

The Terms of Gender, Stress Level and Family Type Among Engineering College Students

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ABSTRACT: Stress is our response to events that disrupt, or threaten to disrupt, our physical or psychological functioning. This study aims to study the terms of gender, stress level and family type among engineering college students. The study was based on a descriptive & comparative study method. The study was conducted over a population of 50 students of Government College of Engineering, Amravati. Out of which there were 27 boys and 23 girls. The stress scale developed by Dr. M. Singh is used for data collection. The data was analyzed by mean, SD, 't' value. The result found that, there are slightly higher stress levels in girls than compared to boys in engineering colleges. Also found, there is a significant difference in stress levels and family type among engineering college students.

KEYWORDS: Gender, Stress Level, Family Type, Engineering College Students.

1) INTRODUCTION

Psychological stress results from an imbalance between the external environmental demands and an individual's perception of meeting them. Studies have suggested that mental stress is often associated with depression, anxiety, and physical conditions including cancer and cardiovascular diseases. (Sreeram Reddy C. T, Shankar P. R, Binu V. S, Mukhopadhyay C, Ray B, 2007). Stress is the term used to describe the physical, emotional, cognitive, and behavioral responses to events that are evaluated or judged in terms of importance of significance as threatening or challenging. Stress causing events are called stressors; they can come from within a person or from an external source and range from relatively mild to severe.

Stress is increasingly recognized as a major challenge for students, especially those pursuing demanding fields like engineering. Academic pressures, performance expectations, financial concerns, and the struggle to balance multiple responsibilities often contribute to significant stress levels among students. If left unaddressed, chronic stress can negatively impact mental health, academic performance, and overall quality of life. While many factors influence how students experience and manage stress, family structure is one of the most critical yet often overlooked aspects.

Gender:

Psychologically, gender plays a significant role in the experience and expression of stress. Biological differences such as hormonal variations influence how boys and girls respond to stress. Females generally show higher emotional reactivity due to hormones like cortisol and oxytocin. Social expectations also shape stress responses, where males are expected to appear strong and hide their emotions, whereas females are encouraged to express their feelings. As a result, boys often internalize stress, while girls verbalize and seek emotional support. Furthermore, research shows that girls tend to experience higher levels of academic pressure, social concerns, and multitasking stress, whereas boys mostly use problem-solving coping strategies. Therefore, gender differences in stress are influenced by biological factors, emotional expression, social expectations and coping styles.

Family Type:

Family type plays an important role in shaping the emotional and social environment that students rely on to cope with stress. In India, the two predominant family structures are joint families and nuclear families, each offering unique advantages and challenges that can directly affect students' stress levels.

Joint Family

A joint family is a traditional form of extended family in which several generations live together and share their daily life, responsibilities, and available resources. Such a family structure often plays a supportive role in reducing stress among students.

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Living with grandparents, uncles, aunts, and cousins provides a wider emotional support system, which helps students receive advice, comfort, and encouragement during stressful situations. In addition, responsibilities within the household are shared among many members, so the pressure on any one person, including students, is comparatively lower. Constant interaction with family members also reduces feelings of isolation and enhances social bonding. Financial resources are usually pooled together in joint families, which can reduce financial worries for students pursuing higher studies. Moreover, the presence of elders gives students the advantage of receiving proper guidance, discipline, and coping strategies that help them deal effectively with academic and personal challenges. Overall, the joint family system can create a supportive atmosphere that helps students manage stress in a healthier way.

Nuclear Family

A nuclear family consists of parents and their children living together independently, without the presence of extended family members. Although this family pattern offers privacy, autonomy, and personal space, it may also create certain psychological challenges that influence the stress level of students. Due to limited social support, students sometimes have fewer people to confide in or rely on during emotionally stressful situations. With fewer members, household responsibilities are divided among only two or three individuals, which may increase the burden on students alongside academic work. The lack of extended family interactions can also increase feelings of loneliness or isolation, especially during challenging academic periods or personal difficulties. Furthermore, the absence of elders may mean reduced guidance, experience, and coping suggestions that joint families naturally provide.

With reference to the present study, stress level and family type have become highly relevant psychological factors among engineering students. Engineering education demands continuous study, complex practical work, and competitive academic performance, which collectively raise stress levels. At the same time, the type of family system to which students belong, joint or nuclear, plays an important role in determining how effectively they cope with academic pressure. Students from joint families often benefit from emotional support, shared responsibilities, and strong social networks, which help them manage stress in a healthier manner. In contrast, students in nuclear families may enjoy independence but may also experience higher stress during demanding situations due to limited support systems. Psychologically, the family atmosphere influences coping ability, emotional balance, and adjustment skills of students. Therefore, both stress levels and family structure have a direct impact on the mental health, performance, and overall well-being of engineering students.

II) REVIEW OF LITERATURE:

Misra and McKean (2000) found that stress is strongly linked to factors such as heavy coursework, competitive environments, and the pressure to achieve high grades. They also highlighted that poor time management and high anxiety levels further increase stress, often leading to physical and emotional health problems. Desai and Andani (2015) examined stress levels among college students from joint and nuclear families and reported that students in joint families often experience lower stress. This was attributed to the presence of a larger support system that provides emotional security, guidance, and practical help. The study also suggested that joint families may foster stronger social connectedness, which can help students cope better with academic and personal challenges. Sharma (2013) explored how the family environment affects stress levels in adolescents. The study found that students in nuclear families often face greater stress due to limited access to extended family support. While nuclear families provide independence and privacy, they may also place more responsibilities on young adults, increasing their stress. In contrast, the communal living in joint families can offer emotional reassurance and help students feel more secure and cared for during stressful periods. Lipika Boruah & Dr. Tribeni Saikia (2019), studied the overall level of stress among the Engineering Students of Indian Institute of Technology Guwahati. And studied the difference in Level of Stress between Male and Female Engineering Students of Indian Institute of Technology Guwahati with respect to: Pressure Physical Stress Anxiety Frustration using the "Purposive Sampling Technique" among 150 students and It was found that majority of the students have moderate level of stress. A considerable number of students have high levels of stress. In the low stress level, very few students were found. Research on Stress Among the Engineering College Students in Coimbatore, India R.Mayildurai, R.Ashokkumar, K.Karthik, M. Shanmugaprakash (2019) This study aims to analyze the stress among the engineering students from a sample survey. A quantitative method was used in gathering and analyzing the data by distributing questionnaires to the students. The results obtained were analyzed for different factors that cause stress among students. In view of the purpose of this study, a questionnaire was structured carefully.

Objectives:

- 1) To assess stress levels among girls and boys engineering college students.
- 2) To study the gender in stress level among engineering college students.
- 3) To study the family type in stress level among engineering college students.

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Hypothesis:

- 1) Girls have higher stress levels than boys.
- 2) There is a significant difference in the stress levels of Gender among engineering college students.
- 3) There is a significant difference in the stress levels of family type among engineering college students.

III) METHODOLOGY:

Sample

A sample of 50 students of Government College of Engineering, Amravati was studied. Out of which there were 27 boys and 23 girls. These students were between the age group of 18 years to 20 years. This approach ensures a balanced representation of both categories of students within the study, allowing for a comprehensive analysis of the research objectives. While determining the family type, we found 25 students from joint families and 25 students from nuclear families in the entire dataset.

Tools

For data collection, the Stress Scale by Dr. M Sinha was used.

Procedure of Data Collection

After establishing the rapport with students. Stress Scale by Dr M. Singh was administered in a small manageable group with instructions regarding the scale. After students solved the test the data collection scoring of stress scale was done by the scoring method in the given manual.

Statistical Analysis:

Descriptive statistics like Mean and Standard Deviation were calculated and t- test was also carried out.

IV) RESULT AND DISCUSSION:

The results obtained through statistical analysis are recorded in the following observation table no. 1, 2, & 3.

Table No. 1: Mean Score of Stress level among boys and girls engineering students

Sr. No.	Gender	N	Mean value
1	Girls	23	36.47
2	Boys	27	25.92

The findings of the study reveal a noticeable difference in the stress levels of boys and girls. According to Table No. 1, the mean stress score of girls is 36.47, whereas the mean stress score of boys is 25.92 This indicates that girls students experience a significantly higher level of stress compared to boys students. One possible explanation for this difference is that girls may be more emotionally expressive and sensitive to academic, social, and personal pressures. They may also experience additional expectations from family and society regarding academic performance, behavior, and future responsibilities. On the other hand, boys may cope with stress differently or may underreport their emotional difficulties. The higher mean score among girls clearly supports the assumption made in Hypothesis No. 1. Therefore, based on the statistical evidence, **Hypothesis No. 1 is accepted**, confirming that there is a significant difference in the stress levels of boys and girls, with girls showing higher stress levels.

Table No. 2 Mean, SD and t value Among Engineering Students

S.no	Gender	N	Mean	SD	t value	Level
1.	Girls	23	36.47	2.30	2.90 **	Significant
2.	Boys	27	25.92	2.00		

The data clearly shows a notable difference in the stress levels of engineering students based on gender. The mean stress score of girls is 36.47, while the mean score for boys is 25.92 This indicates that, on average, girls report much higher stress than boys. The standard deviation values (Girls = 2.30, Boys = 2.00) show that stress scores within each group do not vary much, meaning the results are consistent within both groups.

The t-value of 2.90 is statistically significant, which means the difference between the stress levels of girls and boys is not due to chance. It confirms a **real and meaningful difference** between both groups. This finding may be due to several possible reasons such as higher academic expectations, multitasking responsibilities, emotional sensitivity, or social pressures experienced more by

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girls. Overall, the results prove that gender plays an important role in determining the stress levels among engineering students, with girls being significantly more stressed than boys. Therefore, based on the statistical evidence, Hypothesis No. 2 is accepted,

Table No. 3 Mean, SD and t value Among Engineering Students

S. N.	variable	Family Types	N	Mean	SD	t Values	Level
1	Stress Level	Nuclear Families	25	33.24	0.73	3.8**	Significant
2		Joint families	25	28.20	1.37		

The results reveal that students from nuclear families experience higher levels of stress than those of students from joint families. The Mean score of students from nuclear families is (M= 33.24, SD=0.73) significantly higher than that of students from Joint families (M=28.20, SD=1.37). The calculated t-value (3.8) is significant at both the 0.01 and 0.05 levels of significance. This finding confirms that there is a significant difference in level of stress between students from nuclear families and students from joint families. Therefore, Hypothesis assumes that Engineering college students from nuclear families have higher Stress levels than students from Joint families. Here the hypothesis no. 3 is accepted.

The findings indicate that there is a significant difference between stress levels between students from joint and nuclear families, indicating that family structure plays an important role in students' stress management. Students from nuclear families show higher mean scores than students from joint families, suggesting that students from nuclear families showed more stress related symptoms. Several factors contribute to these differences like students from nuclear families often experience higher stress because they have limited social and emotional support, more individual responsibilities, and less guidance from extended family. In contrast, students from joint families have lower stress due to shared responsibilities, emotional bonding, and strong support systems.

Thus, the results confirm that students from nuclear families show more stress related symptoms. These findings highlight the impact of the support from the family members on stress levels of the students.

V) CONCLUSION

- 1) The findings of the study indicate that the girls have higher stress levels than boys.
- 2) The results show that there is a significant difference in the stress levels of gender among engineering college students.
- 3) The results show that there is a significant difference in the stress levels of family type among engineering college students.
- 4) Overall, the study concludes that gender and family type both play an important role in determining the stress levels of engineering college students.

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