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"An Experimental Study To Assess The Levels Of Examination Anxiety Among 9th-Grade Students"

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ABSTRACT

This experimental study aims to assess the levels of examination anxiety among secondary school students. The research was conducted with a random sample of 40 students from 9th grade of DAV Public School. For this study, various socio-demographic variables were considered, including age, gender, residential status (hosteller/day scholar), type of family (nuclear/joint), area of residence (urban/rural), parental education, and parental occupation. Each variable was categorized accordingly for detailed analysis. For the analysis, frequency and percentage distributions were calculated with the help of the Test Anxiety Scale (TAS) developed by V.P. Sharma (2009). Later, the Chi-square test was also calculated to check the association between these variables. As per the test scores, it came out clearly that there is a difference between levels of examination anxiety and socio-demographic variables. In continuation to the above, a pre-anxiety test was also conducted before the intervention, which was followed by relaxation therapies, further to which there was a post-anxiety test. The data was analyzed using frequency and percentage. Null hypotheses were examined accordingly. **H0**: There will be no significant difference between socio-demographic variables and levels of examination anxiety. In this scenario, the result was that the hypothesis was rejected. **H1**: There will be no significant association found between the socio-demographic variables and levels of examination anxiety. In this case also the result shows that the hypothesis was rejected. **H2**: There will be no significant difference observed between pre-test and post-test scores and level of examination anxiety. Here also the hypothesis was rejected.

Keywords: Examination Anxiety, Secondary School Students, Test Anxiety Scale (TAS), Socio-demographic Variables.

Introduction:

Examination anxiety is a psychological state characterized by heightened arousal, tension, and somatic symptoms that adversely affect academic performance. Numerous studies have established a direct correlation between elevated anxiety levels and decreased academic achievement. Addressing examination anxiety is critical to fostering students' overall well-being and performance. Effective anxiety management practices such as meditation, yoga, and deep breathing exercises can mitigate the physiological impact. These methods slow heart rate, reduce blood pressure, and eliminate the fear associated with examination anxiety, thereby enhancing concentration and academic outcomes.

Literature Review:

Muthaiyan & Ligeswaran (2020). This study explored test anxiety among 9th-grade students by examining variables like family environment and type of school management. Results indicated that students from private schools experienced higher levels of anxiety compared to those from government schools. The results also show that there were no significant differences found between examination anxiety in relation to their family structure (nuclear/joint), birth order, family size and parental education.

Chowdhury (2022). This comparative study aimed to examine the difference between the level of examination anxiety on gender (girls, boys) and school location (urban, rural). TAS was used for data collection. 2×2 ANOVA research design was used to check the difference between variables. Findings revealed that there is a significant difference between the level of examination anxiety and gender but there was no difference found in school location.

Need for the Study:

Examinations can induce notable anxiety in students, stemming from high academic expectations and peer competition. This anxiety can lead to difficulty in concentration, sleep disturbances, irritability, and psychosomatic symptoms such as headaches and stomachaches. Pressures from parents, fear of failure, and the belief that exam outcomes determine one's future further intensify anxiety.

Recent data indicates that exam-related anxiety has increased sharply—from 27% in 2024 to nearly 40% in 2025—suggesting that approximately 85% of students experience some or the other form of examination anxiety. This trend underscores the urgency of identifying and implementing effective intervention strategies. The current study is designed to explore the efficacy of relaxation therapy in reducing examination anxiety during a pivotal stage in students' academic lives.

Objectives:

1. To evaluate the difference between socio-demographic variables and the levels of examination anxiety among 9th-grade students.
2. To assess the relationship between socio-demographic variables and the levels of examination anxiety among them.
3. To evaluate the difference between per-test and post-test scores and levels of examination anxiety.

Hypotheses:

- **H0**: There is no significant difference between socio-demographic variables and the levels of examination anxiety among 9th-grade students.
- **H1**: There is no significant association between socio-demographic variables and levels of examination anxiety among 9th-grade students.
- **H2**: There is no significant difference between pre-test and post-test and levels of examination anxiety among 9th-grade students.

Variables:

Independent Variables (Socio-demographic):

- Age: 14 and 15 years
- Gender: Male and Female
- Residential Status: Hosteller and Day Scholar
- Family Type: Nuclear and Joint
- Area of Residence: Rural and Urban

- Parental Education: Low (includes Primary and Secondary education) and High (includes Graduation and Post-graduation education)
- Parental Occupation: Employed and Self-employed

Dependent Variable:

- Levels of Examination Anxiety

Sampling Technique:

A sample of 40, 9th-grade students was selected from the population for this study, wherein the random sampling method (toss the coin technique) was used.

Statistical Techniques:

Non-experimental research: Chi-square, Frequency and Percentage was calculated to determine associations between socio-demographic variables and level of examination anxiety.

Experimental research : This design was adopted to describe the difference between pre-test and post-test outcomes of level of examination anxiety.

Description of Tools:

Part 1: Socio-demographic Data Sheet: This section garnered information on age, gender, and residential status, type of family, area of residence, parental education, and occupation. Each variable was classified into two categories for analytical purposes.

Part 2: Test Anxiety Scale (TAS): Developed by Prof. V.P. Sharma in 2009, the TAS is a standardized tool designed to measure examination-related anxiety. The scale consists of 20 items, each with five hierarchically ordered response options scored from 1 to 5. The TAS allows for straightforward hand-scoring and provides a quantifiable measure of test anxiety.

Table 1

Distribution of marks and the levels of anxiety (according to TAS)

Level of anxiety	**Marks**	**Percentage**
Normal	0-7	1-20
Mild	8-13	21-40
Moderate	14-18	41-60
Severe	19-22	61-80
Very severe	23 and above	81-100

Reliability and Validity of tool:

The reliability of the Test Anxiety Scale (TAS), developed by Prof. V.P. Sharma, has been well-established through standardized procedures. Two methods were employed to determine the scale's reliability: **Test-Retest Method**: A reliability coefficient of **0.927** was obtained after a 10-day interval, indicating strong test stability over time. **Split-Half Technique (Odd-Even Method)**: A reliability coefficient of **0.876** was recorded,

demonstrating high internal consistency within the scale. These findings confirm that the TAS is a highly reliable instrument for measuring examination anxiety.

The **validity** of the scale was assessed using the **Product-Moment Correlation Method**, yielding a validity coefficient of **0.66**. This indicates a satisfactory level of construct validity; confirming that the scale effectively measures the intended psychological constructs—test anxiety.

Method of Data Collection:

The primary objective of this investigation was to measure the levels of examination anxiety among the 40 students from 9th grade of DAV Public School, Bhilai. Informed consent was obtained from the students' parents or guardians, before the commencement of the study. The sample was selected using a random sampling technique. This selected sample was bifurcated further in many socio-demographic variables like Age, Gender, Hostel/ Day-scholar, Area/ Place, Nuclear/ Joint family, Parental education and Parental Occupation. To check the significant difference among them, two parameters, i.e. Frequency and Percentage were calculated using **Test Anxiety Scale (TAS)**. And later Chi square technique was also used to check association between these socio-demographic variables and levels of examination anxiety. Furthermore, the TAS was also administered to collect the data:

1. **Pre-test scores**: Collected before the conduct of the intervention.

The intervention lasted for **30 consecutive days**, during which students participated in **daily online relaxation sessions** lasting **10 to 15 minutes** each. A structured schedule of various relaxation techniques—such as guided meditation, deep breathing exercises, and progressive muscle relaxation—was implemented on a rotational basis throughout the intervention period.

2. **Post-test scores**: Conducted after the intervention.

A **comparative analysis** of the pre-test and post-test scores was subsequently conducted to evaluate the effectiveness of the intervention in reducing the levels of examination anxiety.

Table 2

Intervention Plan of relaxation therapies according to consecutive days:

Day	Type of exercise (10-15 min)
Sunday	Pranayam (Anulom-Vilom and Bhramari)
Monday	Meditation (attention to the present moment without judgment, observing thoughts, feelings, and sensations as they arise)
Tuesday	Yoga (Child Pose (Balasana), Brige Pose (Stubandh Asana), Legs-Up-the-wall (Viparitakarani) and Standing Forward Bend (Uttanasana))
Wednesday	Music (Om Chanting)
Thursday	Visualization (imagine yourself in a peaceful and calming scene)
Friday	Deep Breathing (5-5-5) breathes for 5 seconds, hold 5 seconds, and breathe out for 5 seconds.
Saturday	Simple Stretches (hands, legs, neck, and back)

Data Analysis:

Distribution of subjects according to the levels of examination anxiety of 9th-grade students and socio-demographic variables in frequency and percentage: (Part 1)

Table 3

Distribution of subjects according to Age (14 and 15 years):

Age (in years)	Frequency	Percentage
14 years	21	52.5%
15 years	19	47.5%

By observing the table it's clear that the number of students aged 14 years have high levels of examination anxiety compared to the students of 15 years. This is so because the capabilities of handling anxiety levels increase with age.

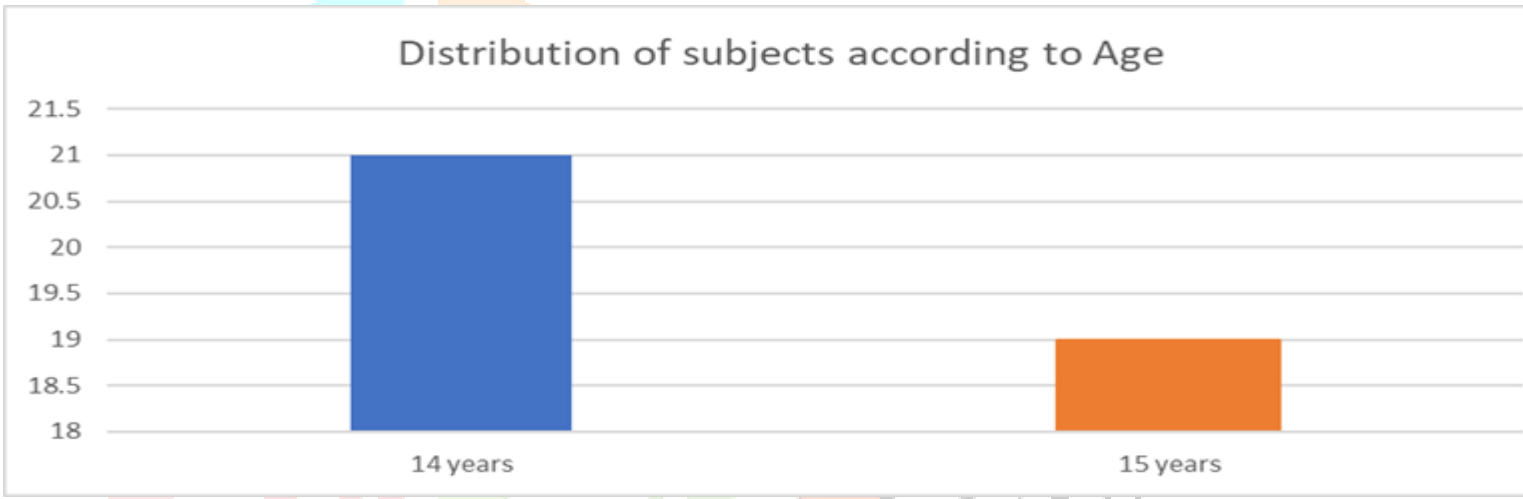


Table 4

Distribution of subjects according to gender (girls and boys):

Gender	Frequency	Percentage
Boys	17	42.5
Girls	23	82.5

By observing the table it's clear that the girls students have high levels of examination anxiety compared to the boys. There appears a fact that girls are more emotional/sensitive towards their exams/future.

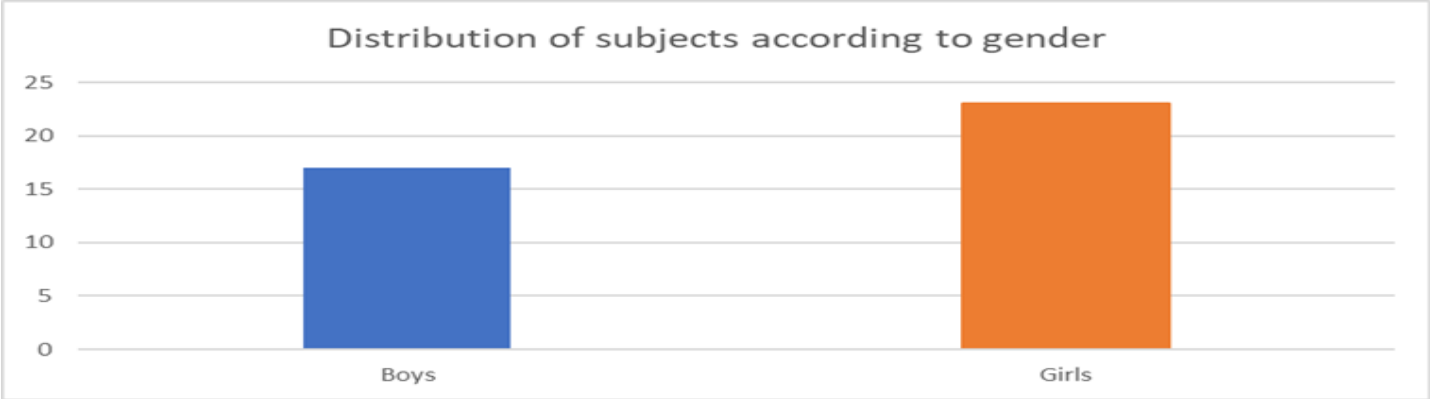


Table 5

Distribution of subjects according to residential status (Hosteller and Day-Scholar):

Place of Living	Frequency	Percentage
Hostel	29	72.5%
Day-Scholar	11	27.5%

By observing the table it's clear that the students living in hostels have high levels of examination anxiety compared to day scholars. It can be understood being in the same surroundings throughout the day, they also back of their mind know the financial burdens to go through.

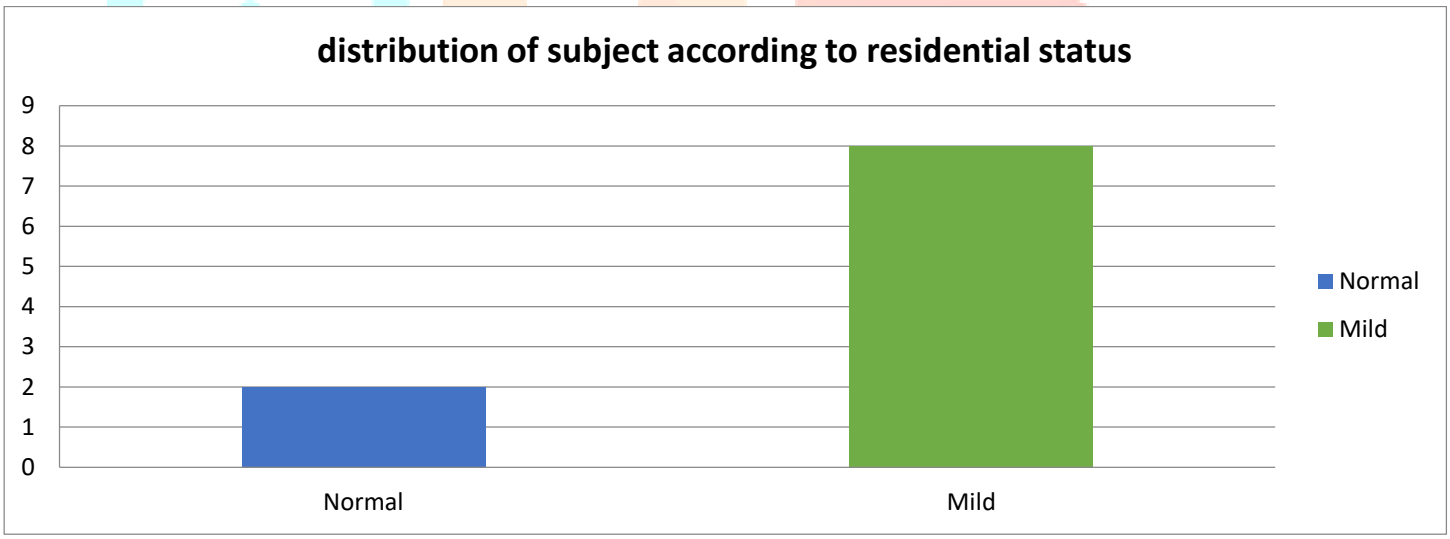


Table 6

Distribution of subjects according to type of family (nuclear and joint):

Type of Family	Frequency	Percentage
Nuclear	17	42.5%
Joint	23	82.5%

By observing the table it's clear that the students of Joint families have high levels of examination anxiety than those to the Nuclear family. This stems from the fact that they have shouldered the financial responsibilities since younger age.

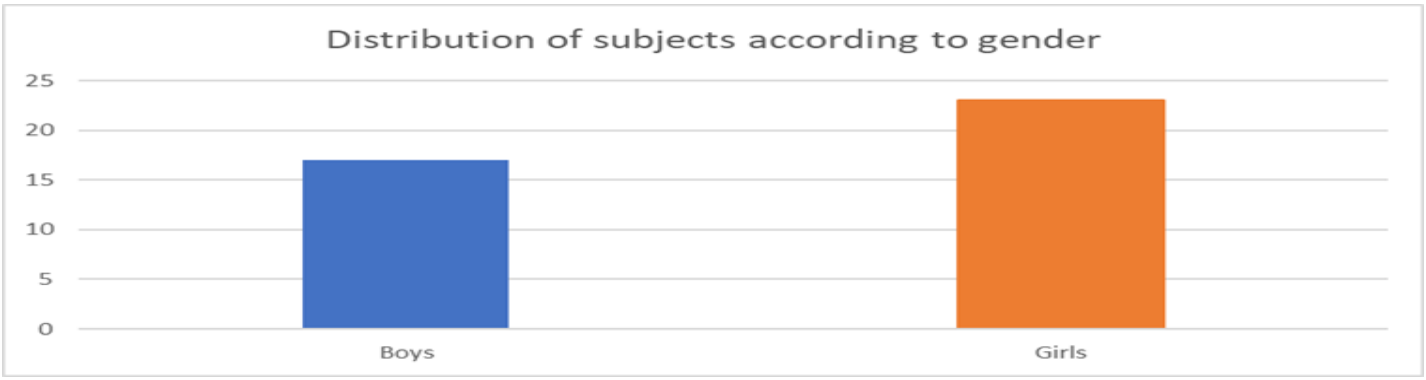


Table 7

Distribution of subjects according to area of residence (Urban and Rural):

Living Area	Frequency	Percentage
Urban	35	87.5%
Rural	05	12.5%

By observing the table, its clear that as comparative to Rural area students, the of Urban area students have high levels of examination anxiety. This can be understood by the fact that there has been a competitive environment in which they are bred since their young age.

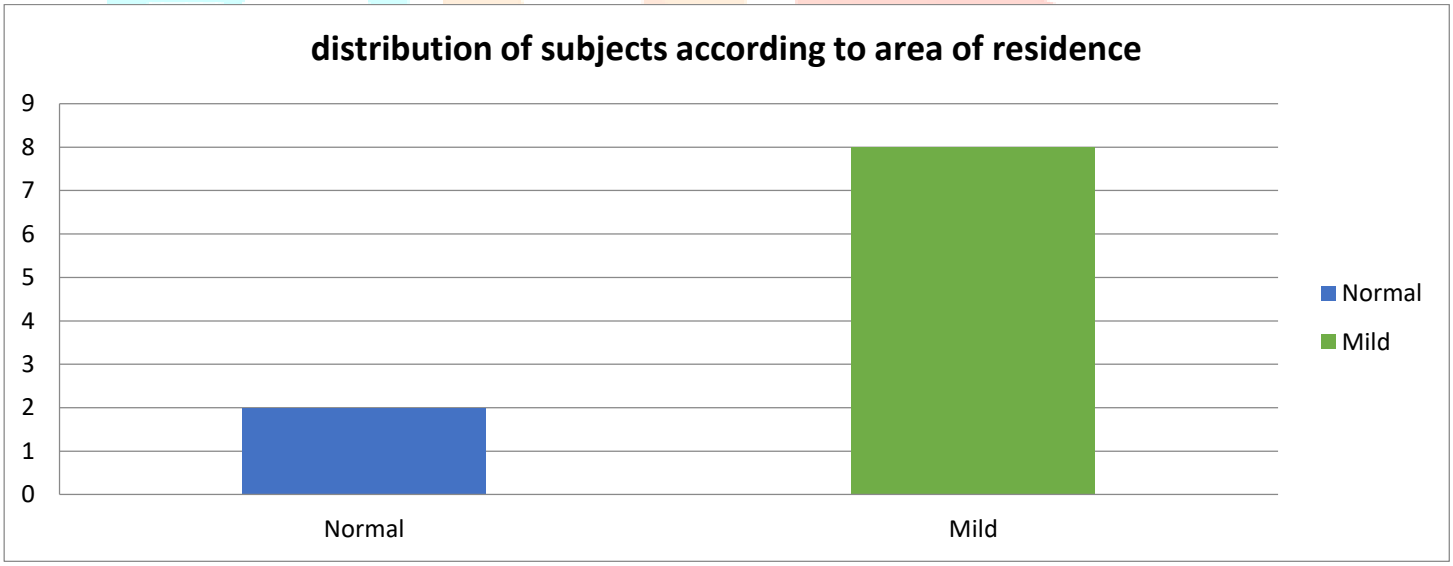


Table 8

Distribution of subjects according to parental education (low and high):

Parental Education	Frequency	Percentage
Low	30	75%
High	10	25%

By observing the Table, its clear that the students of high parental education have low anxiety as compared to those students whose parents have low parental education, because the students from the later have responsibilities of achieving a better future as compared to the prior who are already secured.

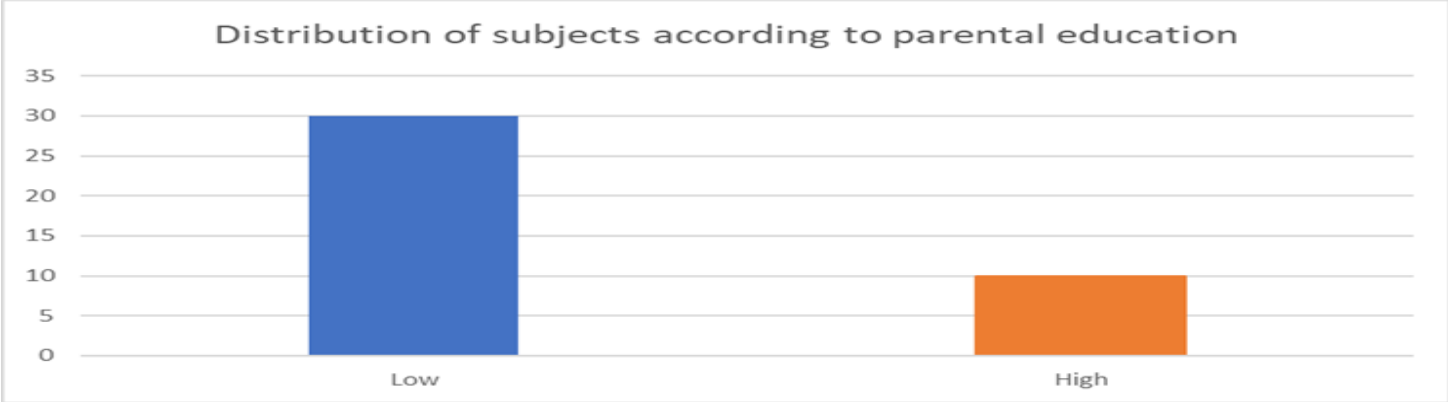
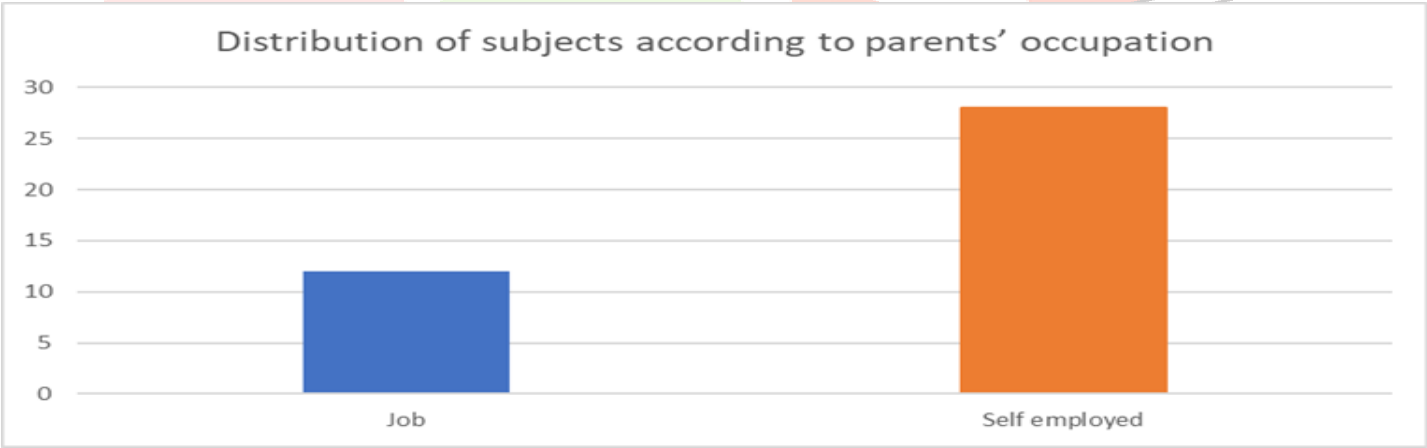


Table 9

Distribution of subjects according to parents' occupation (Job and self-employed):

Occupation of Parents	Frequency	Percentage
Job	12	30%
Self employed	28	70%

By observing the table, its clear that students whose parents are self-employed have high anxiety than those compared to the students of parents who have jobs. This is so because the parents in the jobs have a stable stream of income as compared to the self-employed, thereby impacting the mental state of students.



So, consequently, it's observed that in the Null Hypothesis "There will be no significant difference between the levels of examination anxiety and socio-demographic variables". Hence, the hypothesis is rejected.

Table 10

Cumulative values of all socio-demographic variables and levels of examination anxiety according to TAS chart.

Age	14 yr	21	Severe
	15yr	19	Moderate
Gender	Boys	17	Moderate
	Girls	23	Severe
residential status	Hosteller	29	Very Severe
	Day scholars	11	Mild
Type of Family	Nuclear	17	Moderate
	Joint	23	Very Severe
Area of residence	Urban	35	Very Severe
	Rural	05	Normal
Parental Education	Low	30	Very Severe
	High	10	Mil
Parental occupation	Job	12	Mild
	Self Employed	28	Very Severe

Boiling down with all the calculations, the crux of the whole study is that we can examine all the socio-demographic variables that were initially considered by us stand as shown above in the 5 categories scale of TAS (level of examination anxiety level) chart.

Assosiation between subjects according to the levels of examination anxiety and socio-demographic variables of 9th-grade students: (part 2)

Table 11

Association between the socio-demographic variables and levels of examination anxiety among 9th grade students:

Socio-Demographic Variables	Chi Square	Critical Vale	DF Value	P Value	Inference
Age	2.45	3.23	2	0.05	Significant
Gender	3.18	0.38	2	0.05	Not significant
Place of Living	2.18	3.68	2	0.05	Significant
Type of Family	2.26	3.54	2	0.05	Significant
Leaving area	3.18	5.41	2	0.05	Significant
Prenatal Education	3.18	256.02	2	0.05	Not Significant
Occupation of the Parents	3.18	0/.12	2	0.05	Not Significant

Therefore, as per the null hypothesis, “There will be no significant association between levels of examination anxiety and social demographic variables”. Hence, it stands rejected.

Discussion and Interpretation

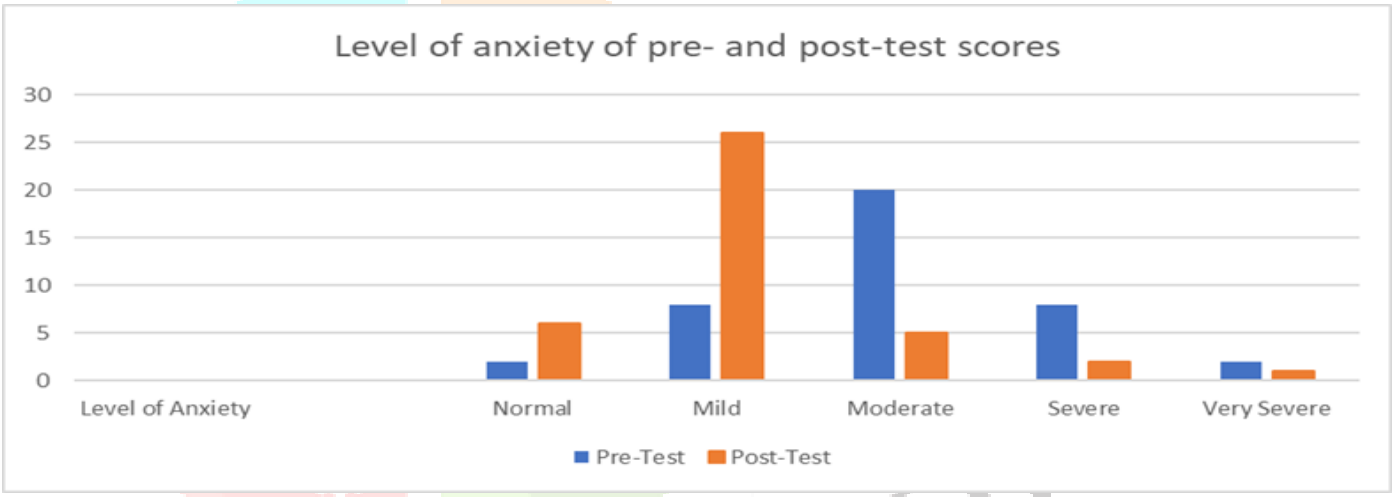
Table 10 demonstrates a statistically significant association between examination anxiety levels and the following socio-demographic variables: age, place of residence, type of family, and living area. This conclusion is based on the observation that the calculated Chi-square values for these variables are less than the corresponding critical values, indicating a meaningful relationship.

Conversely, no significant association was found between examination anxiety and the variables of gender, parental education, and parental occupation, as the Chi-square values for these variables exceeded the critical thresholds. This suggests that these particular socio-demographic factors do not have a notable influence on the examination anxiety levels among the sampled 9th-grade students.

Table 11

Describing the comparison of pre- and post-test scores of the levels of examination anxiety among 9th grade students:

Level of Anxiety	Pre-test		Post-test	
	Frequency	Percentage	Frequency	Percentage
Normal	2	5%	6	15%
Mild	8	20%	26	65%
Moderate	20	50%	5	12.5%
Severe	8	20%	2	5%
Very Severe	2	5%	1	2.5%



Therefore, as per the null hypothesis, "There will be no significant association between pre-test scores of levels of examination anxiety". Hence, it stands rejected.

Discussion and Interpretation

Table 11 represents a comparative analysis of pre-test and post-test scores related to the levels of examination anxiety among 9th-grade students. The data clearly indicate that there is a reduction in the number of students experiencing moderate, severe and very severe anxiety levels as a result of intervention. Conversely, there was a noticeable increase in students falling under the normal, mild anxiety categories in the post-test results.

Students who initially exhibited intense anxiety showed marked improvement, moving toward less severe categories. Students who were initially having lower levels of anxiety appeared to exhibit increased awareness and seriousness toward their academic responsibilities post-intervention. It has been noticed that there was a slight elevation in their anxiety scores, but within a healthy and manageable range.

The observed outcomes highlight the dual impact of relaxation techniques: On one hand, these practices effectively reduce psychological stress and physiological symptoms of anxiety. On the other hand, they also enhance mood, focus, and mental clarity, helping students become more engaged and prepared for examinations.

Relaxation therapies offer a convenient and accessible means of achieving both mental and physical benefits**,** enabling students to face academic challenges with greater composure and resilience**.**

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