

ORIGINAL PAPER

Factorial Validation of the Malay Version of Multidimensional Scale of Perceived Social Support Among a Group of Psychiatric Patients

Ng CG¹, Nurasikin MS², Loh HS³, Anne Yee HA¹, Zainal NZ¹

¹Department of Psychological Medicine, Faculty of Medicine, University Malaya, Kuala Lumpur, Malaysia

²Kulliyah of Nursing, International Islamic University Malaysia, Kuantan, Malaysia

³Department of Family Medicine, International Medical University, Kuala Lumpur, Malaysia

Abstract

Introduction: There is increasing awareness of the contribution of perceived social support (PSS) to emotional and physical well-being. Numerous scales measuring PSS have been developed, including the widely used Multidimensional Scale of Perceived Social Support (MSPSS). The psychometric properties of the MSPSS have been demonstrated in diverse samples, however mostly are conducted in English. Malay is the official language in Malaysia, and this study was conducted to provide evidence of the validity and reliability of a Malay version MSPSS (MSPSS-M) suited for our population. **Methods:** This is a cross sectional study. The socio-demographic and clinical information of the selected patients from psychiatric outpatient clinic over a 3-month period, were obtained via pre-designed questionnaire, interviews and medical records. Assessment of psychiatric symptoms and social support were measured by various instruments including the Brief Psychiatric Rating Scale (BPRS-E), Depressive, Anxiety and Stress Scale (DASS) and MSPSS-M. **Results:** Data were reported for 228 psychiatric outpatients with the mean age of 40.3 years old. The 3-factor structure of the MSPSS-M (significant others, family, and friends) fitted the data well. The MSPSS-M showed good internal consistency (Cronbach α of 0.89) and validity. The scores of the total subscales for MSPSS-M were negatively correlated with the depression subscale in DASS ($p < 0.05$). BPRS was negatively correlated with significant others ($P < 0.01$) compared to the other two subscales in MSPSS-M. **Conclusions:** The Malay version MSPSS (MSPSS-M) is a psychometrically valid instrument with high internal consistency, which is useful in assessing perceived social support in Malaysian population.

Keywords: Perceived Social Support, Validation, Malay Version, Psychometric Properties, Psychiatry

Introduction

Social support is widely recognized as a crucial factor for mental health and well-being¹. It plays an imperative role in the mechanisms to facilitate coping and competence thus promoting community adaptation of patients with mental illness. The importance of social support in the role of the outcome from psychological and behavioural interventions, particularly for outpatients, cannot be overemphasised².

The Multidimensional Scale of Perceived Social Support (MSPSS) is a 12-item self-rating instrument that measures perceived adequacy of support from three specific sources: family, friends and significant others³. These 3 subscales each consists of four items, all rated on a 7-point Likert-type scale (1=very strongly disagree to 7=very strongly agree). Higher score indicates a greater perceived adequacy of social support from each of the three sources. The subscales comprise significant others, friends and family. It was translated into Malay language and validated in previous study among a group of medical students⁴. It has high internal consistency in this study with cronbach's alpha of 0.93 for significant others, 0.88 for family and 0.96 for friends.

The reliability and validity of this assessment scale remains unexplored amongst the Asian psychiatric populations. Two recent studies were carried out in Pakistan⁵ and Singapore⁶. Although the studies showed consistent and strong evidence on the MSPSS assessment, the languages used were both in Urdu and English, respectively. Our previous study has established

Malaysia is a multi-racial country located in the South East Asia region, with a total population of 28.8 million belonging to

Malay, Chinese, Indian and many other minor ethnic groups. Although many speak and understand English, the official national language is Malay. When compared to the western countries, Malaysia may exhibit substantially different social networks and social support expectations. Therefore, in this study, we are interested to look at whether the Malay version of the MSPSS provides valid and reliable evidence of its psychometric properties in a group of psychiatric patients in a tertiary healthcare outpatient centre, as this will suggest a great potential for using this instrument to assess the level of perceived social support in Malaysia.

Methods

Study subjects and setting

This is a cross sectional study conducted at the psychiatric clinic, University Malaya Medical Center (UMMC), Kuala Lumpur. The psychiatric outpatient clinic consists of "walk-in" and "new cases" clinics operating on every weekday morning. Patients visited the clinic during the study period (Dec, 2010 to Feb, 2011) were approached and explained regarding the study. Those who consented were screened for the inclusion and exclusion criteria as follow:

Inclusion criteria:

Age of 18 year old and above.
Diagnosed with major psychiatric disorders based on DSM-IV criteria.
Able to understand and read Bahasa Melayu.

Exclusion criteria:

Diagnosed with dementia or mental retardation.
Acutely psychotic or disturb (brief psychiatric rating scale score of 4 or more on items: grandiosity, suspiciousness, unusual thought content, hallucinations, conceptual disorganization)

The psychiatric symptoms or psychopathology and distress level were assessed with brief psychiatric rating scale (BPRS-E) and depressive, anxiety and stress scale (DASS). Social support was measured with multidimensional scale of perceived social support (MSPSS). The socio-demographic data (age, gender, ethnicity, religion, marital status, educational level, employment) of the subjects was collected using a pre-designed questionnaire. Clinical information on psychiatric diagnosis, duration of illness and history of admission was obtained through interview or retrieved from medical case records.

Ethical approval was obtained from the Medical Ethical Committee, University Malaya Medical centre prior to the commencement of the study.

Measurement tools

Brief psychiatric rating scale- Expanded Version (BPRS-E)

The BPRS was developed by Overall and Garham⁷⁻⁹. It is commonly used for assessment of major psychotic and non-psychotic symptoms in individuals with major psychiatric disorders. The rating is based upon observation made by the clinician or rater during a 15 to 30 minutes interview and subject verbal report. An expanded standardized version (BPRS-E) was adapted by Ventura et al., in early 1990¹⁰. It was demonstrated that symptoms assessed in the BPRS-E are rather stable cross-culturally.

Depressive Anxiety and Stress Scale 21-items (DASS21)

It is used to measure the distress level and it had been widely used in many studies. It consists of depression, anxiety and stress items. Each measure consists of 7 items. The total score ranges from 0 to maximum of 63

score. The total for each subscale of distress (depression, anxiety, stress) ranges from 0 to 21 score¹¹. It was translated into the Malay language and validated¹². All subscales shows high internal consistency (Cronbach's alpha for depression=0.87, anxiety=0.85, stress=0.90)

Multidimensional Scale of Perceived Social Support (MSPSS)

Zimet et al. (1988) designed this instrument specifically to address the social support adequacy³. It is a 12 item instrument designed to assess perceptions of social support from three specific sources: family, friends and significant other. It was translated into Malay language and validated in previous study⁴. It has high internal consistency in this study with Cronbach's alpha of 0.93 for significant others, 0.88 for family and 0.96 for friends.

Statistical analyses

Data was analyzed using SPSS version 13 for Windows (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 number of components to obtain was decided using Kaiser's criteria (a new component is obtained if the eigenvalue of the factor is more than one). The Cronbach's alpha for all items and each components were calculated. The correlations between the total and each components of MSPSS with DASS and BPRS were analyzed with Spearman's Test.

Results

A total of 228 patients were included into the study. More than half of them were male (54.4%) and majority were of Malay

ethnicity (44.7%), Muslim (47.4%), and single (52.6%). Most of the patients had at least secondary education (97.8%) and more than half of them were employed (55.7%).

Schizophrenia or related psychotic disorders were the most common psychiatric disorder (36%) and on average duration of illness was 8.5 years (Table 1).

Table 1. Socio demographic and clinical characteristic of the subjects (N=228).

Characteristic	Mean (\pm SD)	Frequency (%)
Age (years)	40.26 \pm 13.25	
Gender		
Male		124 (54.4)
Female		104 (46.6)
Race		
Malay		102 (44.7)
Chinese		51 (22.4)
Indian		63 (27.6)
Others		12 (5.3)
Religion		
Muslim		108 (47.4)
Buddhist		30 (13.2)
Hindu		43 (18.9)
Christian		34 (14.9)
Others		13 (5.7)
Marital status		
Single		120 (52.6)
Married		87 (38.2)
Divorced		16 (7.0)
Widowed		5 (2.2)
Educational level		
Primary		5 (2.2)
Secondary		133 (58.3)
Tertiary		90 (39.5)
Employment		
Employed		127 (55.7)
Unemployed		84 (36.8)
Retired		17 (7.5)
Psychiatric diagnosis		
Schizophrenia or related psychosis		82 (36.0)
Bipolar mood disorder		
Major depression		32 (14.0)
Substance abuse		57 (25.0)
Anxiety disorders		21 (9.2)
Others		19 (8.3)
Duration of illness (years)		17 (7.5)
History of admission	8.45 \pm 10.21	
Yes		
No		114 (50.0)

If yes, time of last admission, (years) n=114	1.98 ± 4.29	114 (50.0)
---	-------------	------------

Confirmatory factor analysis

The mean score of the respondents to the MSPSS-M was 57.88, SE =14.55. A confirmatory factor analysis of the MSPSS-M items was performed. Three factors structure, ie. the family, friends and significant others, were consistent with that proposed by the original authors in their original work (Zimet et al, 1988).

Table 2 shows the correlations among three factors ranging from $r=0.34$ (friends with significant others) to 0.43 (family with

significant others). The Barlett's test of sphericity was significant ($p<0.01$) and the Kaiser-Mayer-Olkin measure of sampling adequacy for the MSPSS-M was 0.817, which Kaiser reported as marvellous¹³. Factor analysis was therefore performed, with the factors being extracted using the Principle Axis Extraction approach. Three factors were extracted (eigenvalue > 1.00) which coincided with the MSPSS-M family, friends and significant others subscales. The factors combined to account for 70.23 of the variance.

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

Factors	Significant Others	Friends	Family
Significant Others	1.000	0.335	0.427
Friends	0.335	1.000	0.389
Family	0.427	0.389	1.000

Oblique rotation was performed by the researcher in this study. Based on this rotation, a pattern matrix and a structure matrix were produced. This is useful in providing a more compelling solution than

orthogonal rotation. Table 3 shows a pattern matrix with apparent high and low loading of all items in their respective subscales with no cross-loading seen.

Table 3. Oblique rotated pattern matrix from principal axis factor analysis of MSPSS-M items.

	Factors		
	Significant Others	Friends	Family
1. There is a special person who is around when I am in need.	0.881		
2. There is a special person with whom I can share joys and sorrows.	0.913		
5. I have a special person who is a real source of comfort to me.	0.802		
10. There is a special person in my life who cares about my feelings.	0.694		
6. My friends really try to help me.		0.796	
7. I can count on my friends when things go wrong.		0.744	
9. I have friends with whom I can share my joys and sorrows.		0.916	
12. I can talk about my problems with my friends.		0.893	
3. My family really tries to help me.			0.829
4. I get the emotional help and support I need from my family.			0.902
8. I can talk about my problems with my family.			0.643
11. My family is willing to help me make decisions.			0.857

Loading below 0.30 is suppressed.

Internal reliability

In the total sample, Cronbach's α coefficients were calculated for the total MSPSS-M and each subscale to assess the internal consistency and reliability. The coefficient for the total MSPSS-M was 0.887, while the family, friends and significant others subscales demonstrated α values of 0.887, 0.905, and 0.902 respectively.

Validity

The Spearman's correlation between the total MSPSS-M subscales and the

participants' respective scores on the Depression, Anxiety and Stress Scale (DASS) and Brief Psychiatric Rating Scale (BPRS) are shown in Table 4. Perceived social support from all the three factors were inversely related to the score of DASS but not statistically significant. The scores of the total subscales for MSPSS-M were negatively correlated with the depression subscale in DASS ($p < 0.05$). BPRS was negatively correlated with significant others ($P < 0.01$) compared to the other two subscales in MSPSS-M.

Table 4. Correlation (Spearman’s rho) between the social support factors from MSPSS-M with DASS (total and subscale for depression, anxiety and stress)and BPRS.

	MSPSS			Total	DASS			Total	BPRS
	Family	Friends	Significant Others		Depression	Anxiety	Stress		
Family	1.000	0.351**	0.478**	0.733**	-0.126	-0.059	-0.048	-0.089	-0.078
Friends	0.351**	1.000	0.299**	0.713**	-0.088	0.056	0.035	-0.005	-0.097
Significant Others	0.478**	0.299**	1.000	0.786**	-0.099	0.030	-0.021	-0.036	-0.176**
MSPSS total	0.733**	0.713**	0.786**	1.000	-0.137*	0.012	-0.010	-0.053	-0.162*
Depression	-0.126	-0.088	-0.099	-0.137*	1.000	0.740**	0.803**	0.910**	0.334**
Anxiety	-0.059	0.056	0.030	0.012	0.740**	1.000	0.814**	0.911**	0.292**
Stress	-0.048	0.035	-0.021	-0.010	0.803**	0.814**	1.000	0.946**	0.345**
DASS total	-0.089	-0.005	-0.036	-0.053	0.910**	0.911**	0.946**	1.000	0.351**
BPRS	-0.078	-0.097	-0.176**	-0.162*	0.334**	0.292**	0.345**	0.351**	1.000

MSPSS = Multidimensional Scale of Perceived Social Support

DASS=Depression, Anxiety and Stress Scale

BPRS=Brief Psychiatric Rating Scale

** $p < 0.01$

* $p < 0.05$

Discussion

Findings from our study clearly demonstrated that the Malay version of MSPSS (MSPSS-M) is reliable, consistent and valid in measuring the perceived social support amongst a group of psychiatric outpatients in Malaysia. The Cronbach- α coefficients of the MSPSS-M subscales for family, friends and significant others were 0.887, 0.905, and 0.902 respectively, thus confirmed the adequacy of good internal consistency in each subscale. The construct validity of the instrument was demonstrated through the negative correlation between the total and subscale scores of the instrument to the validated measure of depression, anxiety and stress in Malaysia, ie. Depression, Anxiety and Stress Scale (DASS). Our findings were in keeping with the literature that perceived social support was negatively correlated with depression and anxiety symptoms¹⁴⁻¹⁶⁾ although the strength of correlations between the MSPSS-M subscales and other symptoms measures were not statistically significant. The predictive validity of the MSPSS-M was demonstrated through the significantly negative correlation between the total and subscale (especially significant others subscale) scores of the instrument to a validated measure of psychiatric symptoms, namely Brief Psychiatric Rating Scale (BPRS)¹⁷. This finding was therefore comparable to those previous studies whereby the social support was predictive of lesser psychiatric symptoms experienced¹⁸

In this study, factor analysis of the 12 items in MSPSS-M generated three factors. This result not only confirmed the three factors structure which was proposed by the original authors in their original study³ but also affirmed the model that we proposed in our earlier study⁴. Overall, the MSPSS-M displayed very promising performance in

measuring the perceived social support among psychiatric patients. It has good reliability and validity. It yields 3 scores for the different dimensions of social support, namely family, friends and significant others and generates a meaningful global score.

However, there were a few limitations in this study. First, owing to the cross-sectional nature of this study, we were unable to define the causal relationship between social support and psychological distress, particularly depression and anxiety. Second, we did not perform test-retest reliability of this instrument. Third, the use of a convenient sample of psychiatric patients in the outpatient clinic may not be representative of all the psychiatric patients in Malaysia.

In conclusion, our findings indicate that the MSPSS-M is a psychometrically sound instrument with good internal consistency and factorial validity, and it is applicable to all psychiatric patients in Malaysia for the assessment of their perceived social support.

References

1. Clara IP, Cox BJ, Enns MW, Murray LT, Torgrud LJ. Confirmatory factor analysis of the multidimensional scale of perceived social support in clinically distressed and student samples. *J Personality Assessment* 2003;81(3): 265-270.
2. Leff J, Kuipers L, Berkowitz R, Eberlein-Vries R, Sturgeon D. A controlled trial of social intervention in the families of schizophrenic patients. *Br J Psychiatry* 1982; 141(2): 121-134.
3. Zimet GD, Dahlem NW, Zimet SG, Farley GK. The multidimensional

- scale of perceived social support. *J Personality Assessment* 1988; 52(1): 30-41.
4. Ng CG, Amer Siddiq AN, Aida SA, Zainal NZ, Koh OH. Validation of the Malay version of the Multidimensional Scale of Perceived Social Support (MSPSS-M) among a group of medical students in Faculty of Medicine, University Malaya. *Asian J Psychiatry* 2010; 3(1): 3-6.
 5. Akhtar A, Rahman A, Husain M, Chaudhry IB, Duddu V, Husain N. Multidimensional scale of perceived social support: Psychometric properties in a South Asian population. *J Obstet Gynae Res* 2010; 36(4): 845-851.
 6. Vaingankar JA, Abdin E, Chong SA. Exploratory and confirmatory factor analyses of the Multidimensional Scale of Perceived Social Support in patients with schizophrenia. *Compr Psychiatry* 2012; 53(3):286-291.
 7. Overall JE, Gorham DR. The Brief Psychiatric Rating Scale (BPRS): A comprehensive review. *J Operat Psychiatr* 1962; 11: 48-65.
 8. Overall JE, Gorham DR. The Brief Psychiatric Rating Scale (BPRS): Recent developments in ascertainment and scaling. *Psychopharmacol Bull* 1988; 24:97-99.
 9. Overall JE, Gorham DR. The Brief Psychiatric Rating Scale, ECDEU Assessment manual for psychopharmacology, Guy W, ed, Rockville, MD: U.S. Department of Health, Education and Welfare 1976; 157-169.
 10. Ventura MA, Green MF, Shaner A, Liberman RP. Training and quality assurance with the brief psychiatric rating scale: The drift buster. *International Journal of Methods in Psychiatric Res* 1993; 3: 221-244.
 11. Lovibond SH, Lovibond PF. Manual for the depression anxiety stress scales. Sydney: Psychology Foundation. 1995.
 12. Musa R, Fadzil MA, Zain Z. Translation, validation and psychometric properties of Bahasa Malaysia version of the depression anxiety and stress scales (DASS). *ASEAN J Psychiatry* 2007;8(2): 82-89.
 13. Henry FK. An index of factorial simplicity. *Psychometrika* 1974; 39 (1).
 14. Bruwer B, Emsley R, Kidd M, Lochner C, Seedat S. Psychometric properties of the Multidimensional Scale of Perceived Social Support in youth. *Compr Psychiatry* 2008; 49(2):195-201.
 15. Grassi L, Rasconi G, Pedriali A, Corridoni A, Bevilacqua M. Social support and psychological distress in primary care attenders. *Psychother and Psychosom* 2000; 69(2):95-100.
 16. Klineberg E, Clark C, Bhui KS, Haines MM, Viner RM, Head J, Stansfeld S A. Social support, ethnicity and mental health in adolescents. *Soc Psychiatry and*

- Psychiatric Epidemiol 2006;
41(9):755-760.
17. Bell M, Milstein R, Beam-Goulet J, Lysaker P. The Positive and Negative Syndrome Scale and the Brief Psychiatric Rating Scale: Reliability, comparability, and predictive validity. J Nerv Ment Dis 1992; 180(11):723-728.
18. Sally Rogers E, Anthony W, Lyass A. The Nature and Dimensions of Social Support Among Individuals with Severe Mental Illnesses. Community Mental Health J 2004; 40(5):437-450. doi: 10.1023/B:COMH.0000040657.48759.0.

Corresponding Author

A/Prof Ng Chong Guan
Department of Psychological Medicine
Faculty of Medicine
University of Malaya
50603 Kuala Lumpur
Malaysia

Email: chong_guan1975@yahoo.co.uk