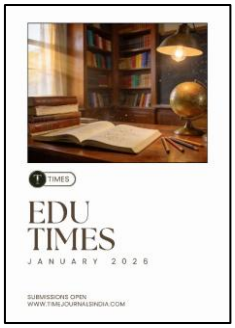
Research Article



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Adaptation of Academic Buoyancy Scale in the Indian Context among Students of Senior Secondary Level

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ABSTRACT

The purpose of this study was to validate the Academic Buoyancy Scale in the Indian setting. The Kapurthala area of Punjab, India, was the site of this test. Data was collected from 260 senior secondary students from different schools in the humanities, science, and commerce programs. Two components of the scale were developed as a result of PFA and CFA. At normalized standards, the estimates of different evaluations were high. In the Indian setting, the tool's dependability was excellent and adequate. The Indian setting was a good fit for this scale.

KEYWORDS: Academic buoyancy scale, Adaptation, India, Senior secondary school, Students

1. INTRODUCTION

The students' buoyancy is an essential element in adapting to the education difficulties (Martin and Marsh, 2008). Martin (2008) defines the academic buoyancy as a term to describe the ability of students in the successful integration of problems after failures in education by factors such as self-efficacy, commitment and improved control.

Webster's dictionary defines "buoyancy" in its second meaning as the property of an individual of recovery from depression or despair quickly. Typically, the resilience deals with a small group of students who experience very serious problems, while a large population of students experiencing academic challenges is often ignored. The researchers suggested that these challenges reflect the "academic buoyancy" that is apart from severe and chronic academic problems related to traditional structure of resilience (Masten, 2007; Rutter, 1985; quoted in Barnett, 2012). Academic buoyancy of students was significantly predicted by personal best goal. The researcher collected the required data from 249 students of high school. The data was collected two times in the year that is in the beginning and end of the session. Results of the research explained that along with academic flow and positive social interaction academic buoyancy was predicted by personal best goal of student (Arief et al., 2012). In the study conducted by Martin, it was clear from the results that buoyancy was predicted by self-efficacy, anxiety, academic engagement, uncertain control and relationship between student and teacher. Out of these predictors anxiety was negatively associated with academic buoyancy (Martin & Marsh, 2008). Academic buoyancy was formed from academic resilience to distinguish the small but important resilient students that have allocated the highest degree of attention in terms of education and the majority of students that often experience trivial problems and difficulties but with lower extent and type in the same continuum. The students with academic buoyancy were unknown in the research works since Martin and his colleagues studied this phenomenon (Karimi Qarmatani, 2012).

2. REVIEW OF LITERATURE

The exhaustive literature review, it was evident that the academic buoyancy was found to be a potent element in academic journey of students. Academic buoyancy was found to be affected by motivation (Martin and Marsh, 2008; Martin, 2010; Bostwick et.al, 2022), self-efficacy (Martin, 2008; Nurafifah et. al., 2010; Reisy et al., 2014; Bermany, 2022). Academic buoyancy negatively affected by anxiety (Sihotang & Nugraha, 2021), test-anxiety (Putwain et al., 2012; Putwain & Daly, 2013; Symes et al., 2015). It is also negatively related to psychological risk (Martin et al., 2013) and school related stress (Hirvonen et al., 2019). Academic buoyancy was also found to be related to personal best goal (Liem et al., 2012; Yu & Martin, 2014) and student's wellbeing (Miller et al., 2013). In addition to this, academic buoyancy playing an important role in achievement (Martin, 2014; Lei et al., 2022; Granziera et al., 2022; Miller et al., 2013). the academic buoyancy also influenced by teacher's emotional support (Granziera et al., 2022), engagement (Bostwick et al., 2022; Azadianbojnordi et al., 2022; Ershadi, 2020; Farhadi, 2016), thinking pattern centre (Al-kubais, 2022), emotional intelligence (Thomas and Allen,

2020), adaptability (Azarian et al., 2020), self-belief (Dahal et al., 2018) and positive youth development (Bakhshaee et al., 2016). Academic buoyancy's protective effect against students' exhaustion in the classroom might be attributed to social support (Fu, 2024). It was also related to the positive psychology (Diert-Boté & Moncada-Comas, 2024). So, academic buoyancy is a very important factor for the better achievement and stability of the students. therefore, research on this particular subject is the need of hour. Hence, for assessing the buoyancy of the students, the academic buoyancy scale must be validated in Indian context.

3. METHODOLOGY

Participants

The participants of this research were the students of senior secondary level (N = 235). The sample was consisted of students from all streams that is science (medical and non-medical), commerce and arts. The study was delimited in Kapurthala district, Punjab, India. The data was collected by purposive sampling technique.

Table 1. Items of Academic Buoyancy Scale (Martin & Marsh, 2008)

Sr. No.	Items
1	I don't let study stress get on top of me
2	I think I'm good at dealing with schoolwork pressures
3	I don't let a bad mark affect my confidence
4	I'm good at dealing with setbacks at school (eg. negative feedback on my work, poor results)

Instrument (Academic Buoyancy Scale)

The objective of the current study was to validate the Academic Buoyancy Scale developed by Martin and Marsh (Martin & Marsh, 2008) in Indian context. This scale consisted of four items given in the table 1.

The participants had given their responses on seven-point Likert Scale that is 1 (Strongly Disagree) to 7 (Strongly Agree).

Procedure

Consent to direct an approval concentrate on the SCS device was looked for and acquired from the principal creator through email. After getting permission from the administrator of the institution, the questionnaires were distributed among the students. The reason for the visit was disclosed to the understudies. The directions on the filling of the responses were plainly given to the subjects and their assistance in the social affair of the information was looked for and it was very much valued. The understudies took around 15-20 minutes to fill the survey and afterward they returned it to the researcher.

4. RESULTS

Reliability analysis

Reliability concerns the degree to which an estimation of a wonder gives stable and comprise result (Carmines and Zeller, 1979). Reliability is also concerned with repetition. For example, a scale is reliable if the results of the repeated measurement come out to be same under the same conditions (Moser and Kalton, 1985). There will be high degree of internal consistency if the test measures the same construct and the items of the test are related to each (Robinson, 2010). For the calculation of reliability, generally, Cronbach Alpha coefficient is used. It is best suitable for the "Likert scales". The most suitable value of the coefficient for a scale is .70 (Robinson, 2010). In case of a pilot study the value of the coefficient may also be (Straub et al., 2004). Hinton et al. (2004) have recommended four values of reliability, a) "magnificent reliability" (0.90 or more), b) "high reliability" (0.70-0.90), c) "moderate reliability" (0.50-0.70) and d) "bad reliability" (0.50 and below) (Hinton et al., 2004). In this study, the value of Cronbach's alpha was found to be 0.799 (table 2). The value of the reliability coefficient was very much acceptable.

Table 2. Value of Cronbach's Alpha for Academic Buoyancy Scale

Reliability Statistics

Cronbach's Alpha	N of Items
0.799	4

Factor analysis

The value "KMO" should be greater than 0.5. In the current study, the value of "KMO" was found to be 0.795 (table 3), which very good and acceptable.

Table 3. Values of "KMO" and "Bartlett's Test of Sphericity" for Academic Buoyancy Scale

KMO and Bartlett's Test		
"Kaiser-Meyer-Olkin Measure of Sampling Adequacy".		0.795
"Bartlett's Test of Sphericity"	Approx. Chi-Square	302.883
	Df	6
	Sig.	0.000

On the other hand, the value for "Bartlett's Test of Sphericity" (P value) should be less than 0.001. this value decides the nearness of significant connections among variables. In the current study its value is less than .001 (table 3) and it was acceptable.

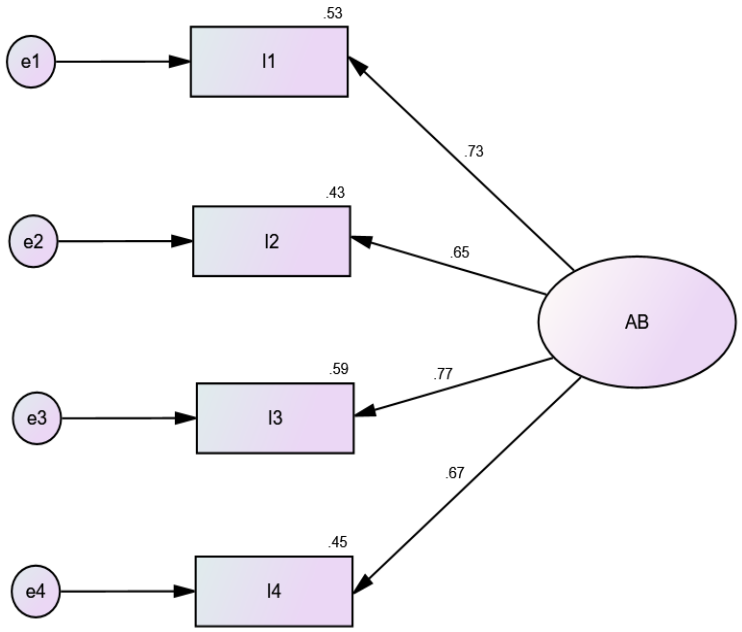
Table 4. Component extraction of four items of Academic Buoyancy scale by principal component analysis

Total Variance Explained						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.497	62.421	62.421	2.497	62.421	62.421
2	.560	13.999	76.420			
3	.510	12.748	89.168			
4	.433	10.832	100.000			

Component Matrix[a]

	Component
	1
I3	0.804
I1	0.759
I2	0.822
I4	0.773

Confirmatory Factor analysis



From table 6, it was evident that all the estimates of model fitness were good and acceptable. The value for "CMIN" is less than 3 (.061), value for "RMSEA" was less than .08 (.000), value for "RIF" was greater than .90 (.999), value for "IFI" was greater than .9 (1.006), value for "TLI" was greater than .9 (1.019) and value for "CFI" was also greater than .9 (1.000). all these estimates proved that the current model was good and acceptable. The fitness estimates of the model are as follows.

Table 6. Fitness estimates for Academic Buoyancy Scale

"Measure"	P value	"CMIN/DF"	"RMSEA"	"RFI"	"IFI"	"TLI"	"CFI"
Benchmark	> 0.05	< 3	<0.08	>0.90	>0.90	>0.90	>0.90
Result	.94	.061	.000	.999	1.006	1.019	1.000

5. DISCUSSION

The aim of this research was to adapt the Academic Buoyancy Scale (Martin & Marsh, 2008) in Indian context. The results of the research were very much acceptable. Reliability analysis, factor analysis and confirmatory analysis gave the awesome results. The need to conduct this research was originated from the fact that, our Indian education system is very stressful for the students. In many parts of India, the poor education performance is due to absentee of teachers, incompetent teachers, poor teaching learning process and lack of teaching aids (Dey & Bandyopadhyay, 2019). Another factor is that in Indian rural schools the students generally dropped out due to poor economic infrastructure. Students have been faced double pressure, that is pressure from family and from school

(Thapa & Sarkar, 2019). The pressure of competition in modern India creates a stress and anxiety in students (Verma et al., 2002). Depression and anxiety are very common in Indian students due to academic stress (Reddy et al., 2018). So as to fight with these problems in India we have to boost the academic buoyancy of the students. So, there is a great need of an instrument to measure the degree of academic buoyancy.

6. CONCLUSION

This instrument needs to experience the further examinations in various societies and diverse age bunches in India in various populaces and distinctive scholarly settings. There is an extraordinary need of such apparatus for senior auxiliary level since school atmosphere impacts the scholastic execution of the understudies. As we realize that the eleventh and twelfth is the most significant stage for the understudies as far as profession. In this manner, to improve the instructive execution of the understudies the atmosphere of the school ought to be good. Thus, we should have such instrument for senior optional level understudies, with the goal that the atmosphere of the school can be surveyed and required advances can be taken.

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