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The standardization of spiritual coping questionnaire in student population

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Abstract

Introduction: Spiritual coping have an important role in confronting stressful events in life. Therefore, the aim of the present study was standardization of the spiritual coping questionnaire in students.

Materials and Methods: In descriptive- correlational research, 600 undergraduate students of public universities in Tehran were selected using multistage cluster sampling. The Spiritual Coping Questionnaire (SCQ), Brief Religious Coping Scale (Brief-RCOPE), Spiritual Coping Strategies scale (SCS), Spiritual Intelligence Scale (SIS) and Iranian Mental Health Scale for students (IMHS) were administered on the participants. The research data were analyzed by the SPSS and LISREL software as well as Pearson correlation, exploratory and confirmatory factor analysis.

Results: The internal consistency reliability (Cronbach's alpha) for total score, positive and negative spiritual coping were 0.84, 0.90 and 0.84, respectively. The reliability coefficient relevant to subscales of positive and negative spiritual coping was 0.57 to 0.90. The findings of exploratory factor analysis suggested two accessible factors of positive and negative spiritual coping in the original version of the Persian version. The results of the confirmatory factor analysis exhibit the seven-factor model of this questionnaire has an acceptable fit with data. Finally, this questionnaire has a criterion, convergent, and divergent validity.

Conclusion: The results of this study indicate that Spiritual Coping Questionnaire has an appropriate reliability and validity to measure the spiritual coping of Iranian students.

Keywords: Factor analysis, Mental health, Religious, Spirituality

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Introduction

In spite of remarkable development in science and technology, 90% of the world population is involved in certain types of spiritual and religious forms. Spirituality defined as an individual's essence, search for meaning and purpose in life (1,2) and the way of communicating with the moment, self, others, nature, and sacred (3).

Pargament (4) defines spirituality as a search for the sacred. According to Koenig (5,6) spirituality differs from all other things (humanism, values, morals, and mental health) due to having a relationship with what is sacred. Moreover, spirituality is a dynamic character because it can develop, change or become invisible (7). Four types of spirituality identified based on the type of sacred object including religious, nature, environmental and cosmos spirituality (8).

The spiritual coping defined as a search for significance at the times of stress in ways related to the sacred (9). Charzyńska defines spiritual coping as an attempt to overcome stressful factors based on the non-materialistic sources (what is transcendent). In addition, spiritual coping includes positive and negative spiritual coping (7).

The religious coping defined as efforts to understand and deal with life stressors and negative life events in ways related to the sacred. Additionally, it contains two types of positive and negative religious coping. The positive religious coping refer to a secure relationship with a transcendental force, a sense of spiritual connectedness with others, and a benevolent worldview. Conversely, negative religious coping reflect underlying spiritual tensions and struggles within oneself, with others, and with the divine (10).

Although religiosity and spirituality conceptualized in the literature as different structures, such classification is still not common in coping with stress. Most publications apply the term of spiritual/religious coping together and most researches' tools merely measure the religious coping (7). In other words, despite the use of religious coping questionnaire in these researches, the term spiritual coping (11) or religious/spiritual coping (12) is used. Although a number of research tools have been made to study of religious coping such as the brief RCOPE (10, 13), adolescent religious coping questionnaire (14), Iranian religious

coping scale (15), a few tools like Spiritual Coping Strategies (SCS) scale (16) have been developed to evaluate spiritual coping. Baldacchino and Buhagiar (16) reported that the SCS has appropriate validity and reliability. Saffari et al. (17) assessed the psychometric properties of this questionnaire on a group of Iranian hemodialysis patients and concluded that this questionnaire has an appropriate validity and reliability.

Another available tool to measurement spiritual coping is a Spiritual Coping Questionnaire (SCQ) made by Charzyńska (7). The SCQ is a multidimensional tool and includes 32 items. In addition, SCQ consists of two subscales namely positive and negative spiritual coping. The results of exploratory factor analysis showed that this questionnaire has a seven first-order factors and two second-order factors (positive and negative spiritual coping).

The positive spiritual coping including four subscales (personal, social, environmental and religious) and negative spiritual coping containing three subscales (personal, social and religious). Additionally, 32 items of the SCQ explained 67.52% of variance of the spiritual coping (7). This study conducted on a group of people who have faced various stressful situations (people in hospitals, people in addiction treatment centers, people who take care of the sick member of the family, breakdown or divorce, unemployed people or facing the risk of losing their job). The results of confirmatory factor analysis showed that fit indices were acceptable and satisfactory (CFI=0.95, NFI=0.92, TLI=0.94, RMSEA=0.04). Cronbach's alpha for the all the scales and subscales of the SCQ have been 0.67 to 0.95. Reliability of the positive and negative spiritual coping in internal consistency and test-retest (a 6-week interval) method has been reported 0.92-0.82 and 0.78-0.72, respectively (7).

Charzyńska in second study about people undergoing alcohol addiction therapy found that there is no correlation between positive and negative spiritual coping and there is a significant relationship between positive spiritual coping with spirituality, positive religious coping, gratitude and forgiveness. Conversely, a negative significant relationship reported between negative spiritual coping with spirituality, positive religious coping, gratitude and forgiveness. The positive spiritual coping

had a significant relationship with the negative religious coping whereas the negative spiritual coping had a positive relationship with the negative religious coping. The results of this study showed that the SCQ have good constructive, convergent and divergent validity (7).

Students are one of the most important groups in each community; therefore, due to various reasons such as the role of spirituality in coping with major stressors of life, paying attention to the issue of measuring spiritual coping in this group can be important. On the other hand, the scarcity of existing questionnaires for evaluating spiritual coping in students, religious people and non-religious people is very important. Hence, the aim of present study was to standardization the SCQ in the student population. The main question of this study was whether the SCQ had appropriate reliability and validity in students.

Materials and Methods

The population of this descriptive-correlational study includes all students of public universities related to Ministry of Science, Research and Technology of Tehran. The sample consisted of 600 students aged from 18 to 28 years (334 girls, 241 boys) who selected by multistage cluster sampling. At first, three public universities of Tehran including Allameh Tabatabai University, Shahid Beheshti University and Tehran University selected randomly among the public universities in Tehran.

Then, from each of these universities, two colleges (Allameh Tabatabai University: Persian Literature and Foreign Languages, Psychology and Education; Shahid Beheshti University: Humanities, Engineering; Tehran University: Psychology and Education, Physical Education and Sports Sciences) were selected randomly. Finally, four classes from each faculty selected randomly and all students in these classes considered as the sample. The inclusion criteria were undergraduate students at the public universities of Tehran and their informed consent. The incomplete questionnaires were excluded from data. The ethical considerations of this study included informed consent, confidentiality of information and avoiding any harm to participants. The reverse translation method was use to standardization the Persian version

of the SCQ. First, three people translated the English version of the questionnaire into Persian. After examining the translations and preparing a final version, three other persons translated them back into English in order to compare them with the original version. Then, based on the review of the translations, the final version prepared and edited by one Persian language and literature specialist for a preliminary study. Before conducting a preliminary study of content validity, face validity and cultural adaptation of SCQ confirmed by three faculty members in Tehran University. Finally, the final version administrated on 600 students of Allameh Tabatabai, Shahid Beheshti and Tehran Universities. The research data analyze by the SPSS version 24 and LISREL software, using descriptive statistics, Pearson correlation and exploratory and confirmatory factor analysis.

Research instrument

A) Spiritual Coping Questionnaire (SCQ): It is a 32-item tool, which developed by Charzyńska (7) to measure spiritual coping strategies of religious and non-religious people when facing stressful situations. This questionnaire is scored based on a five-point Likert scale from 1 (very inaccurately) to 5 (very accurately). However, in the present study, a six-point Likert scale (1= completely inaccurate, 6= completely accurate) was used for scoring. The SCQ also includes two positive spiritual coping (including four personal, social, environmental and religious subscales) and negative coping (including three personal, social and religious subscales). Charzyńska found that 32 items of this questionnaire explain 67.52% of variance of the spiritual coping. The results of confirmatory factor analysis showed that fit indices were acceptable and satisfactory (CFI= 0.95, NFI= 0.92, TLI= 0.94, RMSEA= 0.04). Cronbach's alpha for the all the scales and subscales of the SCQ have been 0.67 to 0.95. Reliability of the positive and negative spiritual coping in internal consistency (Cronbach's alpha) and test-retest (a 6-week interval) method has been reported 0.92-0.82 and 0.78-0.72, respectively (7).

B) Brief-RCOPE: It is a 14 item tool to measure positive (7 items) and negative (7 items) religious coping. The items of the questionnaire are scored on four-point Likert scale from 0 (not at all) to 3(a great deal). Reliability of the positive and negative

religious coping in internal consistency method has been reported 0.90 and 0.81, respectively (13,18). In Iran, the reliability of this questionnaire by using the internal consistency method (Cronbach's alpha) for positive and negative religious coping was equal to 0.79 and 0.71. Reliability of the test by the test-retest method for the total score, positive and negative religious coping has reported 0.90, 0.93 and 0.88, respectively. The convergent validity coefficients for religious coping were 0.85 and 0.83 (19). In the present study, the Cronbach's alpha for total score, positive and negative religious coping were 0.82, 0.93 and 0.73, respectively.

C) Spiritual Coping Strategies (SCS) scale: It is a 20-item tool, which developed by Baldacchino and Buhagiar (16). The SCS is scored on a four-point Likert scale in a range from 0 (never used) to 3 (often used). This scale consists of two subscales of religious (9 items) and non-religious (11 items) coping strategies. Baldacchino and Buhagiar (16) reported that SCS had good reliability and validity. Saffari et al. investigated the psychometric properties of this scale on a group of hemodialysis patients in Iran and reported that Cronbach's alpha for total score equal to 0.87. Their results showed that the SCS had an appropriate divergent and convergent validity. Finally, the two-factor structure of this scale confirmed. The results of confirmatory factor analysis showed that model fit indices (GFI=0.92, NFI=0.95, CFI=0.94, RMSEA=0.006) were acceptable and satisfactory (17). In the present study, the Cronbach's alpha for total score, religious and non-religious coping strategies were 0.86, 0.86 and 0.84, respectively.

D) Spiritual Intelligence Scale (SIS): It is a 39-items tool, which developed by Khodayarifard et al. (20) to measure spiritual intelligence. The SIS is scored on a six-point Likert scale from 0 (never) to 5 (always). The SIS includes 7 subscales containing the personal meaning production, critical existential thinking, perception of transcendental awareness, discovering transcendental beyond existing object, understanding meaning the effect of religious rituals, solving emergence problems by religious resources and spiritual adaptation in interpersonal relations. Reliability of the subscales in internal consistency method (Cronbach's alpha) has been reported 0.73, 0.74, 0.86, 0.84, 0.91, 0.84 and 0.75, respectively. They reported that this

questionnaire has seven first-order factors and three second-order factors (searching process of existential meaning, understanding spiritual issues as well as religious rituals and symbols, optimally using spiritual resources for solving problems and getting consistent with the environment). Also, seven first-order factors (CFI=0.97, NFI=0.96, NNFI=0.97, GFI=0.84, RMSEA=0.067) and three second-order factors (CFI=0.97, NFI=0.96, NNFI=0.96, GFI=0.82, RMSEA=0.07) fit indices were acceptable and satisfactory. Finally, they reported that the SIS has good constructive, convergent and divergent validity (20). In the present study, the tool reliability by the use of the internal consistency for a total score was 0.94. Additionally, Cronbach's alpha for the subscales were 0.73, 0.77, 0.85, 0.75, 0.89, 0.65 and 0.79, respectively.

E) Iranian Mental Health Scale for students (IMHS): It is a 42-item tool, which developed by Poursharifi et al. (21). This scale consists of two sections including positive (12 items) and disease (30 items). The positive section includes two subscales of positive emotions and well-being, while the disease section includes six subscales of depression, anxiety, obsession compulsion disorder, social anxiety, sleeping disturbances and educational depression. They reported the subscales reliability of the positive section from 0.79 to 0.93 and later for the disease from 0.61 to 0.87. They also found that IMHS has appropriate criterion validity.

The results of their confirmatory factor analysis for the first section (CFI= 0.98, NNFI= 0.96, RMSEA= 0.07) and second section (CFI= 0.97, NFI= 0.96, RMSEA= 0.07) were desirable (21). In the present study, the Cronbach's alpha for positive section, positive emotions and well-being was 0.91, 0.94 and 0.82, respectively. The Cronbach's alpha for disease section, depression, anxiety, obsession compulsion disorder, social anxiety and sleeping disturbances was 0.90, 0.83, 0.81, 0.68, 0.81 and 0.76, respectively.

Results

After eliminating some incomplete questionnaires, the sample size decreased from 600 to 575 cases. The mean and standard deviation of the total age of the students participating in this study were 21.41 ± 2.34 years. Other demographic data, mean and standard deviations of the participants' scores are presented in Tables 1 and 2.

Table 1. Demographic data for the participants

Demographic value		Frequency (%)	Demographic value		Frequency (%)
Gender	Male	241 (41.9)	Acceptance	Daily	489 (85)
	Female	334 (58.1)		Nightly	86 (15)
Religion	Shia	548 (95.3)	Faculties	Humanities	479 (83.3)
	Sunni	27 (4.7)		Engineering	96 (16.7)
Marital status	Single	515 (89.6)	Social class	Lower class	23 (4)
	Married	57 (9.9)		Lower middle class	46 (8)
	Divorced	3 (0.5)		Middle class	340 (59.1)
University name	Allameh Tabatabai	208 (36.2)	Type of residence	Upper middle class	145 (25.2)
	Shahid Beheshti	182 (31.7)		Upper class	21 (3.7)
	Tehran	185 (32.2)		Along with family	282 (49)
Acceptance type	Regions	477 (83)	Type of residence	Dormitory	274 (47.7)
	Shahed	2 (0.3)		Rental house- with friends	11 (1.9)
	Isargaran	17 (3)		Rental house-alone	8 (1.4)
	Other	29 (5)			

Table 2. Descriptive statistics (mean and standard deviation) for the study variables

Variables	Mean	SD	Variables	Mean	SD
Positive social coping	26.29	4.99	Understanding meaning the effect of religious rituals	26.73	8.29
Positive environmental coping	19.23	5.28	Solving emergence problems by religious resources	18.92	4.68
Positive personal coping	18.01	3.59	Spiritual adaptation in interpersonal relations	12.04	3.41
Positive religious coping	25.39	7.65	Searching process of existential meaning	59.12	16.32
Positive spiritual coping-total score (SCQ)	88.92	16.73	Understanding spiritual issues	26.95	7.24
Negative social coping	10	4.37	Optimally using spiritual resources for solving problems	30.96	6.11
Negative personal coping	10.06	4.73	Spiritual intelligence scale-total score (SIS)	117.04	25.28
Negative religious coping	7.77	3.43	Positive emotions	22.47	7.39
Negative spiritual coping-total score (SCQ)	27.84	10.17	Well-being	24.77	6.02
Positive religious coping (Brief-RCOPE)	20.74	5.35	Positive section-total score (IMHS)	47.24	11.73
Negative religious coping (Brief-RCOPE)	10.66	2.55	Depression	14.50	6.09
Religious coping strategies (SCS)	15.87	6.01	Anxiety	16.83	6.55
Non-religious coping strategies (SCS)	20.99	5.02	Obsession compulsion disorder	14.94	5.12
Personal meaning production	12.94	3.54	Social anxiety	15.41	6.22
Critical existential thinking	14.01	4.90	Sleeping disturbances	14.43	6.01
Perception of transcendental awareness	18.62	6.04	Disease section-total score (IMHS)	76.12	21.90
Discovering transcendental beyond existing object	13.78	3.85			

The reliability of the SCQ by internal consistency method for total score, positive and negative spiritual coping was 0.84, 0.90, and 0.84, respectively. Cronbach's alpha coefficients for subscales of positive spiritual coping, namely social, environmental, personal and religious coping were 0.76, 0.76, 0.63 and 0.90, respectively. In addition, the reliability of the negative spiritual coping, namely social, personal and religious, was 0.76, 0.76 and 0.57, respectively. In order to study the constructive validity of the SCQ, the exploratory factor analysis with the principal component analysis used. First, the adequacy of the sample size ($n=575$) was investigated by using Kaiser-Meyer-Olkin and Bartlett's test of sphericity. The Kaiser-Meier-Olkin was satisfactory (0.89) and the Bartlett's test was significant ($P<0.0001$, $df= 496$, $\chi^2= 7279.97$). In factor

analysis, greater loads than 0.30 considered as significant.

When the number of factors was limited to two factors, the factor structure was quite similar to the two-factor structure of the original version. The factor load of these two factors was 22.77 and 13.49, respectively. In addition, these two factors explained 36.27% of variance of the SCQ. The factor load of 21 items related to the first factor was in the range of 0.33 to 0.78. Since 21 items related to the positive spiritual coping, the first factor was called the positive spiritual coping. The factor load of 11 items related to the second factor was in the range of 0.51 to 0.70. Since 11 items related to the negative spiritual coping, the second factor was called the negative spiritual coping. Correlations between the factors of the SCQ presented in Table 3.

Table 3. Correlations between the factors of the SCQ

Variables	1	2	3	4	5	6	7	8
1 Positive spiritual coping-total score (SCQ)	-							
2 Positive social coping	0.75**	-						
3 Positive environmental coping	0.72**	0.46**	-					
4 Positive personal coping	0.82**	0.57**	0.52**	-				
5 Positive religious coping	0.81**	0.41**	0.34**	0.58**	-			
6 Negative spiritual coping-total score (SCQ)	-0.12**	-0.13**	-0.07	0.18**	-0.05	-		
7 Negative social coping	0.09**	-0.13**	-0.02	0.10**	-0.05	0.78**	-	
8 Negative personal coping	0.16**	-0.13**	-0.08	0.23**	-0.11*	0.85**	0.43**	-
9 Negative religious coping	0.02	0.02	-0.05	0.10**	-0.07	0.80**	0.44**	0.59**

** $P<0.001$, * $P<0.05$

The results of the Table 3 showed that there is a strong relationship between total score of positive spiritual coping and each of its subscales ($rs=0.72-0.82$, $P<0.05$). Furthermore, there is a strong relationship between total score of negative spiritual coping and each of its subscales ($rs=0.78-0.85$, $P<0.05$). The correlation coefficients of the questions related to each of factor with its total score including positive personal coping (0.74

to 0.88), positive social (0.57 to 0.77), positive environmental (0.41 to 0.81), positive religious (0.76 to 0.87), negative personal (0.70 to 0.81), negative social (0.69 to 0.77) and negative religion (0.77 to 0.79) were appropriate. To investigate the factor structure for the SCQ, an exploratory factor analysis used. The results are presented in Table 4.

Some of the most important fit indexes related to factor structure of SCQ presented in Table 5.

Table 4. Exploratory factor analysis for SCQ

Questions	1 factor positive personal coping β (t)	2 factor positive social coping β (t)	3 factor positive environmental coping β (t)	4 factor positive religious coping β (t)	5 factor negative personal coping β (t)	6 factor negative social coping β (t)	7 factor negative religious coping β (t)
Question 2	0.37 (8.53)						
Question 6	0.54 (13.05)						
Question 27	0.67 (16.60)						
Question 31	0.67 (16.62)						
Question 11		0.40 (9.19)					
Question 17		0.63 (15.34)					
Question 22		0.64 (15.93)					
Question 26		0.64 (15.72)					
Question 29		0.56 (13.38)					
Question 32		0.76 (19.76)					
Question 1			0.24 (5.34)				
Question 7			0.60 (14.57)				
Question 20			0.73 (18.75)				
Question 23			0.76 (19.92)				
Question 28			0.81 (21.87)				
Question 4				0.66 (17.42)			
Question 5				0.81 (23.07)			
Question 9				0.83 (23.80)			
Question 13				0.82 (23.43)			
Question 25				0.69 (18.46)			
Question 30				0.88 (26.04)			
Question 10					0.54 (12.85)		
Question 19					0.60 (14.74)		
Question 21					0.75 (19.22)		
Question 24					0.83 (22.02)		
Question 8						0.63 (15.04)	
Question 12						0.70 (16.98)	
Question 14						0.75 (18.62)	
Question 16						0.61 (14.58)	
Question 3							0.53 (11.96)
Question 15							0.75 (17.36)
Question 18							0.48 (10.86)

Table 5. Fit indexes for factor structure of SCQ

Model	Indexes								
	χ^2	χ^2/df	CFI	NFI	NNFI	IFI	RFI	GFI	RMSEA
Original model	1531.12 (P=0.001)	-	0.94	0.92	0.93	0.94	0.91	0.86	0.06
Corrective model	1358.51 (P=0.001)	172.61	0.95	0.92	0.94	0.95	0.91	0.87	0.06

Comparative Fit Index (CFI), Normed Fit Index (NFI), Non-normed Fit Index (NNFI), Incremental Fit Index (IFI), Radiative Forcing Index (RFI), Goodness-of-Fit Index (GFI) and Root Mean Square Error of Approximation (RMSEA) for non-corrective model were 0.94, 0.92, 0.93, 0.94, 0.91, 0.86 and 0.06, respectively, but these indexes were 0.95, 0.92, 0.94, 0.95, 0.91, 0.87 and 0.06 for corrective model. Indexes related to the corrective model obtained by the connection of questions 27 to 31, 7 to 20, 21 to 24, 12 to 14, and 3 to 15. According to the available sources, fit indexes

should be greater than 0.90 and the RMSEA is less than 0.08 (22). Therefore, according to fit indexes, except for two indexes related to χ^2 , two-factor structure of the SCQ is acceptable and satisfactory. In order to study of criterion, convergent and divergent validity of SCQ, the Brief-RCOPE (13,18), SCS (16), SIS (20), and IMHS were used (21). The relationships between the factors of SCQ with each of the factors of above tools were presented in Table 6. The results of table 6 show that SCQ has an appropriate criterion, convergent and divergent validity.

Table 6. Correlations between the factors of the SCQ and other tools

Tools and Subscales		SCQ subscales								
		positive social coping	positive environmental coping	positive personal coping	positive religious coping	positive spiritual coping	negative social coping	negative personal coping	negative religious coping	negative spiritual coping
Brief-RCOPE	Positive religious coping	0.33**	0.30**	0.44**	0.81**	0.70**	0.04	-0.01	0.09	0.04
	Negative religious coping	0.03	-0.08	-0.01	0.23**	0.09	0.30**	0.46**	0.66**	0.55**
SCS	Religious coping strategies	0.22*	0.35**	0.35**	0.71**	0.56**	0.08	0.15	0.19	0.17
	Non-religious coping strategies	0.61**	0.56**	0.50**	0.30**	0.59**	-0.16	0.29**	-0.11	0.24*
	Personal meaning production	0.32**	0.48**	0.60**	0.29**	0.53**	-0.07	-0.18	-0.19	-0.17
	Critical existential thinking	0.15	0.31**	0.35**	0.07	0.27**	0.06	0.006	0.04	0.04
SIS	Perception of transcendental awareness	0.31**	0.25*	0.33**	0.40**	0.43**	0.03	0.01	0.13	0.06
	Discovering transcendental beyond existing object	0.32**	0.27**	0.36**	0.55**	0.52**	-0.04	-0.16	-0.03	-0.10
	Understanding meaning the effect of religious rituals	0.24*	0.23*	0.28**	0.58**	0.47**	-0.08	-0.10	0.06	-0.06
	Solving emergence problems by religious resources	0.21*	0.17	0.31**	0.59**	0.45**	0.001	-0.08	0.008	-0.03
SIS	Spiritual adaptation in interpersonal relations	0.37**	0.31**	0.19*	0.09	0.31**	0.14	-0.02	0.03	-0.06
	Searching process of existential meaning	0.31**	0.27**	0.35**	0.57**	0.44**	-0.04	-0.09	0.07	-0.03
	Understanding spiritual issues	0.26**	0.44**	0.51**	0.19*	0.52**	0.009	-0.09	-0.07	-0.06
SIS	Optimally using spiritual resources for solving problems	0.37**	0.30**	0.35**	0.50**	0.52**	0.08	-0.07	0.02	0.01

	Spiritual intelligence scale-total score (SIS)	0.36**	0.38**	0.46**	0.55**	0.59**	-0.002	-0.10	0.03	-0.03
	Positive emotions	0.11	0.20*	0.17	0.19*	0.14	-0.36**	-0.26**	-0.36**	-0.23*
	Well-being	0.37**	0.44**	0.46**	0.54**	0.45**	-0.52**	-0.27**	-0.44**	-0.24*
	Positive section-total score	0.26**	0.35**	0.34**	0.40**	0.32**	-0.50**	-0.30**	-0.45**	-0.27**
	Depression	-0.17	-0.22*	-0.37**	-0.35**	-0.33**	0.64**	0.41**	0.53**	0.22*
IMHS	Anxiety	0.06	-0.10	-0.14	-0.14	-0.12	0.41**	0.27**	0.43**	0.34**
	Obsession	-0.04	-0.03	-0.10	-0.04	-0.08	0.14	0.27**	0.24*	0.21*
	Social anxiety	-0.36**	0.33**	-0.34**	-0.42**	-0.33**	0.24*	0.20*	0.27**	0.20*
	Sleeping disturbances	-0.19	-0.21*	0.26*	-0.29*	-0.25*	0.26**	0.14	0.28**	0.26**
	Disease section-total score	-0.23*	0.24**	-0.34**	-0.35**	-0.31**	0.47**	0.35**	0.49**	0.34**

**P<0.001, *P<0.05

Discussion

The present study aimed to standardize the SCQ in the student population. The results showed that correlation coefficients among the four factors related to positive spiritual coping, namely positive social, environmental, personal and religious coping with total score of positive spiritual coping are between 0.72 and 0.82. The correlation coefficients among the three factors related to negative spiritual coping, namely negative social, personal and religious coping with total score of negative spiritual coping are between 0.78 and 0.85. In addition, correlation coefficients each of questions related with these factors and its total score was 0.41 to 0.87. Because each of these coefficients indicates items differentiation index, this index could be consider as the amount of ability and sensitivity for each item in identifying differences between individuals. Since the amount of this index considered 0.30, all of the indexes are in this range. Furthermore, the results demonstrated the reliability coefficients using internal consistency method for total score, positive and negative spiritual coping is 0.84, 0.90 and 0.84, respectively. These results are in line with Charzyńska (7) findings. Cronbach's alpha coefficient for subscales of positive spiritual coping, namely, social, environmental, personal and religious coping was 0.76, 0.76, 0.63, and 0.90, respectively. Additionally, the tool reliability for subscales of negative

spiritual coping, namely social, personal and religious coping is 0.76, 0.76 and 0.57, respectively. These findings indicate that these factors are in an acceptable position in terms of internal consistency.

The results of exploratory factor analysis, similar to the previous findings (7), resulted in a two-factor model including positive and negative spiritual coping. These two factors explained 36.27% of variance of the SCQ. By the use of confirmatory factor analysis, the fit of seven-factor model examined for this questionnaire. The CFI, NFI, NNFI, IFI, RFI, GFI and RMSEA were 0.95, 0.92, 0.94, 0.95, 0.91, 0.87, and 0.06, respectively. Therefore, the results of this study show that this model has a appropriate fit and supports the seven-factor model of Charzyńska (7).

To study the relationship between Brief-RCOPE factors (13,18) and SCQ showed that there is a positive relationship between positive religious coping with positive spiritual coping and all its factors, whereas there is no relationship between positive religious coping with negative spiritual coping, as well as all its factors. In addition, there is a negative significant relationship between the negative religious coping with negative spiritual coping as well as all its factors, whereas there is no relationship between negative religious coping with positive spiritual coping and its factors. These result similar to the previous findings (7).

To study the relationship between scale factors of SCS (16) and SCQ showed that there is a significant relationship between total score, religious and non-religious coping strategies and all its factors, whereas there is no relationship between total score and religious coping strategies with negative spiritual coping and its factors. However, there is a significant relationship between non-religious coping strategies with negative spiritual coping and one of its factors, namely negative personal coping. The relationship between SIS (20) and SCQ show that there is a significant relationship between SIS and its factors with positive spiritual coping as well as all its factors, while there is no relationship between them and negative spiritual coping. Eventually, the results indicated that there is a positive and negative significant relationship between the total score and the factors of the IMHS (21) with the SCQ. In brief, the above results showed the SCQ has a criterion, convergent, and divergent validity. One of the most important limitations of this study was its population. This study conducted on a group of students.

Therefore, these results cannot be generalized to other groups. As a result, suggest that the SCQ standardize for other groups. Second, variables measured only through self-report instruments, which in turn could affect the results of the research for various reasons such as bias.

Conclusion

The results of this study indicate that Spiritual Coping Questionnaire has an appropriate reliability and validity to measure the spiritual coping of Iranian students.

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