



Urdu Translation and Validation of Academic Resilience Scale in Pakistani School Students

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Abstract

The present study was conducted to translate and validate the Academic Resilience Scale (Martin & Marsh 2006) in Urdu on Pakistani school students. For this purpose, forward and backward translation method (Brislin, 1976) was utilized to translate original English version into Urdu. Urdu version had high test-retest reliability coefficient i.e., $r = .903^{**}$. For validation, a sample of 340 students was selected conveniently from different schools Multan, Pakistan. Exploratory factor analysis (EFA) was performed to measure the factor structure of scale and it was discovered to be one-dimensional. ARS – Urdu version had significantly good reliability coefficient ($\alpha = .843$). The scale validity and reliability were found to be satisfactory. Therefore, its findings demonstrated that it is appropriate for measuring academic resilience of school students.

Keywords: Academic resilience, school students, scale translation and validation



Introduction

Resilience has been defined as successfully coping with or overcoming adversity or risk (Hartmann et al. 2020; Doll & Lyon, 1998) or to develop the positive acclimatization in the framework of excellence (Luthar et al., 2000). Today, some scholars consider resilience as domain-specific. In this context, resilience has many dimensions, including behavioral, academic, and emotional. With this, academic resilience receives more attention. Whereas, academic resilience (AR) is explained as an increasing academic success despite environmental problems brought by early experiences, traits and circumstances (Wang & Gordon, 2012). Resilient children maintain high levels of motivation for success and performance; despite stressful events and poor school performance and the fear for eventual dropout (Rudd, et al. 2021; Alva, 1991).

Waxman et al. (2003) state that in adverse situations resilient individual explore factors and processes that limit stress-related destructive behaviors and lead to adaptive results. The worth of resilience researches has been discussed to explore the differences between weak and strong students and highlight the transformative features of designing more operational academic interventions. They argue that a focus on academic adaptability can bridge the gap between successful and unsuccessful students. AR has received increased attention in the school setting in recent years due to its link with academic success and school-related adjustment (Rachmawati et al., 2021; Martin & Marsh, 2006; Martin, 2002). Despite the obstacles, resilient students appear to be able to effectively handle stressed school environment, retain highest level of inspiration, and achieve high-level of performance (Romano et al., 2021; Gabrielli et al., 2022; Ononye et al., 2022)

Therefore, in this study Martin and Marsh (2006) Academic Resilience Scale (ARS) has been used to translate and validate. This scale centers on students' positive ability that how they handle the stressful and problematic situation of their academic life. This measure of academic resilience is chosen due to its easy-to-apply structure, which includes a few numbers of items. In addition, ARS is proven valid and reliable in its original English version. In the present study the psychometric properties of the ARS is going to be tested for student studying in high school.

Objectives of the study

1. To translate ARS in Urdu.
2. To establish the psychometric properties of the Urdu version of ARS.

Literature Review

Surzykiewicz et al. (2019) stated that resilience has been researched by educationists in their efforts to find out the elements that put some students at danger of academic failure and to encourage the elements that protect against these failures. Students should be encouraged to develop the resilience skills that have been identified in the literature.

Resilient students succeeded academically because they have confidence in their ability to comprehend the concepts taught in class and perform well on assignments and assessments (Jardim et al., 2021).

Martin and Marsh (2006) conducted a study on 402 school students to develop a unidimensional Scale of AR. The study came to the conclusion that it is important to apply particular treatments and behaviours aimed at boosting students' academic resilience. Student self-efficacy, control, persistence, planning, and anxiety should be the focal points of any intervention meant to improve students' academic resilience. To improve students' academic resilience, practitioners might employ a variety of techniques.

Kapikiran (2012) researched on 378 high school students, in order to ascertain the validity and reliability of the academic resilience measure in Turkish high schools. A significant level of the scale's validity and reliability attained a significant level. The scale was proven to be appropriate for measuring high school adolescent academic resilience levels.

Khalaf (2014) evaluated the psychometric properties of the ARS among 100 Egyptian university students. It also explored the relationship between academic success and gender variations in academic resilience. EFA findings demonstrated significant level of validity and reliability of the scale. Academic resilience was shown to be statistically different between male and female students.

Methodology

Research design

Cross sectional research design had been utilized in this study.

Sample I

The sample was 30 students, (15 boys and 15 girls), aged 10 to 15 years ($M = 12.10$; $SD = 1.79$), from different school of Multan. Participation was voluntary and anonymous. Sample one was used for the first pilot test of the Urdu translation of scale.

Sample II

Sample of 340 students was drawn for the validation of translated measure. Clark and Watson (1995) proposed using minimum of 300 respondents after initial pre-testing. Green (1991) suggested in order to generalize the results the sample size should be large enough to avoid the risk of not generalizing on a specified population. Therefore, the sample size of 340 school students (160 girls and 180 boys) with an age falling in the range of 08 to 15 years ($M = 12.53$, $SD = 1.10$) selected which seems to be adequate. Sample II participants were selected on voluntarily basis from different schools of Multan, Pakistan.

Instrument

Academic Resilience Scale (ARS). In 2006, Martin and Marsh developed a six item ARS. It is based on a Likert 7-point format that ranges from "not true of me at all" to "extremely true of me". ARS refers to 'students' capability to effectively deal with setbacks, challenges, adversity, and pressure in the academic setting". The reliability of the ARS calculated through Cronbach's Alpha coefficient i.e., 0.89.

Translation Process

ARS (Martin & Marsh, 2006) was translated in Urdu by two psychologists and one bilingual. A standardized procedure of forward and backward translation given by Brislin (1976) was used to translate the scale with the consent of authors of the scale.

The procedure for translating ARS was divided into the following steps:

1. Forward Translation is the first step, the scale was translated from English to Urdu language by following parallel back translation procedure in which, three individuals

- translated ARS from English to Urdu. To obtain the Urdu version of original scale. Therefore, at the end of the first step, there were three versions of translated ARS.
2. Reconciliation of items is the second step. To get the most appropriate translated version, compared and coordinated three independent forward versions to ensure clarity, detect language errors, and ensure cross-cultural equivalence, by a panel of experts. Finally, forward translations were adjusted, including the most favorable translation of the items, each item is chosen by all expert consensus after expert discussion and minor revisions of the scale item, and the final version for scale is created.
 3. Back Translation is the third step. The basic purpose of this step was to achieve the conceptual compatibility of reconciled translated and original versions of the ARS. The finalized Urdu translation of ARS was again translated back into English by a bilingual expert, who was unaware with the original version. This was done to make sure the Urdu translation of ARS was accurate, reliable and valid without linguistic biases.
 4. Comparing Source Language and Target Language versions. In this step, the back-translated version is compared to the original. This process involves associating the translated version of Urdu with the original English and reverse English version. This helps to assess the quality of the Urdu translation to determine its empirical equivalence to the original.

Procedure

For the collection of data school students were recruited through convenient sampling. A brief description about the study and instructions about the how to fill the questionnaire were provided to them. All questions regarding instrument were addressed and participants were requested to answer honestly all questions asked in questionnaire leaving no question unanswered. The participants were guaranteed of the confidentiality and privacy of given information which was to be used for research purposes only. Therefore, Informed consent was taken from the students. Data was analyzed using SPSS 23 by giving correct codes to each variable chosen for the research and using descriptive statistics, Exploratory Factor Analysis (EFA), and reliability analysis.

Results

Table-1

Inter Correlations among Urdu and English version of ARS (N=15, 15)

Scales	Group	Versions of Scale	Correlation
ARS	1	English – Urdu	.889**
	2	Urdu – English	.816**

**Correlation is significant at the 0.01 level.

Note. Table 1 depicted a significant positive correlation among the English original and Urdu translated versions of ARS. It indicated a cross language validity of Urdu version of ARS and showed that both original and translated versions were conceptually reliable measures of academic resilience.

Table-2

Test - retest reliability of Urdu version of ARS (N=30)

Scales	K	Test-retest
ARS	6	.903**

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

Note. Table 2 showed a significantly high test - retest reliability of ARS ($r = .903^{**}$). This clearly depicted that ARS produce highly consistent scores over time.

Table-3

Item to Item Correlation between Original English and Urdu Translated Version of ARS (N=30)

Item	R
1	.97**
2	.89**
3	.92**
4	.95**
5	.85**
6	.91**

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

Note. Table 3 showed the item-to-item correlations between the English and translated Urdu version of Academic Resilience Scale. Statistics indicated that item #1, 3, 4 and 6 of English and translated Urdu resilience scale have a very strong correlation i.e. $r \geq .90$. Item # 2 and 5 have strong correlation i.e. $r \geq .8$. Means all the items in the translated Urdu version of ARS were highly similar to the English version of ARS.

Table-4

Internal Consistencies, of Urdu Translated Scales (N=340)

Scales	K	α
ARS	.6	.843

Note. Table 4 depicted the ARS was internally consistent measures and had significantly good reliability i.e $\alpha = .843$.

Table-5

KMO and Bartlett's Test of ARS (N = 340)

Kaiser-Meyer-Olkin Measure of Sampling Adequacy	0.681
Brtlett's Test of Sphericity	Approx. Chi-square 1235.811
Sig.	.0000

Note. Table 5 indicates significant results of KMO and Bartlett's test. As Bartlett's sphericity test p -value less than 0.05, KMO value between 0 and 1, and values greater than 0.6 are said to be globally accepted.

Table-6

Factor Loading for Exploratory Factor Analysis by using Principal Components Analysis of ARS (N = 340).

Items	ARS
ARS1	.822

ARS2	.713
ARS3	.793
ARS4	.896
ARS5	.607
ARS6	.677

Note. Table 6 indicated the factor loading for exploratory factor analysis by using Principal Components Analysis of ARS factor loadings were in the range of .607 to .896, which were significant.

Discussion

The purpose of this study was to translate, cross validate and confirm the factor structure of ARS (Martin & Marsh, 2006) in Urdu language on Pakistani students. Academic resilience is an important aspect of student educational environment. So that sample of the study could easily comprehend and understand the items of the scale according to their culture and norms which was required for accurate assessment of the phenomenon.

Therefore, the result of test- retest reliability of ARS was significantly good ($r = .903^{**}$). The item-to-item correlation between original English and Urdu versions of ARS, depicted in table 3, was also strongly correlated. The strong relationship between translated items and original items demonstrated that the translation kept the true sense of the statements and that the targeted sample had no difficulty in understanding these items.

Therefore, reliability of ARS was calculated through Cronbach 's Alpha in order to examine the consistency of response given by respondents for the items. According to the criteria which is proposed by Cortina (1993), the reliability of ARS ($\alpha=.843$) was founded above the acceptable range (i.e., $\geq .7$), thus Ng, et al., 2020 Meneghel, et al., 2019, Njoki, 2018; Khalaf, 2014 and Kapikiran, 2012, yielded similar results so the scale was consistent in measurement and reliable for further process.

Thus, to verify whether the factor analysis would be appropriate for Urdu translated scale, the following were performed: (a) 'Bartlett's test of sphericity and (b) the 'Kaiser-Meyer-Olkin (KMO) index'. The result of Bartlett's test of sphericity, with $p < 0.05$ for the ARS was thought to be ideal for the significance level of analysis. This demonstrated the existence of strong correlations between the variables



(Hair et al., 2010; Shrestha, 2021). The KMO index confirmed the sample's adequacy with values above .60 for the scale, i.e. 0.681. Thus, Exploratory Factor Analysis results demonstrated that ARS is a unidimensional scale, these findings are consistent with the original English version of ARS (Martin & Marsh, 2006) and the factor loadings were in the range of .677 to .896, which were significant.

Therefore, the findings demonstrated that the Urdu language translated version of the ARS produces acceptable psychometric results and given evidence for the confident use of translated scales in educational settings and future research.

Conclusion

This showed that the Urdu versions of the scales are reliable and valid measures to assess the phenomenon of AR in Pakistani students. The most significant contribution of this is to provide such measures to educational psychologist researchers who are actively involved in such studies focusing on the academic related variables in Pakistan. In order to develop positive intervention and preventive strategies for students such measures would be helpful.

Limitations and Suggestions

The main limitation of this study was the sample. This sample might not be representative of the whole Pakistani students as it was only limited to one city. Future research should focus on countrywide data to increase the generalizability of the findings. The scale employed in this research should be verified on a larger and more diverse population.

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