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Perceived Social Support among University Students in Malaysia: A Reliability Study

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Abstract

Background: Social support is the perception that one is cared for, has assistance available from friends and significant others. Social support can be measured by The Multidimensional Scale of Perceived Social Support. This scale has been widely used and validated in different languages. Objective: To determine the factor structure of The Multidimensional Scale of Perceived Social Support scale and find its reliability. Method: The study was conducted in one of the Universities in Malaysia. The undergraduate students who volunteered to participate in the study were explained about the purpose of the study and implications. The English version of Multidimensional Scale of Perceived Social Support scale (MSPSS) that was administered. In all 313 undergraduate students were studied. Exploratory factor analysis, with varimax rotation, was applied to the data Results: The three factor solution accounted for 80.51 % of the total variance. The procedure output has an overall alpha of 0.921. Conclusion: The MSPSS appears to be good enough to be used in Malaysia however more studies are required.

Keywords: Social Support, Stress, Multidimensional Scale

Introduction

Social support helps individuals to reduce the amount of stress experienced and to cope better in dealing with stressful life situations\(^1\). The beneficial impact of social support has been associated with both physical and mental health outcomes\(^2\). Social support is closely related to ties with family, friends, neighbours, and others of significance to the person which includes empathy, concern, caring, love, and trust. One of the first definitions of social support was put forward by Cobb\(^3\). He defined social support as ‘the individual belief that one is cared for and loved, esteemed and valued, and belongs to a network of communication and mutual obligations’. Gurung\(^4\) refers to social support as the experience being valued, respected, cared about, and loved by others who are present in one’s life. Social support has generally been found to promote psychological well-being, as well as to buffer the effects of stress\(^5\). Perceived social support and physical health are two very important factors help the overall well-being of the
individual. The absence of social support shows negative influence on health. Support such as emotional, academic, and financial are tremendous factors in the success of a college student. Some studies have shown that the amount of social support from the university and outside contributors like family, friends and mentors can make a huge impact on a student’s success.

The Multidimensional Scale of Perceived Social Support scale (MSPSS) was developed by Zimet to measure social support. It is easy to administer. The MSPSS is a 12-item scale, self-report instrument. It measures individuals social support from three specific areas namely family, friends, and significant others. Each of the 3 areas has 4 subscales. Items were measured on 7-point Likert-type scale from 1 ‘very strongly disagree’ to 7 ‘very strongly agree’. The MSPSS evaluates perceived social support (PSS) from family (FA), friends (FR), and significant others (SO) and quantifies the degree to which respondents perceive support from each of these three sources, namely FA, FR and SO.

MSPSS has been translated and validated in various languages. The psychometric properties of the Multidimensional Scale of Perceived Social Support (MSPSS) of the Urdu (MSPSS-U) and Nepali (MSPSS-N) versions were investigated among Pakistani (n = 148) and Nepalese (n = 153) respondents living in Hong Kong. Başol validated the scale among a group of 433 Turkish school administrators. Wongpakaran et al examined the Thai version of MSPSS. Ramaswamy et al revised the MSPSS among Arab American adolescents (MSPSS-AA). Bruwer et al validate the scale in South Africa. The Malay version (MSPSS-M) is a psychometrically valid instrument with high internal consistency, which is useful in assessing perceived social support in Malaysian population (Ng et al, 2013).

**Objectives of the study**

To determine the factor structure of The Multidimensional Scale of Perceived Social Support scale and find its reliability.

**Methods**

*Participants:* The study was conducted in one of the Universities in Malaysia. The undergraduate students who volunteered to participate in the study were explained about the purpose of the study and implications. The students were assured anonymity and were told to respond honestly. The MSPSS was distributed in the classroom. The researcher remained visible in the area for participants to ask questions and then collected the questionnaire after 20 minutes. Study was approved by university research committee.

*Study design:* The study questionnaire was designed to include questions regarding socio-demographic aspects of the students; and the Multidimensional Scale of Perceived Social Support scale (MSPSS) that was developed by Zimet was administered. Lower scores suggest lower perception of social support, while higher scores propose higher perception of perceived social support. Scores are derived by summing the individual items and dividing by the number of items. The MSPSS has very good internal consistency with reported alpha coefficients of 0.91 for the total score and 0.90 to 0.95 for each of the three subscales. Although the Malay version is available, it was decided to use the English version for comparison.

*Sample*

The questionnaire and the MSPSS were distributed in class and were collected back
upon completion. The English version of MSPSS is easy to understand and students had no difficulty. 480 students were asked to complete the questionnaire only 313 questionnaires were complete in all respects. (Completion rate=65.2%).

**Analysis**

SPSS version 17 was used to analyse the data. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy is an index used to examine the appropriateness of factor analysis. High values (between 0.5 and 1.0) indicate factor analysis is appropriate. Values below 0.5 imply that factor analysis may not be appropriate. In this study the KMO measure of sampling adequacy was 0.862 which is meritorious. Bartlett's test of sphericity is a test statistic used to examine the hypothesis that the variables are uncorrelated in the population. In other words, the population correlation matrix is an identity matrix; each variable correlates perfectly with itself ($r = 1$) but has no correlation with the other variables ($r = 0$), in this study the Bartlett test of sphericity is 3289.15 (df 66 p<0.000). There was no correlation error among the variables.

Exploratory factor analysis, with varimax rotation, was applied to the data. Eigen values above 1.00 were used. The criterion for factor loading was set at \( \geq 0.40 \) to suppress absolute value less than 0.40.

Principle component analysis was used as extraction method. Number of factors to extract was 3. Factor loadings and screen plot were examined. One good method of screening for efficient items is to run an exploratory factor analysis on all the items to eliminate those variables that failed to show high correlation.

Cronbach’s alpha was used to find the internal consistency of the scale. Cronbach's alpha is an index of reliability associated with the variation accounted for by the true score of the “underlying construct”. Construct is the hypothetical variable that is being measured. The higher the score, the more reliable the generated scale is. Nunnaly has indicated 0.7 to be an acceptable reliability coefficient.

**Results**

**Demographic characteristics of the students**

63% were female students and 37% were male students. Age ranged from 19 to 24 years with a mean age of 19 years. A vast majority (51 %) were studying in the first year, 31% in the second year and 18% in the third year. 44% were Malay race 37% were Chinese, 15% were other race (indigenous tribes) and 4% were Indians.

**Social Support**

The mean and standard deviation of the MSPSS and the three subscales are as follows: Total scale (M=5.33, SD=1.12), Family (M=5.76, SD=1.26), Friends (M=5.00, SD=1.19), Significant others (M=4.99, SD=1.49).

<table>
<thead>
<tr>
<th></th>
<th>FR</th>
<th>FA</th>
<th>SO</th>
</tr>
</thead>
<tbody>
<tr>
<td>FR</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FA</td>
<td>0.75**</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>SO</td>
<td>0.46**</td>
<td>0.43**</td>
<td>1</td>
</tr>
</tbody>
</table>

**Table 1. Correlations between the subscales**

**Correlation Significant at 0.01 (two-tailed)**
FR - Friends
FA - Family
SO – Significant others

As seen in Table 1, high correlation was found between Family (FA) and Friend (FR) subscale (0.75) compared to significant others and friends and significant others and family. Correlation among the three factors ranged from $r=0.43$ for family and significant others; with Friends and Family $r=0.75$; and $r=0.46$ for significant others and friends.

Table 2. Exploratory Factor Analysis: Varimax solution with three factors for MSPSS

<table>
<thead>
<tr>
<th>Item No.</th>
<th>MSPSS</th>
<th>Factor Loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Factor 1</td>
</tr>
<tr>
<td><strong>FAMILY</strong></td>
<td></td>
<td>b</td>
</tr>
<tr>
<td>3.</td>
<td>My family really tries to help me.</td>
<td>0.86</td>
</tr>
<tr>
<td>4.</td>
<td>I get the emotional help &amp; support I need from my family.</td>
<td>0.84</td>
</tr>
<tr>
<td>8.</td>
<td>I can talk about my problems with my family.</td>
<td>0.73</td>
</tr>
<tr>
<td>11.</td>
<td>My family is willing to help me make decisions</td>
<td>0.85</td>
</tr>
<tr>
<td><strong>FRIENDS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>My friends really try to help me</td>
<td>0.70</td>
</tr>
<tr>
<td>7.</td>
<td>I can count on my friends when things go wrong</td>
<td>0.83</td>
</tr>
<tr>
<td>9.</td>
<td>I have friends with whom I can share my joys and sorrows</td>
<td>0.54</td>
</tr>
<tr>
<td>12.</td>
<td>I can talk about my problems with my friends</td>
<td>0.81</td>
</tr>
<tr>
<td><strong>SIG. OTHERS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>There is a special person who is around when I am in need</td>
<td>0.84</td>
</tr>
<tr>
<td>2.</td>
<td>There is a special person with whom I can share joys and sorrows</td>
<td>0.85</td>
</tr>
<tr>
<td>5.</td>
<td>I have a special person who is a real source of comfort to me</td>
<td>0.88</td>
</tr>
<tr>
<td>10.</td>
<td>There is a special person in my life who cares about my feelings</td>
<td>0.89</td>
</tr>
</tbody>
</table>

a. Total percent of variance = 80.51%.
b. Eigenvalue=3.80; percent of variance =31.70
c. Eigenvalue= 3.29; percent of variance =27.46
d. Eigenvalue=2.56; percent of variance =21.34

The overall results from the Exploratory Factor Analysis are presented in Table 2. MSPSS was factor analysed, Principal Component Analysis was used to explore factor structures. The three factor solution accounted for 80.51% of the total variance. It was found that the loadings ranged from 0.54 to 0.89. Majority of the loading was >0.50. Only one item (9) showed poor loading (0.54). Varimax rotation was applied to the data to obtain four subscales solutions.
The first subscale grouped the following items: No. 3, 4, 8 & 11. The 4 items fitted under the first subscale named “Family”. Variance explained 31.70 %. The reliability $\alpha=0.88$.

The second subscale grouped the following items: No. 6, 7, 9 & 12. The 4 items fitted under the second subscale named “Friends”. Variance explained 27.46 %. The reliability $\alpha=0.89$. The third subscale grouped the following items: No.1, 2, 5 & 10. The 4 items fitted under the third subscale named “Significant others”. Variance explained 21.34 %. The reliability $\alpha=0.92$.

11 items 1,2,3,4,5,6,7,8,10,11 & 12 showed good loading ranging between 0.70 to 0.89. Only one item 9 had poor loading. The internal consistency of Third subscale (SO) was higher compared to other factors.

Psychometric properties were evaluated by Cronbach’s alpha index of internal reliability. The reliability coefficients fluctuated between 0.92 and 0.88. If items with low homogeneity index (HI) were to be deleted it was presumed that there would be substantial increase in alpha. The homogeneity indices were greater than 0.63, except for items 3 which presented a low homogeneity index. Removal of items with low homogeneity index did not increase the value of alpha.

Discussion

Although the protective role of social support is well established in the health literature, antecedents of perceived social support are not well understood$^{19}$. College students are at critical period when they will enter adulthood. They are expected to be the elite in the society. Thus, they should enhance their stress management abilities so as to live a healthy life after entering the society$^{20}$. Studies examining measures of well-being (e.g., depression, overall happiness, life satisfaction) have concluded that social support is emotionally beneficial$^{21}$.

In this study the least score on the MSPSS was 2 and the maximum score was 7. ($\bar{x} = 5.3$, $SD=1.13$). In their original study Zimet et al$^{22}$ proposed three factor structures. In this study, the MSPSS too was categorized into three sub scales;

Factor 1: Family: ‘Family support’ has 4 items loaded. ‘Family support’ is related support received by the family.

Factor 2: Friends: ‘Support from friends’ has 4 items loaded. ‘Support from friends’ relates perceived support received from friends.

Factor 3: Significant other: ‘Support from significant other’ has 4 items loaded. ‘Support from significant other’ refers to perceived social support from people whom the individual values most.

These subscales emerged from exploratory factor analysis, grouping the 12 items, according to their respective content. The total variance explained was 80.51%. The variance explained in the Malaysian study$^{23}$ reported a variance of 70.23%. Mitchell and Zimet$^{24}$ in their study reported the factor analysis accounted for 79.3% variance. Wongpakaran et al$^{10}$ reported variance of 73.13 %.

The main issue pertaining to MSPSS is whether to have 3 subscales or 2 subscales since significant others (SO) and friends (FR) sub scales appear to mean the same. Chow$^{25}$ in his study explained only 2 factor solutions and has merged SO and FR into a single factor. In a similar study done by
Cheng and Chan among Hong Kong adolescents; they found that although the 3 factor model was well fitting, the SO item appeared to be less uni-dimensional and redundant. They found that 2-factor solution is as good as 3- factor model. Canthy-Michell and Zimet argued that the SO is an independent subscale as it measures support from boyfriend, teacher and counselors.

Bruwer et al tested the MSPSS on South African adolescents and found to demonstrate a three factor structure. Wongpakaran et al conducted a similar study among Thai population and reported that it is good enough to use as a 3-factor structure. He criticized Cheng and Chan’s work of suggesting 2-factor model and argued that it was deemed to have occurred due to problems with translation method or due to cultural differences (East verses west). In this study, the variance explained and reliability from the three sub scales was good to support the 3-factor model.

Reliability

In this study, the procedure output has an overall alpha of 0.921 in the full sample is excellent considering that 0.70 is the cut-off value for being acceptable. The Family (FA), Friends (FR) and significant others (SO) subscale demonstrated alpha of 0.88, 0.89 and 0.93 respectively, this clearly indicates that each sub scales has good internal consistency. There was not much change in the Cronbach’s alpha coefficient if items with low homogeneity index were deleted. In a similar study done by Ng et al on the Malay version MSPSS-M, Cronbach’s alpha was 0.88, 0.90 and 0.92 respectively on FA, FR and SO. Not much difference was observed between this study and MSPSS-M

Although the English version of MSPSS and the Malay version of MSPSS-M appear to be similar in the validity there are few points that are worth noting. The English version had better correlation between family and friends (r=0.75) compared to Malay version (r=0.38). The total variance explained in the English version was 80.51%, while the Malay version was 70.23%. Could this difference in MSPSS-M be due to translation method used that contributed to measurement errors or perhaps test-retest reliability of this instrument was not done.

Conclusion

The variance explained was 80.51%. The procedure output has an overall alpha of 0.921. The MSPSS appears to be good enough to be used in Malaysia however, more studies are required to be done, as the present study is cross-sectional, the sample size was small, the results may not be used generalize to a wider population; the validity of the scale was not tested.

References


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