Original Article

Factorial Validity and Reliability of the Tamil Version of Multidimensional Scale of Perceived Social Support Among a Group of Participants in University Malaya Medical Centre, Malaysia

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ABSTRACT

Background and Objectives: This study was done to validate the Tamil version of Multidimensional Scale of Perceived Social Support (MSPSS-TV) among a group of Indian participants in University Malaya. **Materials and Methods:** Ninety-four people who took part in this study were given MSPSS-TV, Medical Outcome Study (MOS) social support survey, Malay version of Beck Depression Inventory (BDI), Malay version of General Health Questionnaire (GHQ), and English version of MSPSS. After a week, these participants were again required to complete the MSPSS-TV, but with the item sequences shuffled. **Results:** Internal consistency of this scale was excellent (Cronbach's alpha = 0.924), and both test-retest reliability (0.71) and parallel form reliability (0.92) were high (Spearman's rho, $P<0.01$). MSPSS-TV was negatively correlated with GHQ and BDI. **Interpretation and Conclusions:** The MSPSS-TV demonstrated sound psychometric properties in gauging the social support among a group of participants. It could therefore be used as a simple screening tool among the young educated Malaysians.

Key words: *Perceived social support, psychometric properties, reliability, Tamil version, validity*

INTRODUCTION

Social support has received considerable amount of research attention of late. It is well-known that social support plays an integral part in the coping mechanism between stress and psychological or physical symptoms.

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There are in fact many methods available to measure social support, and Multidimensional Scale of Perceived Social Support (MSPSS) is one of the self-administered scales proven to be very useful in the assessment. The assessment of the three domains, that is, family, friends, and significant others, is used to determine the adequacy of social support. The assessment of social support is a multidimensional construct consisting of social network, emotional support, instrumental support, quality of social support, and reciprocal helping of one another.[1] The MSPSS is very simple to use as it contains only 12 items.[2] The scale has shown great reliability, validity, and factor structure over the years; even when tested on a wide range of samples including urban adolescents,[3] pregnant women,[4] adolescents

living abroad,[2] university students,[5] adolescent psychiatric inpatients,[6] and outpatients.[7]

In the past, the scale had been translated into many other languages. Our main objective of this study is to translate the MSPSS into Tamil version (MSPSS-TV), and to examine the psychometric properties of the translated version among a group of Malaysian participants. We also focused on the reliability (internal consistency), concurrent and construct validities, factorial structure, and the specificity of the MSPSS-TV.

MATERIALS AND METHODS

Approval from the Medical Ethical Committee (MEC), University Malaya Medical Center was obtained to conduct the study. Permission from the original author of the instrument was obtained.

Stage 1
The English version of MSPSS was translated into Tamil by two doctors who were bilingual (Tamil and English). Another two doctors who were also bilingual then back-translated the Tamil version of MSPSS following the back-translation technique.[8]

Stage 2
The translated version was pilot tested among ten Indian employees at the Faculty of Medicine, University Malaya, Malaysia. Some items in the translated version needed minor revisions and were modified further. The finalized version was also reviewed by two Indian psychiatrists to ensure satisfactory face, semantic, criterion, and conceptual equivalence.[9]

Stage 3
Indian visitors and patients in University Malaya Medical Center were then approached for the validation study. Ninety-four subjects who agreed to participate successfully completed the study. They were given the following questionnaires: The MSPSS-TV, the Medical Outcome Study (MOS) social support survey, Malay version of BDI, and Malay version of GHQ.

As all the participants were bilingual (Malay and Tamil), they were given the Malay version of MSPSS immediately after the initial assessment.

Statistical analyses
The results were analyzed using the Statistical Package for Social Sciences version 13.0 (SPSS Inc, Chicago, IL, USA). The mean score of all items in MSPSS were calculated. Principle axis extraction approach with oblique rotation method was used to explore the correlation structure of the components. The Cronbach's alpha for all items and each components were calculated. The correlations between the total and each component of MSPSS with GHQ and BDI were analyzed with Spearman's test.

RESULTS

All the 94 participants gave informed consent to participate in this study. Their mean age was 38 years, with slightly more than half being females and majority (89.4%) of them being Hindu [Table 1].

Factor analysis
The mean score of the respondents to the 12-item, 7-point Likert scale MSPSS-TV was in the direction of high social support (mean = 63.84, standard error (SE) =14.64). We conducted a confirmatory factor analysis of the MSPSS-TV items to confirm three factors' structure proposed by the original authors in their original study.[2] In the study, correlation among three factors ranged from r = 0.38 (family with friends) to 0.63 (significant others with friends) [Table 2]. The Barlett's test of sphericity was significant ($P<0.01$) and the Kaiser-Meyer-Olkin measure of sampling adequacy for the 12 item MSPSS-TV was 0.83, which Kaiser reported as meritorious.[10] Therefore, it was appropriate to proceed to factor analysis. Factors were extracted with a common factor approach (principle axis extraction). Three factors were extracted (eigenvalue > 1.00) which coincides with the subscales of MSPSS, namely family, friends, and significant others. The factors combined to account for 78.64% of the variance. The scree plot graphically displayed that there were three predominant factors. Oblique rotation was used by the researcher in the study. The oblique rotation allowed various amounts

Table 1: Characteristics of the students

Characteristic	Mean (standard deviation)	*n* (%)
Age (years)	38.28 (17.87)	
Gender		
Male		43 (45.7)
Female		51 (54.3)
Religion		
Hindu		84 (89.4)
Christian		9 (9.6)
Muslim		1 (1.0)

n=94

Table 2: Oblique rotated factor correlation matrix from the principal axis factor analysis of the MSPSS-TV items

Factors	Friends	Family	Significant others
Friends	1.000	0.380	0.624
Family	0.380	1.000	0.488
Significant others	0.624	0.488	1.000

MSPSS-TV – Tamil version of multidimensional scale of perceived social support

of correlation among the factors. It provided a more compelling solution than orthogonal rotation. Based on this rotation, two matrices were produced, a pattern matrix and a structure matrix. The difference between the high and low loading was far more apparent in the pattern matrix. The pattern matrix indicated that all items loaded most highly on their respective subscales with no cross-loading [Table 3].

Table 3: Oblique rotated pattern matrix from principal axis factor analysis of MSPSS-TV items

	Factors		
	Friends	Family	Significant others
Friends			
6. My friends really try to help me	0.905		
7. I can count on my friends when things go wrong	0.877		
9. I have friends with whom I can share my joys and sorrows	0.915		
12. I can talk about my problems with my friends	0.536		
Family			
3. My family really tries to help me		0.809	
4. I get the emotional help and support I need from my family		0.884	
8. I can talk about my problems with my family		0.731	
11. My family is willing to help me make decisions		0.891	
Significant others			
1. There is a special person who is around when I am in need			0.878
2. There is a special person with whom I can share joys and sorrows			0.550
5. I have a special person who is a real source of comfort to me	0.318		0.427
10. There is a special person in my life who cares about my feelings			0.830
Cronbach's alpha	0.913	0.897	0.865
Eigenvalue	6.369	1.958	1.109
Explained variance (%)	53.08	16.32	9.25

Loading below 0.30 is suppressed; MSPSS-TV – Tamil version of multidimensional scale of perceived social support

Reliability

Cronbach's coefficient alpha was calculated for the total MSPSS-TV and each subscale measured to assess the internal reliability. Coefficient alpha for the total MSPSS-TV was 0.919. The friends, family, and significant others subscales demonstrated α's of 0.917, 0.897, and 0.865, respectively [Table 3]. The parallel form of reliability was high (Spearman's rho = 0.77, $P<0.01$).

Validity

The Spearman's correlation between the total MSPSS-TV subscales and the participants' respective scores on the MOS social support survey and the Malay version of GHQ and BDI are shown in Table 4. Perceived social support from all the three factors was inversely related to the score of GHQ and BDI.

The scores of the total subscales of MSPSS-TV were positively correlated with the MOSsocial support survey ($P<0.01$). The MOSsocial support survey correlated more highly with significant others than the other two subscales [Table 3].

DISCUSSION

The MSPSS-TV among a group of Indian participants in our study displayed impressive and convincing psychometric performance in assessing social support. All three domains of social support, namely family, friends, and significant others were measured with good reliability and validity, besides having high internal consistency and parallel reliability. This reflected good homogeneity among items of the scale. The demonstrated high test-retest reliability also indicated remarkable stability of the scale. The negative correlation between the scores (both total and subscale) was significant, in line with the findings of other studies.[11] Similarly, the two validated measures of psychological and depressive symptoms in a local setting (GHQ and BDI) were also significantly correlated.[12-14] The concurrent validity of this instrument was reflected through the significant correlation between the overall and subscale scores of

Table 4: Correlation (Spearman's rho) between the social support factors of MSPSS-TV with the Malay version of GHQ, BDI and MOS social support survey

	MSPSS				MOS	GHQ	BDI
	Total	Friends	Family	Significant others			
Total	1.000	0.858**	0.683**	0.866**	0.621**	−0.368**	−0.183
Friends	0.858**	1.000	0.380**	0.624**	0.492**	−0.312**	−0.135
Family	0.683**	0.380**	1.000	0.488**	0.374**	−0.176	−0.117
Significant others	0.866**	0.624**	0.488**	1.000	0.623**	−0.370**	−0.233*
MOS	0.621**	0.492**	0.374**	0.623**	1.000	−0.414**	−0.221*
GHQ	−0.368**	−0.312**	−0.176	−0.370**	−0.414**	1.000	0.470**
BDI	−0.183	−0.135	−0.117	−0.233*	−0.221*	0.470**	1.000

MSPSS – Multidimensional scale of perceived social support; BDI – Beck depression inventory; GHQ – General health questionnaire; MOS – Medical outcome study; **$P<0.01$, *$P<0.05$

the instrument using the validated MOS social support survey.[15,16]

Factor analyses were performed on MSPSS-TV in our study, and generated three factors. This confirmed the three-factor structure proposed by the original author,[2] which was supported by many subsequent studies. In our case, the participants were also able to differentiate among the three sources of support in the MSPSS, that is, family, friends, and significant others.

There were however two limitations in our study. First, we only recruited Indian ethnic participants who were Tamil literate from a university setting. It would have been more meaningful if the psychometric properties and factorial structure of the MSPSS-TV be studied on a larger population. Second, as a correlation study, the causal relationship between social supports with psychological and depressive symptoms could not be ascertained.

In conclusion, our study managed to prove that MSPSS-TV is still useful as a screening tool, especially among the young educated Malaysian adolescents.

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