A REPORT ON
FACTORS AND EFFECTS OF
EXAM RELATED ANXIETY OF STUDENTS

Project Report

Submitted for the partial fulfillment of the

Bachelor Degree (Hons.)

Under the supervision of:

Dr. M.K. CHAUDHARY

Professor

Department of Statistics

Institute of science

Banaras Hindu University

Submitted by:

Shivam Kumar Gond

B.Sc. (Hons.) Statistics

3rd year

Enrollment No.- 443330

Exam Roll No. – 21220STA065

Institute of science

Certificate

The project report titled

'**An overall study of the mental health of students'**

Submitted by ***SHIVAM KUMAR GOND*** *(Exam roll no.-21220STA065) forthe partial fulfillment of the B.Sc.(Hons.) in statistics for the session 2023-2024, has been originally completed by him under my supervision. I recommend this project report for the evaluation.*

Dr. M. K. CHAUDHARY
Department of Statistics
Institute of Science
Banaras Hindu University
Varanasi 221005

Date:

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Shivam Kumar Gond
B.Sc. (Hons.)3rdyear
Institute of Science
Banaras Hindu University

Date:

ABSTRACT

Many students feel very stressed because of exams, which can affect how well they do in their institutes and how they feel overall. This presentation looks into the different parts of ***exam anxiety*** *through a survey that covers students' study habits, stress levels, what makes them anxious, how it affects their health, how they deal with stress, the support they get from their institutes, and how they feel after exams are over.*

We explore how students study and whether good or bad study habits relate to feeling more stressed during exams. We also identify the main things that make students anxious. Our study looks at how this anxiety can make students feel physically ill. We look at what students do to feel less stressed.

Additionally, we check how well educational institutes are helping students handle this stress and how they help students feel better after exams.

With this presentation, we hope to make it easier to understand exam anxiety and the mindset of a student under stress during exams.

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Introduction

Examination anxiety, commonly referred to as test anxiety in academic discourse, represents a complex psychological phenomenon characterized by a profound sense of unease, apprehension, and fear surrounding examinations. This pervasive experience manifests before, during, and even after exams, driven by concerns, worries, or uncertainties regarding performance outcomes.

Zeidner (2008) offered a comprehensive definition, describing it as a constellation of phenomenological, physiological, and behavioral responses accompanying apprehensions about potential negative consequences or failures in evaluative situations. This nuanced understanding underscores the intricate interplay between cognitive, emotional, and physiological dimensions of test anxiety, shaping students' experiences in educational settings.

Test anxiety, in its moderate form, serves as a motivational force, prompting students to maintain focus and mobilize efforts in preparing for exams. However, when anxiety exceeds the optimal threshold, it can become detrimental, impeding students' ability to fulfill academic obligations and compromising their overall well-being.

Coping strategies play a pivotal role in modulating the impact of test anxiety on academic performance. Smith delineated between problem-focused and emotion-focused coping mechanisms, highlighting the diverse approaches individuals employ to navigate stressful situations. Problem-focused strategies entail direct engagement with stress-inducing aspects of the environment, such

as proactive studying techniques and time management skills, while emotion-focused strategies involve cognitive reappraisal and relaxation techniques aimed at alleviating emotional distress.

Severe test anxiety can manifest as debilitating symptoms during examinations, significantly impairing cognitive functioning and performance outcomes. These distressing experiences not only hinder academic performance but also underscore the intricate interplay between psychological states and educational outcomes.

The pervasiveness of test anxiety extends beyond academic settings, permeating various domains of human endeavor. DeCaro et al. illustrated how high-pressure conditions can impair performance and cognitive functioning across diverse contexts, including sports competitions, job interviews, and public speaking engagements.

The pervasive nature of performance anxiety underscores its significance as a universal human experience, influencing individuals' behaviors and outcomes across different life domains.

Distinguishing anxiety from fear is essential for understanding its nuanced effects on human behavior and cognition. Spielberger highlighted anxiety as a broader emotional reaction, extending beyond simple apprehension and often disproportionate to actual threats in the environment. While anxiety can be adaptive in preparing individuals for important events, maladaptive manifestations can disrupt daily functioning and impede academic or vocational development. Vasey and Dadds emphasized the importance of addressing maladaptive anxiety patterns to promote optimal psychological well-being and functioning.

Academic performance serves as a critical indicator of students' achievements following assessments, influenced by various factors including anxiety levels and preparatory efforts. Understanding the

nuanced relationship between anxiety and academic performance is imperative for implementing targeted interventions and support mechanisms to optimize student success.

Recent research has shed light on the hidden costs associated with anxiety, revealing its detrimental effects on cognitive functioning and academic outcomes. Eysenck documented how anxious individuals may struggle with attentional control, leading to difficulties in task management and increased cognitive load. These findings underscore the importance of adopting a comprehensive approach to addressing anxiety in educational settings, encompassing both preventive and remedial strategies to support students' academic success and well-being.

Furthermore, chronic anxiety has been linked to lower self-esteem and adverse effects on academic performance among student nurses. Firth-Cozens and Surgenor & Horn highlighted the pervasive impact of anxiety on students' self-perceptions and professional development, emphasizing the need for targeted interventions to mitigate its negative effects. By fostering a supportive and inclusive learning environment, educators can empower students to navigate anxiety-related challenges effectively and achieve their full academic potential.

In conclusion, examination anxiety represents a multifaceted phenomenon with profound implications for students' academic performance and well-being. By understanding the complex interplay between cognitive, emotional, and contextual factors underlying test anxiety, educators and mental health professionals can implement evidence-based interventions to support students in managing stress and optimizing their academic success. Through targeted strategies aimed at fostering resilience, coping skills, and adaptive learning behaviors, educational institutions can empower students to thrive in challenging academic environments and

cultivate lifelong habits of psychological well-being.

"Exam anxiety is the set of phenomenological, physiological and behavioral responses that accompany concern about possible negative consequences or failure on an exam or similar evaluative situation."
-M. Zeidner

Methodology of The Survey

- ***Planning of the survey***:

  The purpose of this study was to understand the effect of exam related anxiety on the academic performance of the students. And to achieve this, hypothesis was established. Quantitative methods was selected for the same. The focus was on the students who are pursuing undergraduate and postgraduate courses across all streams in Banaras Hindu University.

- ***Objective of the survey***:

  - To identify the correlation between exam related anxiety and
    - academic performance
    - course of study
    - level of study
  - To understand the prevalence of mental health issues among students, such as depression, anxiety and stress.

- ***Area of the survey*:**

  According to the aim of the survey the area for sample collection would be broader but we have fixed it to Banaras Hindu University. We being a student of Banaras Hindu University, the students

are easily available to support us for this survey and they co- ordinated very sincerely.

- ***Sampling technique*:**

A group of units or elements which have well defined characteristics under study, called Population. The population may be finite or infinite, a finite population is one in which unit of population is finite and an infinite population is one in which member of population is infinite. A sample is a finite subset of statistical individuals in a population and a number of individuals/units in a sample is called a sample size. On the basis of sample, we can estimate about the population parameter in which we are interested. The sample was selected by using simple random sampling as sampling technique and sample size collected for survey is 150.

- ***Data collection*:**

Data for this project was collected through Online Questionnaire Method (Google form is used). We did make sure that the form is sent to Whatsapp group of all faculty inside the campus of Banaras Hindu university. We also collected responses from the various faculties and hostels.

- ***Data analysis and reporting*:**

Data analysis involves summarizing the raw data and interpreting their meaning which provides clear answer

to questions in which we are interested. For this purpose, we have used software named as MS-EXCEL, IBM SPSS & MS- WORD. Then we analysed and interpret the data using statistical tools (bar chart and pie chart) available in MS EXCEL and also did Chi-square test and made cross tables using SPSS.

- ***Time of the survey***:

The questionnaire has been prepared by me and group, and shared to students through Whatsapp & E-mail to get response in month of April.

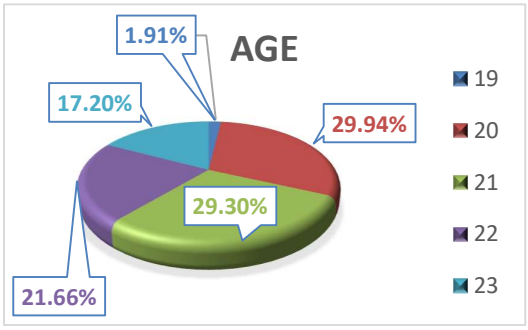
Tabulation

&

Graph Interpretation

Age wise respondents

Age	Frequency	Percentage
19	3	1.91 %
20	47	29.94 %
21	46	29.30 %
22	34	21.66 %
23	27	17.20 %
Grand Total	157	100 %

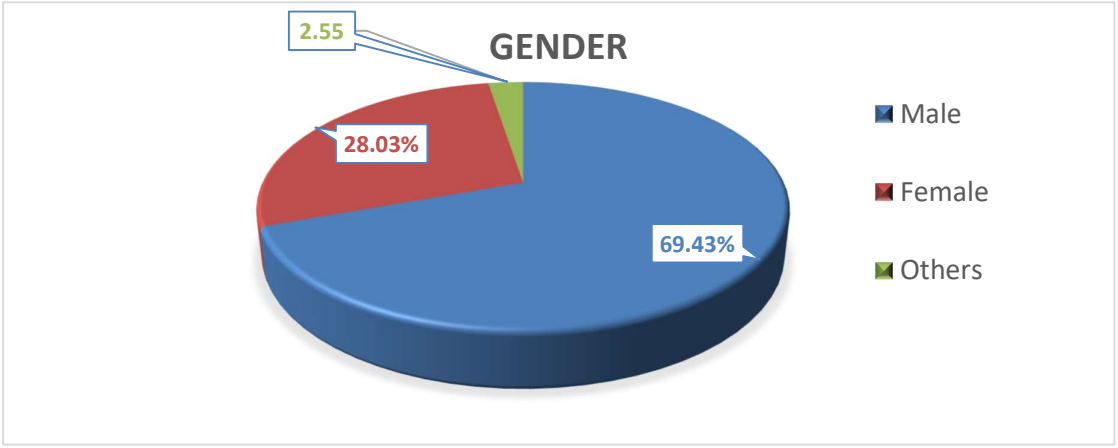


Interpretation :-

- The primary data is collected from 157 respondents.
- From the above pie chart, we can see clearly that in our survey, 1.91 % respondents are of age 19, 29.94 % respondents are of age 20, 29.30 % are of age 21, 21.66 % respondents are of age 22, 17.20 % respondents are age of 23.

Gender wise respondent

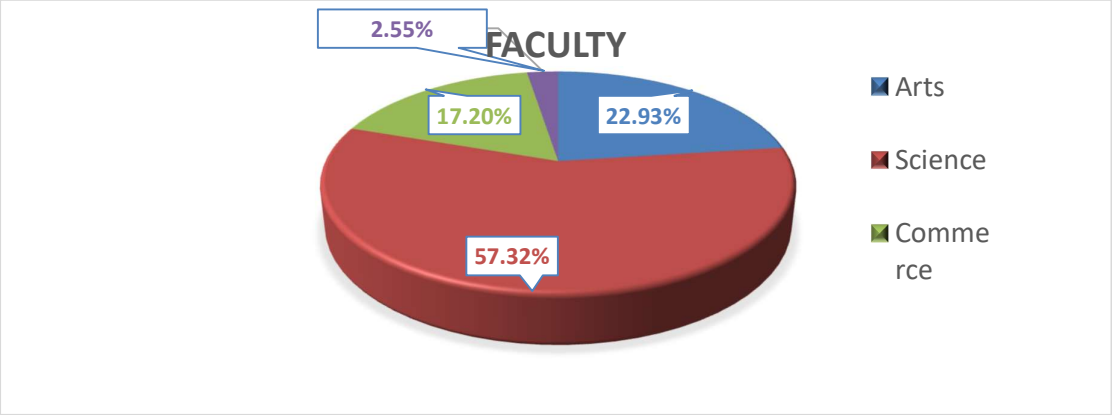
Gender	Frequency	Percentage
Male	109	69.43 %
Female	44	28.03 %
Others	4	2.55 %
Grand Total	157	100 %



Interpretation :-

- From the above pie chart, it can be observed that about 69.43 % respondents are Male, 28.03 % respondents are Female and 2.55% are Others.

Faculty wise respondents



Faculty	Frequency	Percentage
Arts	36	22.93 %
Science	90	57.32 %
Commerce	27	17.20 %
Others	4	2.55 %
Grand Total	157	100 %

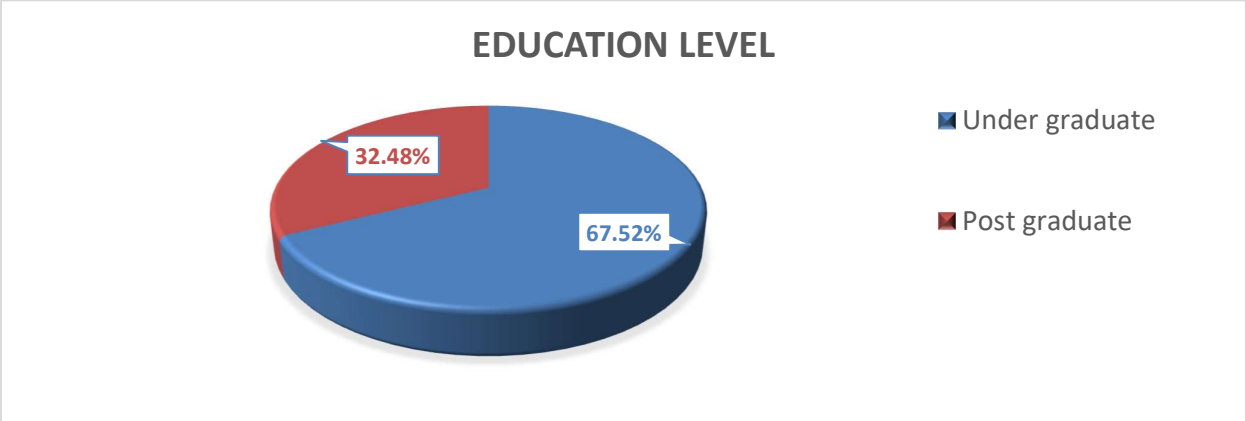
Interpretation :-

From the above pie chart, we can easily observed that

- 22.93 % respondents are from Arts faculty.
- 57.32 % respondents are from Science faculty.
- 17.20 % respondents are from Commerce faculty.
- 2.55 % respondents are from others faculty.

Education Level wise respondents

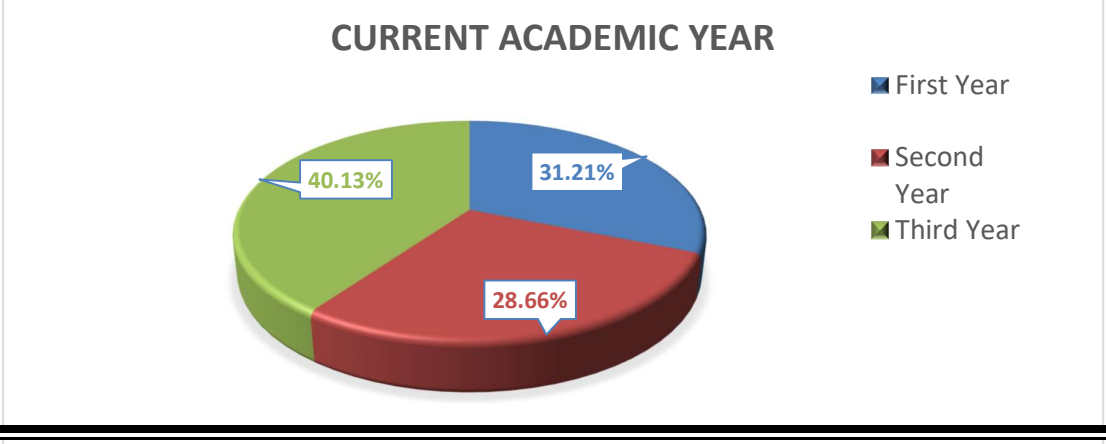
Education Level	Frequency	Percentage
Under graduate	106	67.52 %
Post graduate	51	32.48 %
Grand Total	157	100 %



Interpretation :-

- From the above pie chart it can be easily observed that 67.52% respondents are from Under graduate and 32.48 % respondents are from Post graduate.

Academic Year wise respondents



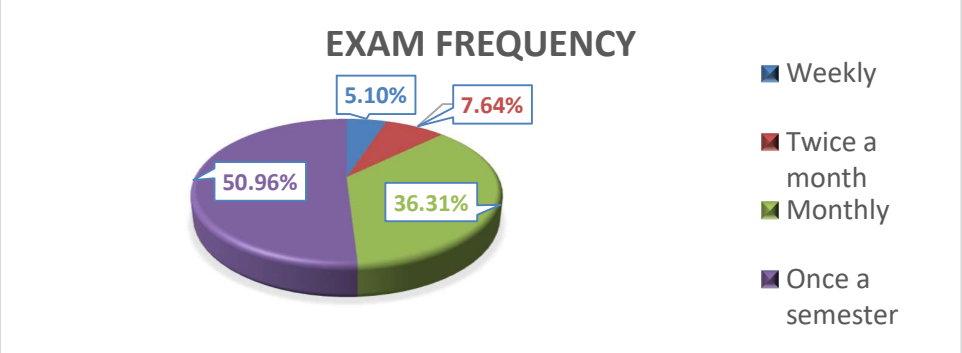
Academic Year	Frequency	Percentage
First Year	49	31.21 %
Second Year	45	28.66 %
Third Year	63	40.13 %
Grand Total	157	100 %

Interpretation :-

- From the above pie chart, we can clearly observed that in our survey,
  the majority 40.13 % of the respondents are from third year.

Exam frequency wise respondent

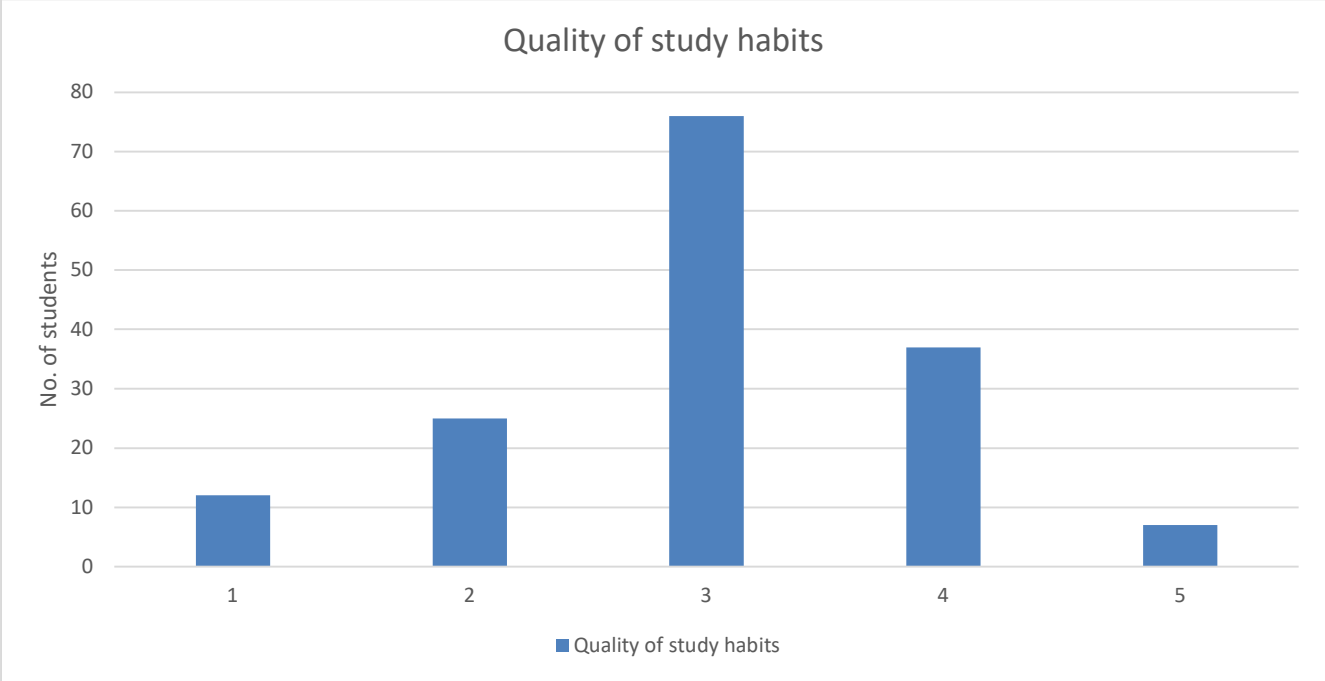
Exam Frequency	Frequency	Percentage
Weekly	8	5.10 %
Twice a month	12	7.64 %
Monthly	57	36.31 %
Once a semester	80	50.96 %
Grand Total	157	100 %



Interpretation :-

- From the above pie chart we can easily observed that in survey, the majority i.e. 50.96 % respondents attempts exam only once a semester.

Study habit wise respondents

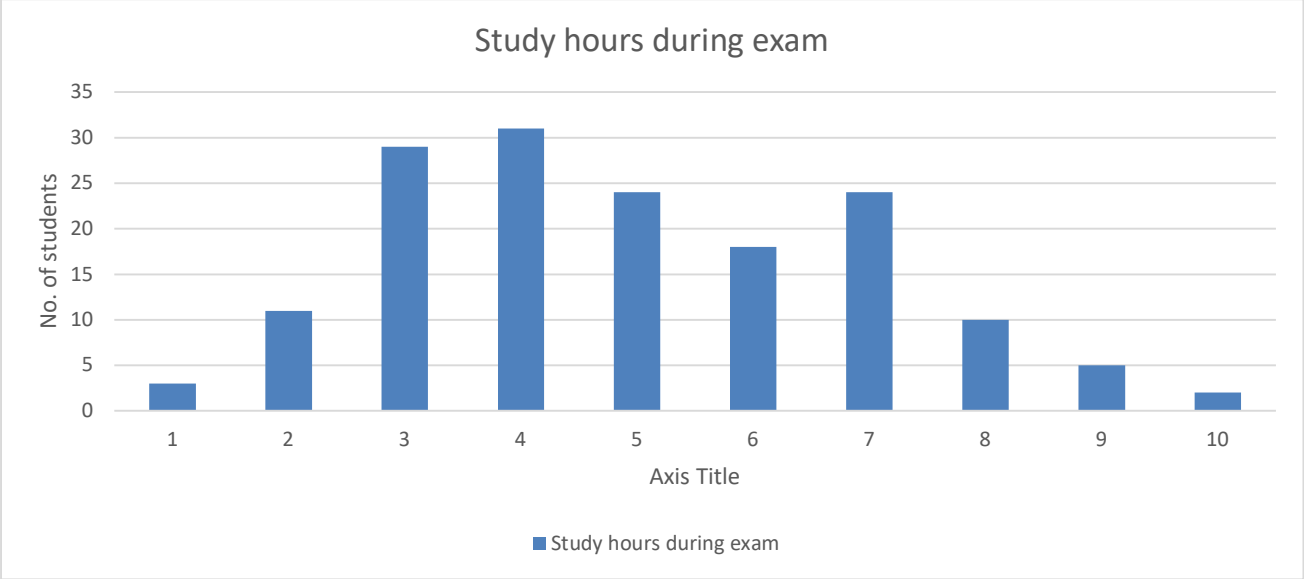


Quality of study habits	Frequency	Percentage
1	12	7.64 %
2	24	15.28 %
3	76	48.40 %
4	38	24.20 %
5	7	4.45 %
Grand Total	157	100 %

Interpretation :-

- From the above bar graph , we can easily observed that –
  - 48.40 % (majority) respondents have rated their study habits 3.
  - 24.20 % respondents have rated their study habits 4 e.t.c.

Study hours during exam

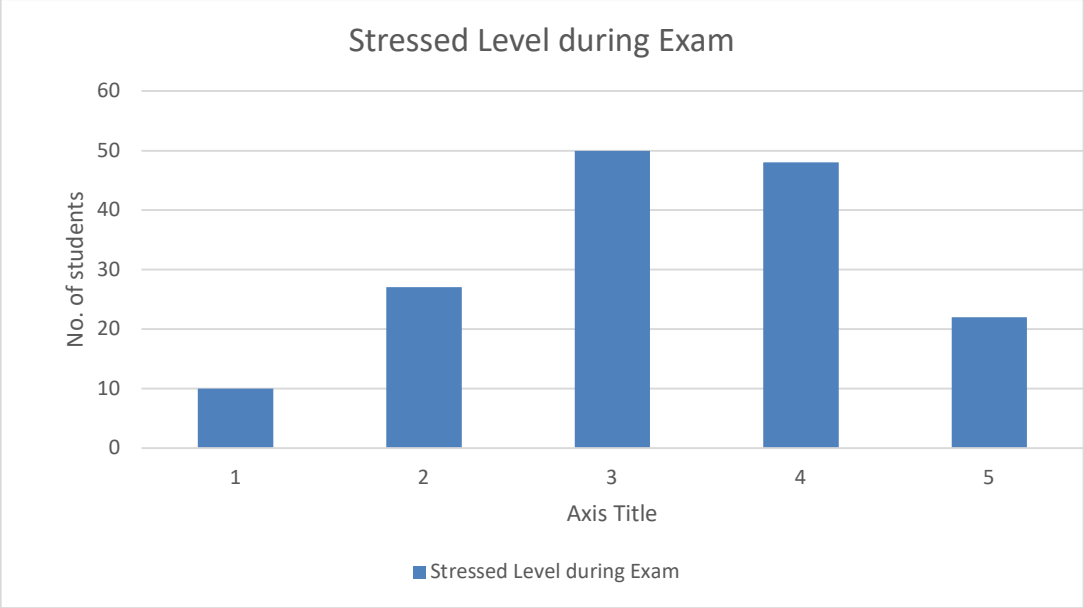


Study hours during exam	Frequency	Percentage
1	3	1.91 %
2	11	7.00 %
3	29	18.47 %
4	31	19.74 %
5	24	15.28 %
6	18	11.46 %
7	24	15.28 %
8	10	6.36 %
9	5	3.18 %
10	2	1.27 %
Grand Total	157	100 %

Interpretation :-

- From the above bar graph , we can easily observed that-
  - 19.74 % respondents are studying 4 hrs. during exam.
  - 18.47 % respondents are studying 3 hrs. during exam.
  - 15.28 % respondents are studying 7 hrs. during exam e.t.c.

Stressed level wise respondents

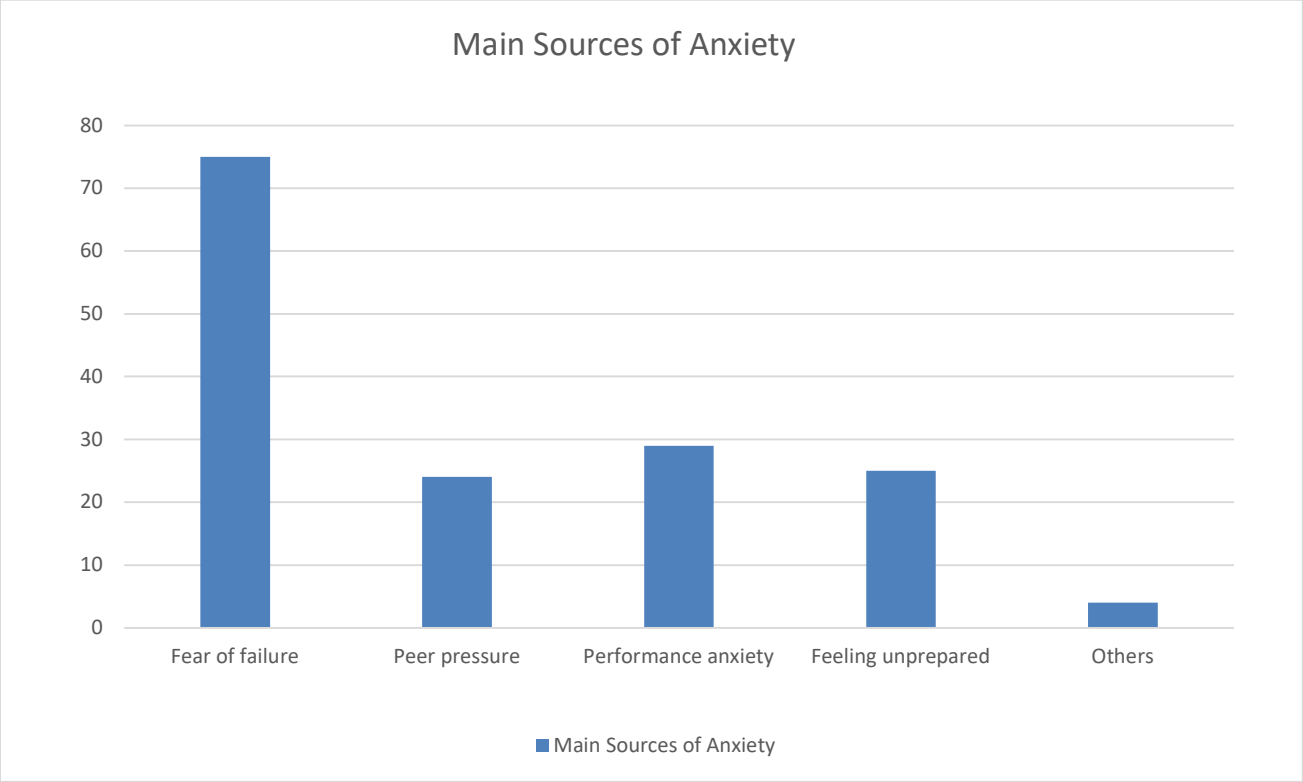


Stressed Level	Frequency	Percentage
1	10	6.36 %
2	27	17.19 %
3	50	31.84 %
4	48	30.57 %
5	22	14.01 %
Grand Total	157	100 %

Interpretation :-

- From the above bar graph , we can easily observed that –
  - 31.84 % respondents have rated their stressed level 3 during exam.
  - 30.57 % respondents have rated their stressed level 4 during exam. e.t.c.

Main Sources of Anxiety of respondents

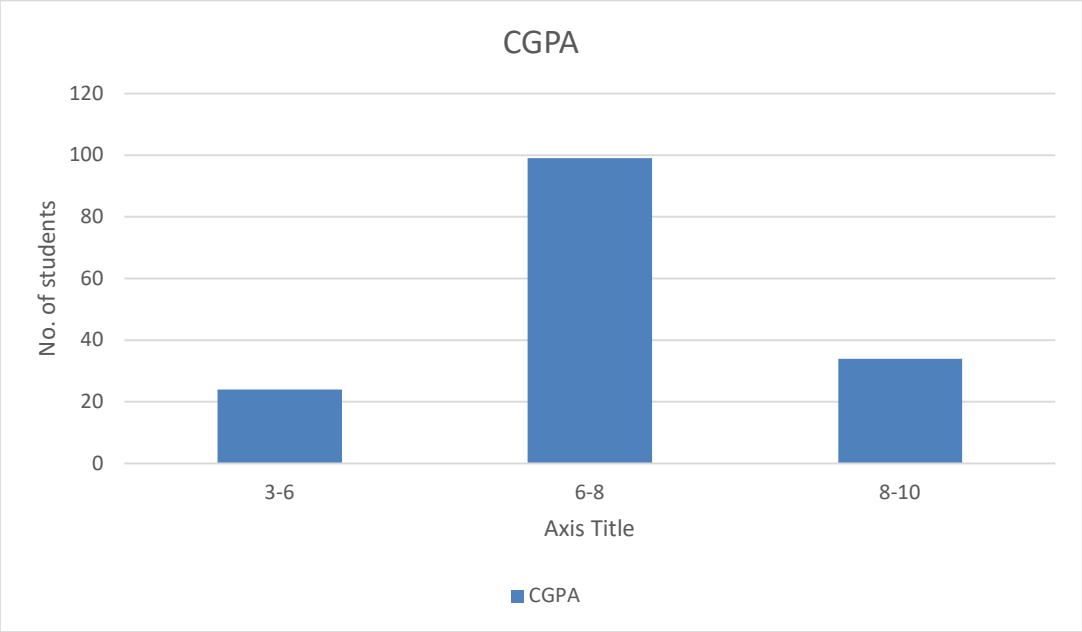


Sources of Anxiety	Frequency
Fear of faliure	75
Peer pressure	24
Performance anxiety	29
Feeling unprepared	25
Others	4

Interpretation :-

- From the above bar graph , we can easily observe that the main source of **exam related anxiety** for most of the students is **fear of failure** with maximum votes i.e. 75.

Academic performance wise respondents

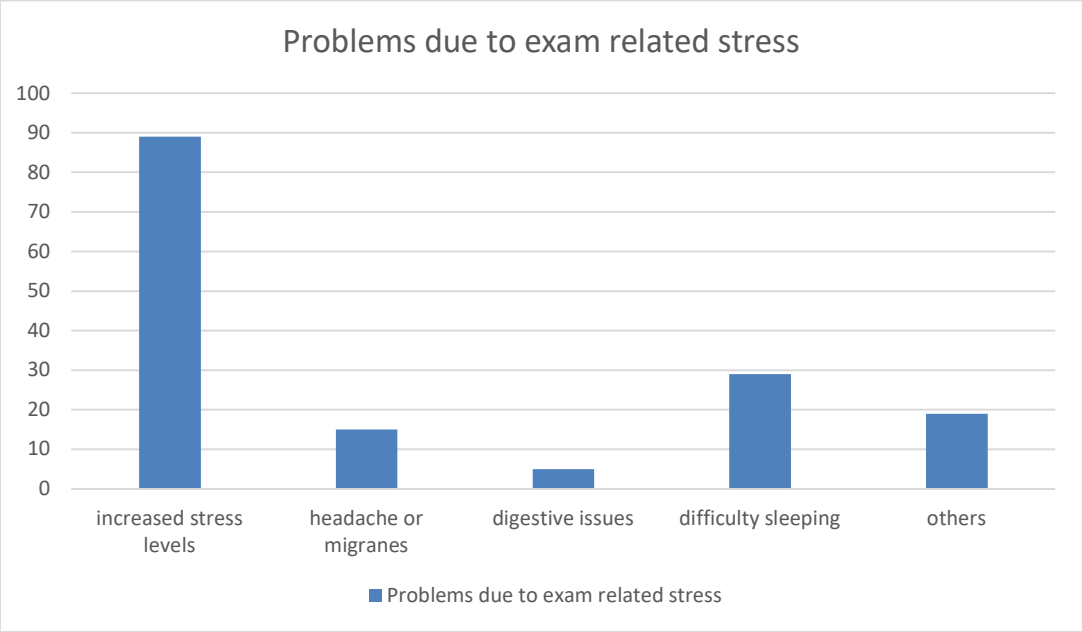


CGPA	Frequency	Percentage
3-6	24	15.28 %
6-8	99	63.05 %
8-10	34	21.65 %
Grand Total	157	100 %

Interpretation :-

- The data was mostly collected from mediocre students i.e. CGPA ranging from 6-8 (63.05%) followed by students with CGPA ranging from 8-10 (21.65 %).

Physical problems faced by students due to exam related stress

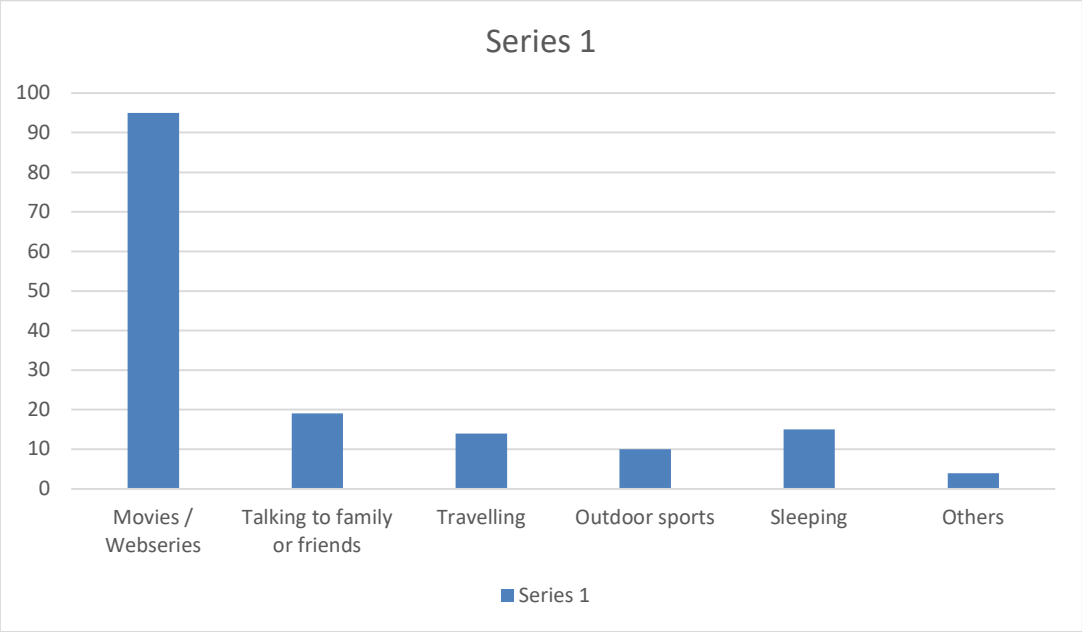


increased stress levels	**89**
headache or migranes	15
digestive issues	5
difficulty sleeping	29
others	19

Interpretation :-

- From the above bar graph , we can easily observe that the main problem faced by students during exam periods is increased stress levels (89/157 students voted for this).

Methods used by students post exam to recover from stress/anxiety



Movies / Webseries	**95**
Talking to family or friends	19
Travelling	14
Outdoor sports	10
Sleeping	15
Others	4

Interpretation :-

- From the above bar graph , we can easily observe that the main method used by students to recover from exam related stress/anxiety is watching movies/webseries (95/157 students voted for this).

DATA ANALYSIS
&
INTERPRETATION

Concept of Chi-square

Test :-

Chi-square test is applied to find out whether the two variables in a bivariate contingency table under the study are dependent or independent. Our two hypotheses; null hypothesis H_o and alternate hypothesis H_1.

H_o: The two attributes are independent
H_1: The two attributes are dependent

Computation is done using the formula:

$$\chi^2_{(cal.)} = \sum_i \sum_j \frac{(Oij - Eij)^2}{Eij} \sim \chi^2_{(r-1)(s-1)}$$

Where r and s are the no. of rows and number of columns of the contingency table and i=1, 2.....r and j=1, 2..... s.

O_{ij}= Observed frequency of $(i, j)^{th}$ cell.
E_{ij}= Expected frequency of $(i, j)^{th}$ cell.

Where N_{io} and N_{oj} are marginal totals and N is the total number of observations.

The test statistic follows, under H_o a chi-square distribution with (r-1) (s- 1) degrees of freedom. The null hypothesis can be tested either at 5% or 1% level of significance.

If $\chi^2_{(cal.)} < \chi^2_{(tab)}$ then **H_o may be accepted** which shows that the **two variables are independent of each other** otherwise we may be reject the H_o which shows that the two variables are not independent i.e., dependent of each other.

Also, when the observed frequency is less than five, pooling is done to apply the test.

Test 1

H_0 : There is no significant relation between academic performance of students and their study hours.

H_1 : There is significant relation between academic performance of students and their study hours.

OBSERVED	Hours of study										
CGPA	1	2	3	4	5	6	7	8	9	10	Total :
3-6	1	1	4	6	4	3	3	1	1	0	24
6-8	2	7	21	14	17	9	16	7	4	2	99
8-10	0	2	4	12	3	6	5	2	0	0	34
Total :	3	10	29	32	24	18	24	10	5	2	**157**

EXPECTED	Hours of study										
	1	2	3	4	5	6	7	8	9	10	Total
3-6	0.459	1.529	4.433	4.892	3.669	2.752	3.669	1.529	0.764	0.306	24
6-8	1.892	6.306	18.287	20.178	15.134	11.350	15.134	6.306	3.153	1.261	99
8-10	0.650	2.166	6.280	6.930	5.197	3.898	5.197	2.166	1.083	0.433	34
Total :	3	10	29	32	24	18	24	10	5	2	**157**

(After pulling the cells with frequency < 5)

χ^2 - VALUE	
CALCULATED	3.13295161
α	0.05
D.O.F	11
TABULATED	19.6751376

INTERPRETATION :

I. The result clearly indicates that the calculated value of chi square is 6.810042 which is smaller than the tabulated value of chi square at 5% level of significance with 12 degree of freedom (21.026069).

II. Thus we can say that the sample information does not provide enough evidence to reject the null hypothesis, and hence the null hypothesis is not rejected.

Test 2

H_0 : There is no significant relation between students' education level and stress level.

H_1 : There is significant relation between students' education level and stress level.

OBSERVED						
Education level			Stress level			
	1	2	3	4	5	Total :
P.G.	2	11	13	18	7	51
U.G.	8	16	37	30	15	106
Total :	10	27	50	48	22	157

EXPECTED						
Education level			Stress level			
	1	2	3	4	5	Total :
P.G.	3.24840764	8.770700637	16.24203822	15.59236	7.146497	51
U.G.	6.75159236	18.22929936	33.75796178	32.40764	14.8535	106
Total :	10	27	50	48	22	157

(After pulling the cells with frequency < 5)

χ^2 - VALUE	
CALCULATED	1.632147
α	0.05
D.O.F	3
TABULATED	7.814728

INTERPRETATION :

I. The result clearly indicates that the calculated value of chi square is 3.063458 which is smaller than the tabulated value of chi square at 5% level of significance with 4 degree of freedom (9.487729).

II. Thus we can say that the sample information does not provide enough evidence to reject the null hypothesis, and hence the null hypothesis is not rejected.

Test 3

H_0 : There is no significant relation between students' academic performance and stress level.

H_1 : There is significant relation between students' academic performance and stress level.

Observed	Stress level					
CGPA	1	2	3	4	5	Total :
3-6	2	2	7	8	5	24
6-8	7	15	33	32	12	99
8-10	1	10	10	8	5	34
Total :	10	27	50	48	22	**157**

EXPECTED	Stress level					
CGPA	1	2	3	4	5	Total :
3-6	1.52866242	4.127388535	7.643312102	7.33758	3.363057	24
6-8	6.30573248	17.02547771	31.52866242	30.26752	13.87261	99
8-10	2.1656051	5.847133758	10.82802548	10.3949	4.764331	34
Total :	10	27	50	48	22	**157**

(After pulling the cells with frequency < 5)

χ^2 - VALUE	
CALCULATED	2.662744089
α	0.05
D.O.F	6
TABULATED	12.59158724

INTERPRETATION :

I. The result clearly indicates that the calculated value of chi square is 2.662744 which is smaller than the tabulated value of chi square at 5% level of significance with 6 degree of freedom (12.591587).

II. Thus we can say that the sample information does not provide enough evidence to reject the null hypothesis, and hence the null hypothesis is not rejected.

Test 4

H_0 : There is no significant relation between students' procrastination habits and stress level.

H_1 : There is significant relation between students' procrastination habits and stress level.

OBSERVED	Stress Level					
	1	2	3	4	5	Total :
Maybe	3	2	13	10	4	32
No	3	10	8	15	7	43
Yes	4	14	29	24	11	82
Total :	10	26	50	49	22	**157**

EXPECTED	Stress Level					
	1	2	3	4	5	Total :
Maybe	2.03821656	5.299363057	10.1910828	9.98726115	4.484076	32
No	2.7388535	7.121019108	13.69426752	13.4203822	6.025478	43
Yes	5.22292994	13.57961783	26.11464968	25.5923567	11.49045	82
Total :	10	26	50	49	22	**157**

(After pulling the cells with frequency < 5)

χ^2 - VALUE	
CALCULATED	5.70757751
α	0.05
D.O.F	6
TABULATED	12.5915872

INTERPRETATION :

I. The result clearly indicates that the calculated value of chi square is 5.707577 which is smaller than the tabulated value of chi square at 5% level of significance with 6 degree of freedom (12.591587).

II. Thus we can say that the sample information does not provide enough evidence to reject the null hypothesis, and hence the null hypothesis is not rejected.

KEY FINDINGS

- **Sample size :**

  The size of sample of our survey was taken to be 157.

- **Gender :**

  Out of 157 – 109 were male , 44 were female and 4 were of other genders.

- **Age :**

  Out of 157 sample points – 47 were of age 20 , 46 were of 21 and rest lied in the interval 19 – 23.

- **Education faculty :**

  Out of 157 sample points – 90 were of science faculty , 36 were of arts faculty and 27 were of commerce faculty.

- **Education level :**

  Out of 157 sample points – 106 were of Undergraduate, 51 belonged to post graduate.

- **Current academic year :**

  Out of 157 sample points – 49 were of first year, 45 of second year and 63 of third year.

- **Study hours :**

  Most of the sample points out of 157 lied in the interval 3 – 7 hours (126/157).

- **Stress level :**

  Most of the respondents voted for 3 or 4 stress levels on a scale of 1 to 5 (98/157).

- **Academic performance :**

  Most of the respondents (99/157) have their CGPA in the interval 6 – 8.

- There is no significant relation between academic performance and stress level of a student.
- There is no significant relation between education level and stress level of a student.
- There is no significant relation between procrastination habits and stress level of a student.
- There is no significant relation between exam frequency and stress level of a student.
- There is no significant relation between study hours and stress level of a student.

LIMITATIONS

- Research is never ending process; every research is having limitation, this research is also having some limitation.
- Study is limited to 157 respondents of which are only of Banaras Hindu University and Delhi University. So, findings and suggestions given based on the study cannot be extrapolated to the entire population.
- In the data collected male and female had not shared equal representation.

FUTURE SCOPE

This project can serve as a starting point for further research and action to improve support for students and to take other measures for handling the problem of exam related stress of students. By working together, the university and its stakeholders can create a supportive and inclusive environment that supports students and promote their mental and physical well being during the period of exams.

CONCLUSION

Based on the findings of the survey on exam-related anxiety among students in our vicinity, it is evident that there is no significant correlation between exam-related anxiety and various factors such as education levels, academic performance, or the course of education. This suggests that exam-related anxiety is a complex phenomenon influenced by a multitude of factors beyond these traditional metrics.

While academic performance and education levels are often assumed to be closely tied to anxiety levels surrounding exams, our study indicates otherwise. Factors such as individual coping mechanisms, support systems, and personal circumstances likely play a more significant role in determining the extent of exam-related anxiety experienced by students.

These results underscore the importance of adopting a holistic approach to addressing exam-related anxiety, one that considers individual differences and the diverse range of factors that can contribute to this issue. By recognizing the complexity of exam-related anxiety, educators and policymakers can better support students in managing and alleviating this common yet impactful challenge.

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