

Translation And Psychometric Properties Of Kucher Adolescents' Depression Scale (Kads) In Pakistan

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ABSTRACT

This study investigated the translation and psychometric properties of English version Kutcher adolescents scale¹ in a sample of student adolescents between ages of 11-19 years. The language equivalence of the scale was estimated as .848 significant at 0.01 alpha levels, by using bilingual design on the target group. The KADS demonstrated good psychometric properties with high levels of internal consistency and reliability (0.75), test re-test reliability (0.78) and split half (0.71) at 0.01 level of significance. The Pakistani version of KADS-A has found to be a reliable and worth using instrument to assess depression among adolescents in Pakistan.

Keywords: Depression, KADS, adolescents, translation, psychometric, alpha level, Bilingual design.

INTRODUCTION

Depression is a common psychiatric problem, so one out of ten experiences it one or more times for a whole life and the probability of having it for a whole life reaches to 30%. However, it is also a very serious disease because 10-15% of patients with depression can show fatal outcomes such as suicide. According to 'Global Burden of Disease Study' funded by World Health Organization, depression ranked the fourth among total diseases by accounting for 3.7% of the total disability-adjusted life-years.²

Furthermore, depression is a common mental disorder in adolescents. It is characterized by persistent sadness, lack of interest, fun and enjoyable activities, and interferes with sleep and appetite. Fatigue and poor concentration are common symptoms of depression. Depression is the leading cause of impairment worldwide and a significant contributor to the universal burden of

illness. The effects of depression can be long-lasting or recurring and have a drastic effect on the individual functioning and gratifying life, affecting more than 264 million people worldwide.³ Further, depression considered being the leading cause of the global burden of disease in people aged 15 to 19 years.⁴

The Diagnostic and Statistical Manual of Mental Disorders-fifth edition⁵ highlight the commonalities of depressive disorders in all age groups, especially young people. The most frequent symptom of depression in adolescence was thoughts of a depressed mood (97.7%) attention difficulty (81.8%), difficulty sleeping (88.6%), weight/anorexia (79.5%), more than half of patients (54.5%) reported. Nevertheless, the least frequent symptom was thought of death/suicidal ideation. Additionally, 41% of depressed youth reported suicidal thoughts and 21% attempted suicide. Suicidal thoughts last longer and are associated with recurrent

melancholy illustrations.⁶ The increasing rate of depression in adolescents is an alarming issue.⁷

As noted earlier that adolescent is the most critical period of individual's life and development of depression among adolescents may lead them towards severe impairment in their overall functioning. In Pakistan most of the psychological instruments being used are in the English language.⁸ Most of these instruments have been standardized and validated in western cultures. The cultural differences might contaminate the responses on different items grouped under various scales, thus leading to spurious results. The language difference may also result in invalid findings especially in non-English societies. The various experts showed a serious concern regarding the use of available standardized test or scale across different cultures. As different culture has different social norms, environment, social needs; and people in different societies perceive various problems in a different way and also reacts them in their own cultural perspective. So due to these cultural limitations it's necessary to use the scales in a native language that would be easy to comprehend for the target population.

Thus, to overcome this problem, most of the researchers in Pakistan prefer to adapt, translate and validate psychological scales / tests due to economic and practical effectiveness. Before adaptation of this scale the permission was obtained to use of this instrument from the author of the scale. Previously scales were not available in Urdu language so there was a dire need to translate culturally valid assessment tool to measure adolescents' depression scale. To overcome these flaws, The existing study conducted with an objective to develop an assessment of adolescents' depression scale in Urdu language.

METHODOLOGY

Participants

In the process of translation cross-language validation and reliability estimation 500 (250 boys & 250 girls) adolescents between age range of 11 to 19 years (mean age= 15 years) were recruited from different schools/colleges of Faisalabad (Pakistan).

Measures

The Kutcher Adolescent Depression Scale is a psychological self-rating scale developed by Dalhousie University professor of psychiatry Stan Kutcher, to assess the level of depression in adolescents. The 11-item version of the KADS is optimized for monitoring outcome in adolescents (12–17 years). The items responses scored on a simple 4-point scale as: (a) = 0; (b) = 1; (c) = 2; and (d) = 3 (Brooks & Sarah, 2004). The KADS demonstrated good psychometric properties with high levels of internal consistency and reliability (.75), test-retest reliability (.78) and split half (.71) at .01 level of significance.

Procedure

Formulation of the Translation Committee

For the purpose of translation and adaptation of Kutcher Adolescents Depression Scale an expert committee of three faculty members of the Riphah International University Faisalabad Campus, psychology department was formulated. All the experts were proficient in both source (i.e. English) and target (i.e. Urdu) language.

Forward and Backward Translation

All the standard procedures of forward and backward translation as given by Hambleton (2005)⁹ were followed. After completion of forward and backward translation the bilingual expert panel examined and review the final draft of back translation and compared it with the original version of KADS the unsatisfactory items were rephrased by committee to enhance

the construct, linguistic, and the technical equivalence of the scale.

Cross Language Validation and Reliability Estimation

After the completion of translation and adaptation procedures, a study was conducted to check whether the translated version is conceptually equivalent to the original version or not. The study was conducted by using single group bilingual. This design involves the administration of two different language versions (original and targeted) of the scale to a single group of bilinguals.¹⁰ At this step of the study a sample of 120 (70 boys & 50 girls) bilingual adolescent with the age range of 11 to 19 years (mean age=15 years) were selected through applying purposive sampling technique. Both the version of KADS (Pakistani & original) was administered to participants after the interval of 15 days.

In the second stage, the test re-test reliability with the inter test interval of fifteen days, split half reliability was calculated on the sample of 120 adolescents between the age range of 11 to 19 years with mean age of 15 years. The internal consistency was calculated on the sample of 416 adolescent (216 boys & 200 girls) with the mean age of 15 years.

RESULTS AND DISCUSSION

Cross language validation

The equivalence between Urdu and the original English version of KADS was calculated; the results are revealed in Table 1 and Table 2. The correlation of all items of the Urdu and English version shows significant correlation with the original English version at the alpha level of 0.01.

Table-1: Linguistic Equivalence (Inter Item Correlation) of Urdu and English Version of KADS (N=120)

Item	Correlation
1	.715**
2	.606**
3	.563**
4	.668**
5	.667**
6	.703**
7	.728**
8	.615**
9	.540**
10	.696**
11	.581**

Note. N =120, 15 days interval, ** p<.01

Table-2: Linguistic Equivalence (total item) of Urdu and English Version of KADS (N=120)

Scale	M	r	Significance
Original Version	17.91	.748**	.01
Urdu version	15.51	.728	.01

Note. N=120; 15 days inter test interval for Urdu version

Table-3: Estimation of Cronbach's alpha of Urdu version of KADS (N=416)

Scale	Cronbach's Alpha	Significance
KADS	.735**	.01

Note. N=416,10 days inter test interval for Urdu version

Table 3 showed Cronbach alpha reliability of scale that means its reliable measure for the assessment of depression in adolescents. Alpha reliability coefficient of the scale is 0.735, which indicated a good range of reliability Cronbach's

alpha reliability coefficient normally ranges between 0 and 1. The closer the coefficient is to 1.0, the greater is the internal consistency of the items (variables) in the scale.¹¹

Table-4: Estimation of test-retest results of Urdu-version of KADS (N=120)

Scale	Urdu version	Significance
KADS	.718 **	.01

N=120 * Correlation is significant at .01 level.

Internal consistency or the inter-correlation among the items as a basic method to explore the reliability of the construct¹² which is measured by test re test method. It represents appropriate value for test.

Temporal stability

The test-retest estimates were obtained with an interval of 10 days between first and second

administration of the Urdu version of KADS. Pearson product moment coefficient of correlation was obtained between the scores obtained by the same person on two administrations. The test-retest estimates support the temporal stability of the Urdu version of KADS as demonstrate in Table 5.

Table-5: Split Half Reliability of KADS (N=416)

Scale		r	Significance
Cronbach's Alpha	Part a	.687	.01
	Part b	.598	.01
Correlation between Forms		.491	.01
Spearman-Brown Coefficient		.717	.01
Gutman Split-Half Coefficient		.717	.01

Table-6: Kaiser-Meyer-Olkin and Bartlett's Test of Sphericity

KMO	Bartlett's Test of Sphericity		
	Chi-Square	Df	Sig.
Kutcher adolescents Depression Scale	0.898	3329.839	465 .000

Note: ** $P < .01$

Reliability studies

Reliability study was done through split half and test-retest reliability. The test-retest reliability estimate for the Urdu version of Kutcher Adolescents' Depression Scale was achieved as 0.718 that is statistically significant at 0.01 probability level. These results indicate consistency of the Urdu version of KADS. Result of inter item correlation is 0.728** that is significant at the 0.01 alpha level. Cronbach's Alpha (Table 3) is 0.735 that is significant at 0.01 alpha level. The split half reliability (Table 5) of the Urdu version of KADS was obtained as 0.717. Results show high internal consistency between two halves such as even and odd numbers items of the scale. Further, there is significant correlation between two halves of the scale is 0.687.

Exploratory Factor Analysis loading for KADS

First of all, KMO (Kaiser-Meyer-Olkin) index is conducted to measure the sampling adequacy and sphericity statistics test whether the correlation among the variables is too low for the factor loading to be appropriate¹³ KMO measure should be greater than 0.7 and its adequate if below the 0.5. The analysis of our collected data shown KMO is 0.89 which is highly significant showing appropriate sampling adequacy.

CONCLUSION

As the developing and under developed societies lack opportunities and support for their members in the light of their needs and demands. Therefore, the risk for the development of psychological problems especially in children and adolescents may increase. At this stage the lack of availability of diagnostic tools in their native language and cultural perspective is the major hindrance that is faces by clinicians of these particular societies. In order to overcome

this problem and fill the gap on priority, most of the mental health professionals in Pakistan practice to translate and adapt the already available standard psychological instruments developed in other cultures especially in the west. In the present study, we validated the KADS in the native language of Pakistan (i.e. Urdu) on the student adolescents of age between 11-19 years. In this process, first the forward and backward translation procedures were strictly followed by using 'single group bilingual design', secondly the team of experts in psychology identified the variations in the statements of the scale in the light of our culture and careful content comprehensions were also analyzed. Lastly the estimations of psychometric properties were calculated by using the quantitative methods.

The adequate estimates of reliability of the Pakistani version of KADS suggested that it can be considered a useful instrument to assess the different dimensions of depression symptoms within the context of our culture. It can also be beneficial for mental health professionals, especially parents and teachers in educational settings. Moreover, the KADS would help them to identify or diagnose the Depression related problems in the early stages of adolescence, as the early intervention might help to prevent the development of the disorder among this vulnerable group. Further the Pakistani version of KADS also provides the base for the development of scales for measuring the construct of Depression among children and adolescents in Pakistan and useful in future studies exploring the etiology and development of depression.

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