by Fowers and Olson (20) they were used this questionnaire to measure marital satisfaction. They believe that this scale is sensitive to the changes was made within the family. Fowers and Olson in random sample of an international research of 2039 couples showed that they can distinguish between dissatisfied and satisfied couples accurate to 0.85 – 0.95. Each item of this questionnaire is related to an important subject. This questionnaire as a diagnostic tool is also able to help couples seeking the marital counseling and demanding an improvement in their relationship. Asoodeh reports the alpha coefficient of the questionnaire for the sub-scales of marital satisfaction, communication, conflict resolution, and idealistic distortion equals to 0.74, 0.78, 0.61, and 0.80 respectively. And test-retest reliability of the questionnaire for each subtest respectively was 0.86, 0.81, 0.90, 0.92 (21)

**Results**

To evaluate the psychometric properties of the questionnaire validity and reliability were considered. For the validity of the test, face validity, content validity, construct validity and convergent validity were carried out. Comments were obtained from four psychologists on the face and content validity of the questionnaire. Explanatory factor analysis and the internal consistency of each factor with the total scores were used to examine the validity of the scale. Kaiser-Meyer-Olkin Measure of Sampling Adequacy also used to ensure adequate sample size in factor analysis. Bartlett's test used In order to ensure that there is not zero correlation between the materials of the questions. Total Variance Explained is shown in table 1.

**Table 1.** Bartlett's test results, reliability coefficient of sub-scales and the whole test

Factors	Eigen value	Percent of variable	Cumulative Percent of variable
Self-awareness	8.39	28.93	28.93
Beliefs	3.18	10.9	39.91
Spiritual experiences	2.38	8.23	48.14
Spiritual needs	1.22	4.22	52.37

*P*<0.01

It is shown that the determinant of matrix is not zero matrix as it shows that it is possible to calculate the inverse matrix, and hence the extraction factors.

The correlation of matrix of the Spirituality Scale KMO was 0.902 and Bartlett's test was significant (*p*-value 0.001) = 4.48. It can be concluded that based on the correlation matrix shown in the example, performing a factor analysis is justified.

The main components of spirituality scale indicated that all 29 items had a factor loading greater than 3.0, Special values greater than 1 and 4 of the shared variance between variables for the four factors on the variance is equal to 37.52 percent. Results of confirmatory factor analysis of the scale are shown in Table2.

**Table 2.** Matrix of rotated factor of 29 questions deductive method

Items Questions	F1	F2	F3	F4	$\alpha$
Self-awareness					0.902
Question 1	0.661				0.903
Question 2	0.692				0.901
Question 3	0.805				0.902
Question 4	0.794			0.84	0.903
Question 5	0.701				0.900
Question 6	0.627				0.906
Question 7	0.334				0.903
Question 8	0.493				0.901
Question 9	0.362				0.901
Question 10	0.517				
Belief					0.900
Question 1		0.827			0.900
Question 2		0.839			0.900
Question 3		0.804		0.90	0.900
Question 4		0.737			0.900
Spiritual activity					
Question 1			0.534		0.903
Question 2			0.468		0.902
Question 3			0.608	0.77	0.903
Question 4			0.682		0.902
Question 5			0.510		0.900
Question 6					0.903
Spiritual needs					
Question 1				0.503	0.902
Question 2				0.470	0.909
Question 3				0.571	0.903
Question 4				0.656	0.903
Question 5				0.801	0.905
Question 6				0.719	0.903
Question 7				0.697	0.901
Question 8				0.409	0.904
Question 9				0.721	0.904

The results in the table 3, goodness of fit index (GFI), adjusted goodness of fit index and standardized root mean square residual (RMSEA) four-factor model suggests that spirituality scale is fit. The value close to 1 for comparative fitness index, adjusted goodness of fit index, goodness of fit index, and the index value is smaller than 0.05 square approximation error estimate represents the fitted model is appropriate.

High correlations with the total scores using the internal consistency represent a confluence off

actors. The reliability of the questionnaire was measured by using Cronbach's alpha for each factor separately and for all questionnaires materials. The Pearson correlation coefficient was used to evaluate the correlation between the parameters of the test which its results and also Cronbach's alpha results shown in Table 4.

**Table 3.** Goodness of fit index of the factor structure of the spirituality scale

Chi-Square	DF	GFI	AGFI	CFI	RMSEA
2260	771	0.71	0.66	0.88	0.11

*P*<0.01

Theoretically, spirituality and marital satisfaction is put in the field of positive psychology. Also, several studies have been done studying the relationship of these two factors and the role of spirituality enriching the communication (22,23) besides, there is a high correlation between the religious orientation and Enrich marital satisfaction questionnaire subscales. When studies show that there is a perfect positive correlation between spirituality, religious orientation, and marital satisfaction so it can be concluded that Enrich questionnaire can be used for Convergent validity of the spirituality scale. Marital satisfaction questionnaire was used to study the convergent validity of the spirituality questionnaire. The correlation results between of these tests are shown in Table 5. The results indicate a significant convergence between most components of marital satisfaction with spirituality subscales.

**Table 4.** Results of Cronbach's alpha and Pearson's correlation coefficient

Variables	1	2	3	4	5	A
Self-awareness	1	0.44	0.46	0.29	0.34	0.84
Belief		1	0.33	0.32	0.41	0.90
Spiritual practices			1	0.45	0.36	0.77
Spiritual needs				1	0.31	0.82
Spirituality					1	0.90

*P*<0.01

**Table 5.** Correlation coefficient between spirituality and marital satisfaction test

Variables	Marital satisfaction
Self-awareness	0.37**
Belief	0.29**
Spiritual practices	0.27**
Spiritual needs	0.18*
Spirituality	0.38**

\*\**P*<0.01 \**P*<0.05

**Discussion**

The purpose of this study was to evaluate the validity and reliability of spirituality questionnaire in Iranian population. For this purpose 348 students from the University of Mashhad participated in the study. To assess construct validity, exploratory

factor analysis was conducted. Before factor analysis test, KMO was run. The obtained coefficient was 0.90 and Bartlett test of sphericity was equal to 4.48=2  $\chi$  with *P*≤0.001 considered significant. The results show that the factor analysis of this scale is justified. Exploratory Factor analysis revealed 4 major factors is significant and can be extracted. Eigen value of factors respectively was 8.39, 3.18, 2.38, and 1.22so that 52.37 percent of variance was explained by these four factors. Value of Cronbach's alpha of self-awareness subscale consisting of 10 questions equaled 0.82, importance of spiritual beliefs consisting of four questions with alpha0.90; spiritual activity consisting of 6 questions equaled 0.77 and spiritual needs is 0.82.

The Cronbach's alpha for the total score equaled 0.90.The calculated results show the high level which it represents internal consistency of the scale and subscales.

The results of factor analysis results are consistent with the Parsian and Dunning (16) Research which Cronbach's alpha for the four subscales equaled 0.80 to 0.91and for overall instrument equaled 0.94. In their study, four factors: self-awareness, importance of spiritual beliefs, spiritual needs and spiritual experiences were confirmed and 0.62 percent of variance was explained by the four factors.

Díaz Heredia and Luz Patricia research (24) represent the overall Cronbach's alpha 0.88 which it means0.52 of variance was explained by four factors including self-awareness; importance of spiritual beliefs, spiritual activities and spiritual needs. Indices of spirituality validity of the present study represents, firstly, the results of this study was close to previous studies as it mentioned earlier, secondly, the scale has good theoretical and empirical validity suggests results have been reported are so close with most research in this area homogeneity.

Moreover, the study shows a significant correlation between spirituality with marital satisfaction, which it indicates the validity of spirituality scale. So with the growing research on spirituality in recent years, as a result, the number of measurements of spirituality has increased.

However, existing indicators are being criticized for cultural and religious biases and also psychometric limitations (25,26).

So it seems necessary to prepare the spirituality questionnaire to measure spirituality and its consequences or to identify the spiritual health, existential crisis assessment, appropriate spiritual intervention and assessment and finally investigating the relationship between spirituality and mental health (27, 28).

The importance of this study was to validate a tool to assess spirituality in Iranian population. One of the most important issues for researchers and professionals to study spirituality is making a tool for measuring the spirituality and spiritual interventions for the targeted groups.

The study of spirituality in clinical and research fields requires an appropriate questionnaire. Absence of a reliable tool remains an obstacle but it is being tackled by validating this scale in the targeted culture.

One of the limitations of this study is that it was done only on the student sample

It is suggested that future studies applying on other groups of society, especially in certain groups of patients, refractory patients, immuno-compromised patients and also elderly people.

## Conclusion

In general, this study demonstrated that the spirituality questionnaire has an acceptable validity and reliability. Studying the questionnaire in details showed that its items measure dimensions of spirituality accurately. The findings of this study suggest that this questionnaire is fit for research in Iranian population in the field of health psychology and spiritual health.

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