

Research Paper

Academic Stress among Adolescents from Nuclear and Joint Families: A Study in Ranchi Town

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ABSTRACT

Background: Adolescence is a critical developmental period marked by academic pressure and emotional challenges. Family structure and gender may significantly influence how adolescents experience academic stress. **Method:** The present study aimed to examine the differences in academic stress among adolescents based on gender (male vs. female) and family structure (nuclear vs. joint) in Ranchi town. 120 Adolescents students (60 from nuclear families and 60 from joint families) were selected using stratified random sampling as a sample for the study. A 2x2 factorial design and comparative research design was used in the present study. For data collection, tools such as personal-socio demographic data sheet and Academic Stress Questionnaire (ASQ), developed by Akram, Khan, and Baby (2013) were used. An independent samples t-test was used to analyze the differences in mean academic stress scores across groups. **Results:** The findings revealed that adolescents from nuclear families experienced significantly higher levels of academic stress compared to those from joint families. Similarly, female students reported greater academic stress than their male counterparts. Both differences were found to be statistically significant, indicating that both family structure and gender play an important role in influencing academic stress among adolescents. **Conclusion:** The study concluded that both gender and family structure have a significant effect on academic stress among adolescents. Students from nuclear families and female students are more vulnerable to academic stress. These findings highlight the importance of emotional support systems within families and suggest the need for gender-sensitive academic counseling.

Keywords: *Academic Stress, Adolescence, Gender Differences, Family Structure, Nuclear Family, Joint Family*

Academic stress refers to the psychological, emotional, and physical strain caused by academic demands, expectations, and challenges (Córdova Olivera et al., 2023). It is a type of stress that arises specifically in educational settings, such as schools, colleges, and universities. This form of stress is experienced by students when they perceive the demands of their academic environment as exceeding their ability to cope (Lal, 2014). Academic stress is distinct from other types of stress because it is directly tied to educational experiences, such as exams, assignments, and performance expectations. It involves

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cognitive appraisal, where students assess situations as either challenging, threatening, or benign (Lazarus & Folkman, 1984).

According to WHO, stress can be defined as a state of worry or mental tension caused by a difficult situation. Stress is a natural human response that prompts us to address challenges and threats in our lives. Stress is an inevitable part of everyone's life. The way we respond to stress, however, makes a big difference to our overall well-being.

Academic stress in adolescents refers to the psychological pressure and anxiety that young individuals experience in relation to their educational responsibilities. This phenomenon is increasingly prevalent in today's competitive academic environment, where high expectations from parents, teachers, and society can create an overwhelming burden (Rentala et al., 2019). Adolescents, typically aged between 12 and 18, are at a critical developmental stage where they are not only grappling with the demands of their studies but also navigating the complexities of identity formation and peer relationships. (Branson et al., 2019).

As no one is immune to stress, this means college students are no exception to that and are subjected to stress. Optimal level of stress is good as it motivates students to perform efficiently. However, too much stress can backfire and cause various issues. Student's stress is interchangeably used with academic stress which refers to the transient experience of pressure, anxiety or distress related to achieving academic goals. Academic stress is usually witnessed during examinations, seminars, completion of assignments and on the day of result (Gupta, 2020).

Sources of academic stress are multifaceted. For instance, the pressure to achieve high grades, excel in standardized tests, and secure admission to prestigious colleges can lead to significant emotional strain. Research indicates that nearly 70% of high school students report feeling stressed about their academic performance, with many citing fear of failure as a primary concern. This fear can manifest in various ways, including procrastination, burnout, and even physical symptoms, such as headaches and fatigue. (Pascoe, Hetrick, & Parker, 2019).

Moreover, the advent of technology and social media has added another layer to this stress. Adolescents are constantly bombarded with information and comparisons to their peers, which can exacerbate feelings of inadequacy and anxiety. The phenomenon of "academic envy," where students compare their achievements to those of others online, can lead to a detrimental cycle of self-doubt and increased pressure to perform. (Romero, 2015).

The implications of academic stress are profound and can affect not only mental health but also overall well-being. Chronic stress during adolescence has been linked to a range of issues, including depression, anxiety disorders, and even substance abuse. Furthermore, the impact of academic stress can extend beyond the individual, affecting family dynamics and social relationships. Parents may inadvertently contribute to their child's stress by imposing unrealistic expectations or by responding to their academic struggles with frustration rather than support. (Jones et al., 2018).

Academic stress among students can be influenced by family structure, specifically whether they live in nuclear or joint families. Nuclear families typically consist of parents and their

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children, while joint families include multiple generations living together under one roof (Mathur, 2020).

Research indicates that students in joint families may experience different levels and sources of stress compared to those in nuclear families. For instance, students in joint families might benefit from increased social support from multiple family members, which can buffer against academic stress. This support can include help with studies, emotional encouragement, and shared responsibilities, potentially reducing the individual burden on the student. Additionally, the presence of multiple adults in a joint family can provide diverse perspectives and coping strategies for dealing with academic pressures (Deng et. al., 2022).

On the other hand, joint families may also present unique stressors. Students might face pressure to conform to family expectations or follow specific career paths, limiting their autonomy and increasing stress. Conflicts within the family, differences in opinion on academic matters, or a lack of privacy can also contribute to heightened stress levels (Feinauer, Lund, & Miller, 1987).

In contrast, students in nuclear families may experience more direct parental involvement in their education, which can be both beneficial and stressful. While some students might thrive under close parental supervision and guidance, others may find it overwhelming or controlling, leading to increased academic stress (Kulakow, 2021). The level of stress experienced is also affected by cultural and social values.

Academic stress can affect male and female students differently, and research findings on this topic are diverse. Some studies suggest that female students experience more academic stress compared to their male counterparts. This is sometimes attributed to factors such as pressure from parents and increased strain, which can worsen mental health in girls. Similarly, another study found that female students in private schools reported higher academic stress levels than male students (Ghosh, 2016).

However, other research indicates that male students may experience more stress. A study on higher secondary students implied that males are more stressed than females. Additionally, a recent study found that male students have higher stress levels compared to female students (Anchal & Karishma, 2024). These conflicting findings suggest that the relationship between gender and academic stress is complex and can be influenced by various factors, such as the specific academic environment, cultural context, and individual coping mechanisms.

Some studies indicate no significant difference in academic stress between male and female students. One study, including both tribal and non-tribal students, found no significant difference in stress levels between genders. Another study focusing on science stream students also found no significant difference in academic stress between males and females. These results suggest that while gender can play a role in how stress is experienced, it is not always a determining factor.

To address academic stress effectively, it is crucial to foster a supportive environment that encourages open communication between adolescents, parents, and educators. Implementing stress management techniques, such as mindfulness practices, time management skills, and promoting a balanced lifestyle that includes physical activity and social engagement, can

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significantly alleviate the pressures faced by students. Schools can play a pivotal role by integrating mental health resources and promoting a culture that values effort and personal growth over mere academic achievement.

This study addresses an important gap by exploring academic stress among adolescents based on family structure nuclear vs. joint in the specific context of Ranchi. While previous research has examined academic stress, limited attention has been given to how different family environments contribute to stress levels in adolescents. By comparing these two groups, this study offers a clearer understanding of the role of family structure in shaping academic experiences. It also highlights gender-based differences, adding depth to existing literature. The findings can support educators, counselors, and parents in creating targeted interventions to reduce stress and improve student well-being.

Objectives

- To assess and compare the levels of Academic Stress among Adolescents based on Gender (male and female) and Family Structure (nuclear and joint families) in Ranchi town.
- To examine the effect of Gender (male and female) on Academic Stress among Adolescents.
- To examine the effect of Family Structure (nuclear and joint families) on Academic Stress among Adolescents.

Hypotheses

- There is a significant difference in the levels of Academic Stress among Adolescents based on Gender (male and female) and Family Structure (nuclear and joint families) in Ranchi town.
- There is a significant effect of Gender (male and female) on Academic Stress among Adolescents.
- There is a significant effect of Family Structure (nuclear and joint families) on Academic Stress among Adolescents.

METHODOLOGY

Sample

The study was conducted among Senior Secondary College-going Adolescents in Ranchi Town, within the age range of 15-18 years. A total of 120 students (60 Male and 60 female) from both nuclear and joint families participated in the study. The sample was selected using the stratified random sampling technique, ensuring equal representation of gender and family structure. A 2x2 factorial design was used, where the factors of stratification included:

- Gender: 2 (Male and Female).
- Family Structure: 2 (Nuclear and Joint).

The sample was further divided into four sub-groups, with each group consisting of 30 participants, as follows:

1. Male from nuclear families (30 cases)
2. Male from joint families (30 cases)
3. Female from nuclear families (30 cases)
4. Female from joint families (30 cases)

Table 1: Sample Design

Gender	Male		Female	
Family Structure	Nuclear	Joint	Nuclear	Joint
No of Cases	30	30	30	30
Sub-total	60		60	
Grand Total	120			

Variables

a) Dependent Variable

- Academic Stress

b) Independent Variables

- Gender (Male and Female)
- Family Structure (Nuclear and Joint)

c) Control Variables

- Age: The participants were between 15-18 years.
- Educational Level: Only senior secondary college students were included.
- College Type: Students were selected from similar government colleges.

Selection criterion

a) Inclusion Criteria

- Adolescents aged 15-18 years were included in the study.
- Only senior secondary similar government college students were included in the study.
- Participants from both nuclear and joint families were included.
- Only students from the Science stream were included in the study.

b) Exclusion Criteria

- Adolescents below 15 or above 18 years were excluded.
- Students who were not enrolled in senior secondary colleges were not considered.
- Students from streams other than Science (e.g., Commerce and Arts) were excluded.

Tools:

The following tools were used for data collection:

1. Personal Data Questionnaire (PDQ)
2. Academic Stress Questionnaire (ASQ)

1. Personal Data Questionnaire (PDQ): Personal Data Questionnaire (PDQ) was prepared by the Researcher to obtain the socio-demographic details like name, age, sex, family structure, stream, college etc. from the respondents.

2. Academic Stress Questionnaire (ASQ): Academic Stress Questionnaire (ASQ) was developed by Akram, Khan, and Baby (2013) was used to measure and assess academic stress among adolescents (15-18 years). The ASQ consisted of 36 items. Responses were scored on a 4-point Likert scale ranging from No Stress at all (0), Slight Stress (1), a lot of Stress (2) to Extreme stress (3). Higher scores reflect increased academic stress level. The ASQ provides five factors, viz., (i) inadequate academic environment in school/college, (ii) lack of adjustment, (iii) apprehensive

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about future, (iv) poor administration, and (v) worries. Cronbach's alpha of 36 items was found to be **.829**. The construct validity of ASQ ranges from **0.41** to **0.88**.

Procedure

The participants were selected using the stratified random sampling technique, ensuring equal representation of gender and family structure. A total of 120 senior secondary Science stream students (60 male and 60 female) from nuclear and joint families in Ranchi town were included. Data was collected from various senior secondary colleges after obtaining permission from college authorities. Participants were informed about the study's purpose, and written informed consent was obtained. A standardized academic stress questionnaire was administered in a supervised classroom setting, ensuring clarity and avoiding external influences. After data collection, responses were reviewed, coded, and entered into statistical software for analysis. Incomplete or inconsistent responses were excluded from further analysis. Finally, descriptive and inferential statistical methods, including mean, standard deviation, and t-tests, were used to examine differences in academic stress levels based on gender and family structure.

Statistical Analysis

Considering the objectives and hypotheses of the present research, the following statistical techniques were applied for data analysis:

- Descriptive statistics, including percentage, mean, and standard deviation (SD), were used to summarize and interpret the overall trends in academic stress levels among adolescents.
- Independent sample t-tests were conducted to compare the mean differences in academic stress levels between male and female students and between students from nuclear and joint families.
- Graphical representations, such as bar charts and line graphs, were used to visually depict the variations in academic stress across different groups, enhancing clarity and interpretation of the findings.

RESULTS

Section-I

Table 2: Levels of Academic Stress among the Total Sample and Sample Sub-Groups.

Groups	N	Levels of Academic Stress					
		Low (0–36)	%	Average (37–72)	%	High (73–108)	%
Male Students	60	21	35%	24	40%	15	25%
Female Students	60	9	15%	18	30%	33	55%
Gender Total	120	30	25%	42	35%	48	40%
Nuclear Family Students	60	12	20%	21	35%	27	45%
Joint Family Students	60	18	30%	21	35%	21	35%
Family Structure Total	120	30	25%	42	35%	48	40%

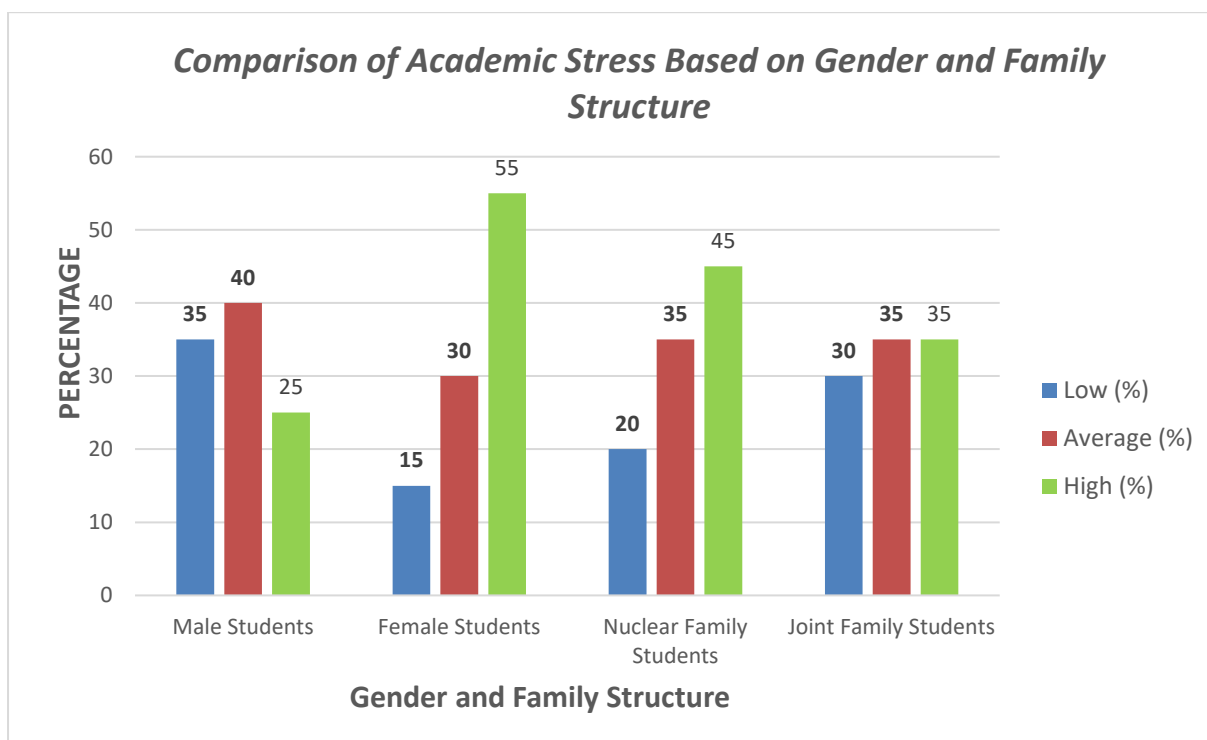


Figure 1. Shows Graphical Representation of Levels of Academic Stress among the Total Sample and Sample Sub-groups.

The table and corresponding graph presented the levels of academic stress among students based on gender and family structure. Among male students, 35% experienced low stress, 40% experienced average stress, and 25% experienced high stress. In contrast, female students showed a different pattern, with only 15% reporting low stress, 30% average stress, and a high percentage (55%) reporting high stress. Regarding family structure, students from nuclear families reported 20% low, 35% average, and 45% high levels of academic stress. On the other hand, students from joint families reported slightly better stress levels, with 30% low, 35% average, and 35% high stress. Overall, the data indicated that female students and those from nuclear families were more likely to experience higher levels of academic stress compared to their counterparts.

Section-II

Mean differences on the basis of Gender

Table 3: Mean Difference in Academic Stress between Male and Female Students.

Group	N	Mean	SD	Mean Difference	df	t-value	Significance (p-value)
Male	60	64.4	13.7	6.2	118	2.24	p < 0.05 (Significant)
Female	60	70.6	16.5				

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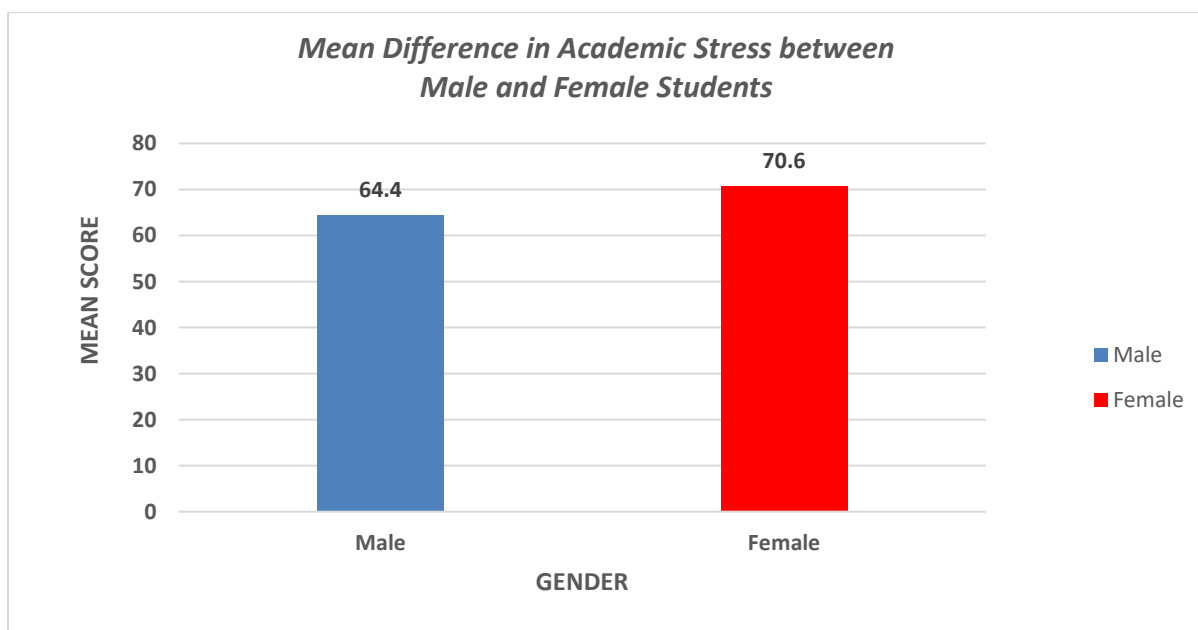


Figure 2. Shows Graphical Representation of Mean Differences in Academic Stress between Male and Female Students.

The results reveal a significant gender difference in academic stress among students. Female students ($M = 70.6$, $SD = 16.5$) reported higher academic stress levels compared to male students ($M = 64.4$, $SD = 13.7$), with a mean difference of 6.2. An independent samples t-test yielded a statistically significant result ($t = 2.24$, $df = 118$, $p < 0.05$). Therefore, the null hypothesis was rejected, supporting the alternative hypothesis that gender has a significant effect on academic stress. These findings suggest that female students experience greater academic stress, highlighting the importance of considering gender when addressing academic stress in adolescents.

Table 4: Mean differences on the basis of Family Structure.

Group	N	Mean	SD	Mean Difference	df	t-value	Significance (p-value)
Nuclear Family Students	60	71.9	15.4	7.2	118	2.64	$p < 0.01$ (Significant)
Joint Family Students	60	64.7	14.5				

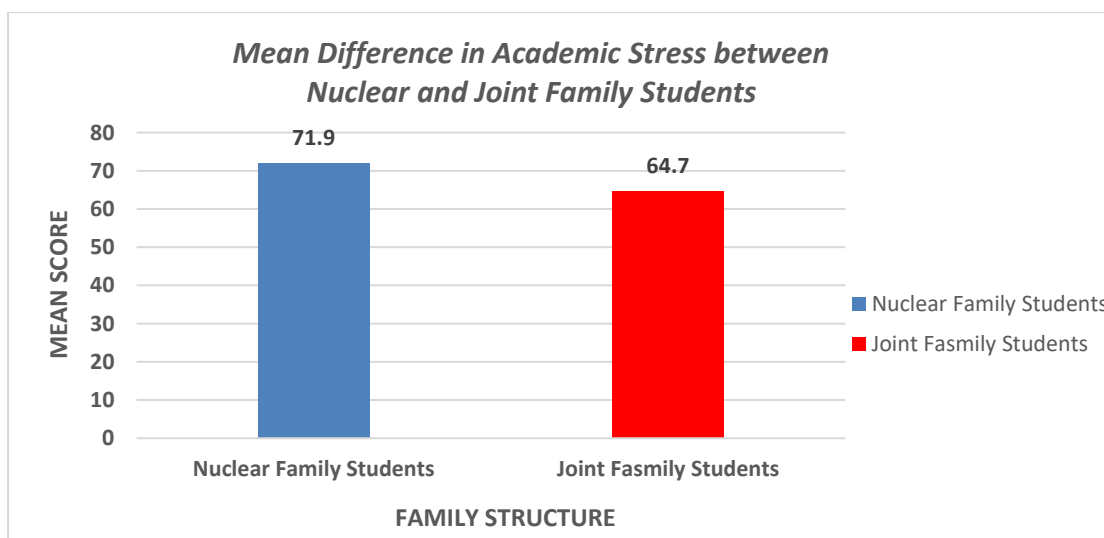


Figure 3. Shows Graphical Representation of Mean Differences in Academic Stress between Nuclear and Joint Family Students

The data presented in the table and graph indicate a significant difference in academic stress based on family structure. Students from nuclear families ($M = 71.9$, $SD = 15.4$) reported higher levels of academic stress compared to students from joint families ($M = 64.7$, $SD = 14.5$), with a mean difference of 7.2. An independent samples t-test yielded a statistically significant result ($t = 2.64$, $df = 118$, $p < 0.01$). Therefore, the null hypothesis was rejected, supporting the alternative hypothesis that family structure has a significant effect on academic stress. These findings suggest that students from nuclear families experience greater academic stress, highlighting the influence of family environment on adolescents' academic well-being.

DISCUSSION

The present study examined academic stress among adolescents with respect to two variables: **gender** (male vs. female students) and **family structure** (nuclear vs. joint families) in Ranchi town. The findings revealed significant differences based on both variables. Firstly, **female students** reported significantly higher levels of academic stress ($M = 70.6$) compared to **male students** ($M = 64.4$). This aligns with earlier studies by **Bindu, K. P., & Happy, P. V. (2024)**, **Devchoudhury, S., & Devasagayam, J. (2022)** and **Ghosh, S. M. (2016)**, which found that female adolescents tend to internalize academic expectations more deeply and are more emotionally sensitive to academic pressures. Girls may also rely more on **emotion-focused coping strategies**, which can intensify stress, whereas boys often adopt **problem-focused or avoidance strategies**, potentially reducing their perceived stress. Secondly, adolescents from **nuclear families** experienced higher academic stress ($M = 71.9$) compared to those from **joint families** ($M = 64.7$). This supports the findings of **Gautam, B., & Sharma, V. (2024)**, **Singh, H., et al. (2023)** and **Kumar, R., & Singh, P. (2023)**, who suggested that joint families provide broader emotional and social support, which can buffer stress. In nuclear families, limited support systems and increased individual responsibilities may contribute to higher stress levels. These results suggest that both **gender** and **family environment** significantly influence academic stress among adolescents. In a semi-urban context like **Ranchi town**, cultural values, social roles, and family dynamics further shape these experiences. Overall, the study emphasizes the need for **gender-sensitive interventions** and **family-based support systems** to help students manage academic stress effectively.

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School counselors, educators, and parents should work together to create a supportive environment that acknowledges these factors.

Implications

These findings have important implications for educators, school counselors, and parents. Awareness programs, stress management workshops, and gender-sensitive support systems should be implemented in schools. Families, especially nuclear families, should foster open communication and emotional support to help adolescents manage academic stress effectively.

Limitations of the Study

The study was limited to students from Ranchi town, so the results may not be generalizable to other regions. The sample size was moderate, and other factors such as academic performance, socio-economic status, and parental involvement were not explored.

Suggestions for Future Research

Future studies should include a larger and more diverse sample across different geographic regions. Researchers should also examine the role of variables like parental pressure, school environment, coping styles, and mental health in academic stress. Longitudinal studies may provide insights into how stress changes across different stages of adolescence.

CONCLUSION

This study found that adolescents from nuclear families and female students experience higher academic stress compared to those from joint families and male students. These results highlight the influence of family structure and gender on academic stress. The findings suggest the need for supportive strategies in schools and families to help reduce stress, especially for girls and students from nuclear families. Future research should explore more factors and include a wider sample to deepen understanding.

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Conflict of Interest

The author(s) declared no conflict of interest.

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