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Issues and Ideas in Education

Assessing Academic Resilience Among Prospective Teachers: A Descriptive Study of Western Odisha

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ABSTRACT

Background: Academic resilience is a vital quality that enables students to withstand pressure, recover from setbacks, and remain committed to their learning journeys.

Purpose: This study explored the resilience of prospective teachers in Western Odisha. It also focuses on how demographic factors such as age, gender, and locality impact the academic resilience of prospective teachers.

Methods: A total of 524 prospective teachers were randomly sampled from different teacher education institutions in Western Odisha using simple random sampling. A descriptive survey design and a quantitative method were adopted to collect data using a standardized Academic Resilience Scale. The collected data were analyzed using descriptive statistics and an independent sample t test. The research revealed that resilience emerges not only as a personal strength but also as a response shaped by social and contextual conditions.

Results: The findings suggest that most future teachers display moderate to high levels of resilience, managing academic demands while navigating stress and uncertainty. Age and gender did not significantly influence resilience levels. However, students from urban backgrounds showed greater resilience compared to their rural counterparts.

Conclusions: Based on these findings, this study suggests the importance of developing resilience in teacher education programs, especially in rural communities, through peer support, mentors, and socio-emotional learning. On the other hand, teacher education can contribute not only to academically competent teachers but also to emotionally strong teachers, who can facilitate successive generations to evolve, change, adapt, and thrive during learning and life.

1. Introduction

During the last ten years, academic resilience has emerged as an essential area of interest in educational research. It also recognizes that the intelligence or intellectual ability of an individual alone is not an adequate predictor of academic success. Academic resilience refers to the ability to maintain motivation, engagement, and achievement regardless of whether one is facing academic, emotional, or socio-economic obstacles (Martin & Marsh, 2006; Cassidy, 2016). Within teacher education, this idea is essential because pre-service teachers have to handle tough coursework pressure, the stress of internships, practicum-related pressures, and the challenges of real classroom environments. Studies show that resilient teachers demonstrate stronger professional commitment, greater emotional stability, and more developed reflective ability, all of which help them enhance long-term effectiveness in the teaching profession and also help them become long-term successful teachers (Gu & Day, 2013; Beltman *et al.*, 2011). In the Indian context, resilience becomes important due to the wide and diverse socio-economic conditions, in addition to institutional conditions that affect teacher preparation. In regions such as Western Odisha, where many teacher trainees belong to rural or tribal backgrounds, limited resources and financial difficulties are some common challenges that restrict their exposure to innovative pedagogical practices. Although many pre-service teachers consistently

demonstrate perseverance and adaptability in these circumstances, there is a lack of research regarding the academic resilience of pre-service teachers. This gap indicates the need to conduct empirical studies that capture contextual patterns and factors influencing resilience within this population. Previous studies consistently showed that academic resilience is linked with motivation, self-regulation, emotional well-being, as well as academic performance (Almulla, 2024; Rao & Krishnamurthy, 2018). However, the literature also reveals inconsistent results, particularly concerning gender and locality. Some studies reported that female students have higher resilience than male students (Rasheed & Sultan, 2023), while others indicated no significant variation (Swamy, 2019). Studies further identify other factors, such as self-efficacy, family support, and coping strategies, as influential in shaping resilience (Cassidy, 2015; Kader & Abad, 2017). These inconsistencies highlight the need for context-specific inquiry, particularly in under-researched settings. Therefore, the present study seeks to explore the level of academic resilience among pre-service teachers studying in teacher education institutions in the region. The study aims to analyse patterns and variability in resilience based on gender and area and to contribute to broader knowledge regarding how context influences teacher trainees' adaptive capacities. The findings aim to inform teacher educators and policymakers about the necessity of embedding resilience-building strategies into teacher education programmes and preparing emotionally intelligent, adaptive, and future-focused teachers.

2. Academic Resilience: A Conceptual Understanding

Academic resilience refers to a person's capacity to perform academically in accordance with expectations following adverse experiences or challenging circumstances (Muslimah *et al.*, 2024). It is the capacity of students to withstand obstacles and disappointments in the classroom without losing their drive and dedication to their objectives. Academic resilience indicates a higher probability of success in academic settings despite difficulties (Cassidy, 2016). The escalating competitive environment in educational institutions has induced academic stress among students, and academic resilience helps students cope with challenging academic circumstances (Mohan & Verma, 2020). According to Martin and Marsh (2009), academic resilience refers to a student's ability to overcome short-term or long-term challenges in the classroom that could seriously hinder academic progress. It demonstrates that despite facing challenges, students can achieve high academic standards. Academic resilience describes academic success in the face of a demanding or challenging learning environment (Mallick & Kaur, 2016). Good academic achievement in the face of hardship during the educational process is known as academic resilience. It is the capacity to effectively handle the difficulties and obstacles that come with being a student on a regular basis (Martin & Marsh, 2006). In other terms, academic resilience refers to a student's ability to cope with academic pressure, stress, and challenges in academic or school life, such as low marks or grades, examination pressure and stress, and difficult coursework. In general, a child's capacity to sustain academic success in the face of adversity is referred to as academic resilience. According to Alva (1991) and Martin *et al*. (2009), academically resilient children are those who continue to exhibit high levels of achievement, motivation, and performance despite the presence of stressful events and conditions that place them at risk of academic failure and school dropout. According to Wang and Gordon (1994), academically resilient children are able to transform challenging circumstances into sources of motivation by maintaining high standards and goals, being goal oriented, possessing strong problem-solving abilities, and demonstrating social competence. Alva (1991) further states that academically resilient students are able to effectively manage pressure, challenges, adversity, and setbacks. They also tend to demonstrate higher levels of achievement despite these risks and difficulties (Cengiz & Peker, 2022).

Academic resilience is a cornerstone of both personal growth and professional readiness for prospective teachers. During their training, pre-service teachers encounter a range of academic and emotional challenges, including adjusting to new teaching methods, managing demanding coursework, and handling real classroom situations during practicum. Developing resilience enables them to approach these experiences with confidence, optimism, and perseverance. It strengthens their ability to remain motivated, believe

in their own capabilities, and adapt to the evolving demands of the teaching profession (Beltman *et al.*, 2011). Resilience extends beyond personal strength and functions as an essential professional quality for teachers. As Luthar and Cicchetti (2000) explain, resilience enables individuals to remain emotionally balanced and function effectively in stressful situations. For pre-service teachers, this involves maintaining well-being while meeting academic expectations and preparing for future classroom realities. Gu and Day (2013) further emphasize that resilient teachers often demonstrate deeper professional commitment, greater emotional stability, and stronger reflective practices, all of which contribute to sustainable and effective teaching careers. Teacher education programmes that integrate resilience-building practices play a crucial role in shaping future educators. As noted by Tait (2008), resilient teachers are better equipped to meet diverse student needs, respond constructively to curriculum changes, and manage institutional pressures. For pre-service teachers, resilience nurtures patience, empathy, and adaptability, which are essential characteristics of effective educators. Through supportive mentoring, reflective dialogue, and collaborative learning, teacher educators can assist aspiring teachers in transforming challenges into opportunities for growth (Day & Gu, 2010). In the Indian context, particularly in regions such as Western Odisha, resilience assumes even greater importance. Many pre-service teachers pursue their studies under conditions characterized by limited resources, socio-economic constraints, and diverse cultural contexts. Despite these challenges, resilience enables them to remain determined and hopeful, empowering them to succeed and eventually instil similar strengths in their future students. Building academic resilience among these educators is not solely about academic success but about shaping teachers who lead with empathy, courage, and optimism (Howard & Johnson, 2004).

3. Review of Related Literature on Academic Resilience

Academic resilience has been extensively studied across various educational contexts, emphasizing its relationship with academic achievement, self-efficacy, and other psychological attributes. Almulla (2024) investigated academic resilience among college students in Saudi Arabia and revealed a strong positive correlation between resilience and academic achievement, with perseverance and adaptive help-seeking identified as key contributing factors. Similarly, Pai and Arjun (2023) explored the link between academic resilience and self-efficacy among young adults, finding significant associations but no gender-based differences. In the context of adolescent students, Jan and Praveen (2023) found that higher secondary students in Srinagar displayed average levels of resilience, with female students outperforming their male counterparts. Swamy (2019) extended this exploration by examining B.Ed. student teachers and found a significant positive relationship between academic resilience and academic self-regulation, with higher resilience scores observed among students with moderate to high levels of self-regulation. The influence of resilience on scholastic performance has also been widely examined. Rao and Krishnamurthy (2018) identified a significant correlation between resilience and academic success among high school students from low socio-economic backgrounds, although no gender differences were observed. Mallick and Kaur (2016) examined resilience among senior secondary students and found that urban male students exhibited higher resilience, whereas female students perceived a better learning environment. However, Buslig (2019), in a study among college students in Kalinga, reported no statistically significant relationship between academic resilience and academic performance, suggesting that other socio-economic factors may play a role. Gender-based differences in resilience were analyzed by Rasheed and Sultan (2023), who found that female secondary school students demonstrated greater resilience than their male counterparts. The relationship between academic resilience and achievement was also observed among teacher trainees by Karabiyik (2020), who identified a positive correlation between these variables. In addition, the academic resilience of first-year university students was examined by Ayasrah and Albalawi (2022), who reported average resilience levels with significant gender differences. Mwangi and Ireri (2017) similarly found that female secondary school students in Kenya exhibited higher academic resilience than males, reinforcing the relationship between resilience and academic performance. Other studies have focused on external and environmental factors affecting academic resilience. Singh and Khatiwora

(2020) explored resilience in relation to child-rearing practices among higher secondary students of the Mising community and concluded that there were no significant differences in resilience based on gender or locality. Morales (2008) examined low socio-economic college students of color and found that female students displayed greater academic resilience than males, emphasizing the role of gender in overcoming academic challenges. On the other hand, research by Rasheed and Sultan (2023), Dixit and Vig (2023), and Dubey (2024) explored academic resilience across gender and academic streams, with several studies reporting that females tend to demonstrate higher levels of resilience. Additionally, Mirza and Arif (2018) examined intervention programs aimed at promoting student resilience in academically resilient classrooms, which demonstrated a positive impact on academic outcomes.

Furthermore, Aloka (2023) and Sridevi *et al.* (2024) examined the strong relationship between academic resilience and academic adjustment, academic performance, and emotional well-being. Oyoo *et al.* (2018) and Dar and Chakraborty (2019) investigated the association between resilience and academic burnout and stressors. Studies conducted in different educational contexts across India, South Africa, Indonesia, Kenya, and Malaysia indicate that although students exhibit varying levels of resilience, resilience consistently contributes to improved academic performance, problem-solving ability, and emotional well-being. Several studies explored the influence of self-esteem, socio-economic status, and motivation on students' academic resilience (Ojeleye *et al.*, 2023; Hayat *et al.*, 2021). Research by Mwangi *et al.* (2015), Dwiastuti *et al.* (2021), Ononye *et al.* (2023), and Elnaem *et al.* (2024) reported a positive relationship between academic resilience and academic success. These findings suggest that more resilient students tend to perform better academically. Amzil (2023) and Dwiastuti *et al.* (2022) further noted that resilient students are better equipped to manage academic stressors, including challenges posed during periods such as the COVID-19 pandemic. However, some studies have reported no significant relationship between resilience and overall academic performance (Zuill, 2016; Sarwar *et al.*, 2010), indicating that additional mediating factors may influence academic outcomes. Academic self-efficacy has been identified as a strong predictor of academic resilience (Cassidy, 2015; Rajan *et al.*, 2017). Other influential predictors include locus of control, academic engagement (Rajan *et al.*, 2017), and achievement goal orientation (Jowkar *et al.*, 2014). Resilience is also shaped by protective factors such as family support and peer relationships (Kader & Abad, 2017). The issue of gender differences in academic resilience has been widely debated. Some studies suggest that female students demonstrate higher levels of resilience (Jan & Praveen, 2023; Kader & Abad, 2017), while others report that male students exhibit greater resilience in academic settings (Mallick & Kaur, 2016; Sarwar *et al.*, 2010). Locality also plays a significant role, with urban students generally demonstrating higher resilience compared to their rural counterparts, who often face limited resources and fewer academic opportunities (Mallick & Kaur, 2016). Beyond demographic variables, emotional intelligence has been linked to resilience, with emotional resilience supporting sustained academic performance under pressure (Ononye *et al.*, 2022). Taken together, these studies highlight academic resilience as a critical factor in student success, contributing to reduced stress, enhanced self-efficacy, and improved adaptability. However, the mixed findings regarding gender and contextual factors indicate the need for further research to better understand how academic resilience operates across diverse educational settings.

4. Research Questions

To summarize, the preceding sections have reviewed relevant literature on academic resilience and its significance in educational settings, particularly among prospective teachers. The methodologies used to assess academic resilience and the factors influencing it have also been discussed. The review highlights key patterns and themes that provide valuable insights into the role of resilience in teaching and learning. Based on these insights, the present study seeks to address the following research questions:

- What are the levels of academic resilience among prospective teachers in Western Odisha?
- How does academic resilience vary among prospective teachers across different age groups?
- Are there significant gender-based differences in the academic resilience of prospective teachers?

- To what extent does geographic location, rural or urban, influence the academic resilience of prospective teachers?

5. Objectives of the Study

- To assess the levels of academic resilience among prospective teachers in Western Odisha.
- Compare the academic resilience of prospective teachers in terms of age.
- To compare the academic resilience of prospective teachers in terms of gender.
- To compare the academic resilience of prospective teachers in terms of locality.

6. Hypotheses of the Study

- H01: There is no significant difference in academic resilience among prospective teachers in terms of age.
- H02: There is no significant difference in academic resilience among prospective teachers in terms of gender.
- H03: There is no significant difference in academic resilience among prospective teachers in terms of locality.

7. Materials and Methods

7.1. Research Design

The present research adopts a descriptive survey research design to empirically assess academic resilience among prospective teachers in Western Odisha. Data were collected once using a standardized self-administered questionnaire to obtain relevant and appropriate data. This study adopted a quantitative approach, as the research questions required numerical analysis. Quantitative techniques were also applied in prior similar studies, supporting the choice of this methodology. A deductive methodology was followed, as the study aimed to explore relationships between academic resilience and demographic variables such as age, gender, and locality. The research process began with a theoretical foundation, leading to hypothesis formulation, data collection, and statistical validation of the findings.

7.2. Population and Sample

The research targeted pre-service teacher educators in Western Odisha who are preparing for a profession in teaching. Pre-service teacher educator refers to students enrolled in programmes such as B.Ed., M.Ed., Integrated B.Ed., Integrated B.Ed.-M.Ed., or similar programmes. A representative sample of 524 pre-service teachers was selected to ensure adequate statistical power, representativeness and reliability of the findings. The sample size was considered sufficient to capture. variability within the population and to support meaningful statistical comparisons. Participants were selected using a simple random sampling technique to ensure representativeness, which ensured that each individual had an equal probability of selection, thereby minimizing selection bias and enhancing the generalizability of the results across the Western Odisha region. The large sample size justified the use of parametric statistical techniques.

7.3. Instrumentation: Academic Resilience Scale

The Academic Resilience Scale, developed by Meher and Bariha (2024), was used to measure the academic resilience of pre-service teachers in Western Odisha. The scale was carefully constructed and subjected to extensive validation and reliability testing to ensure psychometric soundness. The Academic Resilience Scale assesses four constructs of academic resilience, namely self-efficacy, problem solving ability, perceived social support, and peer group acceptance.

7.4. Validity Assessment

The validity of the Academic Resilience Scale was established using multiple validation approaches:

7.4.1. Face Validity

Face validity was established through evaluation by a panel of faculty members from education and psychology disciplines, ensuring alignment with the theoretical constructs of academic resilience.

7.4.2. Content Validity

Content validity was established through the evaluation of expert reviewers from various universities, ensuring that items were relevant, clear, and meaningfully aligned with the specified dimensions. The Content Validity Ratio was calculated using Lawshe's (1975) method, with values ranging from 0.6 to 0.8 and an overall Content Validity Ratio of 0.75, indicating strong content validity.

7.4.3. Concurrent Validity

Concurrent validity was assessed by correlating the self-developed Academic Resilience Scale with a standardized academic resilience scale developed by D'souza and Pandya (2021). The Pearson correlation coefficient ($r = 0.859$, $p < 0.01$) indicated a high level of agreement, confirming strong concurrent validity.

7.5. Reliability Analysis

The reliability of the Academic Resilience Scale was assessed using Cronbach's alpha and split-half reliability methods:

7.5.1. Internal Consistency

Internal consistency was measured using Cronbach's alpha ($\alpha = 0.904$) for the overall scale. Subscale reliability values ranged from 0.697 for self-efficacy to 0.772 for problem solving ability.

7.5.2. Split-Half Reliability

Split-half reliability was assessed using Guttman's coefficient, which yielded a value of 0.847 for the overall scale. Subscale coefficients ranged from 0.698 to 0.761, indicating strong reliability and internal consistency.

7.6. Scoring and Statistical Interpretation

The Academic Resilience Scale followed a five-point Likert Scale format. Each item had five response options: 5 for Strongly Agree, 4 for Agree, 3 for Neutral, 2 for Disagree, and 1 for Strongly Disagree for positively worded items. Scoring was reversed for negatively worded items. The scale consisted of 24 items, with a possible score range of 24 to 120. The mean score was 21.04, with a standard deviation of 4.084. Z scores were computed to classify participants according to levels of academic resilience, enabling comparative analysis across demographic variables.

7.7. Data Collection Procedure

Data were collected from prospective teachers through surveys and field visits to teacher education institutions across Western Odisha, including Bargarh, Balangir, Sambalpur, Jharsuguda, Sundargarh, Angul, and Bhawanipatna. Prior to data collection, formal permission was obtained from the heads of the institutions. Final year students enrolled in Integrated B.Ed., Integrated B.Ed.-M.Ed., B.Ed., and M.Ed. programmes were selected as respondents. The researcher explained the purpose of the study, administered the questionnaire, and obtained informed consent from all participants. Data collection was conducted over a period of two months to accommodate institutional schedules. Completed responses were coded, securely stored, and analyzed using statistical software, namely SPSS.

7.8. Ethical Approval Statement

The study was conducted in accordance with standard ethical guidelines. Formal permission was obtained from the heads of all participating teacher education institutions. Participants were informed about the purpose of the study, and confidentiality and anonymity were maintained by avoiding the collection of identifying information and coding all responses. The collected data were securely stored and used solely for research purposes, ensuring fairness, transparency, and integrity throughout the research process.

7.9. Data Analysis Techniques

To achieve the study objectives, descriptive statistics such as mean and standard deviation were used. Inferential statistics, specifically independent sample t tests, were applied to determine the significance of mean differences. Effect sizes were calculated using Cohen's d. For between-group comparisons, d was computed using pooled standard deviations, while for within-subject analyses, d was calculated based on the standard deviation of paired differences.

8. Data Analysis and Results of the Study

8.1. Academic Resilience Levels of Prospective Teachers

Table 1: Academic Resilience Level of Prospective Teachers

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Academic Resilience	524	48	120	98.28	11.678
Valid N (listwise)	524	-	-	-	-

From Table 1, descriptive statistics indicate that the academic resilience scores ranged from a minimum of 48 to a maximum of 120. These scores represent the lowest and highest levels of resilience reported by the respondents, reflecting significant variability in resilience among prospective teachers. The mean score

of academic resilience was found to be 98.28, which suggests that, on average, prospective teachers exhibit a moderate to high level of resilience in their academic pursuits. The findings indicate that future teachers are reasonably able to demonstrate academic resilience in the face of academic stressors. The standard deviation of 11.678 suggests variability among scores on the academic resilience scale. Most scores cluster around the mean; however, the observed variability indicates that individuals may demonstrate much higher or lower levels of academic resilience compared to others. These findings highlight the importance of considering individual differences when designing interventions or programmes aimed at strengthening academic resilience among prospective teachers. Overall, the results suggest that prospective teachers generally demonstrate moderate to high levels of academic resilience.

8.2. Academic Resilience of Prospective Teachers in Terms of Age

In the present study, academic resilience was examined based on age, with two groups identified as the lower age group comprising 18 to 25 years and the higher age group comprising 26 to 32 years. To compare the mean academic resilience scores of prospective teachers across age groups, an independent sample t test was conducted using SPSS 23. The results of this analysis are presented in Table 2.

Table 2: Independent Samples t-test for Academic Resilience Scores of the Lower and Higher Age Group of Prospective Teachers

Age Group	N	Mean	SD	t-value	df	Sig. (2-tailed) P-Value	Cohen's d	Remark(s)
Lower age	464	98.42	11.830	.370	522	.711	0.004	Not Significant
Upper age	60	97.82	11.941	.368	74.773	.714		

From Table 2, it is evident that the t value is 0.370, with a p value of 0.711, which is not statistically significant. This indicates that the mean academic resilience scores of prospective teachers from different age groups do not differ significantly. Thus, the null hypothesis stating that there is no significant difference in academic resilience based on age is not rejected. Descriptive statistics reveal that lower age group prospective teachers had a mean academic resilience score of 98.42 with a standard deviation of 11.830, while higher age group prospective teachers had a slightly lower mean score of 97.82 with a standard deviation of 11.941. Although the mean difference of 0.601 suggests minimal variation between the two groups, this difference is not statistically meaningful. The effect size was extremely small, with Cohen's d equal to 0.004, indicating a negligible practical difference between the groups. These findings suggest that age does not have a significant impact on the academic resilience of prospective teachers. Although prospective teachers in the lower age group demonstrated slightly higher resilience scores, the variation is minimal and does not indicate a meaningful distinction.

8.3. Academic Resilience of Prospective Teachers in Terms of Gender

In the present study, academic resilience was examined based on gender, with two categories, namely males and females. To compare the academic resilience of prospective teachers in terms of gender, an independent sample t-test was conducted using SPSS 23. The results of the analysis are presented in Table 3.

Table 3: Independent Samples t-test for Academic Resilience Scores of Male and Female Prospective Teachers

Gender	N	Mean	SD	t-value	df	Sig. (2-tailed) P-Value	Cohen's d	Remark(s)
Male	263	97.66	11.976	-1.344	522	0.180	-0.005	Not Significant
Female	261	99.05	11.669	-1.344	521.825	0.180		

From Table 3, it is evident that the t value is -1.344, with a p value of 0.180, which is not statistically significant. This indicates that the mean academic resilience scores of male and female prospective teachers do not differ significantly. Thus, the null hypothesis stating that there is no significant difference in academic resilience based on gender is not rejected. Descriptive statistics reveal that male prospective teachers had a mean academic resilience score of 97.66 with a standard deviation of 11.976, while female prospective teachers had a slightly higher mean score of 99.05 with a standard deviation of 11.669. Although the mean difference of 1.028 suggests that female prospective teachers tend to have slightly higher academic resilience, this difference is not statistically meaningful. The effect size was extremely small, with Cohen's d equal to -0.005, indicating a negligible practical difference between male and female groups. These findings suggest that gender does not significantly influence the academic resilience of prospective teachers. While female prospective teachers demonstrated marginally higher resilience scores, the observed variation is minimal and does not represent a meaningful distinction.

8.4. Academic Resilience of Prospective Teachers in Terms of Locality

In the present study, academic resilience was examined based on locality, with two categories, namely urban and rural. To compare the academic resilience of prospective teachers in terms of locality, an independent sample t test was conducted using SPSS 23. The results of this analysis are presented in Table 4.

Table 4: Independent Samples t-test for Academic Resilience Scores of Rural and Urban Prospective Teachers

Locality	N	Mean	SD	t-value	df	Sig. (2-tailed) P-Value	Cohen's d	Remark
Rural	350	97.49	12.055	-2.372	522	.018	-0.000	Significant
Urban	174	100.08	11.208	-2.431	368.762	.016		

From Table 4, it is evident that the t value is -2.372, with a p value of 0.018, which is statistically significant. This indicates that the mean academic resilience scores of prospective teachers from rural and urban areas differ significantly. Thus, the null hypothesis, which states that there is no significant difference in academic resilience based on locality, is rejected. Descriptive statistics reveal that prospective teachers from rural areas had a mean academic resilience score of 97.49 with a standard deviation of 12.055, while those from urban areas had a slightly higher mean score of 100.08 with a standard deviation of 11.208. The mean difference of -2.592 suggests that urban prospective teachers tend to have higher academic resilience than their rural counterparts. However, the effect size was extremely small, with Cohen's d equal to 0.00, indicating that although the difference is statistically significant, it has negligible practical significance. These findings suggest that locality has a statistically significant but practically minimal difference in the academic resilience of prospective teachers, with urban students demonstrating greater resilience compared to those from rural backgrounds.

9. Discussion

The present study contributes to the existing body of knowledge on academic resilience by examining the resilience levels of prospective teachers in Western Odisha. The overall mean score (M = 98.35) indicates that the prospective teachers possess moderate to high levels of academic resilience, suggesting that most are better able to manage academic-related challenges, cope with stress, and adapt to the demands of training. This finding aligns with previous studies conducted among B.Ed. trainees and college students (Swamy, 2019; Ayasrah & Albalawi, 2022). However, variation in scores within the sample highlights that while many prospective teachers demonstrate strong resilience, a section of the sample exhibits moderate or low levels of academic resilience and continues to face challenges in handling academic demands. This observation supports the findings of Mirza and Arif (2018), who emphasized the importance of targeted support for academically vulnerable learners.

The study revealed that the age of prospective teachers does not significantly influence academic

resilience. These findings align with earlier studies by Singh and Khatiwora (2020). The limited age range of the participants may explain the absence of age-related differences in resilience. Similarly, gender was also found not to significantly influence resilience levels, although female prospective teachers recorded slightly higher mean scores than male prospective teachers. These findings are consistent with the studies of Pai and Arjun (2023) and Rao and Krishnamurthy (2018). However, other studies have reported higher resilience among females (Jan & Praveen, 2023; Rasheed & Sultan, 2023), indicating that gender differences in resilience may vary across cultural, social, and educational contexts. In the present context, the relatively equitable learning environment in teacher education institutions may contribute to reducing gender-based disparities in resilience.

The study further revealed a significant difference in academic resilience based on locality. Urban prospective teachers demonstrated higher levels of academic resilience compared to their rural counterparts. This finding is supported by earlier studies reporting higher resilience among students from urban backgrounds (Mallick & Kaur, 2016). Better academic facilities, exposure to diverse learning resources, and stronger social networks available to urban students may contribute to enhanced resilience. In contrast, rural trainees may face challenges such as inadequate infrastructure, socio-economic constraints, and limited access to academic support, which can restrict the development of perseverance, problem-solving skills, and emotional regulation. These findings emphasize the role of contextual and environmental factors in shaping academic resilience (Hayat *et al.*, 2021; Ojeleye *et al.*, 2023).

Overall, the findings align with previous research highlighting the strong relationship between academic resilience and academic adjustment, performance, and mental well-being (Aloka, 2023; Sridevi *et al.*, 2024). Students with higher resilience tend to experience lower academic burnout, greater emotional stability, and stronger academic engagement (Oyoo *et al.*, 2018; Dar & Chakraborty, 2019). The moderate to high resilience observed among prospective teachers in the present study is encouraging, as resilience is an essential attribute for future educators. At the same time, the observed differences across localities underscore the need for targeted institutional support for rural trainees through resilience-building programmes, mentoring systems, academic counselling, and improved access to learning resources.

10. Conclusion

The study concludes that pre-service teachers in Western Odisha demonstrate moderate to high levels of academic resilience, which is a critical quality for success in teacher education and professional practice. Among the demographic variables examined, locality emerged as the only significant factor, with urban pre-service teachers exhibiting higher academic resilience than rural pre-service teachers. Age and gender did not show statistically significant differences, reinforcing earlier findings that academic resilience is shaped more by social and contextual factors than by individual characteristics (Pai & Arjun, 2023; Rao & Krishnamurthy, 2018). Furthermore, the findings highlight the importance of incorporating resilience-enhancing strategies within teacher education programmes, such as stress management training, peer mentoring, and social-emotional learning initiatives (Oyoo *et al.*, 2018; Mirza & Arif, 2018). In particular, rural teacher education institutions require targeted interventions to address resource limitations and bridge the urban-rural resilience gap.

The study has certain limitations, as it focused only on prospective teachers in Western Odisha and relied on self-reported data, which may be influenced by social desirability bias. Future research should extend to broader geographical regions and adopt mixed-method approaches, combining quantitative surveys with qualitative interviews or behavioural measures. Longitudinal studies may also provide deeper insights into the development of academic resilience during teacher education and professional practice. Additionally, future studies should explore other influential factors such as socio-economic background, family support, and institutional climate, which are important predictors of academic resilience.

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Authorship Contribution

Both authors played an equally formative role in this research study. One lead the data analysis and interpretation of the results, while also significantly contributing to the writing of the manuscript. The other provided useful insights about the overall framework and shaped the understanding of the results related to academic resilience. Together, they developed the research design and data analysis methods and directed the interpretation of the results. Both authors reviewed and approved the final manuscript.

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Conflict of Interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Declarations

There are no specific declarations to be made regarding this article.

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