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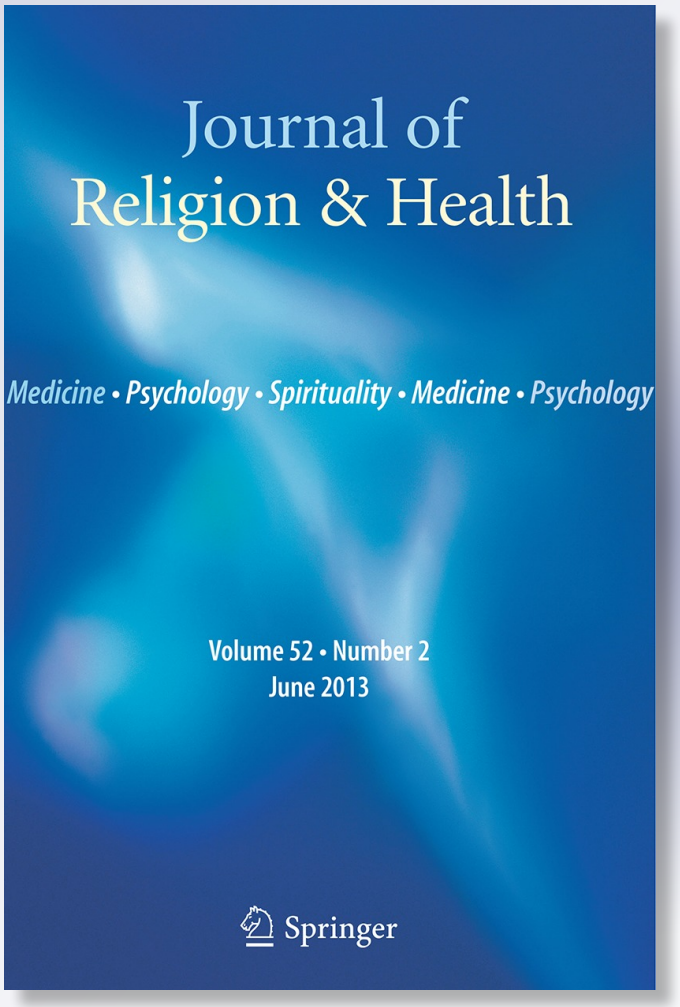

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ORIGINAL PAPER

Psychometric Properties of the Persian Version of the Duke University Religion Index (DUREL): A Study on Muslims

Mohsen Saffari · Isa Mohammadi Zeidi · Amir H. Pakpour · Harold G. Koenig

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Abstract The aim of this study was translation and validation of the Duke University Religion Index in Iranian Muslims. The study was performed in two stages. In the first stage, 1,762 college students from Qazvin city with an average age of 21.2 years participated in the study. In the second phase, 796 college students with an average age of 23.7 were recruited from Tehran. A demographic questionnaire, Santa Clara Strength Faith questionnaire (SCSORF), and Duke Religion Index (DUREL) were administered. Cultural adaptation of these measures was performed by a forward–backward translation technique. Test–retest reliability and intraclass correlation coefficients (ICC) were used for assessing reliability. Convergent validity was measured by Spearman correlation between DUREL and SCSORF. Explanatory and confirmatory factor analyses (EFA and CFA) evaluated the factor structure. Results showed that the scale is reliable. Cronbach's alpha ranged from 0.866 to 0.921 and ICC ranged from 0.937 to 0.991. Correlations between DUREL and SCSORF were also strong (ranging from 0.62 to 0.79). Results obtained from CFA and EFA confirmed one-dimension for the DUREL. Thus, the DUREL appears to be a proper measure for assessing religiosity among Iranian Muslims. Further testing of the scale among minorities and those with special health-related conditions is suggested.

Keywords Religion · Validity · Persian · Psychometric evaluation · DUREL

M. Saffari
Department of Health Education, Baqiyatallah University of Medical Sciences, Tehran, Iran

I. M. Zeidi · A. H. Pakpour
Department of Public Health, Qazvin University of Medical Sciences, Qazvin, Iran

A. H. Pakpour (✉)
Qazvin Research Center for Social Determinants of Health, Qazvin University of Medical Sciences, Qazvin, Iran
e-mail: Pakpour_amir@yahoo.com

H. G. Koenig
Center for Spirituality, Theology and Health, Duke University Medical Center, Durham, NC 27503, USA

Introduction

Although spirituality and religiosity are often used as interchangeable terms, there are considerable differences between them (Cotton et al. 2006). As some authors state, spirituality is a broader domain than religiosity and it is an internal concept, a feeling, and a state of existence that gives meaning and guides the person's life (Glicksman 2011), while religion is a more specific version of a spiritual tradition that is not necessarily identical to spiritual expression (Turner 2003). In other words, spirituality may or may not be associated with religious beliefs or practices because of its broader meaning (Daaleman and VandeCreek 2000). Thus, religiosity as a less abstract concept that may be easier to measure (Cheever et al. 2005).

Religiosity is a multidimensional concept that can affect many domains of human life (Szaflarski et al. 2010). The health status and well-being of people may be influenced by religious beliefs (Ivtzan et al. 2011). Many studies have shown that religiosity has a potential impact physical and mental health (Cohen et al. 2010; Koenig 2009; Rippentrop et al. 2005). Religious involvement could also play an important role in preventing disease and even lead to increases survival among patients with serious and life-threatening diseases (Da Silva and Guimaraes 2000; Van Ness et al. 2003). Moreover, the importance of religiosity as a powerful method of coping with illness has been acknowledged by many researchers (Ahmad et al. 2011; Holt et al. 2009). Better quality of life, reduced duration of hospitalization, lower rate of drug abuse, and reduced mental disorders such as depression and suicide are other reported benefits of religiosity (Dalgalarrondo et al. 2004; Glicksman 2011; Rasic et al. 2011). However, there are few measures for assessing the religiosity especially in non-English language populations and among different religions (Koenig 2011).

Islam is the second largest religion in the world (Kettani 2010). According to a study in 2010, about 1.6 billion people around the world are Muslim, which comprised more than 23 % of the total world population ("The Future of the Global Muslim Population" 2011). Religion among Muslims affects many dimensions of life and is not merely an ideological set of beliefs but also directs their cultural, socioeconomic, and even political perspectives (Gunes Murat and Azadarmaki 2008). In Iran, a Muslim-majority country where Farsi is the main language, religiosity is a cultural bounded concept with a long history in the population (Ebrahimnejad 2002). Although there is an increasing interest toward assessing the key role of religion in relationship with many dimensions of life especially health among Muslims, to our knowledge, there are no validated measures for this purpose.

Duke University Religion Index (DUREL) is a widely used scale to measure religiosity in terms of organizational and non-organizational behaviors and intrinsic religious beliefs (Storch et al. 2004b). This five-item scale is self-administered. The frequency of attendance at formal religious activities and the amount of time spent in activities such as private prayer are two items measured by this scale (Lucchetti et al. 2012). The other three items assess degree of intrinsic religious beliefs. The DUREL has been used in many studies related to health (Payman and Ryburn 2010). English and Portuguese versions of the scale are also available (Lucchetti et al. 2012; Sherman et al. 2000). In spite of an increasing need for assessing the scale's validation and assessing psychometric properties among other cultures and religions, this has not yet been done, thus prompting the current study.

The objective is to translate and determine the psychometric properties of the Persian version of the DUREL among Iranian Persian Muslims.

Methods

Participants

The study was carried out in two stages. In the first stage, 1,762 college students completed the DUREL. Participants were selected using a convenience sampling method. All were from under graduate courses in human or medical sciences colleges. Eligibility criteria included being able to read and write Persian. The students were recruited from three universities (i.e., Islamic Azad University of Qazvin, Qazvin University of Medical Sciences, and Imam Khomeini International University) in Qazvin (a city located some 165 km northwest of Tehran). Most participants were male (51.1 %). The mean age of participants was 21.2 (3.1) years. Seventy-three percent reported an average monthly income between $800–1,500. All participants were Muslim. The response rate was about 97.9 %.

A total of 796 college students participated in the second stage of the study. The inclusion criteria were similar to the first stage. Participants were undergraduate students at Tehran University of Medical Sciences, Tehran, Iran. Again, participants were recruited from nursing, health, and basic sciences schools using a convenience sampling method. The majority of respondents were female (53.8 %) and the mean age of the sample was 23.7 years. All participants were Muslim. Seventy-three percent of participants indicated their monthly income was 800–1,500$. The overall response rate was about 99.5 %.

Measures

Demographic

Demographic characteristics were collected using a self-report questionnaire and included age, gender, family income (monthly), mother's and father's education, and religion.

The Santa Clara Strength of Religious Faith Questionnaire (SCSORF)

This instrument was developed to assess the strength of religious faith (Plante and Boccaccini 1997a, b). The SCSORF consists of ten items each rated on a four-point scale. The scores range from 10 (low faith) to 40 (high faith). Studies have shown that the SCSORF has high internal consistency and acceptable convergent and divergent validity when tested in a general population, students, and patients. The SCSORF has acceptable internal consistency (Cronbach's alpha = 0.88). The Persian version of the SCSORF has been validated by Pakpour et al. and found to have acceptable validity and reliability for use in an Iranian culture (Pakpour et al. 2012).

Duke Religion Index (DUREL)

The DUREL is a five-item measure of religiosity (Koenig et al. 1997). The DUREL is comprised three dimensions including: organizational religiosity (1 item), non-organizational religiosity (1 item), and intrinsic religiosity (three items). Organizational religiosity and non-organizational religiosity are scored on a six-point Likert-type scale while the three intrinsic religiosity items use a five-point Likert-type scale. The total score is

calculated by summing the sores of all items that ranged from 5 to 27. However, the authors do not recommend summing all three subscales into a total overall religiosity score because combining all three subscales in a single analysis could result in subscale scores canceling out the effects of each other (Koenig and Büssing 2010).

Cultural Adaptation

The original English version of the DUREL was translated into Farsi/Persian by two trained bilingual Iranians (forward translation). The translations were compared and discrepancies were reconciled to arrive a unified Persian version. During forward translation, some modifications were done on two items of the DUREL. Church is not a regular place for religious meetings for Muslims. Instead, mosque was used to replace church. Furthermore, meditation and Bible study are not prevalent religious activities in Islam. Quran reading (reading aloud, reciting, or chanting of portions of the Quran) and the Mourning of Muharram (an important period of mourning in Shia Islam) are regular religious activities that we used to replace meditation and Bible study. In the next step, the Persian version was translated back into the English by two native English speakers. Afterward, the backward translated English versions were compared to the original English version to check whether the questions were properly translated and then discrepancies were resolved. Next, the final Persian/Farsi version (Appendix) was piloted on 33 college students from Qazvin University Medical Sciences (21 females and 12 males with the mean age 22.4 years). All students found the five items easy to understand and suitable. Therefore, no further changes were made on this version. The results from this sample were not included in the overall study results.

Data Analysis

Differences in characteristics between two settings of the study were assessed using the student's *t* test (for continuous variables) and the chi-square and the Mann–Whitney *U* test (for categorical variables).

The Cronbach's alpha coefficient was computed for the internal consistency of the DUREL. A Cronbach's alpha coefficient of >0.70 is considered acceptable (Nunnally and Bernstein 1994).

Test–retest reliability was examined in 1,762 participants across a two-week interval. In phase I, 1,762 college students completed the Persian version of the DUREL at baseline and two weeks later. Eighty-one (4.5 %) students did not complete the questionnaire the second time. To assess test–retest reliability (reproducibility) of the DUREL, the intraclass correlation coefficients (ICC) were used. ICCs lower than 0.40 indicate poor agreement, while ICCs between 0.41 and 0.60 demonstrate moderate agreement and an ICC between 0.61–0.80 presents good agreement and ICCs higher than >0.80 indicate excellent agreement (Bartko 1966).

Convergent Validity

The instrument's relationship with another measure of religiosity (SCSORF) was assessed using the Spearman correlation.

Factor Structure

Exploratory factor analysis (EFA) was conducted on the first sample (n = 1,762) to assess the factor structure of the DUREL Iranian version. The EFA was performed with principal component and Varimax rotation. In order to check sample adequacy, KMO (Kaiser–Meyer–Olkin) index was computed. KMO values equal or higher than 0.6 indicate sampling adequacy. In addition, the Bartlett's test of sphericity was used to determine whether the correlations among variables were appropriate for the factor model. A Bartlett's test of sphericity with $p < 0.05$ indicates the variables are uncorrelated in the population and the data are factorable. Eigenvalues, a scree plot, and item factor loadings were also used to examine the number of factors. Eigenvalues higher than 1 were used to extract factors. The scree plot is a visual aid for the Eigenvalues to determine the number of factors extracted from the principle component analysis (PCA).

We then attempted to replicate the results extracted from the EFA on a separate sample ($n = 796$) using confirmatory factor analysis (CFA) to assess stability of the factor structure found in the initial sample ($n = 1{,}762$). The CFA was performed using LISREL 8.80, the maximum likelihood estimation method. Indices for assessing model fit were the comparative fit index (CFI), standardized root mean square residual (SRMR), chi-square degrees of freedom, ratio the root mean square error of approximation (RMSEA), the non-normed fit index (NNFI, also called the Tucker-Lewis Index), Goodness of Fit Index (GFI), and Adjusted Goodness of Fit Index (AGFI). Values of CFI >090, GFI >0.90, AGFI >0.90, SRMR ≤0.08 are considered acceptable fit. Moreover, a RMSEA equal or less than 0.080 indicates acceptable fit (Marsh et al. 2004).

Results

Characteristics of the sample are presented in Table 1.

Table 1 Sample characteristics

Characteristic	Qazvin ($n = 1{,}762$)	Tehran ($n = 796$)	p value
Age (Mean, SD, years)	21.17 (3.10)	23.69 (7.43)	0.02[a]
Gender			
Male [n (%)]	900 (51.1 %)	368 (46.2 %)	
Female [n (%)]	862 (48.9 %)	428 (53.8 %)	0.02[b]
Father's education (mean, SD, years)	10.61 (4.99)	10.91 (5.93)	0.99[a]
Mother's education (mean, SD, years)	8.18 (5.04)	7.94 (6.58)	0.99[a]
Family income ($)			
≤800 [n (%)]	105 (6.0 %)	51 (6.4 %)	
800–1,500 [n (%)]	1,280 (73.1 %)	577 (72.9 %)	
1,500 ≥ [n (%)]	367 (20.9 %)	163 (20.6 %)	
Missing [n (%)]	10 (0.56 %)	5 (0.62 %)	0.72[c]

[a] Student's t test

[b] Chi-squared test

[c] Mann–Whitney U test

Table 2 Means, SDs, and coefficient alphas for Duke Religion Index Scales

	Mean	SD	Alpha
OR	3.88	1.63	–
NOR	4.50	1.75	–
Intrinsic	12.70	1.74	0.866
Total	21.08	4.28	0.921

Table 3 Spearman correlations between Duke Religion Index Scale and Santa Clara Strength of religious faith questionnaire

	OR	NOR	Intrinsic	Total
SCSORF	0.62	0.67	0.72	0.79
OR	1	0.49	0.47	0.82
NOR		1	0.48	0.75
Intrinsic			1	0.79
Total				1

All correlations are significant at $p < 0.01$

Reliability

The total score and the intrinsic religiosity subscale met the minimum acceptable threshold for internal consistency, with the Cronbach's alpha coefficient ranging from 0.87 to 0.92 (Table 2).

Results from the two-week test–retest reliability (with 95 % confidence interval) indicated excellent agreement between assessments among 1,681 students. The ICCs for OR, NOR, and IR were 0.960 (95 % CI: 0.95–0.97), 0.99 (95 % CI: 0.99–0.99), and 0.97 (95 % CI: 0.97–0.98), respectively. The ICC for the total DUREL was 0.97 (0.97–0.98). As hypothesized, the DUREL and its subscales were strongly correlated with the SCSORF (*r's* ranging from 0.62 to 0.79; $p < 0.01$). Moreover, all DUREL subscales had moderate correlations with each other (*r's* ranging from 0.47 to 0.49; $p < 0.01$). Intrinsic religiosity was moderately correlated with organizational religiosity ($r = 0.47$) and non-organizational religiosity ($r = 0.48$). Furthermore, the organizational and non-organizational religiosity were moderately correlated with each other ($r = 0.49$) (Table 3).

Results of the EFA revealed one component with an eigenvalue of greater than 1 (i.e., 2.58). The component accounted for 51.6 % of the variance. The Kaiser–Meyer–Olkin measurement was satisfactory (KMO = 0.77) indicating sampling adequacy. Furthermore, the Bartlett's test of sphericity was significant ($\chi^2 = 242.8$; df = 10; $p < 0.001$). The factor loadings of the scale items 1–5 were 0.768, 0.809, 0.683, 0.744, and 0.667, respectively. As Fig. 1 demonstrates, one factor is optimal for the five-item DUREL. Therefore, the DUREL is unidimensional in this population. The scree plot confirmed the one-factor solution as optimal (Fig. 1).

The unidimensional DUREL was then examined in a separate sample by CFA. The results indicated that the one-factor model yielded acceptable fit ($\chi^2 = 67.76$, degree of freedom = 5, $p < 0.001$, CFI = 0.97, GFI = 99, SRMR = 0.031, NNFI = 0.95, RMSEA = 0.070). All factor loadings were higher than 0.20 (Fig. 2).

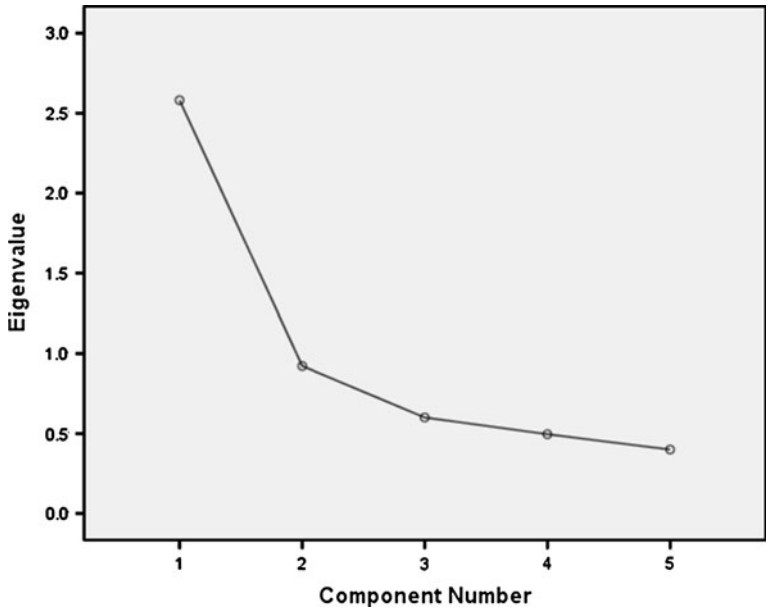

Fig. 1 Scree plot of five-item adapted Persian DUREL

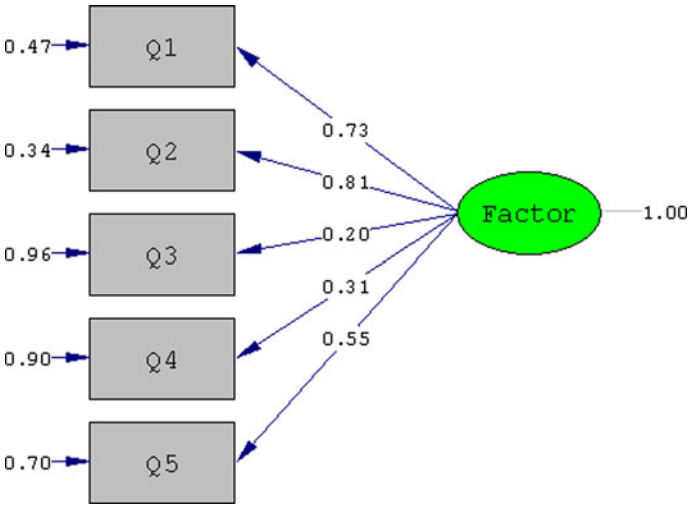

Fig. 2 The DUREL measurement model and standardized estimates

Discussion

The relationship between heath and religion is now acknowledged (Koenig et al. 2012). Health and well-being have been associated with religious beliefs and experiences using measures similar to the DUREL.

The present study sought to assess the psychometric properties of the Iranian version of the DUREL in a sample of young adults. This study supports the validity and reliability of the DUREL in a Persian Iranian population.

Cronbach's alpha coefficients for the total score and the intrinsic religiosity subscale were above 0.70. The results are similar to those reported from Brazil (Lucchetti et al. 2012) and the United States (Sherman et al. 2000). However, the Malay version of the DUREL had only moderate internal consistency (Cronbach's alpha = 0.45) (Nurasikin et al. 2010). A potential reason for this is that the Cronbach's alpha is sensitive to sample size (especially small sample size). The Malay version of the DUREL was administered to a relatively small sample size ($n = 173$) compared with our population.

Test–retest reliability of the DUREL was assessed over two weeks. The results indicated that the DUREL was not sensitive to change in the short term, confirming the measure's test–retest stability. Our results were in line with a pervious study that reported high agreement (ICC = 0.91) between administrations two weeks apart in 20 undergraduate students (Storch et al. 2004a, b).

The correlation between the DUREL and the SCSORF provides evidence for the convergent validity of the DUREL. In addition, the correlations between DUREL subscales were moderate, which is consistent with previous studies (Lucchetti et al. 2012; Nurasikin et al. 2010; Sherman et al. 2000).

Factor validity of the DUREL was examined by two-factor analyses (i.e., EFA and CFA). Despite the original psychometrics of the DUREL that indicated a three-dimensional structure consisting of organizational, non-organizational, and intrinsic religiosity, the present study revealed that the DUREL consisted of a single factor. Results from prior studies have also suggested a single-factor structure for the DUREL (Storch et al. 2004a; Nurasikin et al. 2010).

The present study has several limitations, including the fact that it was conducted in two cities on healthy young adults, which may limit the generalizability of the findings. Moreover, the test–retest reliability of the DUREL was confirmed only in the short term (2 weeks).

However, the study had has a number of strengths and implications. First, this is the large sample size and replication in a second large sample. Second, we can consider the psychometric properties of the DUREL in a non-Christian religion. The DUREL has been used almost exclusively in Christian samples with acceptable psychometric properties but its applicability among other religions is unknown. Our study showed the DUREL could be successfully used in Muslims in the Middle East to assess religiosity. Third, the unidimensional structure of the DUREL was confirmed for first time by CFA in this study.

Future studies should include a wider age range of Iranian people, and those with a wider range of health problems. Furthermore, testing of the psychometric properties of the DUREL in minority religions in Iran (e.g., Jews and Christians) is also recommended.

In conclusion, this study provides strong support for the validity and reliability of the Iranian Persian version DUREL.

Conflict of interest None.

Appendix

شاخص مذهبی دانشگاه داک

راهنمایی: لطفا به سوالات زیر در مورد عقاید یا فعالیت مذهبی خود پاسخ دهید.

لطفا پاسخ خود را با علامت تیک (√) مشخص نمایید.

1- هرچند وقت در مسجد، حسینیه یا سایر جلسات مذهبی حاضر می شوید؟
الف) بیش از یک بار در هفته
ب) یک بار در هفته
ج) دفعات محدودی در طی ماه
د) دفعات محدودی در طی سال
ه) یک بار در طی سال
و) هرگز

2- هرچند وقت زمانی را برای فعالیتهای مذهبی شخصی نظیر نماز، دعا یا قرآن خواندن اختصاص می دهید؟
الف) بیش از یک بار در روز
ب) روزانه
ج) دوبار یا بیشتر در هفته
د) یک بار در هفته
ه) دفعات محدودی در ماه
و) بندرت یا هرگز

قسمت بعدی شامل 3 اظهارنظر در مورد عقاید یا تجارب مذهبی است. لطفا گزینه ای را که در مورد شما صدق می کند علامت بزنید.

3- در زندگی ام حضور خداوند را تجربه می کنم.
الف) کاملا در مورد من صحیح است
ب) تا حدودی صحیح است
ج) مطمئن نیستم
د) تا حدودی صحیح نیست
ه) اصلا صحیح نیست

4- عقاید مذهبی من واقعا همان چیزی است که در پشت دیدگاه کلی من به زندگی قرار دارد.
الف) کاملا در مورد من صحیح است
ب) تا حدودی صحیح است
ج) مطمئن نیستم
د) تا حدودی صحیح نیست
ه) اصلا صحیح نیست

5- من به سختی تلاش می کنم مذهبم را به همه امور زندگی ام انتقال دهم.
الف) کاملا در مورد من صحیح است
ب) تا حدودی صحیح است
ج) مطمئن نیستم
د) تا حدودی صحیح نیست
ه) اصلا صحیح نیست

References

Ahmad, F., Muhammad, M., & Abdullah, A. A. (2011). Religion and spirituality in coping with advanced breast cancer: Perspectives from Malaysian Muslim women. *Journal of Religion and Health, 50*(1), 36–45.

Bartko, J. J. (1966). The intraclass correlation coefficient as a measure of reliability. *Psychological Reports, 19*(1), 3–11.

Cheever, K. H., Jubilan, B., Dailey, T., Ehrhardt, K., Blumenstein, R., Morin, C. J., et al. (2005). Surgeons and the spirit: A study on the relationship of religiosity to clinical practice. *Journal of Religion and Health, 44*(1), 67–80.

Cohen, C. I., Jimenez, C., & Mittal, S. (2010). The role of religion in the well-being of older adults with schizophrenia. *Psychiatric Services, 61*(9), 917–922.

Cotton, S., Puchalski, C. M., Sherman, S. N., Mrus, J. M., Peterman, A. H., Feinberg, J., et al. (2006). Spirituality and religion in patients with HIV/AIDS. *Journal of General Internal Medicine, 21*(Suppl 5), S5–S13.

Da Silva, J. M., & Guimaraes, M. A. (2000). Odo-Ya project: HIV/AIDS prevention in the context of Afro-Brazilian religion. *Journal of Health Communication, 5*(Suppl), 119–122.

Daaleman, T. P., & VandeCreek, L. (2000). Placing religion and spirituality in end-of-life care. *JAMA, 284*(19), 2514–2517.

Dalgalarrondo, P., Soldera, M. A., Correa Filho, H. R., & Silva, C. A. (2004). Religion and drug use by adolescents. *Revista brasileira de psiquiatria, 26*(2), 82–90.

Ebrahimnejad, H. (2002). Religion and medicine in Iran: From relationship to dissociation. *History of Science, 40*(127 Pt 1), 91–112.

Glicksman, S. (2011). Supporting religion and spirituality to enhance quality of life of people with intellectual disability: A Jewish perspective. *Intellectual and Developmental Disabilities, 49*(5), 397–402.

Gunes Murat, T., & Azadarmaki, T. (2008). Religiosity and Islamic rule in Iran. *Journal for the Scientific Study of Religion, 47*(2), 211–224.

Holt, C. L., Caplan, L., Schulz, E., Blake, V., Southward, P., Buckner, A., et al. (2009). Role of religion in cancer coping among African Americans: A qualitative examination. *Journal of Psychosocial Oncology, 27*(2), 248–273.

Ivtzan, I., Chan, C. P., Gardner, H. E., & Prashar, K. (2011). Linking Religion and Spirituality with Psychological Well-being: Examining Self-actualisation, Meaning in Life, and Personal Growth Initiative. *Journal of Religion and Health*.

Kettani, H. (2010). *2010 World Muslim Population*. Paper presented at the *Proceedings of the 8th Hawaii International Conference on Arts and Humanities* Retrieved March 10, 2012, from www.pupr.edu/hkettani/papers/HICAH2010.pdf.

Koenig, H. G. (2009). Research on religion, spirituality, and mental health: A review. *Canadian Journal of Psychiatry, 54*(5), 283–291.

Koenig, H. G. (2011). *Spirituality and Health Research: Methods, Measurement, Statistics, and Resources*. Philadelphia, PA: Templeton Foundation Press.

Koenig, H. G., & Büssing, A. (2010). The duke university religion index (DUREL): A five-item measure for use in epidemological studies. *Religions, 1*, 78–85.

Koenig, H. G., King, D. E., & Carson, V. B. (2012). *Handbook of religion and health* (2nd ed.). New York: Oxford University Press.

Koenig, H., Parkerson, G. R., & Meador, K. G. (1997). Religion index for psychiatric research. *Journal of Psychiatry, 154*(6), 885–886.

Lucchetti, G., Granero Lucchetti, A. L., Peres, M. F., Leao, F. C., Moreira-Almeida, A., & Koenig, H. G. (2012). Validation of the Duke Religion Index: DUREL (Portuguese Version). *Journal of Religion and Health, 51*(2), 579–586.

Marsh, H. W., Hau, K., & Wen, Z. (2004). In search of golden rules: Comment on hypothesis testing approaches to setting cut-off values for fit indexes and dangers in over generalizing Hu and Bentler's findings. *Structural Equation Modeling, 11*, 320–341.

Nunnally, J. C., & Bernstein, I. R. (1994). *Psychometric theory* (3rd ed.). New York: McGraw-Hill.

Nurasikin, M. S., Aini, A., Syarinaz, A. A., & Ng, C. (2010). Validity and Reliability of the Malay Version of Duke University Religion Index (DUREL-M) Among A Group of Nursing Student. *Malaysian Journal of Psychiatry, 19*(2), 68–72.

Pakpour, A. H., Saffari, M., & Zeidi, I. M. (2012). Psychometric properties of the Persian version of the the Santa Clara Strength of Religious Faith Questionnaire (SCSORF) among Iranian young adults. *Iranian Journal of Kidney Diseases*.

Payman, V., & Ryburn, B. (2010). Religiousness and recovery from inpatient geriatric depression: Findings from the PEJAMA Study. *Australian and New Zealand Journal of Psychiatry, 44*(6), 560–567.

Plante, T. G., & Boccaccini, M. (1997a). Reliability and validity of the Santa Clara Strength of religious faith questionnaire. *Pastoral Psychology, 45*, 429–437.

Plante, T. G., & Boccaccini, M. (1997b). The Santa Clara strength of religious faith questionnaire. *Pastoral Psychology, 45*, 375–387.

Rasic, D., Robinson, J. A., Bolton, J., Bienvenu, O. J., & Sareen, J. (2011). Longitudinal relationships of religious worship attendance and spirituality with major depression, anxiety disorders, and suicidal ideation and attempts: Findings from the Baltimore epidemiologic catchment area study. *Journal of Psychiatric Research, 45*(6), 848–854.

Rippentrop, E. A., Altmaier, E. M., Chen, J. J., Found, E. M., & Keffala, V. J. (2005). The relationship between religion/spirituality and physical health, mental health, and pain in a chronic pain population. *Pain, 116*(3), 311–321.

Sherman, A. C., Plante, T. G., Simonton, S., Adams, D. C., Harbison, C., & Burris, S. K. (2000). A multidimensional measure of religious involvement for cancer patients: The Duke Religious Index. *Supportive Care in Cancer, 8*(2), 102–109.

Storch, E. A., Roberti, J. W., Heidgerken, A. D., Storch, J. B., Lewin, A. B., Killiany, E. M., et al. (2004a). The duke religion index: A psychometric investigation. *Pastoral Psychology, 53*(2), 175–181.

Storch, E. A., Strawser, M. S., & Storch, J. B. (2004b). Two-week test-retest reliability of the Duke Religion Index. *Psychological Reports, 94*(3 Pt 1), 993–994.

Szaflarski, M., Kudel, I., Cotton, S., Leonard, A. C., Tsevat, J., & Ritchey, P. N. (2010). Multidimensional assessment of Spirituality/Religion in patients with HIV: Conceptual framework and empirical refinement. *Journal of Religion and Health.*

The Future of the Global Muslim Population (2011). *Pew Research Center's Forum on Religion & Public Life*. Retrieved March 10, 2012, from http://www.pewforum.org/The-Future-of-the-Global-Muslim-Population.aspx.

Turner, L. (2003). Bioethics and religions: Religious traditions and understandings of morality, health, and illness. *Health Care Analysis, 11*(3), 181–197.

Van Ness, P. H., Kasl, S. V., & Jones, B. A. (2003). Religion, race, and breast cancer survival. *International Journal of Psychiatry in Medicine, 33*(4), 357–375.