

# Impact of Demographic Variables on Exam Anxiety and Academic Achievement among Secondary Grade Students: An Empirical Study

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**Abstract:** *The major objective of this research study was to explore the gender, age and type of school impacts between Exam anxiety and academic achievement of students at the secondary grade level students. A sample of 117 secondary grade students those studying IX X, XI standard students those got, 50% above academic achieving students and 125 studentsthose got 50% below academic achieving and their exam anxiety test scores, was purposefully and randomly selected from government and private school in khurda road,orissa. Data were collected by using the Test Anxiety Inventory (TAI) developed by nist and Diehl's(1990). Pearson correlation, independent sample t- test statistics and ANOVA were run for data analysis. It was found that non-significant exists between boys and girls and private and government school, different age groups of 14,15 and 16 years. There was significant negative correlation between exam anxiety and academic achievement. Results showed that no gender differences and age groups associated with exam anxiety and academic achievement. Therefore, it is concluded that test anxiety is one of the factors which are responsible for students' underachievement and low performance. Thereis no such difference among boys and girls and also mode of school and age groups. However, when exam anxiety increases academic performance decrease; low exam anxiety negatively correlated with academic achievement with good grades.*

**Keywords:** exam anxiety, Academic achievement, Demographic variables

## 1. Introduction

Tests and examinations at all stages of education, especially at secondary standard students have been considered an important and powerful tool for decision making in our competitive society, X, XI,XII students being evaluated with respect to their achievement, skills and abilities. Zollar and Ben-chain (1990) have the opinion that "the era in which we live is a test-conscious age in which the lives of many people are not only greatly influenced, but are also determined by their test performance". Test and examination stress is thought to prevent some individuals from reaching their academic potential. It has been found that students consistently perceive examination as a source of increase in anxiety and a situation engulfed with uncertainty/unfairness in letting them demonstrate their true achievements (Zollar& Ben-chain, 1990; Spielberger, 1985). Such feelings among students' limit their potential performance during the test situation, resulting in higher text anxiety (Hill &Wigfield, 1984) directly causing drop in the student achievement.

Anxiety is a symptom or group of symptoms that is capable of inducing 'worries' and tension and sometimes physiological symptoms like blood pressure increase or in some cases decrease (Kazdin 2000). People subject to the symptom of anxiety in some cases may avoid situations due to allied experiences those accompany anxiety like sweating trembling or heartbeat. Since the likelihood of such states in various academic situations like examinations cannot be excluded so the relationship of anxiety with academic achievements have been an area of interest for social science research specially behavioral and psychological sciences. Researchers focused the assumed relationship between academic matters and anxiety with various angles (Saket

2014) and tried to find out that how do gender habitat and different types of schools may play role in generating anxiety among students? In another study Mohd&Atieq (2014) tried to find out that how socio- economic status does contributes to cause anxiety among students. However in both these studies researchers did not look into the possibility that how do anxiety they reported in school settings was there due to 'facilitating' effects or 'debilitating' effects (Alpert&Harber 1960).

## 2. Rationale of the Study

The purpose of the study is to investigate the effects of the of the exam anxiety on boys and girls at various age groups those who are studying X<sup>th</sup>, XI<sup>th</sup>, XII<sup>th</sup> grade students. Based on the various research studies suggest that High school students especially X<sup>th</sup>, XI<sup>th</sup>, XII<sup>th</sup> grade students Examination pressure significantly associated with meets the demands of career opted tests of all types like Engineering entrance examinations for various colleges and IIT entrance exams. People with test anxiety can also feel stressed out by their physical reaction and think things like "What if I throw up?" or "Oh no, my hands are shaking" (Zeidner, 1998). Just like other types of anxiety, test anxiety can create a vicious circle: The more a person focuses on the bad things that could happen, the stronger the feeling of anxiety becomes. This makes the person feel worse and, because his or her head is full of distracting thoughts and fears, it can increase the possibility that the person will do worse on the test. People who worry a lot or who are perfectionists are more likely to have trouble with test anxiety (Ellsworth and Smith, 1988; Lazarus, 1991). People with these traits sometimes find it hard to accept mistakes they might make or to get anything less than a perfect score. In this way, even without

meaning to, they might really pressure themselves. Test anxiety is bound to thrive in a situation like this. Students who aren't prepared for tests but who care about doing well are also likely to experience test anxiety (Culler and Holahan, 1980; Wittmaier, 1972). If you know you're not prepared, it's a no-brainer to realize that you'll be worried about doing poorly. People can feel unprepared for tests for several reasons: They may not have studied enough; they may find the material difficult, or perhaps they feel tired before tests like JEE and EAMCET and NEET Exam for medical etc. Specifically this study aimed that study the exam anxiety impacts on academic achievement at gender difference as well as age differences and mode of school among IX<sup>th</sup>, X<sup>th</sup>, XI<sup>th</sup> grade students.

### 3. Objectives of the Study

- To assess the exam anxiety impacts on academic achievement among secondary grade students
- To find the relationship between exam anxiety and academic achievement among secondary grade students.
- To find the gender difference associated with exam anxiety and academic achievement
- To find the various age group differences associated with exam anxiety and academic achievement.
- To find the difference between private and government school children exam anxiety and academic achievement.

### 4. Hypothesis

H1 .High achieving students will report lower levels of exam anxiety and low academic achievers will report high *exam anxiety*.

H2. There is a relationship between exam anxiety and academic achievement among secondary grade students.

H3. There is no gender difference associated with exam anxiety and academic achievement among senior secondary age group.

H4. There is no age group differences associated with exam anxiety and academic achievement among senior secondary grade students.

H5. There is a difference between government and private schools in association of exam anxiety and academic achievement.

### 5. Review of Literature

Exam anxiety is a well-studied psychological variable. Anxiety is defined as a condition of intense agitation, apprehension of worry and tension and fear. Anxiety triggers from a real or intuited threat of imminent danger , which causes instantaneous mind and body reaction and it effects behaviourally, psychologically and as well as physiologically (emotion theories). Test anxiety is characterised by cognitive (worry), and affective (emotionally) responses to the potentially of negative reactions resulting fear performance on a test.

Test anxiety is set of phenomenon logical physiological and behavioural responses that accompany concerns about possible negative consequences or failure on exam or similar evaluate solutions (chapel, blanding Takahashi, 2005,

p.268). Sangiry and sail (2006) defined test anxiety as the reaction to stimuli that are associated with an individual experiences of testing or evaluate situation (p.1). Kirkland and Hollandsworth (1980) define test anxiety as a “constellation of behaviour that have a debilitating effect on academic performance(p.431). Many studies have shown that test anxiety is relegated to poor academic performance (culler or Holahan, 1980; Dendato & Diner 1986. Musch & Broder 1999. Wine, 1971: Wattamier 1972)

In a meta-analysis of 562 students that related to academic achievement and test anxiety. It was founded that poor performance was routinely caused by test anxiety (Hembree 1998). Students who have test anxiety suffer on almost daily basis (sacks 1999). Even these students who have high test scores may experience chronic emotional distress. As a result of nervousness students mind blank out on tests (Mayer 2008). Others may feel over whelmed which can result in their under achieving and giving up school. These students may end up being placed in lower academic classes and may feel ashamed and isolated from their friends and social activities (Sacks 1999). Long term effect of test anxiety leads to drop outs of school and feeling unable to once potential and in some cases it develops mental disorders such as depression and anxiety disorders and they use drugs and alcohol to cope from the situations (Hancock 2001). View of the association between these two factors suggests the cognitive component that directly influences the performance of students in exams, while the emotionality component is associated but does not directly persuade test performance (Cassady, 2001). The individual might experience a feeling of distress (performances are being prudently observed out to be assessed (Cheraghian, Fereydouni, BarazPardejani & Bavarsad, 2008). Sometimes this can lead to low confidence or poor academic performance (Moadeli & Ghazanfari, 2005). Taking on new knowledge, roles, concepts and attitudes eventually leads to period of stress and dissatisfaction. Stress and recognition of impending stressors among nursing students were given a large extent of attention in the literature (Nicholl & Timmins, 2005 , Shah, Omar & Muhammad, 2013). Undergraduate students have a great possibility of developing anxiety during examination. Anxiety disorders are rising among students (Leta, 2001). Recent studies on anxiety and related fields showed that anxiety disorders are prevalent in American society. Test anxiety is one of these fields (Amiri-Majd & Shahmoradi, 2008). This form of anxiety most of the time tends to weaken students' test taking ability. Also, their ability to exhibit knowledge about the content in the course being evaluated decreases, consequently leading to poor performance in the test that in turn affects the test scores and overall grades (Markman, Balik, Bercovitz & Ehrenfeld, 2010). Test anxiety is an undesirable reaction toward evaluation. It's the most important problem that is faced by the students in their education worldwide (Khosravi & Bigdeli, 2008). Test anxiety is a psychological condition in which students experience extreme distress and anxiety in test situations. A little anxiety during exams is required that will help students to get motivated and learn. Mounting up so much of anxiety will not help the student to perform rather it will influence the academic performance negatively (Coon & Mitterer, 2009). The psychological symptoms that build up in students before a test includes restlessness,

unusual body movements, difficulty in concentrating, insomnia, fatigue, muscle contraction, abdominal pain, and tremors (Porto, 2013).

### 6. Methodology of the Study

#### Procedure

This research was designed for the paper publication and administered to gather data from rural Kendriyavidyalaya school and one private missionary school students those studying IX, X, XI grade in khurda . On this view how age, gender and mode of school differentiated with exam anxiety and academic achievement. To find the exam anxiety among senior secondary grade students there has been conducted qualitative analysis Dependent variables include as exam anxiety and academic achievement in CGPA. Students exam anxiety scores and CGPA were used as the dependent variables. Each hypothesis focused on a different group of participants. There was taken permission by kendriyavidyalaya in khurda and missionary school principal in khurda Orissa district to allow their students to participate in the study. Students of 117 those got 50% above CGPA academic achievement and 125 students those got 50% below CGPA academic achievement and their exam anxiety test scores was purposefully and randomly selected from government and private school in khurda road, Orissa. There was categorised boys and girls based on gender and type of school regarding government and private school at three age groups of 14, 15 and 16 years.

#### Tool for Data Collection

The questionnaire used in this study was developed by Nist and Diehls(1990) developed short questionnaire for determining the students experience mild or moderate or severe test anxiety. These test anxiety questionnaire consists 10 statements and structured questionnaire method

Used for the purpose of paper preparation. Test anxiety questionnaire responses based on likert scale 1) Never 2) Rarely 3) Sometimes 4) Often 5) Always. Total score range from 10-50.

10- 19 points indicate that do not suffer from exam anxiety.. 20- 35 points score indicates that exhibits some of the test anxiety level probably tension may be in a healthy way and over 35-50 points suggest that unhealthy level of anxiety.

#### Data Analysis

The data was analysed by computing the significant difference in mean scores on dimensions of students' academic achievement and exam anxiety score among the age, gender, and type of school with spss 20 version. There was used independent sample t- test to identify the mean differences between gender is into boys and girls. With regard to mode of school is divided government and private and age groups categorised on the basis of their age are 14, 15, and 16 years computed by ANOVA to identify the mean differences among agegroups.

### 7. Results

**Table 1:** Group Statistics of Demographic Variables for Below 50% Academic Score and Anxiety

50%below Academic and anxiety score	Demographic variables	N	Mean	Std. Deviation	t-value	f-value
50% below academic score	Male	59	44.0000	4.91654	1.01	
	Female	66	43.0758	5.19263		
	Government school	61	42.83	4.80	-1.46	
	Private school	64	44.15	5.25		
	14 yrs age	38	44.13	4.23		0.47
	15 yrs age	43	43.44	5.36		
	16 yrs age	44	43.04	5.46		
	Total	125	43.51	5.06		
exam anxiety test score	Male	59	35.5424	7.67962	0.18	
	Female	66	35.2879	7.39390		
	Government school	61	34.90	7.95	-0.73	
	Private school	64	35.89	7.07		
	14 yrs age	38	35.65	7.14		1.45
	15 yrs age	43	33.93	7.54		
	16 yrs age	44	36.63	7.67		
	Total	125	35.40	7.50		

Table – 1 shows the significant mean difference between gender, age, and mode of school on 50% below academic score and exam anxiety score among secondary grade students. It is observed from the obtained t- value for the gender the total number of 125 students ,male were 59 and female were 66 and academic score indicated non-significant at.517, t- value(1.01,p > .05) and exam anxiety score non-significant at.733, t- value (0.18, p> .05) Regarding to the mode of school that government school students participated number 61 and private school students 64 academic score non-significant at.641 and their t- value (- 1.46, p>.05) exam anxiety score significant at.104, t-value (- 0.73, p>.05). At the different age group levels of 14 years participants were 38, 15 years age group number were 43 and 16 years age group participated numbers were 44 their f-value of academic score non-significant at 0.625,t-value indicated that (0.47, p> .05) and exam anxiety score non-significant at 0.237,t-value (1.45, p >.05).

**Table 2:** Group Statistics of Demographic Variables for above 50% Academic Score and Anxiety

Dimension	Demographic variables	N	Mean	Std. Deviation	t-value	f-value
50% above academic score	Male	60	78.36	5.05	0.86	
	Female	57	77.49	5.93		
	Government school	61	78.90	5.80	2.00	
	Private school	56	76.89	4.97		
	14 yrs age	37	78.24	5.70		0.33
	15 yrs age	43	78.20	5.41		
	16 yrs age	37	77.32	5.47		
	Total	117	77.94	5.49		
exam anxiety test score	Male	60	23.70	3.80	-0.96	
	Female	57	24.40	4.05		
	Government school	61	24.31	4.05	0.77	
	Private school	56	23.75	3.80		
	14 yrs age	37	23.83	4.01		1.17
	15 yrs age	43	23.53	3.85		
	16 yrs age	37	24.83	3.91		
	Total	117	24.04	3.92		

Table – 2 shows the significant mean difference between gender, age, and mode of school on 50% above academic score and exam anxiety score among secondary grade students. It is observed from the obtained t- value for the gender the total number of students 117 ,male were 60 and female were 57 and academic score t- value(0.86 , $p > .05$ ), exam anxiety t- value ( -0.96,  $P < 0.05$ ) Regarding to the mode of school that government students participated 51 and private school students were 66 and their t- value (2,  $p > .05$ ) and (0.77,  $p > .05$ ) At the different age group levels of 14 years participated 38, 15 years age group participated 43 and 16 years age group participated numbers were 44 their f-value of academic score indicated that (0.33  $P < 0.05$ ) and exam anxiety score (1.17,  $p > .05$ ).gender, age and mode of school impacts between Exam anxiety and academic achievement of students at the secondary grade level students .

## 8. Discussion

Present study significantly shown and previous studies has been found that students consistently perceive examination as a source of increase in anxiety and a situation engulfed with uncertainty/unfairness in letting them demonstrate their true achievements (Zollar& Ben-chain, 1990; Spielberg, 1985). Such feelings among students' limit their potential performance during the test situation, resulting in higher test anxiety (Hill & Wigfield, 1984) directly causing drop in the student achievement. Therefore that higher academic achievement negatively correlated with feel of Exam anxiety and low academic achievement negatively correlated with high exam anxiety vice versa. When the exam anxiety increases then academic achievement decreases and low exam anxiety increases academic achievement. Previous Researchers focused the assumed relationship between academic matters and anxiety with various angles (Saket 2014) and tried to find out that how do gender habitat and different types of schools may play role in generating anxiety among students Dimensions of students regarding gender that boys and girls there was no significant differences associated between boys and girls. There were no such gender differences in feel of exam anxiety and academic achievement. so hypothesis was accepted by the present study as well as previous studies. Present study results noticed that there was no significant influence on government and private school student's exam anxiety and academic achievement so the hypothesis was not accepted by the present study. and present study revealed type of school and age non significant relationship between exam anxiety and academic achievement.

## 9. Conclusion

Study revealed that secondary grade student's exam anxiety impacts on academic achievement with various demographic variables like gender, age and mode of school. Findings revealed that students low or medium exam anxiety increases academic achievement than the high exam anxiety. Study concluded that there is no gender difference and mode of school and age differences in exam anxiety and its impacts on academic achievement. Exam anxiety became an universal phenomenon because of their high stakes of study curriculum and strong exam competition and parental high

expectations towards grades and carrier options. Students have to adjust to stressful educational settings which can include increase pressure to perform unfamiliar tasks, intense academic challenges and new different social situations which may very well impact on their academic achievement.

## 10. Implications of the Study

Research result shown that testing can produce anxiety in students, lower grades produces students low self-esteem and increased their fear of failure Students feel pressure by their parents , teachers and colleges take their engineering, technical, medical courses to enhance their college admissions. Nowa day's government of national and state level inaugurated act that education is every child's right. And introduced different competitive exams to raise academic standards as well as helping to prepare students to get standard courses and various tests. Previous researches suggest that exam anxiety is a serious problem in high schools and effecting on millions of students without age differences and gender differences.

## 11. Suggestions

The following suggestions are made by investigator to reduce the exam anxiety and improving academic grades to secondary grade students.

- 1) Somewhat educational counselling and educational interventions will be helpful to reduce exam anxiety to secondary grade students.
- 2) Counselling boost to reduce exam anxiety levels and helps in self-esteem built up and develops self confidence in students.
- 3) Exam anxiety becomes a universal phenomenon in students so that counselling only helpful to students in reduces exam anxiety among various age groups and gender private and government school students. it is concluded that test anxiety is one of the factors which are responsible for students' underachievement and low performance but it can be managed by appropriate training of students in dealing with factors causing test anxiety.
- 4) It is suggested that test anxiety is one of the factors which are responsible for students' underachievement and low performance but it can be managed by appropriate training of students in dealing with factors causing test anxiety.

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