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Impact of Academic Resilience on the Scholastic Performance of High school students

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Abstract:

Urban adolescents in the Indian society are exposed to numerous-emotional issues due to changing socio-economic environment evolving in the urban middle class and lower middle class societies across the country. This is compounded by the severe competitive ferocity to build their livelihood on the basis of academic performance. Performance in academic evaluations in the ahigh school studying adolescents forms the basis of entry into professional and vocational programs leading to a career choice.

While some students cope with the adversities with fortitude, many students do not have the necessary coping skills to overcome adversities. Academic resilience is the ability to overcome psychological pressure imposed by socio-economic adversities and yet perform well in the school studies. This variation in academic resilience determines who continue to thrive despite adversities and those who fall be the way side. Accordingly, there is a need not just to enhance the scholastic skills in adolescents but also work on their academic resilience through appropriate counseling methodologies.

The objective of this study is to analyse the nature of relationship between academic resilient traits and their actual performance in school examinations. The study is carried out in a sample of high school students studying in Public school and come from low socio-economic background. This profile of students is highly susceptible to stressful conditions coupled with low societal support mechanisms to overcome them. The resilience and scholastic performance are measured using appropriate inventories backed by secondary data on their school marks. The data has been subjected to statistical analysis to understand the nature of relationship between the variables.

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The study reveals that there is a significant correlation between level of resilience and the scholastic performance of students after eliminating the outliers. There is no significant difference between girls and boys with respect their scholastic abilities as well as their resilience attributes. The study reveals that early adolescents are less resilient compared to late adolescents. A phenomenological study of the outliers reveals the impact of environmental protective factors and innate scholastic abilities on their scholastic performance.

Based on the outcome of the studies, appropriate counseling interventions can be developed to enhance the resilience capabilities & scholastic skills of adolescents so that their academic performance may be enhanced leading to their ability to pursue the career of their choice and their capabilities.

Introduction

Material progress of a society is based on the physical health of its members while cultural health of the society is based on the psycho-emotional health of the members. For a civilization to prosper , there is a need for both material prosperity as well as cultural prosperity. The current decades have seen phenomenal rise in material progress while their has been alarming slump in the psycho-emotional well being of the members. This has resulted in the human race not prospering holistically as it should have been considering the progress being made.

History shows that progress in science, arts and literature takes place in a society takes place in a realm of psychosomatic well being. Inventions and discoveries hinge on the scholastic achievement of the active population. While a regime of peace and stability is essential for scholastic pursuits, societal dynamics and adjustments result in small and sustained periods of distress either in the society as a while or in select members of the society. Sometimes, this may become turbulent and catastrophic also. Growth of society even in the presence of such turmoil depends on the ability of the societal members to absorb such sustained distress and enhance the potential of the civilization. Resilience is the foundation on which a progressive society is built. History is full of instances where the society has been able to overcome natural calamities, intercine warfare and other man made holocausts and rebounded back to cultural and economic progress based on the resilience of its members.

Societies across the world are facing evolutionary and mutationary changes in their structure, relationships and dynamics across its members. The societal patronage and support which was available upto the beginning of the century is now giving way to individualistic competitive forces. There has been a break down in the family as a concept and a social entity. While the joint family system has almost been archaic, even the nuclear families are now either physically or mentally being separated by a combination of competitive forces, advent of technology or simply a preference of its members. The breakdown of the joint family system and the reduction in inter and intra family interactions pose a grave risk to the adolescent in their ability to overcome stressful situations. The competitive world is putting additional pressure on academic performance since academic scores open possible doors for further professional pursuits and realization of goals and ambitions. In the absence of the cushion of the family as a recourse to heal wounds of the mind, the adolescent is left to fend for himself in the open environment. Thus there is a need to enhance the resilience potential of the adolescent to ensure that the youth of today become the resources of tomorrow.

India has a strong demographic advantage as compared to other countries of the world and this advantage is coming on the back of a developing economy. The economic survey (2017) reveals that the average age of India is 34 years . For the coming two decades India will continue to remain a young population, thereupon, the age will again start to increase, the average of the hinterland is lesser than that of the peninsula. While demographic profile provides an opportunity, it is no guarantee for socio-economic progress. Progress hinges on the psychological health of the population and how effectively they are able to follow professional and skill based pursuits leading to societal development. The future of a country depends on the scholastic and resilient potential of the adolescent population. The adolescent of today become the harbinger of progress tomorrow. It is essential that attention is provided to the psychological health of adolescents of a society to ensure its future well being.

In the ever increasing struggle for existence, it is " not just the strongest or the biggest that survives but that which adapts well to the environment " (Charles Darwin). While Darwin referred to the physical ability to win the race for survival, in the present context, it refers to the ability of the youth to perform well in the academics and absorb the shocks and scratches which the process entails. This paper analyses the constructs of adolescent well being in terms of resilience and scholastic competence in the Urban Indian context. The paper will identify the

variables involved in the academic resilience with a view to evolve intervention strategies. The outcome of the paper provides data for enhancing resilience and coping skills in high risk adolescents. Suitable mentoring, counseling and coaching interventions can be designed based on the outcome of this paper to enable the adolescent become productive, competent and self confident.

2. Objectives of the study

The objective of the paper is to study the various constructs of academic performance to understand the contextual , enviuronmental and protective factors affecting academic performance. This will enable draw a framework for appropriate counseling interventions to develop coping skills.

The objectives of the study are as under :

1. Study of contextual factors affecting resilience in high school students.

2. Study of factors contributing to scholastic performance of high school students.

3. A sampling survey of high school going adolescents in Indian Urban Middle class and lower middle class segment.

4. Studying the levels of resilience of such students in terms of risk factors and protective factors.

5. Studying whether resilient adolescents have a marked advantage over non resilient adolescents in terms of academic performance..

6. Studying the difference between boys and girls in terms of their resilience levels and their impact on their performance.

7. Studying resilience among early adolescents and late adolescents to understand the improvement of resilience with age.

3. Review of related Literature

3.1. Adolescence

Adolescence is derived from the Latin word "adolescere" which means to grow up. The World Health Organisation (WHO) defines adolescence as a transitional stage of physical and psychological development from childhood to adulthood. Adolescence is associated with physiological, cognitivet, psychological and psychosocial development. David Gilmer (1994)

defines adolescence as a stage where ability to think abstractly and to use scientific reasoning develops. Immature thinking persists in some attitudes and behaviours. The process of aptitude development is essentially that of developing and implementing a self concept which is a product of the interaction of inherited aptitudes, neural and endocrine make up, opportunity to play various role-sets and patterns cultivated by the adolescent.

The first formal study of adolescence psychology was carried out by Stanley Hall who viewed adolescence primarily as a time of internal turmoil and upheaval (Stanley Hall, 1904). This theory was based on Darwin's theory of evolution and Freud's psychodynamic theory. The life course perspective of adolescent development (Glen Elder, 1960) introduces the concept that adolescent development is shaped by an interconnected network of relationships and the choices and actions that an individual makes within the context of the social network.

Within the country as well, there is wide diversity in the geography and socio-economic strata. Adolescence is both gender as well as class based in India (TS Saraswati 1999). The development of adolescence traits is influenced by processes both in the family and in the school (Thapan 2001). Hence the findings of the papers have to be validated for the specific focus group being studied. This research focuses on urban adolescents from low socio-economic background pursuing high school studies in public schools.

3.2. Scholastic Performance

Scholastic performance of a student refers to the grades or scores achieved in either the curriculum based tests or in scholastic assessment inventories(Saraswati, Rao & Hegde,2009). Scholastic competence refers to the intellectual behavior and manifestation activities that a student has developed through schooling and training (Savitha Mishra, 2013). The scholastic competence manifests in scholastic performance. Scholastic performance is the output measured in terms of academic scores while scholastic competence refers to the ability to obtain an academic score. Competence may not always get reflected in performance since the performance is also affected by the enviro-psychological conditions on the day and time of taking the test. However, the only measure of competence is in terms of performance. Hence both scholastic performance and scholastic competence can be said to be co-terminus.

Scholastic competence is comprised of three traits according to Christine De Baca (2010) . The three attributes of scholastic competence are scholastic aptitude, scholastic skills and socio-emotional learning.

Freeman (1971) defines scholastic aptitude as an innate natural talent latent or potent in an individual which characterizes him to perform certain kind of things. Mark Snyderman (1987) refer to it as a genetically predisposed attribute characterized by mental speed, memory, sensory acuity, capacity to acquire knowledge and achievement motivation. Caroll et al (1993) define scholastic aptitude as the mental ability to handle multiple information and process them independently.

Scholastic skills on the other hand is a systematically learned process of analyzing, interpreting and decoding data posed in academic and qualifying tests. The third attribute of scholastic competence is socio-emotional learning. Luisa Rojas (2015) brought out various individual and environmental risk and protective factors influencing scholastic performance beyond intrinsic aptitudes and learnt skills. Carlos Valiente (2012) has clearly brought out the linkage between students' emotions and academic performance. Hence, it can be predicted that socio-emotional learning can augment and enhance the influence of scholastic aptitude and scholastic skills on the scholastic performance of students. This paper explores the influence of resilience as a socio- emotional trait on the scholastic performance of adolescents prone to social risk factors.

3.3. Resilience

Resilience refers to the capacity of individuals to cope with stress and catastrophe (Annalakshmi Narayanan,2008). Resilience is the ability to thrive, mature and increase competence in the face of adverse circumstances. These may include risk factors and absence of environment protective factors. It is a stable personality trait that protests individuals from negative effects of risk and adversity (Hollister Wagner,2001; Howard & Johnson,2000; Walsh,2002). This personality trait evolves as a dynamic process whereby the individual shows adaptive action (Schoon, 2006) to overcome adversities and gains competence to face future challenges (Chung, 2008). Resilience can be acquired either by experiences or by structured counseling. Howard cautions that studies on resilience should be guided by three important

principles : first they should be governed by a theoretical and practical ecological framework, second, resilience attributes depend on the social context in which the research is carried out and thirdly, they should take into account the differences between the children and the adult researcher on the understanding of the key concepts of resilience.

Referring to the ability to succeed in school despite adverse conditions, academic resilience includes components such as confidence, a sense of well being, motivation, an ability to set goals, relationships and stress management (Christine De Baca, 2010). De Baca goes on to show the close relationship between resilience and academic success and that resilience can infact be taught to school students. Learning problem solving skills is a significant contributor to an individual's socio-emotional wellbeing (Pearson & Hall,2006). This paper examines the extent to which socio-emotional wellbeing contributes to scholastic performance of adolescents.

3.4 Relation between resilience and scholastic performance

There have been various sampling studies to identify relationship between academic resilience of adolescents and its impact on their scholastic performance. The studies have been conducted across different geographies and in different periods of time resulting in differing results. Sreehari & Radhakrishnan Nair (2015) have studied the age and gender difference on resilience among high school students and found that there was no gender or age related difference in the score of resilience. However the study by Teresa et al (2003) of American urban high school students brought out the role of ethnicity, gender and age on the resilience and academic performance. Independent studies by Scott Plunkett (2008) and Rosemary Gonzales (1997) on Mexican origin high school students revealed varied environmental protective factors between male and female students.

The study conducted by Sunitha Badola (2013) in the urban Indian context revealed significant differences across gender, setting and context in academic achievement motivation. Dinesh Kumar (2013) has carried out a similar study in semi urban Indian environment. The study revealed a high degree of correlation of Academic motivation with performance. This study shows that counseling can impact performance in school examinations. Bhawna Sharma (2015) has studied the relationship between resilience and social problem solving skills in Indian urban

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adolescents exposed to information technology tools and multinational brands resulting in higher aspirational levels. The study brought out a high correlation between resilience and social problem solving skills of the urban middle class Indian adolescents. This study reinforces the need to enhance resilience in the country's youth so that they evolve into responsible and contributing citizens of the nation.

Chetri, S. (2014) investigated the achievement motivation of adolescents and its relationship with academic achievement. The finding of the study revealed significant positive relationship between achievement motivation and academic achievement. Non significant difference in achievement motivation with regard to gender and locale variation but significant differences in relation to management variation were found. Another finding of the study was the significant difference in the academic achievement of the students with regard to locale and management variation.

The literature survey reveals that the environmental factors like ethnicity, socio-economic status, geography, class, clan and period of study impact the resilience framework of the individual. Accordingly, results of studies on resilience effect on scholastic performance vary based on the context of the study and no generalisations can be made. This paper seeks to understand the influence of resilience on scholastic performance of urban adolescents from low socio-economic background studying in public schools in urban Indian context. The sample is drawn from Bangalore, a typical south Indian urbanized city. The influence of age and gender will also be studied.

4. Methodology of the study

4.1. Sample selection

The sample was taken from a public school in North Bangalore, a typical cosmopolitan city impacted by the changing socio-economic changes and representing the typical aspirational youth of the country. The sample of students were from a low socio-economic background but did not have any other dysfunctional attributes either physically or in family context which would impact the results of the study. The students were all adolescents in the age group of 12 – 17 years. The break up of the sample is as below :

Table 1. Sample distribution

Gender / Class	VIII	IX	X	Total
Male	21	22	20	63
Female	26	18	18	62
Total	47	40	38	125

An introductory session was carried out for all the students to emphasise the need among adolescents to be aware of their emotional status, their environmental protective factors and the overall objective to enhance their scholastic competence to realize their full potential.

4.2. Data Collection

Both primary and secondary data have been collected. Inventory is used to capture resilience parameters and scholastic performance. In order to capture the resilience parameters, the Bharatiyar University Resilience Scale (BURS) developed by Dr. Annalakshmi Narayanan (2009) was utilized. This scale comprises of 30 questions covering the following aspects of resilience :

a)   Reaction to negative events

b)   Time to bounce back

c)   Response to risk factors

d)   Perception of past negative events

e)   Defining problems

f)   Confidence in coping with future

g)   Openness to experience

The BURS has a high biserial correlation with Friborg resilience scale (0.349) and Bells adjustment scale (0.382). The Cronbach Alpha reliability coefficient assessed on a data of 577 students was 0.876. It is designed and tested for the Indian settings and hence is appropriate for utilization for this study.

David's Battery of Differential Abilities (DBDA-revised version) is used to measure scholastic performance. DBDA is a battery of short tests used to objectively assess a person's abilities under the conditions of the assessment. The split half reliability coefficient of the test is between 0.69 and 0.95 and it correlates well with academic achievement and General intelligence tests. The abilities identified for measurement are Verbal ability, numerical ability and reasoning ability. The composite scores on the three abilities are taken for analysis.

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In addition to the composite scores on the DBDA test, the marks scores in the internal tests in the various subjects are also collated as secondary data for correlation.

4.3 Data analysis and interpretation

4.3.1 Relation between Resilience and Scholastic performance

The two factors being evaluated are resilience and scholastic performance. Data of the sample size on resilience is obtained as a BURS score. The data on scholastic performance is obtained by the DBDA score. These two variables are subjected to Pearson's Product moment coefficient test. The correlation between resilience and scholastic performance is 0.688. The correlation coefficient when computed individually for boys and girls show a coefficient of 0.61 for boys and 0.689 for girls which shows that across gender, the scholastic performance is highly correlated to resilience values. The result confirms the study done by previous researchers on the influence of resilience on the scholastic performance.

Table 2. Computation of Pearson's Product Moment Correlation coefficient

$\sum X$	$\sum Y$	$\sum XY$	$\sum X^2$	$\sum Y^2$	Pearsons Corelation coefficient	N
11113	676	68306	1138059	4540	**0.6877**	125

$$C = \frac{n \sum XY - \sum X \sum Y}{SQRT(\,(n\sum X^2-(\sum X)^2)*(n\sum Y^2-(\sum Y)^2)\,)} = 0.6877$$

4.3.2. Relation between Resilience and Gender

The specific hypothesis of the present study is

H_o : There is no difference in Male and Female adolescents in their resilience attributes.

The sample comprised of 62 male and 63 female adolescents of a urban public school belonging to lower middle class background. The objective of the study was explained and the BURS test administered. The test was conducted in the classroom setting with the informed consent of the adolescents. The "t" statistic is computed to evaluate the hypothesis. The critical "t"value at 95% confidence interval is computed. The computation is as below :

Table 3. Results of the t-Testt

t-Test: Two -Sample

	Male	Female
Mean	101.46	97.75
Variance	267.25	275.11
Observations	63.00	62.00
Pooled Variance	271.08	
Hypothesized Mean Difference	0.00	
df	124.00	
t Stat	1.25	
P(T<=t) two-tail	0.21	
t Critical two-tail	1.98	

The mean and standards deviation of the resilience of the male students (Mean = 101.46 Var= 267.25) does not differ significantly from that of the female students (Mean = 97.75, Var= 275.11). The computed t-statistic (1.25) is lesser than the critical t-value (1.98). Further, the computed P value (0.21) is more than the α value (0.05). **Hence it is clear that in the specific context, resilience does not differ by gender**. Hence the Null hypothesis is accepted. Literature in the field gives contradicting results with some showing a high gender sensitivity to resilience while some research show a moderate to low correlation with gender. In the present co0ntext, data has revealed no gender sensitivity. This proves that the gender sensitivity of resilience depends on the socio-cultural factors at play in the subject environment. It is both time dependent and space dependent. The urban Indian environment has evolved leading to little variation across genders.

4.3.3. Relation between Resilience and Age

The specific hypothesis of the current study is

H_o : *There is no significant difference in the scores of resilience of adolescents on the basis of their age.*

The sample to which the BURS test was administered comprised students of class VIII, IX and X belonging to the age group from 12 to 17. The sample size of 125 students was classified into three groups as under :

12 – 13 years　　: 40 nos.

14 years　　　: 42 nos

15 - 17 years　　: 43 nos.

The mean and standard deviation of the resilience obtained by the respondents classified on the basis of their age groups is as below :

Table 4. Age-wise resilience score statistics

Groups	Count	Sum	Average	Variance
Age 12-13 years	40.00	3826.00	95.65	176.85
Age 14 years	43.00	3992.00	97.37	304.34
Age 15-17years	42.00	4439.00	105.69	287.00

Table 5.   One way ANOVA for resilience by Age

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	2386.38	2.00	1193.19			
Within Groups	30837.59	124.00	256.98	4.64	0.01	3.07
Total	33223.97	122.00				

To test the hypothesis that the age group has a significant influence on resilience, a one way analysis of variance was conducted. A significance value of F= 4.64   was obtained at P<0.05. Since the F statistic is higher than the P value, the Null hypothesis is rejected. **This means that age has a significant influence on the resilience levels of adolescents.** That is, adolescents learn coping mechanisms and improve their ability to face crisis and distress very fast during their adolescent maturity process. Adolescents in the age group   14 – 17 years are more resilient when compared with the other age groups. The student develops adaptability and coping mechanism to deal with adverse situations. Early adolescence is a period of turmoil and stress. The student exhibits maladaptive behaviour and inappropriate responses. However, towards later adolescence, the student is expected to learn by past experience, desist from responses which yield negative results and pursue those resilient characteristics which enable the student to overcome the distress.

5   Discussions

Scholastic performance is the manifestation of the scholastic competence of an individual as evaluated in standard tests. The scholastic performance is a function of three attributes : scholastic aptitude, scholastic skills and socio-emotional learning. While scholastic performance is dependent to a good degree to the innate aptitude of a student, this paper has

shown that it is possible to enhance the scholastic performance by influencing the abilities and mental disposition of the student. Scholastic performance can be enhanced by two means. One is training on the specific skill set whether it is verbal, analytical or mathematical skills. The other is counseling to improve resilience.

The constructs of academic resilience include risk factors and environment protective factors. While these are given in an environment and the adolescent has little control over them, appropriate counseling will aid the respondent to deal with the risk factors and leverage the environment protective factors. Andrew Martin(2006) has brought out the five C framework for counseling to enhance academic resilience. These include enhancing Confidence (self efficacy), Co-ordination (Planning), Control (Absorption), Composure (Low anxiety) and Commitment (Persistence) . Counseling should focus on these attributes to bring out the best in the respondent.

It is also possible to address the environment factors in the immediate vicinity of the adolescent through family counseling. Luisa Rojas (2015) has identified risk factors like marital discord, domestic violence, harsh discipline, lack of positive parental skills and poor emotional support as critical factors to be addressed during counseling. Counseling could also be used to leverage the environmental protective factors like emotional support, role models, respectful communication and meaningful family involvement.

The study has brought out no significant difference between female and male respondents on their resilience scores. It corroborates the findings of Sreehari & Radhakrishnan Nair (2015) carried out in the Indian context. There have been studies in different cultural settings which bring out stark difference in resilience between male and female adolescents. The study by Teresa et al (2003) of American urban high school students and those by Scott Plunkett (2008) and Rosemary Gonzales (1997) on Mexican origin high school students revealed varied brings out gender differences in resilience.

Traditionally, it is believed that females have a higher capability to absorb prolonged distress while male adolescents have an ability to handle sporadic stress spikes. Empirical investigations by John Curtis and Dante Cicchetti (2003) examine the biological contributors to resilience. This includes emotion, cognition, neuroendocrine and immune functioning which

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differs across genders. The environment risk factors are also believed to be loaded unfavourably towards the female adolescents in the Indian environment. It is possible that the innate ability among females to endure prolonged distress more than compensates for the environmental risk factors, or rather enhances their resilience. This is a subject matter of conjecture and needs further study.

The study has brought out significant increase in resilience scores from early adolescence to late adolescence. This indicates that the urban adolescent population has a high disposition to learn from critical encounters and develop positive coping mechanisms. Fergus and Zimmerman (2005) reason that as adolescents continue to be exposed to adversity, their capacity to thrive increases despite risk increases. Further, it indicates that it is possible to develop resilience as a skill among the adolescents and practice of these skills can enable them to face the situations better. This directly contributes to the scholastic performance.

Conclusions

Impact of socio-emotional factors like resilience on the scholastic performance of adolescents varies across geographies, social structures, economic levels and over time. Hence, research in one period for one group of individuals cannot be made valid for another group of adolescents. However, across all spectra of socio-cultural canvas, an increase in resilience has a positive impatct on the scholastic performance. Hence, when a counselor wants to adopt interventions to influence the resilience of an adolescent, he/she should be aware of the socio-cultural constructs under which the intervention is being carried out.

The paper has brought out significant correlation between resilience and scholastic performance. It has shown that scholastic performance is not just a byproduct of innate qualities of an individual but it is possible to enhance the same. Enhancement of scholastic performance involves a combination of academic skill training and resilience enhancing counseling. There is a significant role for trainers and counselors in improving the scholastic performance of of adolescents. Counselors can contribute a lot to the progress of society by empowering the adolescent to leverage their potential in a field appropriate to their scholastic competence. In this way, the demographic advantage of a country can be leveraged to further the socio-economic development of the country.

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