

Research Paper

Relationship Between Examination Anxiety and Academic Performance Among Secondary School Students of Delhi

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ABSTRACT

Academic achievement of an individual is so far considered to be influential partly by his ability to adjust to his environment, partly by his special abilities, intelligence, and aptitude which are integral parts of his personality, and partly by the intensity of drives and motives which serve as the impelling force for his activities. Academic achievement is a measure of what has been learned in the academic year. Academic achievement is determined by a student-teacher in a particular specified area of instruction. In the present study, the academic achievement of the student is determined based on the marks (total - theory and practical) obtained in the tenth-class examination. Anxiety is a normal reaction to a stressor. It may help an individual to deal with a demanding situation by prompting them to cope with it. However, when anxiety becomes overwhelming, it may fall under the classification of anxiety disorder. Generally, it helps in improving the performance of an individual. It means anxiety should not cross its threshold value; otherwise, it will reach its abnormal level (National Institute of Mental Health, 2008). This study shows the effects of gender and standard on examination anxiety of students, also the students from rural areas are facing more examination anxiety in comparison to students of urban areas.

Keywords: *Anxiety, Academic Performance*

Examination stress is a particular type of stress which is felt by almost every person in life but the causes for such a feeling can be numerous in different situations and in different environments. The extent to feel such stress can also vary from individual to individual. When students' aspirations are too high to reach but their abilities, interests, attitudes, and capacities do not match theirs, one may feel stress. An individual may excel in limited areas but sometimes when one wants to excel in every walk of life without considering one's own capabilities or underestimating one's own self may suffer from stress. When students do not plan their studies at the beginning of the academic year and don't set their aims for life, they may face difficulties before the commencement of the examination, hence causing stress.

Psychologists and educationists have been focusing their research proposals on the area of stress. They remained mostly in the fields of occupational stress, stressful life events, and

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stress due to some chronic diseases etc. But less attention has been paid to the issue of examination stress realizing the present-day need in education where the focus is upon mobilizing and directing the inner potentialities of students to cope with difficulties and achieve better.

Anxiety

Anxiety may be defined as an emotional state in which physiological and psychological indications like rapid tremors in the limbs, sweating of hands, flushing of the face and neck, heart palpitations, blood pressure, inability to sit still, pacing the room, chain-smoking, tenseness, restlessness, etc. are clearly visible. It has been studied as a motivational variable that interferes with academic achievement. Anxiety as a normal phenomenon does not act as an energizer or drive us to outperform activities and achieve our goals. A moderate amount of anxiety may prove beneficial and thereby improve one's performance but as a pathological phenomenon, it impairs the capacity to think and act freely and harms our state of mind. According to Sigmund Freud "Anxiety is a specific state of unpleasure accompanied by motor discharge along definite pathways. It is the reproduction of an experience that contains with the requisite condition for the increase in stimulation and for its discharge via given pathways and it is in virtue of this, therefore that the unpleasant element in anxiety its specific character". Hull (1943) and Spence (1956) suggested that anxious people are emotionally responsive and hence a well-learned response is not likely to be made- given the appropriate stimulus conditions- if the individual is anxious. High anxiety or emotional responsiveness would only add to the confusion and difficulty of such tasks.

Spielberger (1966) viewed that anxiety as a palpable but transitory emotional state or condition characterized by feelings of tension and apprehension and heightened automatic nervous activity. According to Spielberger's (1966) STAT, anxiety is being studied as a personality trait (trait anxiety) and also as a transitory emotional state (state anxiety), and due to a lack of distinction between the two, conceptual confusion with respect to anxiety has arisen.

Anxiety can be experienced with long, drawn-out daily symptoms that reduce the quality of life, known as chronic (or generalized) anxiety, or it can be experienced in short spurts with sporadic, stressful panic attacks, known as acute anxiety. Symptoms of anxiety can range in number, intensity, and frequency, depending on the person. While almost everyone has experienced anxiety at some point in their lives, most do not develop long-term problems with anxiety. Anxiety is particularly a human phenomenon and is a unique contribution of the 21st century to mankind. The twenty-first century is also known as "the age of anxiety". Fear or anxiety has evolved over countless generations as an adaptive mechanism for coping with dangerous or threatening situations and both terms have been used synonymously. However, there is a distinction between fear and anxiety. The former is episodic whereas the latter is chronic (Jitender & Mona, 2015).

ACADEMIC ACHIEVEMENT

Academic achievement has always been a crucial point and main center of educational research despite varied statements about the aim of education. The academic development of the pupil is the primary concern and the most important goal of education. Not that other aspect of educational objectives is to be ignored but the fact remains that academic

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achievement is the unique responsibility of all educational institutions established by the society to promote a wholesome scholastic development of the pupil.

Academic achievement refers to the degree of success and that of proficiency attained in some specific area concerning scholastic and academic work. In view of other authors such as Goods (1955) Biswal and Aggarwal (1971), there seem to be considerable similarities in as much as all of them place emphasis on knowledge attained or skill developed in academic subjects and usually originated by test scores. It is different from proficiency in different age accomplishment quotient or achievement quotient are the most used meant to interpret the level of academic achievement of pupils in general or in a specific given subject matter.

The justification for measuring academic achievement is based on the fundamental assumptions of psychology that there are differences within the individual from time to time, place to place, situation to situation, and one class to another class. Besides there are individual differences. Also, individuals of the same age group, same grade, and of same potential ability, usually differ in their academic proficiency whether measured by Standardized Achievement Tests or by teachers' grading, or by marks obtained in tests or examinations.

Academic performance has been assessed in a variety of ways such as Grade Point Average (GPA), performance on standardized test as the Standard Achievement Test (SAT), the Science Research Associate Test (SRA), and scores on essay-type examinations, etc.

In many studies, performance in various courses, such as mathematics, reading, and other areas has been linked with yet another aspect of performance in the classroom verbal behavior of high-achieving and low-achieving children. Academic achievement is the student's performance on cognitive tests at a level commensurate with his/her abilities and according to the standard set for the class.

Objectives

- To identify the level of examination anxiety of Secondary School Students.
- To compare their examination anxiety in the context of their gender.
- To compare their examination anxiety in the context of their standard.
- To compare their examination anxiety in the context of their area.
- To compare their examination anxiety in the context of their educational performance.

Hypotheses

- There is no significant difference between the mean scores of boys and girls on the examination anxiety scale.
- There is no significant difference between the mean scores of students of std.9 and std.10 on the examination anxiety scale.
- There is no significant difference between the mean scores of students from urban areas and rural areas on the examination anxiety scale.
- There is no significant difference between the mean scores of students of the high performance and low performance on the examination anxiety scale.
- There is no significant difference between the mean scores of interactions between gender and standard on the examination anxiety scale.

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Sample

The sample is selected to represent the population which we want to study. Since it is difficult to study the entire population, a sample was selected following different procedures. The sample selection process depends on the objectives and the nature of the sample.

A sample of 100 students was randomly selected from secondary schools of North Delhi. Out of which 50 was studying in an urban area (25 male and 25 female) and 50 was studying in rural area of North Delhi (25 male and 25 female).

Instruments

Two measures were used in this study,

1. Test Anxiety Scale:

TAI is a 20-item self-report psychometric scale developed by Spielberger (1980). The Test Anxiety Inventory (TAI) is designed to measure test anxiety as a situation-specific personality trait. The TAI provides a measure of total test anxiety (TAI-T) as well as measures of two test anxiety components-worry (W) and emotionality (E). Eight of the items measure the W component and eight items measure the E component. Four items that load on both subscales contribute to the TAI-T score but are not scored on either the W or E subscales. Percentile ranks are calculated from the raw scores. The alpha coefficients for TAI-T range from .92 to .96; for the subscales, alpha ranged from .83 to .91 for TAI-W, and from .85 to .91 for TAI-E.

2. The Academic Performance Rating Scale (APRS) was used as a measure of academic performance:

The Academic Performance Rating Scale (APRS) (DuPaul & Rapport, 1991) is a 19-item scale, where teachers rate the child's academic abilities and behaviors in the classroom on a 5-point scale. Higher scores indicate greater classroom academic performance. As the current study focused on academic performance and no other behaviors, only two items on the APRS that corresponded to the child's actual classroom academic performance were examined: "accuracy of the child's completed written math work" and "accuracy of the child's written language arts work". These two items were highly correlated ($r = .84$, $p < .001$). A mean of the items was used as the measure of classroom academic performance.

Data Analysis

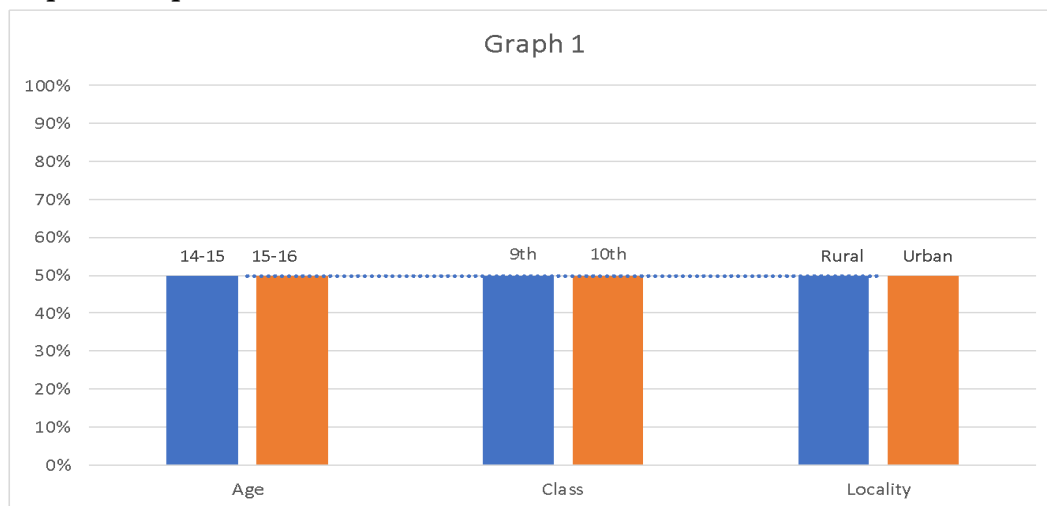
For the present study descriptive and inferential statistics were applied. Mean, SD, and t-test were calculated by comparing the two groups of students for each level of anxiety.

Table 1 Showing the Percentage of students (N = 100)

S.I. No.	Variables	Categories	Percentage
1.	Age of student	14-15	50%
		15-16	50%
2.	Class of student	9 th	50%
		10 th	50%
3.	Locality of student	Rural	50%
		Urban	50%
4.	Religion of student	Hindus	52%
		Muslim	36%
		Christians	12%
		Others	0%
5.	Family Type of student	Nuclear	88%
		Joint	12%
		Extended	0%

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Graphical Representation



TESTING OF HYPOTHESIS

Ho1: There is no significant difference between the mean scores of boys and girls on the examination anxiety scale

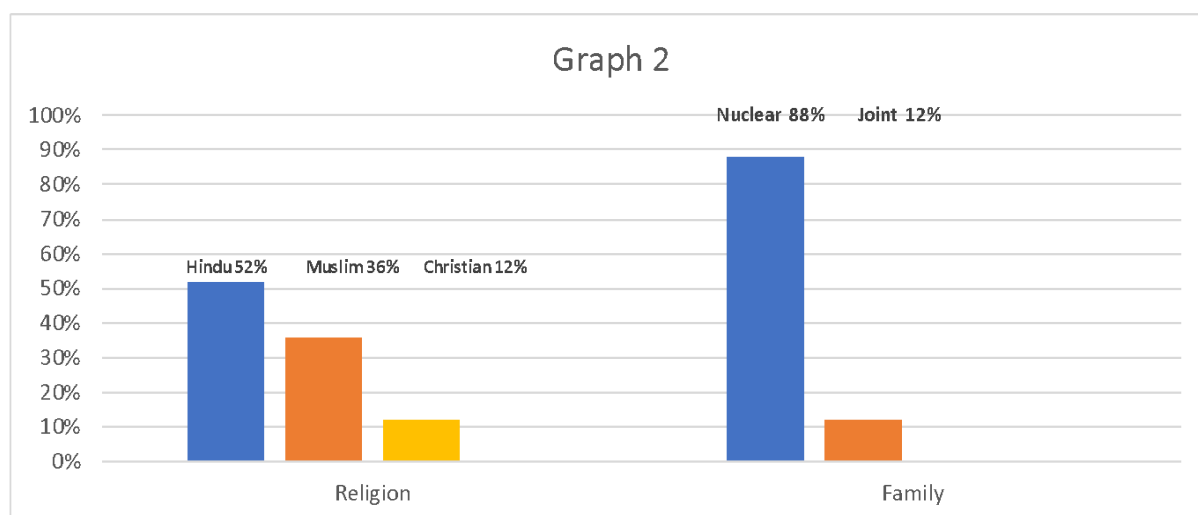
The differential analysis provides inference involving the determination of the statistical significance of the difference between categories with reference to the selected variables. In the present investigation, the investigator applied a t-test.

Table 2: Difference between Anxiety of Male and Female Students

Gender	N	Mean	SD	Calculated value of 't'	p-value
Male	50	23.90	3.79	3.07**	0.0045
Female	50	26.44	4.84		

Df=98, * Sign at 0.05 ** sign at 0.01

It is inferred from the above table that there is a significant difference between the anxiety of male and female students. As the calculated value of t is significant at a 0.01 level of significance.



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Ho2: There is no significant difference between the mean scores of students of std.9 and std.10 on the examination anxiety scale.

Table 3: Difference between Anxiety of 9th and 10th class students

Class	N	Mean	SD	t	p-value
9 th class	50	16.84	4.07	2.50*	0.0007
10 th class	50	17.59	4.17		

Df=98, * Sign at 0.05 ** sign at 0.01

The results of above table indicate that there is a significant difference in the examination anxiety of 9th and 10th class students. The mean values of examination anxiety of 9th class students were 16.84 whereas the mean scores of the examination anxiety of 10th class student were 17.59. The t-value for was significant at 0.05. The calculated ‘t’ value is 2.50 which is more than the table value at 0.05 level i.e., 1.96 with df 98. It means the Hypothesis which read as there is no significant difference between the mean scores of students of std.9 and std.10 on the examination anxiety scale was accepted.

Ho3: There is no significant difference between the mean scores of students of urban area and rural area on the examination anxiety scale

Table 4: Significant difference between urban area and rural area on the examination anxiety scale

Locality of student	N	Mean	SD	t-value	P value
Urban	50	20.57	3.38	1.99*	0.004
Rural	50	19.56	3.02		

Df=98, * Sign at 0.05 ** sign at 0.01

There is a significant difference found between mean scores of students of urban area and rural area on the examination anxiety scale. It means there is seen a significant difference between the mean scores of urban and rural area students on the examination anxiety scale. The mean score of the Examination anxiety of urban area students is 20.57 and the Mean score of the Examination anxiety of rural area students is 19.56. It is clear from the Mean score of examination anxiety of urban and rural areas that the examination anxiety of rural area students is higher than the examination anxiety of urban area students.

H04: There is no significant difference between the mean scores of students of the high performance and low performance on the examination anxiety scale

Table 5: Mean scores of students of the high performance and low performance on the examination anxiety scale

Students	N	Mean	SD	t-value	P value
High performance	50	17.05	2.98	2.29*	0.0003
Low performance	50	18.03	2.78		

Df=98, * Sign at 0.05 ** Sign at 0.01

From Table 5, it is clear that there is a significant difference between the mean scores of students of high performance and low performance on the examination anxiety scale. Our computed value of ‘t’ is at 0.05 level of significant level. So, hypothesis no. 4 ‘There is no

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significant difference between the mean scores of students of high achievement and low achievement on the examination anxiety scale.' is not accepted. It means there is seen a significant difference between the mean scores of students of high achievement and low achievement on the examination anxiety scale. The mean score of the Examination anxiety of high achiever students is 17.05 and the Mean score of the Examination anxiety of low achiever students is 18.034. It is clear from the Mean score of examination anxiety of low achiever and high achiever students that the examination anxiety of low achiever students is higher than high achiever students.

Ho5: There will be no significant difference between the mean scores of interactions between gender and standard on the examination anxiety scale.

Table 5: Mean scores of students of the high performance and low performance on the examination anxiety scale

Examination anxiety	N	Mean	SD	t-value	P value
Gender	100	45.05	7.98	6.0910**	0.0001
Standard		36.03	6.78		

Df=98, * Sign at 0.05 ** Sign at 0.01

In case of interaction effects of gender and standard, 't' ratio is 6.0910 which is significant at 0.01 level of significance. So, hypothesis no.5 'There is no significant difference between the mean scores of interactions between gender and standard on the examination anxiety scale' is rejected. So, it can be concluded that there is an interaction effect of gender and standard on the examination anxiety of students.

DISCUSSION

The aim of the present study is to study the relationship between examination anxiety and academic performance among secondary school students. Examination anxiety is the set of phenomenological, psychological, and behavioral responses that affect a student's achievement both positively and negatively. A positive level of anxiety can improve students' learning ability and enhance the academic achievement of students because this makes students efficient and striving. Low and moderate levels of anxiety have a positive impact on students' achievement. When this level exceeds and persists for a long time then causes failure and low performance (Chapell, Blanding, Takahashi, Silverstein, Newman, Gubi, & McCann, 2005; Onwayed,2005; Heather & April 2009). The study revealed that there is a significant difference between the anxiety of male and female students. As the calculated value of t is significant at a 0.01 level of significance. There is a significant difference in the examination anxiety of 9th and 10th-class students. There is a significant difference found between the mean scores of students from urban areas and rural areas on the examination anxiety scale. It means there is seen a significant difference between the mean scores of urban and rural area students on the examination anxiety scale. There is a significant difference between the mean scores of students with high performance and low performance on the examination anxiety scale. Further, the study revealed that there is an interaction effect of gender and standard on the examination anxiety of students.

CONCLUSION

There is a significant difference between the anxiety of male and female students. As the calculated value of t is significant at a 0.01 level of significance.

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There is a significant difference in the examination anxiety of 9th and 10th class students. The mean values of examination anxiety of 9th class students were 16.84 whereas the mean scores of the examination anxiety of 10th class students were 17.59. The t-value was significant at 0.05. The calculated 't' value is 2.50 which is more than the table value at 0.05 level i.e., 1.96 with df 98.

There is a significant difference found between the mean scores of students of urban areas and rural areas on the examination anxiety scale. It means there is seen a significant difference between the mean scores of urban and rural area students on the examination anxiety scale. The mean score of the Examination anxiety of urban area students is 20.57 and the Mean score of the Examination anxiety of rural area students is 19.56. It is clear from the Mean score of examination anxiety of urban and rural areas that the examination anxiety of rural area students is higher than the examination anxiety of urban area students. There is a significant difference between the mean scores of students of high performance and low performance on the examination anxiety scale. Our computed value of 't' is at a 0.05 level of significance level.

There is an interaction effect of gender and standard on the examination anxiety of students.

Test anxiety had an impact on student's academic achievement. It decreases adolescents' learning capabilities and hinders excellent academic performance. Test anxiety decreases motivation towards the ability for attention, concentration and worst, it leads to academic failure. This research finding found a significant difference between the mean scores of boys and girls on the examination anxiety scale of std.9 and std.10th in urban areas and rural areas on the examination anxiety scale. Therefore, school and family institutions must assist students in managing their test anxiety through counseling, relaxation, and behavioral techniques. Selected preventive activities can be proposed at high schools for targeted students with academic problems. Specialized intervention tailored to male students is suggested in order to improve male students' academic achievement.

The findings of this present research should not be generalized to all high school students, not even to the overall Indian high schools. This study is limited to only students aged 14 to 16 of standard 9th and 10th classes. The academic achievement measure used in this study is only applicable in the Indian setting and caution is needed in discussing this variable as other measure of academic achievement is found in the literature.

Implications of the study

The proposed study will have implicative insinuations for the students as the results of the study will reveal the cognition between test anxiety and academic achievement. The students can be highly benefitted from the results of the proposed study as they can devise their own methods to reduce test apprehensiveness.

The learning capabilities of the school's students in general and students of North Delhi in, particular will be enhanced to a great extent as the pupil can surmount the pressure of examination to a great extent due to the results of the study. The study will withal be subsidiary in amending the mental health and academic achievement of the students.

Suggestions for further study

Any educational research is worthwhile if results in fruitful educational implications. In so far as the present investigation is concerned it can be claimed that valuable information be

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obtained on the impact of the pressure of examination on the performance of students of North Delhi. Following are the recommendations of the present study:

- As per the results of the present study there is more examination stress in the case of female school students. It may be useful for teachers to understand examination stress among male and female school students. An orientation for female students for reducing their examination stress should be provided.
- It is recommended that stress management techniques should be provided to students with low intelligence through workshops and practical sessions.
- The present investigation will help administrators, policymakers, planners, and researchers both at the national and local levels.
- The students should be provided counseling sessions in order to develop effective strategies to avoid examination stress.
- The students should be given training in time management so that they are able to utilize the time in the proper manner leading to better self-regulatory practice. Such exercises are facilitative in promoting the management of time and preparation of examinations so that they can cope up with their examination stress.
- There should be more emphasis on such teaching learning strategies that would help students to achieve their aims and a good level of achievement by developing required personality traits.
- The findings of the study recommended that symptoms of examination stress should be diagnosed at an early stage so that students would not feel stressed during their examinations.

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Conflict of Interest

The author(s) declared no conflict of interest.

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