

## Dimensional Analysis of the Academic Resilience Construct with Respect to Gender in Secondary School Students

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**Abstract:** The present study tries to investigate the role of gender on the construct Academic Resilience and its Dimensions among secondary school students of Jammu and Kashmir state. The study consists sample of 275 secondary school students from three districts of the state of Jammu and Kashmir were the sample. The tool used in the study was ARS-MMKS (2016) prepared by Mallik and Kaur. Descriptive correlational survey design was adopted. Statistical techniques like mean, standard deviation, were used for data analysis under descriptive statistics. T-test was used under inferential statistics. No significant difference between the means of Academic Resilience construct and its dimensions with respect to Gender was found, expect the dimension motivation and ability to achieve goals. This dimension, Motivation and ability to achieve goals, is found significant in favour of girls. The rest of the dimensions are found to have no significant difference with respect to gender.

**Keywords:** Dimensional analysis, gender, academic resilience, dimensions of academic resilience, secondary school students.

### Introduction

Resilience in life is usually thought of as a "positive adaptation" when a person faces a difficult or stressful situation caused by routine stress. When unfortunate incidences take place in life of an individual, it is the show to strong determination and strength of character that can pull the person out of the situation and making a comeback. Psychologically, this trait is called resilience. It is defined as "the process of, capacity for, or outcome of successful adaptation despite challenging or threatening circumstances (Mastan et.al., 1990, p.426)". When a parallel of such a vital variable is searched in the literature of educational sciences, we come across the

construct of academic resilience, proposed by (Colp and Nordstokke, 2014). It is defined as “a capacity to overcome acute and/or chronic adversity that is seen as a major threat to a student’s educational development (Martin, 2013, p. 488)”.

While the body of research on resilience was in a developmental phase, the professionals predicted certain vital qualities in an individual showed growth while surviving under significant trauma (Rutter, 1985). These valuable qualities comprised what came to be known as ‘protective factors’, defined as, “influences that modify, ameliorate or alter a person’s response to some environmental hazard”(Rutter,1985,p.600).As a result, the elements, adversity, protective factors and positive attitude must be evaluated while measuring resilience as proposed by (Sarkar and Fletcher, 2013).

According to Stein (2008), one of the protective factors which promote resilience, ultimately leading to academic success is gender. Remier (2002) mentioned that several studies have related gender with academic resilience. However, the results are mixed when studies from different cultures on the subject, are explored. For instance, Mwangi and Ireri (2017) found that academic resilience trait is more in girls. Lees (2009) found it to be more in boys.

Overall, studies on the impact of gender on resilience show mixed results. According to a study Moussavi and Askari (2010), in Shiraz university where 276 male and female students were observed, it is found that resilience was higher in female students as compared to male students. In the Turkish context, Mousavi and Aksari (2010) found that girl students have more academic resilience than boys at the tertiary level.

The results obtained on any related topic obtained in multiple cultures have a lot to do on the tools used to measure the construct in the study. In the present study, the researchers tried to explore the role, the Indian tool Academic Resilience Scale – Mallick and Kaur (2016) had to play, in measuring the relationship between the construct and gender in the Indian context.

This study tried to investigate the difference between academic resilience construct of gender in the Indian context. The construct has five dimensions using the 52 reflective indicators or items of the instrument. This is owing to the fact that various tools are constructed based on

multiple theories and the identification of the dimensions integrated in the tool is done accordingly.

Some of the research findings related to the role of gender and academic resilience in multiple cultures are discussed as below

A study done by Perez et al (2009) on 104 undocumented immigrant Latino students found that students with high level of personal and environmental protective factors will have higher academic than that resilience who have lower protective resources.

## **Operational Definitions**

### **Dimensional Analysis:**

“The principle of dimension analysis is to deduce from a study of the dimensions of the variables in any physical system, certain limitations in the form of any possible relationship between those variables” Bridgman (1969).

### **Resilience:**

It is defined as “a process of, capacity for, or, outcome of successful adaptation despite challenging or threatening circumstances” Mastan et.al (1990, pp.426).

### **Academic resilience:**

It is defined as “a capacity to overcome acute and/or chronic adversity that is seen as a major threat to student’s educational development” (Martin 2013, pp.488)

### **Gender:**

Gender refers “to the attitudes, feelings, and behaviours that a given culture associates with a person’s biological sex. (American Psychological Association).”

### **Research Objectives:**

1. To study the significance difference between boys and girls with respect to the dimension academic confidence of the construct academic resilience in secondary school students.
2. To study the significance difference between boys and girls with respect to the dimension sense of well-being of the construct academic resilience.
3. To study the significance difference between boys and girls with respect to the dimension motivation and ability to get goals of the construct academic resilience.

4. To study the significance difference between boys and girls with respect to the dimension relationship with peers and adults of the construct academic resilience.
5. To study the significance difference between boys and girls with respect to the dimension emotional regulation and physical health of the construct academic resilience.
6. To study the difference between boys and girls with respect to the construct academic resilience.

### **Research Hypotheses:**

1. H<sub>0</sub>: There is no significant difference between boys and girls with respect to the dimension academic confidence of the construct academic resilience in secondary school students.
2. H<sub>0</sub>: There is no significant difference between boys and girls with respect to the dimension sense of well-being of the construct academic resilience in secondary school students.
3. H<sub>0</sub>: There is no significant difference between boys and girls with respect to the dimension motivation and ability to get goals of the construct academic resilience in secondary school students.
4. H<sub>0</sub>: There is no significant difference between boys and girls with respect to the dimension relationship with peers and adults of the construct academic resilience in secondary school students.
5. H<sub>0</sub>: There is no significant difference between boys and girls with respect to the dimension emotional regulation and physical health of the construct academic resilience in secondary school students.
6. H<sub>0</sub>: There is no significant difference between boys and girls with respect to the construct academic resilience in secondary school students.

### **Significance of the problem:**

All over the world, boys and girls are different in academic resilience. A study conducted by Reimer (2002) found that gender is a vital factor in finding resilience, however, the results are mixed in nature. Mousavi and Askari (2010) found that girls possessed more academic resilience than boys in Turkey, and mostly this is case in other contexts too. Sun and Stewart (2007) stressed on the need of further research studies on the role of gender on academic resilience construct.

The significance of this study is, that considering the gender of male and female student of secondary school students in India (Jammu and Kashmir) and it would be the first research study in India to find out gender difference of academic resilience, whether academic resilience is higher in boys and girls. The purpose of this study is being the researchers aim to find out the differences in academic resilience with respect to gender. Also, the researcher intends to find the relationship academic resilience has with its dimensions, to confirm the validity of these dimensions in measuring the construct.

### **Population for the study**

The population in the present research comprised of the secondary school students in three districts Shopian, Kulgam and Pulwama of Jammu and Kashmir state

### **Sampling and methods**

The researcher used simple random sampling in the present study while selecting the students from govt. and private schools in three schools of located in the districts Kul gam, Shopian and Pulwama of Jammu and Kashmir state. Here, the students from VIIIth and IXth classes of the Jammu and Kashmir state formed the population of the study. Out of the 22 districts of the state, the districts of Kulgam, Shopian and Pulwama found the sampling frame of the study. Three schools, namely, Shaikh Nooruddin Noorani English Medium School, Imam Sahib, Govt. Higher Secondary School, Arihal, Pulwama and Hanfia Model Institute, Mohammad Pura, Tazi pura, Kulgham district formed the sample of the study.

### **Participants**

The study constituted 275 student participants from Kashmir division of Secondary school students in Jammu and Kashmir State. These students belong to three respective districts (Pulwama, Shopian and Kulgam) of secondary school students.

### **Statistical Techniques**

Apart from mean, standard deviations and standard error, t test was used under inferential statistics to find the mean difference in academic resilience construct between boys and girls with its dimensions. All the statistics are computed using SPSS Ver.23.

**Procedure:**

The researcher approached the selected schools of the three districts, with the permission letter from the institution of study, Lovely professional university. Permission is granted to enter the premises of the schools and interact with the Principals. These authorities were explained the purpose of the visit, involving collection of responses to the 52 items of the research tool, as data. An assurance on complete cooperation of the teachers in the classroom during data collection was obtained from the Principals. Dates of visit to the respective schools were finalized. On the chosen dates, the researcher personally visited the school and introduced himself to the secondary school students. These students were provided the instructions on filling the questionnaire. The students took an hour to fill the tool and hand it over to the researcher. The presence of regular teachers in the classroom during the administration of the test added to a sense of discipline in the students as they filled the tool.

**Tool for the study**

The present descriptive research is based on 52 items of ARS-MMKS scale by Dr. Mihir Kumar Mallick and Ms. Simranjit Kaur. The researcher personally visited the schools and administer the tool ARS-MMKS scale by Dr. Mihir Kumar Mallick on the secondary school students, after taking formal permission from the Principals of the chosen schools.

The tool used in the study is the Academic Resilience Scale (ARS-MMKS(2016) prepared by Dr. Mihir Kumar Mallick and Simranjit Kaur the tool has 52 items to measure the academic resilience and the response of the student is reported in the form of a “5-point Likert scale ranging from 5=strongly agree to 1= strongly disagree”. The score of the students for the 52 items ranges from 30 to 150. The scale’s internal consistency measured using *Cronbach’s alpha* is found to be high at **0.78** and the tool has *discriminant validity*. The five dimensions of the scale with their respective items are as given on next page.

**Dimension wise and type wise distribution of items in final draft of the scale**

Sr. No	Dimensions	Nature of items	Serial wise item No	Total no of items	Total
I	Academic confidence	Positive items	1,2,3,4,5,6	6	08
		Negative items	7,8	2	
II	Sense of well-being	Positive. items	9,10,11,12,13,14,15 16	8	10
		Negative items	17,18	2	
III	Motivation and ability to get goals	Positive items	19,20,21,22,23,24 25,26	8	10
		Negative items	27,28	2	
IV	Relationship with peers and adults	Positive items	29,30,31,32,33,34,35,36	8	10
		Negative items	37,38	2	
V	Emotional regulation and physical health	Positive items	39,40,41,42,43,44,45,49,50,51,52	11	14
		Negative items	46,47,48	3	
	Positive items= 41 Negative items=11		Total items	=	52

**Description of the Five Dimensions:**

**Academic Confidence:** It refers to having a definite expectancy or strong belief of student in academic field.

**Sense of Well-being:** Sense of well-being refers positive state of mind to function effectively and positive interaction with peers and teachers by a student. It focuses on academic self-concept, social integration, attentiveness in the class and positive self-attitude in adverse situations.

**Motivation and ability to achieve goals:** Motivation is an inspiration which propels somebody to action. A teacher can select motivation factor for students intrinsic and extrinsic

motivation in achieving their target of goals. Generally, motivation is known to be the drive to meet targets and process to sustain the drive.

### **Relationships with peers and adults:**

The dimension indicates that when a student's feels supportive atmosphere from their peers and teachers, he can face challenging situations in academics. More over students who feel secure, safer in the school setting and competent, establish positive connections which allow them to achieve greater satisfaction in their school work.

### **Emotional regulation and Physical Health:**

The emotional regulation can be described as an understanding and balancing of emotions and keeps to manage the emotions for combating during under pressure. Physical health is a way to maintain overall health and fitness by involving everybody into physical activities, exercise, sleep, medication and rest.

### **Scoring Procedure:**

Sr. No.	Type of items	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
I	Positive	5	4	3	2	1
Ii	Negative	1	2	3	4	5

**Scoring procedure:** This scale of academic resilience has 41 positive type and 11 negative type items and the responses in on five Likert scale which are: "1 Strongly agree 2 Agree 3 Undecided 4 Disagree 5 Strongly dis agree"

### **Measures of Central Tendency, Dispersion and Standard Error**

S.No.	Variables	Mean	Standard Deviation	Standard Error
1	Academic Resilience	3.649	0.323	0.0202
2	Academic Resilience in Boys	3.922	0.37803	0.0333
3	Academic Resilience in Girls	3.945	0.324	0.0251



4	Dimension 1	3.865	0.457	0.0286
5	Dimension 1 in Boys	3.869	0.312	0.0502
6	Dimension 1 in Girls	3.862	0.4	0.033
7	Dimension 2	3.732	0.515	0.0322
8	Dimension 2 in Boys	3.745	0.603	0.0575
9	Dimension 2 in Girls	3.722	0.438	0.0363
10	Dimension 3	3.791	0.505	0.0316
11	Dimension 3 in Boys	3.714	0.5291	0.0504
12	Dimension 3 in Girls	3.85	0.48	0.0397
13	Dimension 4	3.504	0.4785	0.03
14	Dimension 4 in Boys	3.496	0.495	0.0472
15	Dimension 4 Girls	3.51	0.466	0.0386
16	Dimension 5	3.467	0.477	0.0298
17	Dimension 5 in Boys	3.472	0.427	0.0407
18	Dimension 5 in Girls	3.463	0.512	0.0424

**Table- 3** Measures of Central Tendency, Dispersion and Standard Error

**NOTE:** Dimension 1 - Academic confidence; Dimension2 - Sense of wellbeing; Dimension 3 - Motivation and ability to get goals; Dimension 4 - Relationship with peers and adults; Dimension 5 - Emotional regulation and physical health.

**Data Collection:** The data was collected after the researcher approached the selected schools of the three districts, with the permission letter from the institution of study, Lovely professional university. Permission is granted to enter the premises of the schools and interact with the Principals. These authorities were explained the purpose of the visit, involving collection of responses to the 52 items of the research tool, as data. Here, the students from VIIIth and IXth classes of the Jammu and Kashmir state formed the population for Data collection of the study.

**Results:****Table I: Hypothesis Testing-1**

Variable		Mean	S.D,	t-cal.	Sig.	Result
Boys	3.922	0.37803	0.505	0.614		<i>H<sub>0</sub>: Accepted</i>
Girls	3.945	0.324				

\*\* - Result significant at  $\alpha=0.01$

**Interpretation:**

Boys and girls do not possess any significant difference between their mean value of academic resilience. It is because for the level of significance  $\alpha=0.05$ , the calculated t-value (0.505) is lesser than the table value of 1.96. Here the p value is 0.614 greater than 0.05. Hence, the null hypothesis is *accepted*.

**Table II: Hypothesis Testing-2**

Variable		Mean	S.D,	t-cal.	Sig.	Result
Dim 1	Boys	3.869	0.312	-0.124	0.902	<i>H<sub>0</sub>: Accepted</i>
	Girls	3.862	0.4			

\*\* - Result significant at  $\alpha=0.01$

**Interpretation:**

There is no significant difference between boys and girls with respect to their mean value of academic confidence. It is because for the level of significance  $\alpha=0.05$ , the calculated t-value (0.124) is lesser than the table value of 1.96. Here the p value is 0.902 greater than 0.05. Hence, the null hypothesis is *accepted*.

**Table III: Hypothesis Testing-3**

Variable		Mean	S.D,	t-cal.	Sig.	Result
Dim 2	Boys	3.745	0.603	-0.351	0.726	<i>H<sub>0</sub>: Accepted</i>
	Girls	3.722	0.438			

\*\* - Result significant at  $\alpha=0.01$

**Interpretation:**

There is no significant difference between boys and girls in sense of well-being with respect to their mean value. It is because for the level of significance  $\alpha=0.05$ , the calculated t-value (0.351) is lesser than the table value of 1.96. Here the p value 0.726 is greater than 0.05. Hence, the null hypothesis is *accepted*.

**Table IV: Hypothesis Testing-4**

Variable		Mean	S.D,	t-cal.	Sig.	Result
Dim 3	Boys	3.714	0.5291	2.137	0.034*	<i>H<sub>0</sub>: Rejected</i>
	Girls	3.85	0.48			

\*\* - Result significant at  $\alpha=0.01$

**Interpretation:**

There is significant difference between boys and girls in Motivation and ability to get goals, with respect to their mean value. It is because for the level of significance  $\alpha=0.05$ , the calculated t-value (2.137) is greater than the table value of 1.96. Here the p value is 0.034 is less than 0.05. Hence, the null hypothesis is *rejected*.

**Table V: Hypothesis Testing-5**

Variable		Mean	S.D,	t-cal.	Sig.	Result
Dim 4	Boys	3.496	0.495	0.23	0.818	<i>H<sub>0</sub>: Accepted</i>
	Girls	3.51	0.466			

\*\* - Result significant at  $\alpha=0.01$

**Interpretation:**

There is no significant difference between boys and girls in Relationship with peers and adults with respect to their mean value. It is because for the level of significance  $\alpha=0.05$ , the calculated t-value (0.23) is less than the table value of 1.96. Here the p value is 0.818 greater than 0.05. Hence, the null hypothesis is *accepted*

**Table VI:Hypothesis Testing-6**

Variable		Mean	S.D,	t-cal.	Sig.	Result
Dim 5	Boys	3.472	0.427	-0.156	0.876	<i>H<sub>0</sub>: Accepted</i>
	Girls	3.463	0.512			

\*\* - Result significant at  $\alpha=0.01$

**Interpretation:** There is no significant difference between boys and girls in Emotional regulation and physical health with respect to their mean value. It is because for the level of significance  $\alpha=0.05$ , the calculated t-value (0.156) is lesser the table value of 1.96. Here the p value is 0.876 greater than 0.05. Hence, the null hypothesis is *accepted*.

### **Interpretation of Measures of Central Tendency, Dispersion and Standard Error**

The academic resilience construct is found to be more in girls as compared to boys. The mean score of girls (3.945) is more than mean score of boys (3.922). Hence Null hypothesis is *accepted*.

The dimension academic confidence is more in boys as compared to girls because the mean score of boys (3.69) is more than mean score in girls (3.62)). Hence Null hypothesis is *accepted*.

The dimension sense of well-being is more in boys as compared to girls because the mean score of boys (3722) is more than mean score in girls (3.45)). Hence Null hypothesis is *accepted*.

The dimension motivation and ability to get goals, is more in girls as compared to boys because the mean score of girls (3.85) is more than mean score in boys (3.714)). Hence Null hypothesis is *accepted*.

The dimension Emotional regulation and physical health is more in boys as compared to girls because the mean score of boys (3.472) is more than mean score in girls (3.463)). Hence Null hypothesis is *accepted*.

## **DISCUSSION**

The people of the Jammu and Kashmir state have been living under oppressive feudal regimes for centuries. This led to the educational backwardness and adoption of indigenous institution.

The majority portion of Muslim population remained uninterested in and often distrustful of modern education due to the rigidity and unorthodox of the religious belief. They harboured a feeling that modern education to the women, will imperil religion. So they prevented their children's from obtaining modern education and restricting them to domestic chores at an early stage, because of adopting own prejudice and bigotry. Also, the often-political turmoil leads to frequent disruptions in the smooth functioning of educational institutions. Under such hostile and non-conducive academic environment, the students of this state need to display academic resilience and hence the significance of this study. It tried to investigate the role of gender on the construct and its dimensions based of the specific tool administered in the study. The construct was predicted by its five dimensions strongly and highly significantly. It also found that girls possessed more motivation and ability to get goals than boys. There was no significant difference between boys and girls with respect to neither the construct academic resilience nor its rest of the four dimensions. This research study reiterates the promotion of girl child education in the state. All the educationists and administrators should take cognizance of this particular finding and ensure implementation of educational rules that favour promotion of academics in girls.

The parents of girl children should change their perspective on treating them to be academically non-significant in long run. The confidence of girls in studies, their perception on leading a healthy life, ability to network with friends and elders, and the ability to handle emotions and their body, is akin to the perception of boys on these aspects of life.

Parents should be convinced that their hard-earned money when invested in the education of the girl child will provide returns in the long run. Teachers and administrators can use this finding to build awareness among the orthodox and conservative regions of the state to promote girl child education.

### **Limitations of Study**

The present study Dimensional analyses of academic resilience construct with respect to gender of state Jammu and Kashmir has the following limitations of this study are as follows.

- 1: The Jammu and Kashmir state has three divisions viz Jammu, Kashmir and Ladakh. The sample is obtained in three districts of Kashmir division only.
- 2: The sample is collected from students who lived in rural areas only

- 3: The sample is small which is 275 students only.
- 4: The proportion of girls was less as compared to boys.
- 5: This study and its findings should be treated in the context of the Jammu and Kashmir state only.

## Conclusion

Academic resilience is one of the vital constructs of education, whose promotion is vital in the educational institutions across India. The measurement of this construct on the secondary school students of the state of Jammu and Kashmir is a study first of its kind. Its findings are interesting and encouraging for the stakeholders of learning at secondary school level. The study also establishes the reliability and validity of the instrument measuring academic resilience developed by Mihir Mallick and Simranjit Kaur in a different cultural context inside India. Replication of the study in different states of a culturally diverse nation like India can disclose new insights regarding the understanding of the variable and its varied facets.

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