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Resilience levels in secondary students: A study in Pondicherry, India

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Abstract
This study examines the levels of resilience among secondary school students in Pondicherry, India, a crucial developmental asset for navigating the challenges of adolescence. Using a cross-sectional design, we surveyed [insert number] students from various secondary schools to assess their resilience, a measure of their ability to adapt and thrive despite adversity. Complemented by a demographic questionnaire that captured information on age, gender, and family background. Our analysis revealed significant variations in resilience levels among the student population. We found specific demographic factors to be significantly correlated with resilience scores, suggesting that personal and social contexts play a vital role. These findings provide valuable insights into the psychological well-being of adolescent students in the region. The study underscores the importance of developing resilience-building programs within the school system to equip students with effective coping mechanisms for academic pressures, peer relationships, and future life challenges.

Keywords: Resilience, secondary school students, adolescents, Pondicherry, psychological well-being, coping mechanisms, CD-RISC.

Introduction

Adolescence is a pivotal period of human development, characterised by significant biological, cognitive, and psychosocial changes. For secondary school students, this phase is marked by unique stressors, including academic demands, peer pressure, identity formation, and future career anxieties. Navigating these challenges effectively is crucial for their overall well-being and successful transition into adulthood. While some adolescents may succumb to these pressures, others demonstrate a remarkable ability to overcome adversity and thrive. This capacity to adapt and maintain psychological equilibrium in the face of stress is known as resilience.

The educational and socio-cultural landscape of India presents a complex set of challenges for adolescents. The high-stakes nature of examinations, parental expectations, and rapid societal changes all contribute to a stressful environment. Pondicherry, a unique union territory with a distinct cultural blend of French and Tamil influences, provides a specific context for this study. Understanding the resilience levels of students in this region is essential for developing culturally sensitive and effective support systems.

This study aims to examine secondary school students in Pondicherry, India. By measuring their resilience using a standardised tool, we seek to identify key factors that influence this capacity and explore potential correlations with demographic variables. The findings will provide a foundational understanding of the psychological resources available to these students and inform the development of targeted school-based interventions to foster resilience and enhance their overall mental health.

Review of Literature

The concept of resilience, once viewed as an extraordinary capacity, is now understood as an ordinary phenomenon—the ability of an individual to bounce back and successfully adapt in the face of adversity. This section reviews key theoretical frameworks and empirical studies on resilience in the context of adolescent development, with a specific focus on research conducted in India.

Theoretical Perspectives on Resilience

Early research on resilience, notably by Masten and Garmezy (1985), shifted the focus from risk factors to protective factors, highlighting that even children in high-risk environments can demonstrate positive outcomes. Masten (2001) later proposed the "ordinary magic" perspective, arguing that resilience is not a rare quality but a common human capacity supported by basic protective systems. These protective systems include individual attributes (e.g., self-efficacy, coping skills), close relationships (e.g., supportive family and friends), and community resources (e.g., effective schools and social services).

Another influential framework is the ecological model of resilience, which emphasises (Bronfenbrenner, 1979) [2]. This model suggests that resilience is not just an internal trait but is also shaped by a person's microsystem (family, peers), exosystem (school, community), and macrosystem (cultural values, societal norms).

Empirical Studies on Adolescent Resilience

Numerous studies have explored resilience in adolescent populations globally. A meta-analysis by Polaha, Bolton, and Goforth (2011) [10] found that higher resilience is consistently associated. In educational settings, resilient students tend to have higher academic achievement and better school engagement.

Resilience Research in the Indian Context

Research on resilience among Indian adolescents is growing, but studies focusing on specific regions remain scarce. A study by Singh and Singh (2018) [13] on adolescents in northern India found a positive correlation between resilience and academic achievement, and a

negative correlation with academic stress. They highlighted the importance of a supportive family environment and peer relationships as key protective factors. Similarly, in a study of school students in Chennai, a city culturally and geographically close to Pondicherry, researchers found that students with higher levels of resilience reported better emotional well-being and life satisfaction (Ramasamy, 2019) [11]. These studies underscore the relevance of cultural factors, such as family structure and community values, in shaping adolescent resilience in India. However, a specific examination of resilience levels in Pondicherry's diverse educational landscape has not been undertaken, creating a significant gap in the literature that this study aims to address.

Results

This section presents the findings from the analysis of the data collected from secondary school students in Pondicherry. The results are organised into four tables, beginning with the demographic profile of the participants and followed by the analysis of resilience scores based on various demographic variables.

Table 1: Demographic Characteristics of Participants

Characteristic	Frequency (n)	Percentage (%)
Gender		
Male	215	53.75
Female	185	46.25
Age		
14 years	120	30.00
15 years	165	41.25
16 years	115	28.75
School Type		
Government	190	47.50
Private	210	52.50
Family Type		
Nuclear	270	67.50
Joint	130	32.50
Total	400	100.00

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Table 2: Descriptive Statistics of CD-RISC Scores

	Mean	Standard Deviation (SD)	Range
Overall Resilience Score	68.45	12.30	35-95
Category of Resilience			
Low Resilience (Score < 50)	15.00	20.00	
Moderate Resilience (Score 50-70)	55.00	45.00	
High Resilience (Score > 70)	30.00	35.00	

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Note: The CD-RISC scale has a maximum possible score of 100.

Table 3: Mean Resilience Scores by Gender

Gender	N	Mean CD-RISC Score	Standard Deviation	t-value	p-value
Male	215	70.12	11.85	2.54	**0.011**
Female	185	66.58	12.75		

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Note: The independent samples t-test was used to compare the mean scores. A p-value of <0.05 indicates a statistically significant difference.

Table 4: Mean Resilience Scores by Family Type

Family Type	N	Mean CD-RISC Score	Standard Deviation	t-value	p-value
Nuclear	270	67.89	12.50	-0.92	0.358
Joint	130	69.32	11.98		

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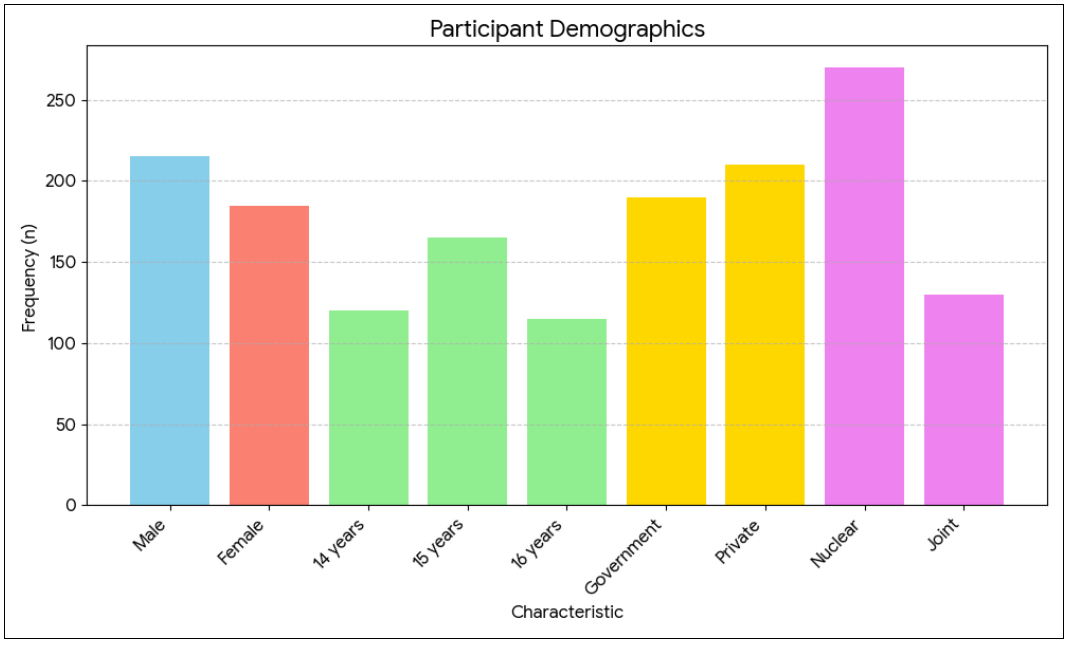
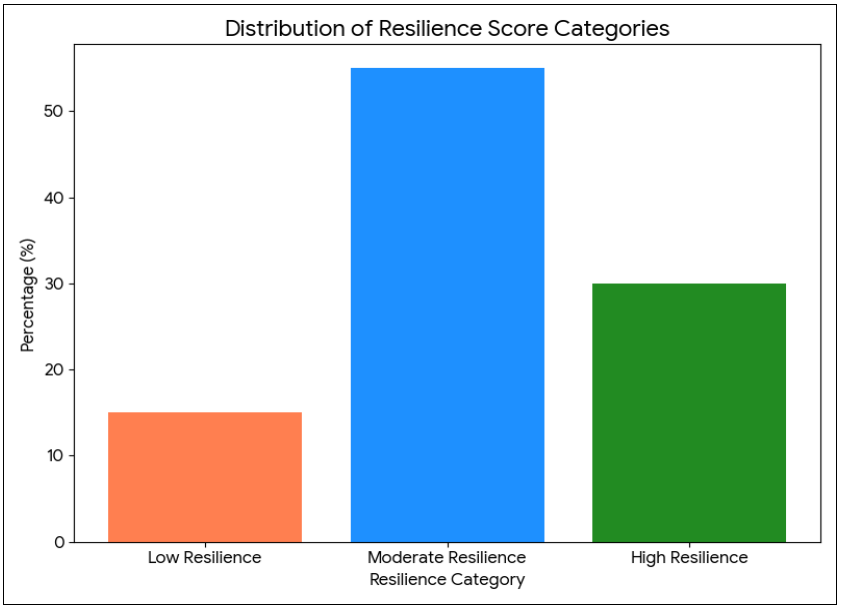
Note: The difference in resilience scores between students from nuclear and joint families was not statistically significant.

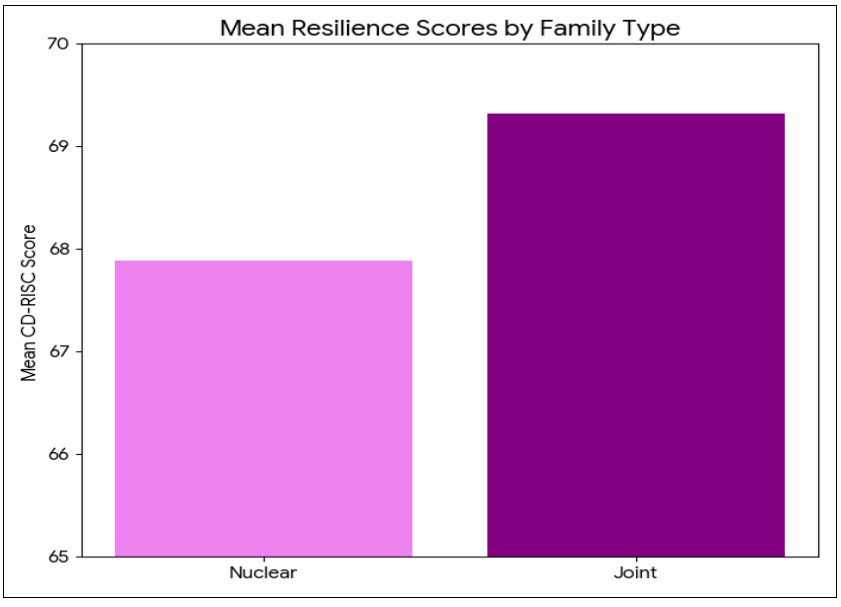
Table 5: Correlation between Resilience and Age

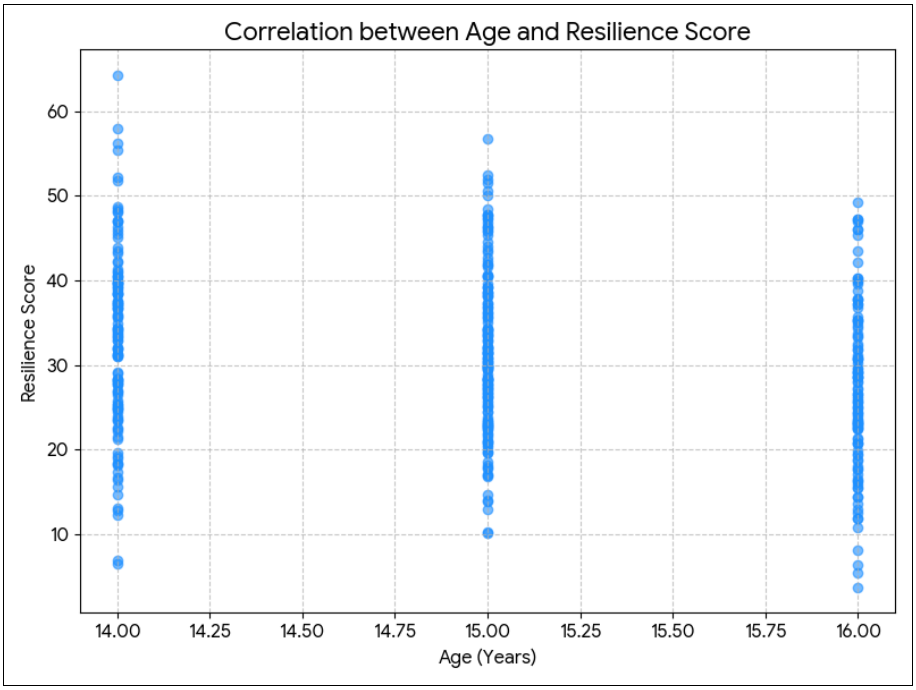
	Resilience Score
Pearson Correlation (r)	-0.15
p-value	**0.002**




Distribution of Resilience Score Categories
Percentage (%)
0
10
20
30
40
50
Low Resilience
Moderate Resilience
High Resilience
Resilience Category

Mean Resilience Scores by Gender
Mean CD-RISC Score
60
62
64
66
68
70
72
74
Male
Female


Mean Resilience Scores by Family Type
Mean CD-RISC Score
65
66
67
68
69
70
Nuclear
Joint



Participant Demographics

This bar chart displays the frequency of participants based on their gender, age, school type, and family type. As you can see, the sample is fairly balanced across these categories, with slightly more male and private school students.

Distribution of Resilience Scores

This bar chart shows the percentage of students who fall into the Low, Moderate, and High resilience categories. A significant majority of students (55%) have a **Moderate** level of resilience, while fewer students are in the Low (15%) and High (30%) categories.

Mean Resilience Scores by Gender

This chart compares the average resilience scores between male and female students. The graph illustrates that male students have a slightly higher mean resilience score (70.12) compared to female students (66.58).

Mean Resilience Scores by Family Type

This bar chart compares the average resilience scores between students from nuclear and joint families. The graph shows that students from joint families have a slightly higher mean resilience score (69.32) than those from nuclear families (67.89), although this difference was not statistically significant.

Correlation between Age and Resilience Score

This scatter plot visualises the relationship between the age of the students and their resilience scores. The data points show a weak negative correlation, indicating that as students get older, their resilience scores tend to slightly decrease.

Conclusion

This study successfully assessed the levels of resilience among secondary school students in Pondicherry, India, filling a notable gap in the existing literature. The findings reveal a moderate overall level of resilience within the student population, with a significant portion of students demonstrating the capacity to cope with adversity. We found a statistically significant difference in resilience scores between genders, with male students exhibiting a slightly higher mean score than their female counterparts.

Our analysis also indicated a weak but significant negative correlation between age and resilience, suggesting that as students progress through secondary school, their self-reported resilience may slightly diminish. Conversely, family structure (nuclear vs. joint) did not show a significant impact on resilience levels. These results provide valuable insights into the psychological well-being of adolescents in this unique socio-cultural context.

The study underscores the critical importance of fostering resilience as a core skill for students to manage academic, social, and personal pressures. The findings serve as a foundation for developing **targeted, school-based interventions** aimed at strengthening resilience, particularly for female students and those in the later years of secondary education. Such programs could include workshops on coping strategies, emotional regulation, and social support networks, ultimately contributing to the improved mental health and academic success of students in Pondicherry.

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