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Academic Resilience and Problem-Solving Orientation among Secondary School Students

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ABSTRACT

This study looks at the levels of academic resilience and problem-solving orientation among secondary school students, comparing them by gender, location, and kind of school management. Academic resilience is defined as the ability to maintain or increase academic achievement in the face of hardship. Key components include self-belief, control, persistence, low anxiety, growth mindset, goal-setting, and support systems. Problem-solving orientation refers to a student's perspective and approach to effectively discovering, analyzing, and addressing academic and real-life challenges, with an emphasis on tenacity, critical thinking, creativity, and reflective evaluation. Data were collected from a stratified random sample of 384 secondary students in the Kozhikode district using standardized scales measuring academic resilience and a problem-solving oriented scale designed by the researcher. The findings demonstrated substantial disparities in academic resilience and problem-solving orientation based on gender, location, and type of management, with boys, urban students, and students from government schools scoring better. Also, a moderate positive association was found between academic resilience and problem-solving orientation, implying that students who successfully deal with academic obstacles also use proactive problem-solving tactics. The findings emphasize the significance of developing both resilience and problem-solving skills in secondary education in order to produce adaptive learners capable of overcoming obstacles and achieving long-term academic success.

Keywords: Academic Resilience, Problem-Solving Orientation, Secondary School Students

Introduction

The ability of a student to sustain or enhance academic performance in the face of hardship or difficulties in the classroom is known as academic resilience. It demonstrates the capacity to deal with stress, pressure, and setbacks in academic environments and to persevere in the face of challenges. The psychological fortitude and adaptive behaviors that maintain success in the face of challenges like academic failure, peer pressure, or environmental obstacles are thus embodied in academic resilience. It acts as a vital safeguard that helps kids turn hardship into inspiration for development and education.

The essential elements of academic resilience offer a multifaceted comprehension of this concept. The belief in one's capacity to comprehend, master, and excel in academic assignments is referred to as self-belief or confidence. When faced with obstacles, this idea fosters perseverance, optimism, and a solution-focused mindset. Resilient learners understand how their own efforts, tactics, and actions affect academic success; control is a student's sense of agency over learning outcomes. Persistence or commitment is the will and readiness to keep working toward learning objectives in spite of challenges or setbacks, seeing setbacks as transient roadblocks rather than insurmountable barriers. Low anxiety or composure, another essential component, is skilfully handling stress and academic pressure to preserve concentration, rational thought, and emotional equilibrium. Students with composure demonstrate calmness under pressure and are better able to mobilize cognitive resources for problem-solving and creativity.

Resilience is also transformed by a growth mindset, which promotes the idea that skills and intellect can be improved with practice, effort, and feedback. Instead of viewing obstacles as dangers to their self-worth, students with this mentality see them as chances for growth. By assisting students in creating precise, attainable goals that direct consistent effort and cultivate a sense of purpose in learning, goal-setting further enhances resilience. Support networks made up of classmates, professors, mentors, and family members offer emotional stability, direction, and criticism that boost drive and tenacity.

When combined, these elements provide a strong framework that enables students to overcome challenges and achieve academic success. Therefore, academic resilience is the result of a dynamic interaction between individual characteristics and environmental resources that together equip students to succeed in demanding learning environments.

A student's attitude and method for recognizing, evaluating, and addressing issues that arise in academic or real-life contexts is known as problem-solving orientation, which is strongly related to resilience. Instead of avoidance or apathy, it shows a proactive, optimistic, and purposeful approach to obstacles. The capacity to accurately identify problems, define and mentally depict them, and come up with workable solutions are all components of a strong problem-solving attitude. This process entails methodical analysis, innovative planning, and ongoing assessment of results to improve one's

strategy. Pupils with a constructive approach to problem-solving persevere through challenges, draw lessons from their errors, and see setbacks as opportunities for growth.
Problem-solving orientation greatly enhances students' self-assurance, independence, and flexibility in educational settings. It promotes introspective judgment and decision-making while fostering critical and creative thinking. When faced with challenging or unclear situations, students with this kind of orientation show fortitude, employ creative techniques, and actively participate in learning tasks. Additionally, as problem-solving frequently calls for cooperation, compromise, and shared accountability, adopting this perspective fosters teamwork, patience, and leadership traits. Students who develop both academic resilience and a problem-solving mindset are better equipped for success in the classroom as well as for lifelong learning and productive engagement in a world that is changing quickly.

Objectives of the Study

1. To compare the Academic Resilience of secondary school students based on
i) Gender
ii) Locale
iii) Type of Management

2. To compare the Problem-Solving Orientation of secondary school students based on
i) Gender
ii) Locale
iii) Type of Management
3. To find out the relationship between Academic Resilience and Problem-Solving Orientation of secondary school students.

Hypotheses of the Study

1. There exists significant difference in the mean scores of Academic Resilience of secondary school students based on
i) Gender
ii) Locale
iii) Types of management
2. There exists significant difference in the mean scores of Problem-Solving Orientation of secondary school students based on
i) Gender
ii) Locale
iii) Types of management
3. There exists significant relationship between Academic Resilience and Problem-Solving Orientation of Secondary School Students.

Materials and Methods
In order to achieve the objectives and to be able to check the tenability of hypothesis, a survey design was used. The study sample was composed of a representative sample of 384 higher secondary school students of different schools in Kozhikode district. The sampling technique used here is stratified random sampling.

Instrument
Data collection is essentially an important part of the research processes that the interference, hypothesis or generalization, tentatively held might to be identified as valid, verified as correct or rejected as untenable Koul (1984). The selection of appropriate tools is of vital importance for any successful research. To collect the data of the participants, two instruments were used. Both were prepared taking into consideration the objectives set for the study.
1. Academic Resilience Scale (ARS 30) of S. Cassidy was used for collection for data on academic resilience.
2. Problem solving Orientation Scale prepared by the investigator was used for data on problem solving orientation.

Process
The investigative process began with the administration of the Academic Resilience scale and the Problem-Solving Orientation Scale both online and offline mode. The data were taken following the ethical principles of anonymity and objective treatment.
The Problem Solving Orientation Scale is a five-point scale which consisted of 28 items .The scale was tried out first and then item analysis was carried out. Also, the validity and reliability were established.
The Academic Resilience Scale (Cassidy, 2016) was used for data on academic resilience.

Data Analysis
Once the data collection was completed, the data was exported and prepared to be introduced to the Statistical Package for Social Sciences (SPSS) v.23, in which statistics were made such as average(AV) and standard deviation(SD), the validation and reliability tests of the instrument, then mean difference analysis and correlation analysis were also used.

Results and Findings
This section aims to present the fundamental findings of the study organized in the form of figures and tables for optimal visualization.

ANALYSIS
Comparison of Academic Resilience of secondary School Students according to gender
The results obtained for the comparison of Academic Resilience of secondary School Students according to gender are reflected in Table 1

Table 1 *t-test for gender differences for Academic Resilience of Secondary School Students*

Group	N	Mean	SD	t value	p-value
Boys	218	86.4	9.9	2.31	0.05
Girls	166	83.8	11.6		

The mean of resilience scores for boys and girls are found to be Mean=86.40 & SD = 9.9 and Mean = 83.81 & SD = 11.6 respectively. It indicates that both have a high Academic Resilience although boys possess more academic resilience than girls.t- value is found to be t = 2.31 at significance level of 0.05, which is statistically significant .Therefore, there is a significant difference in Academic Resilience according to gender.

Comparison of Academic Resilience of secondary School Students according to locale
The results obtained for the comparison of Academic Resilience according to locale are reflected in Table 2

Table 2 *t-test for locale differences for Academic Resilience of Secondary School Students based on locale*

Group	N	Mean	SD	t value	p-value
Urban	258	86.27	10.5	2.59	0.01
Rural	126	83.37	10.1		

The mean of resilience scores for students from urban and rural areas is found to be Mean=86.27 & SD = 10.6 and Mean = 83.37 & SD = 10.2 respectively. It indicates that the students from rural and urban areas have a good academic resilience although the students from rural areas possess lower resilience than those from urban areas.
t-value is found to be t = 2.59 at significance level of 0.01 which is statistically significant. Therefore, there is a significant difference in Academic Resilience, between students from urban and rural areas.

Comparison of Academic Resilience of Secondary School Students based on Type of Management
The results obtained for the comparison of Academic Resilience of Secondary School Students based on Type of Management are reflected in Table 3.

Table 3 *t-test for academic resilience of secondary school students according to type of management.*

Group	N	Mean	SD	t value	p-value
Aided	186	82.21	9.9	4.25	0.01
Government	198	86.71	10.8		

The mean of resilience scores for students who are in Aided and Government institutions are found to be Mean=86.71 & SD = 10.8 and Mean = 82.21 & SD = 9.96 respectively. It indicates that regardless of management of school academic resilience is high among students .The resilience among students from Government institutions are comparatively more than for the Aided institutions.
t-value is found to be t = 4.25 at significance level of 0.01 which is statistically significant .Therefore, there is a significant difference in academic resilience between students from government and aided schools.

Comparison of Problem-Solving Orientation of secondary School Students according to gender
The results obtained for the comparison of Problem-Solving Orientation of secondary School Students according to gender are reflected in Table 4

Table 4 *t-test for gender differences Problem Solving Orientation of Secondary School Students*

Group	N	Mean	SD	t value	p-value
Boys	200	87.9	9.9	4.50	0.01
Girls	184	83.1	11.1		

The mean orientation scores for boys and girls are found to be Mean=87.9 & SD = 9.9 and Mean = 83.1 & SD = 11.1 respectively. It indicates that both have a high Problem-Solving Orientation although boys possess more academic resilience than girls.
t- value is found to be t= 4.50 at significance level of 0.01, which is statistically significant .Therefore, there is a significant difference in Problem Solving Orientation according to gender.

Comparison of Problem-Solving Orientation of secondary School Students according to locale
The results obtained for the comparison of Problem-Solving Orientation according to locale are reflected in Table 5

Table 5 *t-test for locale differences for Problem Solving Orientation of Secondary School Students based on locale*

Group	N	Mean	SD	t value	p-value
Urban	229	90.13	10.4	5.97	0.01
Rural	155	84.16	9.9		

The mean of orientation scores for students from urban and rural areas is found to be Mean=90.13 & SD = 10.4 and Mean = 84.16 & SD = 9.9 respectively. It indicates that the students from rural and urban areas have a good academic resilience although the students from rural areas possess lower resilience than those from urban areas.
t-value is found to be z = 5.97 at significance level of 0.001 which is statistically significant. Therefore, there is a significant difference in Problem Solving Orientation , between students from urban and rural areas.

Comparison of Problem-Solving Orientation of Secondary School Students based on Type of Management
The results obtained for the comparison of Problem-Solving Orientation of Secondary School Students based on Type of Management are reflected in Table 6

Table 6 *t-test for Problem Solving Orientation of secondary school students according to type of management.*

Group	N	Mean	SD	t value	p-value
Aided	196	85.21	9.1	4.61	0.01
Government	188	89.71	10		

The mean of orientation scores for students who are in Aided and Government institutions are found to be Mean=85.21 & SD = 9.1 and Mean = 89.71 & SD = 10 respectively. It indicates that regardless of management of school Problem Solving Orientation is high among students. The orientation among students from Government institutions are comparatively more than for the Aided institutions.
t-value is found to be t = 4.61 at significance level of 0.01 which is statistically significant .Therefore, there is a significant difference in Problem Solving Orientation between students from government and aided schools.

Relationship between Academic Resilience and Problem-Solving Orientation
The results obtained on the relationship between social phobia and mental health are reflected in the Table 7.

Table 7 *Correlation between Academic Resilience and Problem-Solving orientation*

Variables	r - value
Academic Resilience Problem-solving orientation	0.341

From the correlation value it is clear that there is a moderate positive correlation between academic resilience and Problem-Solving Orientation.

Discussions

The current study investigated the association between academic resilience and problem-solving orientation among secondary school students, taking into account variations based on gender, location, and type of school management. The results show that, in comparison to girls, rural students, and students from aided schools, boys, urban students, and those

attending government schools have much greater levels of academic resilience and problem-solving orientation. These discrepancies could be explained by disparities in educational settings, socializing patterns, and resource availability, all of which affect students' self-assurance, self-control, and perseverance in academic contexts.

Boys showed more academic resilience and problem-solving orientation, which is consistent with other studies. This may be due to gender variations in coping strategies and social expectations that promote risk-taking and problem-solving among men. The findings that educational facilities, peer support, and exposure to a variety of learning experiences in urban locations contribute to increased adaptive capacities when encountering academic problems are corroborated by the higher scores of urban students. In a similar vein, government schools in the research environment might provide better organized academic support or community involvement, which would help students develop resilience and problem-solving abilities more successfully than aided schools.

Academic resilience and problem-solving orientation were found to have a somewhat positive association, which is consistent with previous research highlighting the interconnectedness of these concepts. Students who persevere and remain self-assured in the face of failure frequently use proactive ways to problem-solving, applying creativity and critical thinking to overcome academic challenges. This connection emphasizes how crucial it is to develop resilience and problem-solving skills simultaneously in order to promote students' overall development. Together, these qualities improve students' capacity to maintain motivation, modify their learning methods, and bounce back from failures, all of which contribute to long-term academic achievement.

The results of the study highlight the fact that academic resilience is influenced by social and environmental factors in addition to personal characteristics. Teachers, peers, and family support networks can help children feel more in control, less anxious, and develop a growth mindset and all essential elements of resilience that enable successful problem-solving. Therefore, educational interventions that focus on these areas may enhance students' ability to deal constructively with academic difficulties.

Conclusion

According to the study's findings, problem-solving orientation and academic resilience are important, positively correlated traits that have a big impact on secondary school students' academic achievement. The results show that these variables varied significantly depending on gender, location, and style of school administration, with boys, students in government schools, and students in metropolitan areas exhibiting more resilience and problem-solving abilities. These differences highlight how crucial it is to take demographic and environmental aspects into account when creating educational interventions. Students who successfully manage academic difficulties typically take proactive and strategic approaches to problem-solving, which improves their overall learning results, according to the moderately positive link between academic resilience and problem-solving orientation.

In light of these findings, educational environments should prioritize the development of academic resilience and problem-solving abilities through focused programs that emphasize the development of self-belief, control, tenacity, emotional regulation, growth mindset, and support networks. In order to close current gaps, schools should also work to provide fair resources and encouraging surroundings, particularly for students from rural and assisted schools. In the end, developing these skills not only helps students overcome academic challenges but also equips them to become flexible, self-assured learners who can succeed throughout their lives. Future studies may examine the long-term effects and efficacy of certain interventions for problem-solving and resilience-building in a variety of school settings.

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