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Urdu rosenberg self–esteem scale: an analysis of reliability and validity in Pakistan

Abstract

Rosenberg Self–Esteem Scale (RSES) is most renowned measure of self–esteem and available in many languages including Urdu.[1,2] This research is conducted to analyze the psychometric properties of Urdu RSES. Data of 375 university students including 205 males and 170 females were taken from different public sector universities of Karachi, Pakistan. The respondents' age ranges from18 to 35 years. Descriptive statistics, reliability and validity coefficient were computed through Statistical Package for Social Science (SPSS, Ver.21). Reliability of Urdu Rosenberg Self Esteem Scale (URSES) was inferred by Cronbach's Alpha that is 0.773 and 4 weeks test re–test correlation coefficient was 0.808. The convergent validity as analysed by correlation coefficient of URSES scores with Urdu Multidimensional Scale of Perceived Social Support (UMSPSS) ($r=0.284$, $p<0.01$); depression ($r=-0.523$, $p<0.01$); anxiety ($r=-0.337$, $p<0.01$); and stress ($r=-0.407$, $p<0.01$). Findings are suggestive of an acceptable psychometric properties of URSES and they also suggested its use in research with confidence.

Keywords: multidimensional scale, correlation coefficient, psychology, educational sciences, social

Volume 1 Issue 2 - 2017

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Received: July 11, 2017 | **Published:** August 18, 2017

Abbreviations: SPSS, statistical package for social science; RSES, rosenberg self–esteem scale; URSES, reliability of urdu rosenberg self esteem scale; UMSPSS, urdu multidimensional scale of perceived social support

Introduction

Self–esteem is a commonly studied construct in the field of mental health and behavioral, social, and educational sciences with its specific study and applications in the field of psychology.[3] High self–esteem is found beneficial for people in many ways and it is strongly related to happiness,[4] job satisfaction,[5] optimism and secure sense of worth,[6] as well as with good interpersonal/communication skills and problem solving strategies when dealing conflicts.[7] In contrast, low self–esteem is related to feelings of failure, incompetence, and worthlessness.[8] People with low self–esteem consciously or unconsciously hate and reject themselves that may be conveyed in direct or indirect ways.[9] The Rosenberg Self–Esteem Scale (RSES) is the most reliable and valid scale to measure self–esteem and has received a substantial amount of recognition throughout the world.[10] The Rosenberg Self–Esteem Scale is developed to define and assess self–esteem as a global concept of the self and a sense of worth or value.[11] In other words, self–esteem as measured by RSES may be conceived as an appraisal in which people express approval or disapproval of themselves and set beliefs about their own worth as a person.[12]

The RSES had been used in empirical research for exploring the association between self–esteem and a wide range of issues concerning human beings (adolescents and adults) e.g., smoking cessation,[13] obesity, TV time, team sports participation, school performance, and parenting style among adolescents,[14] aggression,[15] breast cancer,[16] psychopathological symptomatology,[17] psychiatric disorder,[18,2] neuroticism,[19] symptoms of depression, anxiety and eating problems,[20,21] eating disorders,[22,23] suicide risk potential,[2,24] and abusive experiences in childhood.[25,26]

Epidemiological studies emphasis the significance of the cultural relevance and appropriateness of research tools for conducting globally equivalent and worthwhile studies. Sireci[27] also claimed that to maintain the scientific credibility of assessment in psychological or educational settings, it is crucial to conduct validity studies to examine measures and establish confidence in their use. Likewise, Marshall et al.[28] posited that the validity of instruments is critical in ensuring that data collected are sound and the data measures, what it purports to measure. They further urged researchers to re–examine the construct validity of an instrument when it is used in a different population or when it has been modified. For that reason, Rizwan, et al.[29] conducted a study to analyze the psychometric characteristics (reliability and validity) of the RSES in Pakistani late adolescents. The results of this research supported the psychometric properties of RSES and obtained a Cronbach's alpha of 0.71, and with a two week interval, the test re–test correlation coefficient was 0.72. Their findings suggested that the RSES is a psychometrically appropriate tool to assess global self–esteem and its two dimensions (positive self–evaluation and negative self–evaluation) in late adolescents of Pakistan. Other researchers also found good psychometric characteristics of RSES and reported the construct validity using factor analysis whereas concurrent validity using theoretically relevant variables have been found good.[30] Some others reported the Cronbach's alpha coefficients of RSES as 0.83,[31] 0.89,[32] and 0.99.[33] In the sense of stability over time the 1–week test–retest reliability of RSES is reported as 0.82.[34]

RSES is a widely studied measure and its use is common in many countries and it is also translated in many languages. For example, Schmitt DP & Allik J[35] translated RSES into 28 different languages and conducted cross culturally studies in up to 53 different countries. Several translations and adaptation of RSES in different languages has been conducted, such as in Thai,[36] Japanese,[31] Spanish,[37] Portuguese,[38] Estonian,[39] Italian,[40] Chinese,[41] French,[42] and Persian.[43] Sardar,[1] while conducted PhD dissertation, translated the RSES in Urdu language by following the method of backward translation, but she didn't analyzed

its psychometric characteristics. Similarly, Rizwan[2] improved the Urdu translation and used Urdu RSES in PhD dissertation but he also did not analyzeed the validity of the scale. Keeping in mind the importance of URSES in sense of its utility in Pakistan, the current study has designed to analyze and achieve the following objectives:

a. To examine the factor structure of the RSES in a sample of university students.

b. To evaluate the convergent validity, by examining the relationship among URSES, MSPSS, depression, anxiety and stress.

c. To evaluate URSES reliability, specifically internal consistency and temporal stability.

Methodology

Sample: In the current study, data of 375 (mean age 22.18) respondents, 205 males (mean age 22.52) and 170 females (mean age 21.76) was obtained from different public and private universities of Karachi, Pakistan.

Measures

Urdu Rosenberg Self Esteem Scale (URSES)

Rosenberg Self–Esteem Scale (Rosenberg, 1965) measures global self–esteem. It is comprised of 10 items. Subjects have to rate their responses on 4–point Likert scale response format (i.e., strongly disagree, disagree, agree and strongly agree). This scale has been translated in Urdu by Sardar[1] and improved by Rizwan,[2] thereby finding its internal consistency as measured by Cronbach's alpha to be 0.87 that showed good internal consistency of URSES.

Urdu Multidimensional Scale of Perceived Social Support (UMSPSS)

Multidimensional Scale of Perceived Social Support (MSPSS) developed by Zimet GD et al.[44] was originally designed to measure the perception of social support adequacy from the resources such as family support, friend support and some others that are significant. It is comprised of 12 items and respondents are required to rate their responses on 7–point scale. Urdu Multidimensional Scale of Perceived Social Support (UMSPSS),[2] was used for this study.

Urdu Depression Anxiety Stress Scale (UDASS)

The Depression Anxiety Stress Scale (DASS),[45] is composed of 42–items to be used as self–report measure that comprises of three factors including depression, anxiety and stress. The DASS is a public domain measure and available in many languages including Urdu. For this research Maria Habib's Urdu versions of DASS was used that is available on DASS's website.

Procedure

The data was collected from Public Universities of Karachi, including University of Karachi and Federal Urdu University of Arts, Science and Technology, Karachi. To collect the data from universities first the Deans/Chairman/Chairpersons of different departments were approached and briefed about aims and objectives of this research and permission was requested to collect data from their departments. After taking the permission from concerned authorities, the participants were approached in their class rooms and they were briefed about the purpose of the study. Formal consent was taken through consent forms, and then they were assured that the data obtained from them will purely be used for research purpose and their identities will not be showed to any one at any stage. After that assurance the participants were asked to complete the Personal Information Form. Then Urdu Rosenberg Self–Esteem Scale, Urdu Multidimensional Scale of Perceived Social Support, and Depression Anxiety Stress Scale, were administered respectively on the participants. After 4 weeks, 61 of same participants were retested by Urdu Rosenberg Self Esteem Scale to assess test retest reliability.

Scoring and statistical analysis

The standard method for scoring was used for all scales. Descriptive statistics, Reliability coefficient and Validity coefficient were calculated through the Statistical package for social sciences (SPSS, V 21).

Reliability

Test retest reliability

For the purpose of measuring the test retest reliability 61 participants (university students) were retested after 4 weeks.

Internal consistency

Cronbach alpha and split half coefficient was analyzed to evaluate the internal consistency of the scale.

Validity

Convergent validity: To assess convergent validity of Urdu Rosenberg Self Esteem Scale correlation with different measures (i.e. Urdu Multidimensional Scale of Perceived Social Support and Depression Anxiety Stress Scale) were used through Pearson product coefficient of correlation.

Results

The results of this study are presented here after analysis of raw data through the Statistical Package for Social Sciences (SPSS, version 21). The significance levels of 0.05 to 0.01 were used. Descriptive Statistics, Factor loadings (pattern matrix), internal consistency analysis (i.e. Cronbach's alpha), and Pearson Product Moment Correlation Coefficient were analysed to validate the Urdu Rosenberg Self–Esteem Scale Tables 1–6.

Table 1 Descriptive Statistics According to Age and Gender

Groups	N	Minimum	Maximum	Mean	Std. deviation
Males	205	18	35	22.52	3.367
Females	170	18	31	21.76	2.573
Total	375	18	35	22.18	3.053

Table 2 Descriptive Statistics of the Rosenberg Self-Esteem Scaleand its subscales (N=375)

Measure	Minimum	Maximum	Mean	Std. deviation
Rosenberg Self-Esteem Scale	10	30	21.26	4.919
Self-Esteem Positive	4	15	11.64	2.586
Self-Esteem Negative	0	15	9.62	3.403

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Table 3 Internal Consistency (Cronbach's Alpha) AnalysisoftheRosenberg Self-Esteem Scale (N=375)

Measure	Cronbach's Alpha
Rosenberg Self-Esteem Scale	0.773
Self-Esteem Positive	0.743
Self-Esteem Negative	0.747

Discussion

Main objective of the study was to assess the psychometric properties of the Urdu Rosenberg Self–Esteem Scale (URSES) through factor loading (pattern matrix) analysis, reliability and validity coefficients. Pattern matrix analysis was performed to all items in relation to total of RSES to establish construct of global self–esteem as well as analysing negative self–esteem subscale (correlation of each of 5 negative worded items with total of those 5 negative worded items) and positive self–esteem subscale (correlation of each of 5 positive worded items with total of those 5 positive worded items).The reliability analysis done by estimation of internal consistency (Cronbach's coefficient alpha), and test–retest reliability; and validity analysis was conducted by estimation of convergent validity of the Urdu Rosenberg Self–esteem Scale. The psychometric data provided the needed support for the utility of this measure in Pakistani young adults. The factor loading (Pattern Matrix) method is a specialized statistical technique that is particularly useful for investigating construct validity.[46] The factor structure of Urdu RSES and its subscales is also tested in the current study (Table 5). Past literature makes us informed that the Urdu Rosenberg Self–Esteem Scale comprised of 10 items to measures global self–esteem. Findings from this research validate that all 10 items are strongly related to total of 10 items that are labelled as construct of global self–esteem and the range of correlation of each of 10 items with total of 10 items is r=0.432 (see item 8 of URSES) (Table 5) to r=0.728 (see item 9 of URSES) (Table 5). The results support the measurement efficacy of each item for global self–esteem. Similarly, findings from this research also validate two factor structures of URSES, one is negative self–esteem and the second is positive self–esteem. Co–relational analysis revealed that all 5 items that are negative worded supports the factor of negative self–esteem (item 3 r=0.713; item 5, r=0.691; item 8, r= 0.61; item 9, r=0.779 and for item 10, r=0.775). Further correlation analysis revealed that all 5 items which are positive worded supports the factor of positive self–esteem (item 1, r=0.755; item 2, r=0.756; item 4, r= 0.688; item 6, r=0.671 and for item 7, r=0.664, (Table 5). The data of this research supports the two factor structure of Urdu Rosenberg Self–Esteem Scale.

Two approaches were used to assess the scales in terms of reliability. First, for a scale to be reliable, items in the scale should be consistent with one another and secondly, there should be stability in the scores over time. The Cronbach's Coefficient Alpha, a measure of internal reliability, which is based on the average inter–correlation of items, is used to assess internal consistency. Internal consistency refers to the test items and shows a consistent interrelatedness.[45] Internal consistency is based on the notion that if items are consistent with one another they are more likely measuring the same attribute. Value of Cronbach's Coefficient Alpha exceeding 0.70 indicates that the scale is internally consistent.[47] Cronbach's Coefficient Alpha is obtained for the URSES as a whole for each of its subscale (Table 3). For the global self–esteem (total of 10 items) Cronbach's Coefficient Alpha was found 0.773 and for its subscales the Cronbach's Coefficient Alpha of positive self–esteem was 0.743 and for negative self–esteem subscales itwas0.747. These findings indicate acceptable internal consistency for the scale as a whole and for its two subscales. Results of this research are consistent with previous work regarding psychometric properties of RSES and reported good levels of internal consistency of the RSES.[36,48,37,41] The test–retest reliability refers to administer the instrument twice to the same group of persons and compute the correlation between the two sets of scores.[45] The test–retest reliability of URSES and its sub–scales was estimated with Pearson Product Moment Correlation Coefficient. For this purpose, 61of the 375 subjects were retested after one month of their initial response to the questionnaire. The test–retest reliability for the global self–esteem (total of 10 items) was found to be 0.80 (Table 4) and for its subscales the test–retest coefficient of positive self–esteem was 0.583 (Table 4) and for negative self–esteem subscales it was 0.687 (Table 4). These findings are also consistent with previous researches which assessed the reliability of the scale and found that RSES is a measure with a good level of temporal stability after a 4–week interval.[36,47,37,41] These results are showing strong temporal stability and indicating the measurement consistency of URSES even after a month. The validity of a test is defined to be a test that is valid to the extent that inference made from it is appropriate, meaningful, and useful.[45] In the present study, only Convergent Validity that is a type of construct validity was estimated. The Convergent Validity is demonstrated when a test correlates highly with other variables or tests with which it shares an overlap of constructs.[45] The Convergent Validity of the RSES is addressed by investigating the correlation of RSES with measures of depression anxiety and stress, and multidimensional scale of perceived social support (MSPSS). Results indicate significant correlation of RSES with the DASS subscales depression (r= –0.523, p<0.01) (Table 5); anxiety (r= –0.337, p<0.01) (Table 5) and Stress (r=–0.407, p<0.01) (Table 5). These results are indicative of strong relationship of Rosenberg Self–Esteem Scale with depression, anxiety and stress subscales of DASS and are showing good level on Convergent Validity.

Similarly the analysis of Convergent Validity by assessment of correlation between Urdu Rosenberg Self–Esteem Scale[1] and Urdu Multidimensional Scale of Perceived Social Support[2] was conducted and the results showed significant correlation between to URSES and MSPSS (r=0.284, p<0.01) (Table 5) as well as with its 3 subscales including family (r= 0.278, p<0.01) (Table 5); friends (r= 0.209, p<0.01) (Table 5) and significant others (r= 0.219, p<0.01) (Table 5) suggest adequate convergent validity. These findings are also showing relationship between two measures however in sense of convergence these findings are not highly significant but are countable. Although RSES has already been recognized as a reliable and valid instrument to measure the self–esteem but in our study, the Urdu Version of RSES is shown to be psychometrically having good content validity as measured by factor loading, good reliability (both internal consistency reliability and test–retest reliability) and adequate construct validity. On the basis of our data we can conclude that URSES is reliable and valid measure of self–esteem along with two sub–domains, one is the negative self–evaluation and other is the positive self–evaluation and its can be used for further research with confidence within the limitation of the findings of this research. The present study aimed to assess psychometric properties of RSES translated (Urdu) version. Like every other research study in social sciences, this study has

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some limitations that can be addressed with certain methodological strengths in future studies. For example, our findings have limited generalizability, as the sample for the current research obtained of university students with an age range of 19–35 years (mean age 22 years). Thus, our results should be interpreted carefully when generalizing outcomes to a more wide–ranging population. In future research, a larger sample size, diverse age groups, and varied samples could be considered. In the present study, only convergent validity was assessed and in future, further studies may be conducted by adding other types of validities (Appendix).

Table 4 Four Weeks Interval Test-Retest Analysis of Rosenberg Self-esteem Scale (N=61)

Rosenberg Self-Esteem Scale Total	r	**Retest rosenberg self-esteem scale total**	**Retest self-esteem negative items**	**Retest self-esteem positive items**
		0.808(**)	0.750(**)	0.442(**)
	Sig	0	0	0
Self-Esteem Negative Items	r	0.687(**)	0.854(**)	0.099
	Sig	0	0	0.447
Self-Esteem Positive Items	r	0.583(**)	0.257(*)	0.681(**)
	Sig	0	0.046	0

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Table 5 Factor Loadings (Pattern Matrix) for the Rosenberg Self-Esteem Scale (N=375)

RSES items		**Self-esteem positive items**	**Self-esteem negative items**	**Rosenberg self-esteem scale total**
SP1	r	0.755(**)	0.195(**)	0.532(**)
	Sig.	0	0	0
SP2	r	0.756(**)	0.257(**)	0.575(**)
	Sig.	0	0	0
SP4	r	0.688(**)	0.203(**)	0.502(**)
	Sig.	0	0	0
SP6	r	0.671(**)	0.195(**)	0.488(**)
	Sig.	0	0	0
SP7	r	0.664(**)	0.350(**)	0.591(**)
	Sig.	0	0	0
SN3	r	0.281(**)	0.713(**)	0.641(**)
	Sig.	0	0	0
SN5	r	0.260(**)	0.691(**)	0.614(**)
	Sig.	0	0	0
SN8	r	0.019	0.610(**)	0.432(**)
	Sig.	0.714	0	0
SN9	r	0.360(**)	0.779(**)	0.728(**)
	Sig.	0	0	0
SN10	r	0.316(**)	0.775(**)	0.702(**)
	Sig.	0	0	0
Self-esteem Positive items	r	----	0.337(**)	0.759(**)
	Sig.	----	0	0
Self-esteem Negative items	r	0.337(**)	----	0.869(**)
	Sig.	0	----	0

** Correlation is significant at the 0.01 level (2-tailed).

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Table 6 Convergent Validity Analysis by Correlation of RSES with DASS and MSPSS

Measures	Rosenberg self-esteem scale total	
Depression Anxiety and Stress Scale		
Depression Subscale	r	-0.523(**)
	Sig	0
Anxiety Subscale	r	-0.337(**)
	Sig	0
Stress Subscale	R	-0.407(**)
	Sig	0
Multidimensional Scale of Perceived Social Support		
MSPSS Total	R	0.284(**)
	Sig	0
Family Subscale	R	0.278(**)
	Sig	0
Friends Subscale	R	0.209(**)
	Sig	0
Significant Others Subscale	R	0.219(**)
	Sig	0

** Correlation is significant at the 0.01 level (2-tailed).

Acknowledgements

None.

Conflict of interest

The author declares no conflict of interest.

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