

# Validation of the Multidimensional Scale of Perceived Social Support on Nigerian Female Undergraduates

## Abstract

Social support is a vital factor in promoting physical and psychological well-being. The cross-sectional survey research design was adopted to validate the Multidimensional Scale of Perceived Social Support on Nigerian Female Undergraduates using a sample of 450 Nigerian female undergraduates. Participants responded to the Multidimensional Scale of Perceived Social Support (MSPSS) and Interpersonal Support Evaluation List (shortened version -12 item). The item-total statistics of the scale indicates that all items present good discrimination. Also, the scale's internal consistency among the Nigerian sample reveals positively significant reliability coefficients. Paired with ISEL-Short Form, MSPSS has good concurrent validity. The authors conclude that MSPSS has appropriate psychometric properties for assessing social support in Nigeria and similar cultural contexts.

**Keywords:** Validation, Social Support, Female Undergraduates, Nigeria

## 1. Introduction

Health researchers were interested in the health repercussions of being socially integrated in the 1970s, which sparked scientific interest in the value of social support (Stroebe & Stroebe, 1996) and has emerged as a well-documented psychosocial element influencing health outcomes (Brunelli et al., 2016; Holt-Lunstad et al., 2010; Piquart & Duberstein, 2010; Uchino, 2009; Berkman et al., 2000).

Social Support is the giving of support or comfort to others, usually to assist them in dealing with biological, psychological, or social pressures (American Psychological Association, 2020). It refers to the soothing impact of friends, family, and acquaintances (Baron & Kerr, 2003). Perceived social support, an individual's perception of being cared for, valued, and part of a mutually supporting social network, has been shown to improve mental and physical health (Taylor, 2011). Having family and friends around in times of need or crisis for support helps build a broader focus and a positive self-image while enhancing the quality of life and buffering adverse life events (Towey, 2016). Social support by our social network proves to be essential for our health and represents a vital salutogenic resource for individuals' mental health (Drageset, 2021).

A network of social support has been demonstrated to be beneficial in promoting a healthy self-esteem, decreasing cardiovascular risks including blood pressure, and supporting a healthy lifestyle improving the ability to cope with the stress, lessening the impact of psychological distress, and boosting lifelong mental health, promoting healthy lifestyle behaviours and promoting treatment plan adherence (Mayo Clinic, 2020). Social support creates essential opportunities for increasing a sense of coherence among people with mental health problems

(Langeland & Wahl, 2009). Social support has proven beneficial in boosting immune system functioning, especially among people experiencing stress (Uchino et al., 2012) across populations, including spousal caregivers of people living with dementia, medical students, elderly adults, and cancer patients (Kiecolt-Glaser et al., 2002). Social support has also been associated with reductions in cancer and infectious disease death rates (Pinquart & Duberstein, 2010; Lee & Rotheram-Borus, 2001).

On average, the level of perceived social support among female students is higher than that of their male counterparts, and one of the possible explanations for this observation is that females tend to be more emotionally expressive (Siddiqui et al., 2019). This could lead to receiving more social support from multiple sources than males (Hess et al., 2000).

Social support is a multifaceted concept with many different forms (Stanley et al., 1998). Several researchers have assessed perceived social support among individuals. The Multidimensional Scale of Perceived Social Support (MSPSS) is a short scale that assesses a respondent's sense of support from three different sources: family, friends and significant other. The MSPSS was first validated in western populations, but it has now been validated among a variety of non-western populations. (Guan et al., 2013; Qadir et al., 2013; Tonsing et al., 2012; Wongpakaran & Wongpakaran, 2012; Wongpakaran et al., 2011; Akhtar et al., 2010; Eker & Arkar, 2010; Nakigudde et al., 2009; Ng et al., 2010; Bruwer et al., 2008).

This study attempts to revalidate the Multidimensional Scale of Perceived Social Support (MSPSS) scale among Nigerian female undergraduates to ascertain culture-sensitive psychometric properties.

### **1.1.Objectives**

This study aims to validate the Multidimensional Scale of Perceived Social Support on Nigerian Female Undergraduates developed by Zimet et al. (1988) using a Nigerian sample of female undergraduates to ascertain socio-culturally sensitive and acceptable psychometric properties.

## **2. Materials and Methods**

### **2.1. Participants**

A total of 454 participants were purposively selected and took part in the study; the participants' mean  $\pm$  SD age was  $21.26 \pm 2.84$ .

### **2.2. Measurement**

Two scales were used in this study. First is the Multidimensional Scale of Perceived Social Support Scale on Nigerian Female Undergraduates developed by Zimet et al. (1988). This 12-item scale has three different sub-scales designed to measure three dimensions of social support, specifically Family (Fam), Friends (Fri) and Significant Other (SO). Four items are devoted to measuring each of three dimension on a 7-point scale with response options ranging from "Very Strongly Agree" to "Very Strongly Disagree". By adding the results of all items, a total score is generated. The potential score range is 12 to 84; the higher the score, the more social support is seen. Also, separate sub-scales can be used by summing the responses from the items in each of the three dimensions. The possible score range for the sub-scales is between 4 and 28.

The second instrument is the Interpersonal Support Evaluation List (shortened version -12 item) developed by Cohen et al. (1985) to measure the functional components of perceived social support. This 12-item measure is a shortened version of the original ISEL-40 items (Cohen & Hoberman, 1983). This 12-item scale has three different sub-scales that measure three dimensions of perceived social support: Appraisal Support, Belonging Support, and Tangible Support. Four items on a four-point scale ranging from "Definitely True" to "Definitely False" are used to assess each dimension. Four questions each make up for each dimension, and 5 of the 12 items are reverse scored. All scores are kept continuous.

### **2.3. Existing Psychometric Properties of MSPSS**

The MSPSS has good reliability with Cronbach's alpha ranging from 0.85 to 0.91 (Zimet et al., 1988). In addition, according to Zimet et al. (1988), confirmatory factor analysis (CFA) revealed that the MSPSS has a strong three-component structure (family support, friend support, and significant other support). Furthermore, the MSPSS was shown to be adversely associated with parental stress, loneliness, and depression, but positively associated with self-esteem and life satisfaction, suggesting that the MSPSS has strong concurrent validity (Kong et al., 2015; Jeong et al., 2013; Zhao et al., 2013; Bruwer et al., 2008; Dunst et al., 1986).

The MSPSS has been translated into a variety of languages over the years, including Swedish, Hausa, Igbo, Thai, Polish, and Malaysian, studies have shown high reliability and validity. (Igwesi-Chidobe et al., 2021; Mohammad et al., 2015; Adamczyk, 2013; Ekbäck et al., 2013; Wongpakaran and Wongpakaran, 2012; Ng et al., 2010; Duru, 2007). Also, the MSPSS has acceptable psychometric properties among vulnerable populations, such as mental patients, people with implantable cardioverter defibrillators, and patients with heart failure (Shumaker et al., 2017; Pedersen et al., 2009; Cecil et al., 1995). All of these findings indicated that the MSPSS had substantial psychometric properties.

The instrument has been successfully used by various Nigerian researchers who used the original psychometric properties by the developer (Osuji, & Onu, 2019; Akanbi & Oyewo, 2014). The scale has also been translated to Hausa, the most predominant language in Northern Nigeria (Hamza et al., 2015) and Igbo, the most predominant language in South-Eastern Nigeria (Igwesi-Chidobe et al., 2021).

The scale's psychometric properties have been investigated among Nigerian high school adolescents (Aloba et al., 2019). However, there is a need for the validation of the scale to establish its psychometric properties across diverse populations.

### **2.4 Data Analysis**

Cronbach's standardised  $\alpha$ , Spearman-Brown coefficient and Guttman Split-Half coefficient were computed to ascertain the reliability of MSPSS on the sample. The item-total correlation were also obtained to test the relationship between each item and the composite/total item score. Using Pearson's Correlation Analysis, MSPSS was correlated with Interpersonal Support

Evaluation List (shortened version-12 items) to determine the concurrent validity of MSPSS. The new norms for the instrument were determined using descriptive statistics such as mean and standard deviation.

### 3. Results

#### 3.1 Measure of Reliability of Multidimensional Scale of Perceived Social Support Scale

Item-Total Statistics, Cronbach's alpha, Spearman-Brown coefficient, and Guttman Split-Half coefficient were used to measure the reliability and internal consistency of the scale Table 1 displays the the internal consistency of the scale. The corrected item-total correlation ranged from .57 to .77. The scale Cronbach's coefficient is ( $\alpha = .93$ ), with a Spearman-Brown coefficient of .86 and Guttman Split-Half coefficient of .90 for part 1 and .87 for part 2.

This analysis shows that MSPSS is a reliable measure for social support for the Nigerian population. The goodness-of-fit measures for all of the scale's items were satisfactory.

**Table 1:** Item-Total Statistics of MSPSS

Item-Total Statistics					
S/N	Items	Item Mean	SD	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
1	There is a special person who is around when I am in need	3.86	2.27	.644	.925
2	There is a special person with whom I can share my joys and sorrows	4.05	2.02	.745	.921
3	My family really tries to help me	4.20	2.07	.741	.921
4	I get the emotional help and support I need from my family	4.09	2.11	.721	.922
5	I have a special person who is a real source of comfort to me	4.03	2.02	.774	.920
6	My friends really try to help me	4.02	1.98	.715	.922
7	I can count on my friends when things go wrong	3.89	2.02	.658	.924
8	I can talk about my problems with my family	4.04	2.04	.701	.923
9	I have friends with whom I can share my joys and sorrows	4.03	1.99	.731	.922
10	There is a special person in my life who cares about my feelings	4.19	2.03	.687	.923
11	My family is willing to help me make decisions	3.95	2.07	.648	.925
12	I can talk about my problems with my friends	3.67	2.05	.573	.928

#### 3.2 Measure of Validity of MSPSS

To measure the validity of MSPSS, a concurrent validity technique was employed to show how well MSPSS compares to another well established related scales measuring the same construct. Using the Pearson's  $r$ , correlations between MSPSS and ISEL-Short Form were investigated. As summarized in Table 2, MSPSS correlated positively and significantly with ISEL-Short Form ( $r = .350$ ,  $p = .000$ ). This result shows that MSPSS is valid for the Nigerian population.

**Table 2:** Correlation Matrix

Variables	1	2	3	4	5	6	7	8
1. Appraisal Support	1							
2. Belonging Support	.509**	1						
3. Tangible Support	.498**	.471**	1					
4. ISEL Short Form	.820**	.819**	.801**	1				

5. Family	.252**	.281**	.217**	.308**	1			
6. Friends	.288**	.325**	.217**	.342**	.771**	1		
7. Significant Other	.270**	.256**	.251**	.319**	.830**	.731**	1	
8. MSPSS	.292**	.311**	.248**	.350**	.940**	.901**	.928**	1
<b>Mean</b>	9.72	9.60	10.10	29.42	16.28	15.61	16.14	48.02
<b>SD</b>	2.58	2.72	2.55	6.39	6.67	6.48	6.87	48.02

\*\*Significant at .01 level (2-tailed)

Table 4 summarises Pearson's  $r$  of MSPSS and ISEL-Short Form subscale and composite scores. Results show a significant positive validity coefficient between MSPSS and ISEL-Short Form ( $r=.350, p=.000$ ). Results further reveal significant validity coefficients between MSPSS and the Appraisal Support ( $r=.292, p=.000$ ), Belonging Support ( $r=.311, p=.000$ ), and Tangible Support ( $r=.248, p=.000$ ) subscales of ISEL-Short Form. Also, significant validity coefficients exist between ISEL-Short Form and the Family ( $r=.308, p=.000$ ), Friends ( $r=.342, p=.000$ ), and Significant Other ( $r=.319, p=.000$ ) subscales of MSPSS. This result proves that MSPSS is a valid measure of social support.

### 3.3 Calculation of Norms for MSPSS

This study employed the 95% Confidence Interval method in estimating the cut-off point for MSPSS. As summarised in Table 5 with 95% confidence, the population mean is between 32.3 and 33.5 based on 454 samples [32.87 (95% CI 32.3 to 33.5)]. The lower limit of the interval (i.e., mean score minus one margin of error) of  $\geq 32.3$  is considered the cut-off point for the sample.

**Table 3:** The 95% Confidence Interval of cut-off point determination for MSPSS

	Sample
Margin of Error	1.70
Sample size	454
Sample mean	48.02
Standard deviation	18.47
95% Confidence Interval	48.02 (95% CI 46.3 to 49.7)
Cut-off point	$\geq 46.3$

**Table 4:** Score Guide for Multidimensional Scale of Perceived Social Support Scale (MSPSS)

Rating	General Scoring Pattern	Sample Scores
Low Social Support	12 - 35	10 - 45
Medium Social Support	36 - 60	46 - 70
High Social Support	61 - 84	71 - 84

## 4. Discussions

Social Support is a crucial construct to the experience of physical and psychological well-being. This study aims to ascertain the Multidimensional Scale of Perceived Social Support Scale (MSPSS) psychometric properties in Nigeria in order to derive culture-sensitive psychometric properties. The scale reliability, validity, and norms were assessed using a sample of 454

Nigerian female undergraduates. The MSPSS reported high psychometric properties obtained by the developer (Zimet, Dahlem, Zimet and Farley, 1988). Findings from the study reveal good scale psychometric properties among the Nigerian population.

The assessment of MSPSS reliability on Nigerian female undergraduates reveals a Cronbach's coefficient value of ( $\alpha = .93$ ), a Spearman-Brown coefficient of .86 and a Guttman Split-Half coefficient of .90 for part 1 and .87 for part 2.

The MSPSS is a valid construct for the measurement of Social Support. Results show that a positive significant validity coefficient exists between the composite scores of MSPSS and Interpersonal Support Evaluation List (shortened version -12 items) ( $r=.350, p =.000$ ). Results further reveal significant validity coefficients between MSPSS and the Appraisal Support ( $r=.292, p =.000$ ), Belonging Support ( $r=.311, p =.000$ ), and Tangible Support ( $r=.248, p =.000$ ) subscales of ISEL-Short Form. Also, significant validity coefficients exist between ISEL-Short Form and the Family ( $r=.308, p =.000$ ), Friends ( $r=.342, p =.000$ ), and Significant Other ( $r=.319, p =.000$ ) subscales of MSPSS.

The study also derived new culture-sensitive norms and scoring patterns for the scale based on the sample understudied.

#### 4.1 Conclusions and Recommendations

Based on the findings of the MSPSS reveal appropriate culture-sensitive psychometric properties for the Nigerian sample of female undergraduates. This study, however, sampled female undergraduates. There is a need to sample other populations using the MSPSS. Authors recommend further validation studies using a larger sample of diverse populations across different geographic locations within and outside Nigeria.

#### Ethical Considerations

This study involved human subjects, and hence the Helsinki Declaration was adopted in the research procedures. The Internal Research Ethics Committee (IREC) of Redeemer's University Nigeria scrutinised the research intention and proposed procedures. Informed consent was obtained from participants. All participants remain anonymous.

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