Validity and Reliability of the Malay Version of Duke University Religion Index (DUREL-M) Among A Group of Nursing Student

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Abstract

Background: Duke University Religion Index (DUREL) is a brief and easy to use instrument for measurement of religious commitment. Objective: The aim of this study was to validate the Malay version of DUREL (DUREL-M) among a group of nursing students. Methods: This is a cross-sectional validation study conducted in a nursing school involved a group of year 1 nursing students. The students were given the Malay version of DUREL, Malay version of General Health Questionnaire (GHQ), Malay version of Brief COPE, Malay version of Depression Anxiety Stress Scale (DASS21), English version of DUREL. A week later, they were again given the Malay version of DUREL. Results: The instrument displayed good parallel reliability (0.70), test-retest reliability (0.68) (Spearman’s rho, p<0.01) and fair internal consistency (Cronbach’s alpha = 0.45). The positive correlation with the positive items in Brief COPE and negative correlation with the Malay version of GHQ and DASS confirmed its validity. Exploratory factor analysis using principle component extraction indicated that a single factor structure of the 5-items DUREL-M. Conclusions: The Malay version of DUREL demonstrated good psychometric properties in measuring religious commitment among a group of nursing student. It could be used on young educated Malaysian adolescents.

Keywords: Religious commitment; Validation; Malay version; Psychometric properties

Introduction

Religion involves beliefs, practices and rituals related to the sacred. Religious commitment is defined as the degree to which a person adheres to his or her religious values, beliefs, and practices and uses them in daily living. Religious commitment has been operationalized and measured in several ways, including participation in religious organizations, the degree of participation in religious activities (such as frequency of attending church), the attitudes and importance of religious experience, and belief in traditional religious creeds.¹
DUREL is a brief, comprehensive, easy-to-use instrument for measurement of religiosity. It measures the three major dimensions of religiosity which include organizational religious activity, non-organizational religious activity, and intrinsic religiosity (or subjective religiosity). DUREL consists of 5-item which measure religious commitment. The DUREL has been used in over 100 published studies and is available in 10 languages.2

This study aims to translate the DUREL into Malay language (denoted DUREL-M) and to examine the psychometric properties of the translated version among a group of nursing students.

Methods

Ethical approval from the director of nursing school, University Malaya Medical Centre (UMMC) was obtained prior to commence of the study. Permission for translation was obtained from the original author of DUREL.

Stage 1
The translation process of DUREL was carried out by four independent bi-lingual translators who are fluent in English and Malay. Forward translation was done by two Malay native speakers and backward translation was done by the other two Malay native speakers and backward translation was done by the other two Malay native. The forward and back translated versions were reconciled and sentence by sentence revision was done. A harmonized version of DUREL-M was produced.

Stage 2
The DUREL-M version was pilot tested among 10 Malay natives among the graduate student from Master of Nursing Science course at University of Malaya. Flaws identified were then corrected. The finalized version was reviewed by one psychiatrist and two nursing lecturers to ensure satisfactory face, semantic, criterion and conceptual equivalence. Items no. 1, “How often do you attend church or other religious meetings” and no.2, “How often do you spend time in private religious activities, such as prayer, meditation or Bible study” was adapted to suit for Muslim, Buddhist and Hindu religious affiliation.

Stage 3
A group of year 1 diploma nursing students from University Malaya were approached for the validation study. 173 students agreed to participate. All the participants were bi-lingual. The participants were given the following questionnaires:
1. The Malay version of General Health Questionnaire (GHQ)
2. The Malay version of DUREL
3. The Malay version of Brief COPE
4. The Malay version of Depression Anxiety tress Scale 21 items (DASS21).

The English version of DUREL was given immediately after the initial assessment to the participants. The sequence of Malay version of DUREL was shuffled and given to the participants again one week after the initial assessment.

Instruments

Malay Version of General Health Questionnaire (GHQ)
This instrument is widely used to measure psychological well-being in detection of emotional disorders. It assesses the ability to carry out normal functions and the level of distress in a person. This measure was translated into Malay and validated.3
**Malay Version of Brief COPE**

It consists of 14 items to measure the religious coping pattern of the respondent. The scale consists of seven positive coping items and seven negative coping items. The positive items were generated from seven different subscales from the original COPE: spiritual connection, seeking spiritual support, religious forgiveness, collaborative religious coping, benevolent religious reappraisal, religious purification and religious focus. Meanwhile, the seven negative items originate from five different subscales: spiritual discontent, punishing God reappraisal, interpersonal religious discontent, demonic reappraisal and reappraisal of God’s power. It was translated into Malay and validated.³

**Malay Version of Depression Anxiety Stress Scale 21 items (DASS21)**

It is a self-rated questionnaire designed to measure the depression, anxiety and distress concurrently. There are 21 items (7 items for each emotional state) in the questionnaire. Higher scores indicate greater level of distress. The scale was translated into Malay and the psychometric properties was shown to be good.⁵

**Statistical analyses**

All the data were analyzed using Statistical Package Social Science version 15.0 (SPSS 15.0).

**Results**

All the 173 students consented to participate in the study. Their age ranges from 18 to 24 years old with (mean = 18.29, SD = 0.89). 160 were female and only 13 were male. Most of the participants were Malays (165) and the rest were 4 Chinese, 2 Indian, 1 Siamese and 1 Punjabi. Majority of the participants are Muslim (165 people) and there were only 5 Buddhist, 2 Hindu and 1 Christian.

**Validity**

The Spearman’s correlation between the total DUREL-M and the participant’s respective scores for GHQ, DASS21, Brief COPE were presented in Table 1. The DUREL-M was positively correlated with positive items of Brief COPE (p< 0.05) and inversely related to the total score of GHQ (p< 0.05) and DASS21 (p<0.01). There was no significant correlation between DUREL-M and negative items of Brief COPE.

**Table 1.** Correlation (Spearman’s Rho) between DUREL-M and the Brief COPE, DASS, GHQ

<table>
<thead>
<tr>
<th></th>
<th>COPE P</th>
<th>COPE N</th>
<th>DASS21</th>
<th>GHQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>DUREL</td>
<td>0.42**</td>
<td>0.02</td>
<td>-0.16*</td>
<td>-0.22**</td>
</tr>
</tbody>
</table>

COPE P; positive items of Brief COPE, COPE N; negative items of Brief COPE, DASS; Depression Anxiety Stress Scale-21 items, GHQ; General Health Questionnaire.

* p< 0.01
** p< 0.05

**Reliability**

The internal reliability of DUREL-M was moderate with Cronbach’s alpha of 0.45. The parallel form of reliability was high (Spearman’s rho = 0.70, p< 0.01). The test-retest reliability after 1-week interval was moderate (Spearman’s rho= 0.68, p< 0.01).

**Factor analysis**

The researchers conducted an exploratory factor analysis to explore the factor structure of DUREL-M. The Barlett’s test of sphericity was significant (p< 0.01) and the Kaiser-Meyer-Olkin measure of sampling adequacy for the 5 items of DUREL-M was
0.68. Therefore, it is appropriate to proceed to factor analysis. Factors were extracted with principal component extraction. Only one factor was extracted (eigenvalue > 1.00) which indicate a single factor structure of the scale.

Discussion

The results of the present study showed the translated Malay version of DUREL is a valid and reliable instrument among the diploma nursing students nursing school in University of Malaya. The construct validity of the instrument was demonstrated through the significant negative correlation with the validated GHQ (p<0.05) and DASS (p<0.01). These findings showed that people who were committed to religion have better mental well-being and lower distress level. The concurrent validity of the instrument was demonstrated through the significant correlation between DUREL-M and positive items of Brief COPE. This result showed that respondents who committed to religion were using more positive religious coping pattern. However, there was no significant relation between negative items of Brief COPE and DUREL (r= 0.02). This finding suggested people who were using negative religious pattern were not related to their commitment to religion. There was high parallel reliability. The test-retest reliability was moderate with spearman’s rho of 0.68 indicate a moderate stability. The internal consistency of DUREL-M was fair (Cronbach’s alpha=0.45) indicated there is variability among items in the scale. However, there were only 5-items measured in DUREL-M. According to Shuttleworth (2009), the coefficient alpha is higher in instrument with more items. Factor analysis only generated one factor and confirmed the single factor structure of the instrument.

Conclusion

The Malay version of DUREL displayed good psychometric performance in measuring the religious commitment among the diploma nursing students in University of Malaya. It could be used for assessment in the educated Malaysian adolescents.

References


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