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STATISTICAL MODELING OF TEST ANXIETY AMONG THE STUDENTS OF FACULTY OF NUMERICAL AND PHYSICAL SCIENCES UNIVERSITY OF PESHAWAR

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ABSTRACT

The present research is based on examining the exam Anxiety factors among the BS students of the faculty of numerical and physical science, University of Peshawar. A well-structured questionnaire was distributed among the BS student at the University of Peshawar. A sample of 250 students was selected. The data were analyzed by using SPSS 23.0 version. The frequency of male respondents was 125 and female respondents were 125. 174 students were settled in the university hostels and 76 were day scholars. Majority of the parents were illiterate. More than 60% of the students belonged to the rural area and belonged to the average income family. One of the main reasons of the students suffering from exam anxiety was their family history of anxiety. A lower grade in the last exam was also a reason of anxiety. Round about 68% of the students are not able to manage the time for study. Another reasons included absentees from school, memorizing the lessons without understanding the themes. Majority of students were of the opinion that the lack of preparation for the exam is the main reason of anxiety during the exam. Nearly 66.40% of the students were scared about the result and 33.60% of the students were free from this fear. There is no significant association between Gender and any other related factor.

Key words: Students, exam, anxiety, gender, history.

1. INTRODUCTION

Peshawar University is one of the oldest academic institutions in Khyber Pakhtunkhwa (KP). Every year approximately thousands of students get enrolled for the seeking of knowledge in this institution. This university is playing a key role in imparting knowledge among the students in all districts of Khyber Pakhtunkhwa in general and district Peshawar in specific. Moreover, students from other provinces of the country are also enrolled. Some foreign students are also getting an education in this university. Due to its oldest history, this university is also known as the Parent University of the province.

Statistics is a science of collection, presentation, analysis and interpretation of data in any field of inquiry to make a better decision. Statistics is divided into two branches i.e. descriptive statistics and inferential statistics. Descriptive statistics deals with the summarization and description of numerical facts. This branch includes collection, classification, tabulation, interpretation, analysis and graphical display of numerical facts, while inferential statistics deals with drawing results regarding population from limited information from the sample [1]. Each of the above two branches can further be divided into two parts. The first part is learning i.e. new ideas are introduced and formulae are devised. It is called theoretical statistics. The second part is application i.e. rules, methods and formulae are used to find out the results from the data. It is called applied statistics.

Biostatistics is the application of statistics to an extensive range of topics in biology. It comprises the design of biological experiments which are

used particularly in pharmacy, medicine, fishery and agriculture. The gathering, summarization, analysis of the data and its interpretation from those experiments draw inference from a population. The main branch is medical biometry, which is exclusively concerned with health as well as medicine [2].

Student's mental health is one of the emerging issues among the officials of public health. It not only disturbs the social life of the student but also affects the behavior as well as academic performance. Anxiety is one of the significant factors of the mental health of students. The term anxiety refers to the detrimental and uncertain state of the human body in a specific situation of life [3]. Such a form of body adversely affects the physical and mental health of the population in general and students in specific. It not affects the family, social and professional life of the students but also affect negatively the academic achievements of student [4]. The level of anxiety in student's increases displeasure in seeking knowledge and affects their social life. This leads to the poor academic performance of the students [5]. It is observed that most of the time the student experiences anxiety during academic evaluation like conducting a test or exam Leta [6]. Such type of anxiety refers to the test anxiety that occurs during examination in academics and shows adverse effects as poor grades of the students [7]. Test anxiety is a common issue among university students around the globe [8]. Test anxiety can be of various levels. It can be low-level test anxiety, moderate level test anxiety and high-level test anxiety. A low level of test anxiety helps students a bit in learning new concepts, but a high level of test anxiety damages the academic performance of the student. Moreover, the higher level of text anxiety was found positively correlated with psychological characteristics of students such as restiveness lack of concentration, muscle retrenchment etc. [9]. Also, for students with a high level of test anxiety, the psychological characteristics showed an inverse relation with their educational and professional abilities [10].

1.1 Anxiety

The term anxiety is originated from the Latin word Anxious which means uneasy, trouble in mind. It is a feeling of fear or apprehension [11] about what's to come. E.g. The first day of school, college as well as university; someone goes for a speech and an interview or a job etc. and anxiety is a kind of nervous disorder. All the person have some degree of anxiety is normal to have a certain degree of anxiety but if it starts to effects day to day life of a person then it is an anxiety disorder.

1.2 Types of an Anxiety

Anxiety comes in different forms such as social anxiety, Specific Phobias, Separation Anxiety, Obsessive-Compulsive Disorder, Panic Attacks as well as Generalized Anxiety.

Social Anxiety: Social anxiety refers to the fear of social gatherings.

1.3 Specific Phobias

A specific phobia is when you are very afraid of a particular thing or situation, such as spiders, heights or flying, even long buildings, voice, Road Traffic as well as aero planes. When there is no real danger.

Separation Anxiety: Separation Anxiety People with separation anxiety have difficulty being away from particular people or places. For example, someone with separation anxiety may feel anxious when away from their parents or partner or if they are away from their home.

Obsessive-Compulsive Disorder: Obsessive-Compulsive Disorder People with Obsessive Compulsive Disorder have persistent thoughts (or 'obsessions') and fears that are overwhelming. They deal with these feelings by taking part in repetitive behaviours (or 'compulsions').

Panic Attacks: Panic Attacks A panic attack is when someone suddenly develops feelings of intense fear which causes them to experience physical effects such as rapid heart rate, breathlessness, dizziness and shaking. They might feel like they can't breathe or like they are going to faint. In some people the physical effects create a cycle, making the person feel more afraid which causes the physical symptoms to get worse.

Generalized Anxiety: Generalized anxiety refers to an unknown fear of everything.

Generalized Anxiety: Generalized anxiety is when someone feels fear and extreme nervousness most of the time that does not have a specific cause. People with Generalized Anxiety might worry about different areas of their life such as work, relationships and health, even when there is nothing wrong, or they might simply feel anxious a

lot of the time without worrying about anything specific.

The term examination anxiety refers to states of worry as well as apprehension that occur in students in the face of examinations or test conditions. The terms test/exam anxiety, as well as cognitive test anxiety, were used interchangeably in this study.

Anxiety is a perceived fear or threat. It's a kind of nervous disorder. Anxiety comes in different forms such as social anxiety, Specific Phobias, Separation Anxiety, Obsessive-Compulsive Disorder, Panic Attacks as well as Generalized Anxiety.

Examination anxiety – refers to states of worry and apprehension that occurs in students in the face of examinations [10] or test conditions. The terms test/exam anxiety and cognitive test anxiety were used interchangeably in this study.

Students of higher institutions are associated with anxiety particularly when they are preparing for examinations. Examination anxiety is a phenomenon that is associated with the low performance of student's academic achievement. The following are basic to student's anxiety in schools: Lower courses' grades, decreased motivation as well as increased stress [12-14]. Examination anxiety is a mixture of physiological, tension, over-arousal as well as somatic symptoms along with fear, worries, fear of failure as well as catastrophizing that happens before or during examination [15] circumstances; Examination anxiety has an enormous negative (indirect) impact, hence students' low academic performance in schools. This is a physiological situation with students' extreme stress, anxiety as well as discomfort during or before taking examinations. Anxiety creates significant barriers to learning as well as academic performance [16-17].

Various researchers recommended high levels of emotional distress that have a positive (direct) correlation that decreases academic performance and encourages higher overall student's drop-out rates [18-20]. Examination anxiety has broader negative consequences, therefore, affecting student's social, emotional and behavioral development as well as their feelings about themselves in school [21]. Highly examination students' anxiety scores rate about twelve (12) percentile points below their low anxiety papers [22-24].

2. REVIEW OF LITERATURE

This chapter reviews the previous work related to testing anxiety in which a variety of statistical methods were used. Many researchers conducted researches to evaluate the prevalence of test anxiety and its association with exam scores as well as their impact on different test anxiety levels both at the national and international level.

Many researchers studied the anxiety effect. Some studies suggested a strong link between mental stress and socioeconomic class. This socioeconomic favoritism reasons mental health disorder related diseases in students such studies have shown that mental stress is commonly found in students belonged to lower social-economic [25-28].

A study investigated that female students experience a higher level of anxiety than male students, irrelevant of cultural background. The sample of the study was the Asian's students with four different cultures. The differences of gender in test anxiety among the male and female students' is because of exceeding vital task in probability inconsistency of both males as well as female [29]. A study examined the test anxiety among both students 'of India and the United States. According to this, the researcher found no difference in test anxiety levels experienced by both male and female students. On the other hand, the study found that the Level of test anxiety was higher female genders of college students and male students of high school in the United States [30].

Rasor and Rasor [31] determined that exam anxiety is a group of replies which contains extreme worry, nervousness depression and inappropriate thinking to a class of motivation from an individual's experience of test and result. Beurs et al. [32] determined that anxiety and depression shown an indirect effect on the life quality. Bird [33] demonstrated that 1 out of 4 suffers some kind of mental stress and anxiety occurring together with depression is the most common form of mental stress.

The study of Shireen et al. [34] work done which based on a Visual Analogue Scale (VAS) in students of a medical college on a moderate level of test anxiety and also highlights related factors such as lack of exercise, broad course load along with the lengthy duration of examinations that contribute to Exam Anxiety. Davis [35]

investigated those females enrolled at the beginning of the statistics course demonstrated moderate to high levels of anxiety.

Brown and Nelson (1983) reported that the high performers in the group of 72 students with better authority control ($F = 12.97$, $p = .001$) despite anxiety level in the undergraduate program at a large mid-western state university. The study supported the focus on authority control as a method to improve performance as well [36].

Sarason [37] empirically studied the correlation of test anxiety with construct validation of nursing education and found a close association. It helped in augmentation of the scope of understanding the construction of test anxiety and its relationship to achievement in nursing education. Spielberger (1979) studied test anxiety as a compound of emotions and worry. These two psychological terms significantly interfere with the achievements of tests in many conditions .Casanova (1988) studied test anxiety among the university faculty. The study acknowledged that faculty with better course output may contribute to anxiety in faculty which ultimately transmit into students [38]. Pappamihiel (2002) conducted research and show that anxiety may not affect the student's performance its effects are improved by the powerful relationship between authority performance of test and test anxiety [39].

Safeer & Shah studied the correlation between the test anxiety and performance of university students academically by using a cross-sectional study design. The data was obtained from 360 BS students, selected by stratified random sampling from the University of Haripur. The study utilized various statistical techniques like ANOVA, regression analysis and concluded that there is found test anxiety in the students of the university. The test anxiety showed an inverse relationship on exam score and male university students found more suffered from test anxiety than female university students [40].

Miller & Sandman [41] revealed that faculty at the university level had to contract with stress associated with roles as service initiators, teachers and researchers. The multiple conceptualizations of spirited anxiety integrate authority and necessary parts have givenan obvious understanding of how contestants respond to contestants stressors. Many in higher education are not interested in the aspects of research in education rather than interested in the teaching job aspect. This idea takes place an employee in a marsh, quite early in his or her career, as many universities place a high priority on success in research as well as teaching to merit pay, secure promotion and term.

Kirkland and Hollandsworth [42] studied the significance of the relationship between anxiety due to test and exam performance measured by Grade Point Average (GPA) and ACT scores. A sample of 305 undergraduate students of sociology and psychology courses at a Southeastern university was considered. According to Rana and Mahmood [43], the link between test anxiety and academic performance of post-graduate-level students, a random sample of 414 students was selected from seven different science Departments in Lahore University, Pakistan. Test Anxiety Inventory scale (TAI) was used to collect the data from students of various departments of the university. Several statistical tools like regression analysis, Pearson product-moment correlation as well as multivariate statistics were used for the analysis of the data. The result showed a negative association between scores of anxiety scale with students' achievement scores. The study further demonstrated that factor such as worry was found more responsible for test anxiety than affective factors i.e. emotional.

Cassady and Johnson [44] carried out research work to examine the effect of grasp test anxiety on academic achievement of the students' and showed that the test anxiety influences a significant secure and indirect impact on academic achievement of the students' measures. Studied the effects of the teacher's assessment observes on students' achievement and test anxiety of the students along with the motivation at the post the secondary level. He established statistically significant conclusions which conclude that all of the students having a high level of anxiety leads towards poor performance along with the less motivated to study. Hence, he pointed out that the most anxious students are exposed to highly evaluated review situations in the educational institution, with poor and performance less motivated [44].

Oludipe [45] revealed that how test anxiety affects students' performance levels in science in general and especially in Physics. The study concluded that students with high test anxiety performed better than low anxious students in physics. Vogel and

Collins [46] contributed a research study; one group of students was given pop quizzes while another one planned quizzes. The results showed no difference in anxiety as well as quiz grades between the two groups. Thus, academic achievement was not initiated to be related to test anxiety. Moreover, a local study by showed an insignificant association between test anxiety and academic performance i.e. CGPA. The study showed a significant difference in test anxiety levels both before as well as after examinations.

Gaudry and Spielberger [47] revealed that at the university level the term high level of test anxiety is the major reason for the poor performance of the students. It is important to be discussed various studies showing the statistically significant inverse relationship between test anxiety as well as academic performance of the students for a long time.

Khalid and Hassan [48] carried out a research study on the relationship between test anxiety as well as academic achievement of the students. A purposive sampling technique was used for the selection of samples. A total of 187 samples were selected from undergraduate students to check the relationship between test anxiety and academic achievement. The research work decided that students with high academic performance have low test anxiety and that low academic performance has high test anxiety. The study explored test anxiety to academic performance. The data was gathered from both the graduate and undergraduate level student's data. The study showed a significant inverse relationship between test anxiety and academic performance. Cooke, Bewick, Barkham, Bradley and Audin [49] conducted a research study that it has been accepted that the psychological changes in the students of the first year relate with students' academic pressure along with the financial issues.

2.1 SIGNIFICANCE OF THE STUDY

Anxiety and depression have shown a significant influence on the academic performance of the students. The literature has studied that various levels of test anxiety are somehow necessary for better academic achievement, but it has shown adverse effects on the mental health of students in general and academic performance of the student specifically. The term test anxiety leads towards the psychological mental disorder of a student in a situation when it found its saver form. This study will help the academician, curriculum constructors, researchers, students, teachers, administrators and examiners to know about the prevalence of test anxiety, its relationship and association with different demographic, social and environmental factors among the currently enrolled students in BS at the University of Peshawar. It will also be a supportive study for the teachers as well as for examiners for the construction of teaching and evaluation strategies. The administration and examination section of the university will use this study for the improvement of the student evaluation process.

2.2 AIMS AND OBJECTIVES OF THE STUDY

The Following are the objectives of the study are as follows;

- To study the prevalence of test anxiety among the BS student of numerical & physical science faculty
- To find the association and its strength among the related factors of the Test Anxiety

This chapter includes various successive sections that comprise the population of the study, sampling strategy, sample size estimation as well as other essential statistical tools for the analysis of data. Similarly, a brief description of the test anxiety scale is also presented.

3.1 STUDY DESIGN

In this study, descriptive statistics and inferential statistics were used in different stages.

3.2 POPULATION OF INTEREST

The Bachelor of Science (BS) of all departments and faculty at the University of Peshawar is used as a population of interest in this research study.

3.3 SAMPLED POPULATION

The faculty of numerical & physical sciences is used as a sampled population. The faculty consists of five departments namely:

i. Computer Science
ii. Electronics
iii. Mathematics
iv. Physics
v. Statistics

3.3.1 SAMPLING STRATEGY AND SAMPLE SIZE

To select a representative sample of BS students from the faculty of numerical & physical sciences, a sample of size 250 is selected from the five departments of the faculty. Equal proportional allocation methods is used for selecting the representative sample from each department.

$$n_i = \frac{n}{5} = \frac{250}{5} = 50$$

Where n is the required sample size
5: number of departments
n_i: sample size of each department

3.4 DATA COLLECTION METHOD / TECHNIQUE

To collect the regarding test anxiety among the BS student at Peshawar University, a well-structured standardized scale of test anxiety is used. This scale of test anxiety being constructed by Nist & Diehls [50] is used. This scale is particularly designed for determining the level of test anxiety for all types of academic discipline at once. Moreover, it's one of the simple scales for the extend determining of test anxiety. This is a Likert type of scale consisting of Always, Often, sometimes, Rarely and Never ranging from 5 (Always) to 1 (Never).

3.5 SAMPLING PROCEDURE

Simple random sampling procedure is used for selecting the representative sample from the BS students of the five departments of the faculty.

3.6 STATISTICAL METHODOLOGY

To perform the statistical analysis to achieve the mentioned research objectives, Statistical Packages for Social Sciences (SPSS), version-24th will be used. The statistical analysis contains both descriptive and inferential statistics. The descriptive statistical methods contain presentation of collected data by the mean of frequency distribution and appropriate graphs and charts. The inferential statistics contains the chi-square test of association, odds ratio analysis for studying the strength of variables are used. The following is the brief discussion of the statistical method used in the study.

3.6.1 DESCRIPTION AND GRAPHICAL PRESENTATION OF DATA

Various statistical tools like frequency table, cross-tabulation is used to describe the uni-variable as well as bi-variables of the data in the table form while different graphical techniques like pie-chart, bar chart etc. is used to present the data diagrammatically. The central tendency such as mean, median as well as mode etc are used to determine the central value or average value or balancing point of the data. Moreover, the measure of dispersion is also used to check the variability or consistency of the data like standard deviation or variance which is a very efficient statistical technique.

3.6.2 Frequency Distribution/Table

The organization of a set in a table showing the distribution of the data into groups or classes together with the number of observations in each group or class is called a frequency distribution. It is also called a frequency table.

3.6.3 Classification of Data

"It is the process of dividing the data into groups or classes based on their similarities and dissimilates is called Classification of Data."

3.6.4 Tabulation of Data

"The process of the systematic representation of data in the form of columns and Rows by some silent Characteristics is called Tabulation."

3.6.5 Simple Bar Chart

A simple bar chart consists of a horizontal or vertical bar of equal width and lengths proportional to the values they represent. It is useful for a linear or one-dimensional comparison. There should be sufficient spaces on all sides of the diagram. The baseline is taken horizontally.

3.6.6 Pie Chart or Diagram

A pie chart is a sector diagram that describes the data as a sector of a circle describing a category of the qualitative variable. For the construction of the

pie diagram, we use a formula and make the corresponding angles in a circle [51].

3.6.7 CHI-SQUARE TEST OF ASSOCIATION

The chi-Square analysis is used to study the association among qualitative variables. The test of association is also known as the chi-square test of independence. This test helps in determining the association/dependency between the categories of one qualitative variable with categories of another qualitative variable. In this study, the following null hypothesis is considered i.e. there is no association between test anxiety and various demographic factors. against an alternative hypothesis that there is an association between factors. The following test statistic of chi-square is used to study the association between the variables Agresti [52].

$$\chi^2 = \frac{n[ad - bc]^2}{(a+b)(c+d)(a+c)(b+d)}$$

Where n is the total number of observations. This test statistic χ^2 follows a chi-square distribution with 1 degree of freedom.

3.6.8 ODDS AND THEIR RATIO

Odds Ratio: An odds ratio (OR) is an effective measure used to calculate the association between an exposure and an outcome. The odds ratio indicated the odds that an outcome will result given an exposure, compared to the odds of the results occurring in the absence of that exposure.

The odds defined as

$$Odds = \frac{P_i}{1 - P_i} \quad i = 1,2$$

The odds ratio is defined as

$$OR = \frac{P_1/1 - P_1}{P_2/1 - P_2}$$

$$OR = \frac{P_1(1 - P_2)}{P_2(1 - P_1)}$$

The inference ODDS Ratio can be demonstrated as If $Odds\ Ratio = 1$ then the events are equally likely for both groups If $Odds\ Ratio > 1$ then the event in group 1 is more likely If odds Ratio< 1 then the event in group2 is more likely If the number is greater than, there will be a strong association [56].

3.6.9 PREVALENCE

Prevalence is an epidemiological term. The study of the no. of cases (disease) in a specific population at a specific time is called Prevalence [53].

3.6.10 INCIDENCE

The number of new cases (disease) at a specific week/month/year is called incidence.

3. STATISTICAL ANALYSIS

This section illustrates the consequences of the statistical analysis of the data collected from the student's Examination anxiety among the students of BS at Peshawar University, Pakistan through a questionnaire (appendix-A). The feedback from the students was analyzed using SPSS Version 23.0, and the results are presented using bar graphs, cross-tabulations, pie charts as well as in descriptive form. These results are presenting in the following sections:

i. Socio-demographic characteristics.
ii. Area wise
iii. Gender wise
iv. Relationship between dependent and independent variables.

4.1 RESPONSE RATE

Two hundred and fifty questionnaires were distributed, out of which all two hundred and fifty ($n = 250$) were fulfilled properly and returned. The rate of response was 100 %. The detailed information about whole variables is given in Table 4.1.

Table 4.1: Illustration of Gender and Departments

Variables		Number of observation	Percentage (%)
Gender	Male	125	50
	Female	125	50
Departments	Computer Science	50	20
	Electronics	50	20
	Mathematics	50	20
	Physics	50	20
	Statistics	50	20

4.2 DEMOGRAPHIC PROFILE

4.2.1 GENDER

Out of 250 patients, the frequency of male respondents was 125 (50%) and female respondents were 125 (50%). The information in the bar chart about gender is given in Figure 4.1.

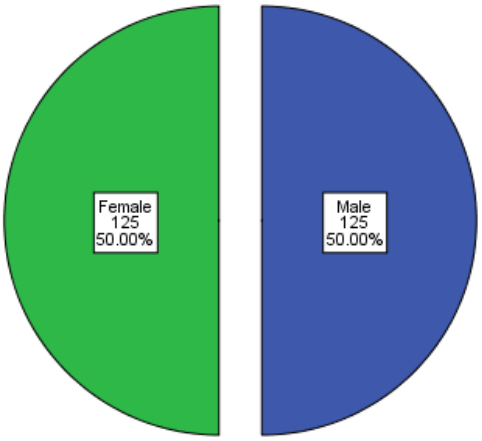

Figure 4.1: Bar Gender of Students

4.1.2 HOSTEL

Out of 250 students, 174(69.6%) were settled in the university hostels and 76(30.4%) were day scholars as shown in Table 4.2.

Table 4.2: Hostel status

		Frequency	Percent	Cumulative Percent
Valid	Yes	174	69.6	69.6
	No	76	30.4	100.0
	Total	250	100.0	

4.2.3 Father Education

Out of 250 students, 181 (72.4.0%) fathers were illiterate and 69 (27.6%) fathers were literate (Table 4.3).

Table 4.3: Father Education

		Frequency	Percent	Cumulative Percent
Valid	Illiterate	181	72.4	72.4
	Literate	69	27.6	100.0
	Total	250	100.0	

4.2.4 Mother Education

Out of 250 patients, 196 (78.4%) mothers were illiterate and 54 (21.6%) mothers were literate (Figure 4.2).

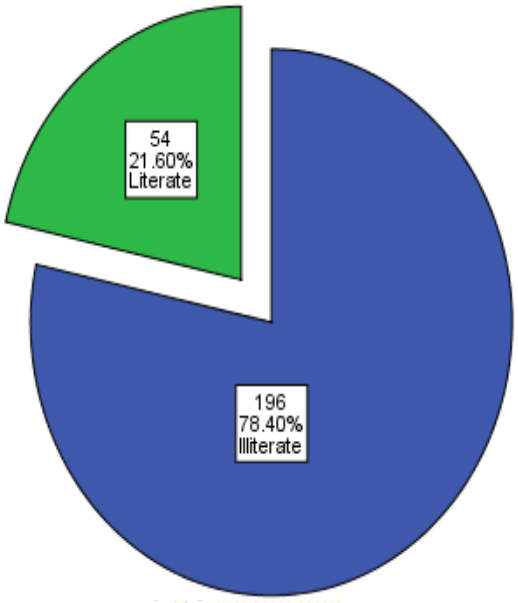

Figure 4.2: Mother Education

4.2.5 Area of Residence

Out of 250 patients, the rural area participants were 145 (58.0%), while the urban area participants were 105 (2%). The information in the bar chart about the residential area is given in Figure 4.3.

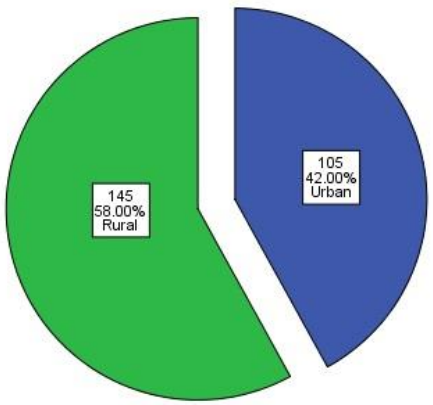

Figure 4.3: Pie Chart of residential areas

4.2.6 FAMILY INCOME

Out of 250 patients, the frequency of participants having income below 40000 rupees were 32(12.8%), the frequency of participants having income between 40000-60000 rupees were 16 (6.4%), the frequency of participants having

income between 60000-80000 rupees were 176 (70.4%), the frequency of participants having income above 80000 rupees was 26 (10.4%). The information in the bar chart about family income is given in Figure 4.4.

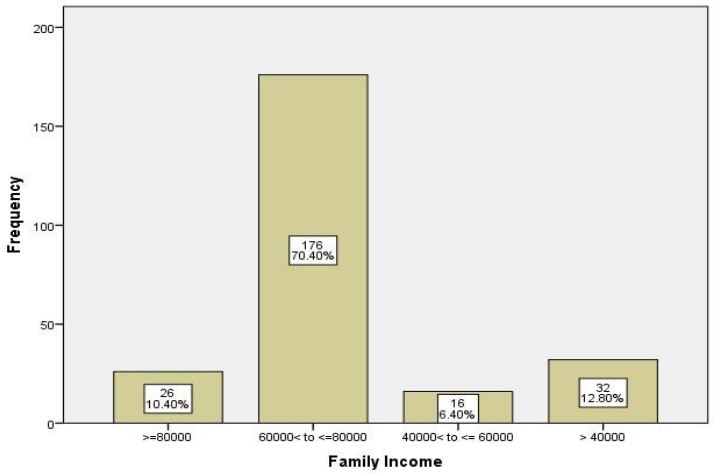

Figure 4.4: Bar Chart of Family Income

4.2.7 Family History

There were a total of 250 respondents, in which the frequency of respondents member of the family suffering from anxiety were 163 (65.20%) and the frequency of respondents not a member of the family suffering from anxiety were 87 (34.80%) as shown in Figure 4.5.

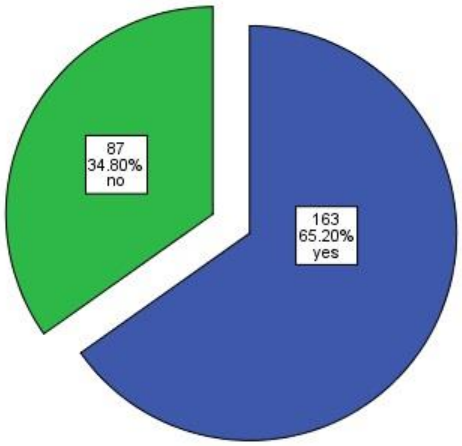

Figure 4.5: Pie Chart of members of the family suffering from anxiety

4.2.8 SUFFERING FROM ANXIETY

There was a total of 250 respondents in which the frequency of the respondents who agreed about suffering from exam anxiety are 168 (67.2%), frequency of the respondents who are not suffering from exam anxiety are 82(32.8%). The information in the bar chart is given in the table 4.4 and Figure 4.6.

Table 4.4: Exam anxiety

		Frequency	Percent	Cumulative Percent
Valid	yes	168	67.2	67.2
	no	82	32.8	100.0
	Total	250	100.0	

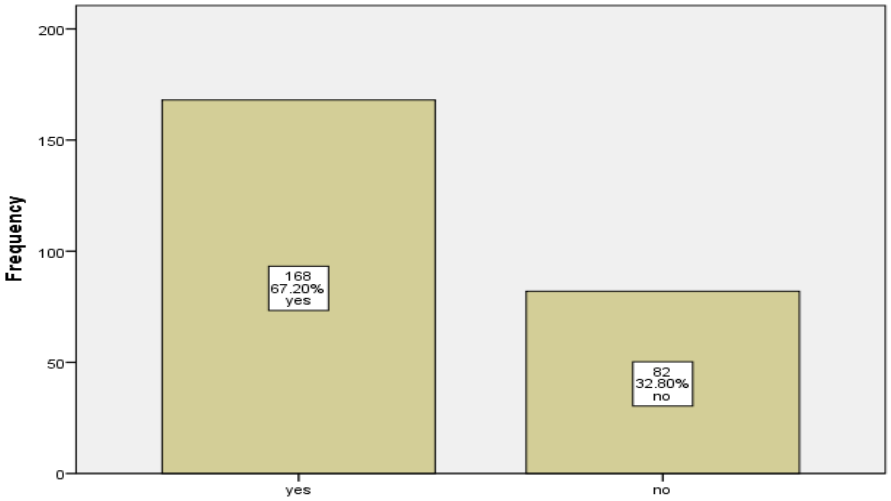

Figure 4.6: Exam Anxiety

4.2.9

Grade in the Last examination

There was a total of 250 respondents in which the frequency of the respondents who were obtained A+ in the last exam about were 120 (48%), frequency of the respondents who have obtained A grade in the last exam was 70(28%), whereas the frequency of the respondents who obtained B+ and B were 23 (9.20%) and 23(9.20%) and the frequency of respondents who were obtained C grade in the last exam was 6(5.6%). This is illustrated in the table 4.6 and figure 4.7.

Table 4.6: Grades in the last exam

		Frequency	**Percent**	**Cumulative Percent**
Valid	A+	120	48.0	48.0
	A	70	28.0	76.0
	B+	23	9.2	85.2
	B	23	9.2	94.4
	C	14	5.6	100.0
	Total	250	100.0	

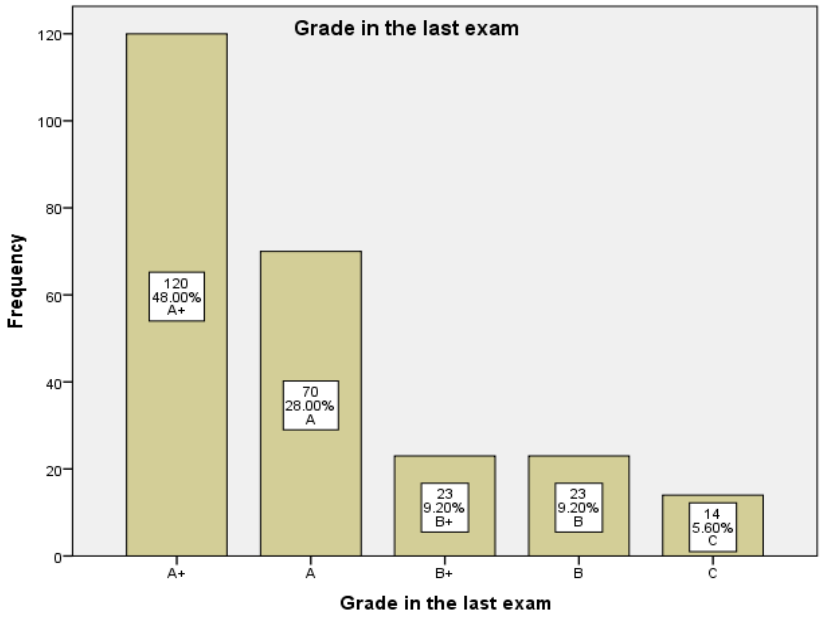

Figure 4.7: Grades in the Last Exam

4.2.10 Do you think anxiety is the main factor in getting a lower grade in the exam?

There was a total of 250 respondents in which the frequency of the respondents who strongly agreed that anxiety is the main factor of getting a lower grade in the exam was 81 (32.4%), frequency of the respondents who agreed that anxiety is the main factor of getting a lower grade in the exam were 33(13.2%), whereas the frequency of the respondents who were don't know that anxiety is the main factor of getting a lower grade in the exam was 45(18%) and disagree were 55(22%) and the frequency of respondents who strongly disagreed that anxiety is the main factor of getting a lower grade in the exam were 36(14.4%). This is illustrated in the Figure 4.8.

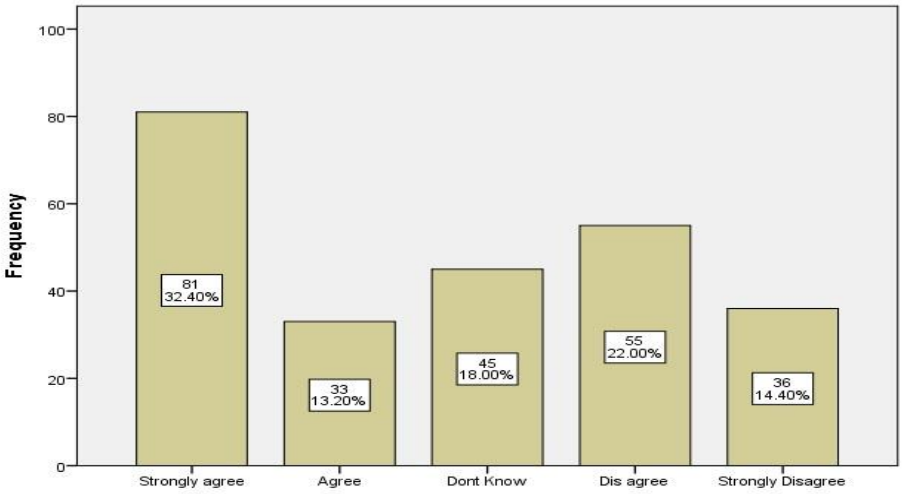

Figure 4.8: Lower Grade in the last exam

4.2.11 Time Management

There was a total of 250 respondents, in which the frequency of respondents managing time for the study were 78(31.2%), and the frequency of respondents not managing time for the study were 172 (68.8%) as shown in Table 4.7.

Table 4.7: Time Management

		Frequency	Percent	Cumulative Percent
Valid	Yes	78	31.2	31.2
	No	172	68.8	100.0
	Total	250	100.0	

4.2.12 Absentees in the class get you nervous in the exam

There was a total of 250 respondents (Table 4.8) in which the frequency of the respondents who strongly agreed with Absentees in the class get nervous in the exam were 170 (68%), frequency of the respondents who agreed with Absentees in the class get you nervous in the exam were 37(14.8%), whereas the frequency of the respondents who disagreed and strongly disagree were 30 (12%) and 3(1.2%) and the frequency of respondents who were don't know 10(4%).

Table 4.8: Absentees in the class

		Frequency	Percent	Cumulative Percent
Valid	Strongly agree	170	68.0	68.0
	Agree	37	14.8	82.8
	Dont Know	10	4.0	86.8
	Dis agree	30	12.0	98.8
	Strongly Disagree	3	1.2	100.0
	Total	250	100.0	

4.2.13 CRAMMING

There was a total of 158 (63.2%, table 4.9) students memorized the lessons without understanding the theme of reading. Only 36.8 % are infavour of understanding the basic concept of the lessons.

Table 4.8: Cramming the lessons

		Frequency	Percent	Cumulative Percent
Valid	Yes	158	63.2	63.2
	No	92	36.8	100.0
	Total	250	100.0	

4.2.14 Lack of preparation gets you nervous in the exam

Majority of students i.e. 60.4% were of the opinion that the lack of preparation for the exam is the main reason of anxiety during the exam and 39.6% were not infavour of the opinion.

Table 4.9: Lack of preparation of getting nervous

		Frequency	Percent	Cumulative Percent
Valid	Yes	151	60.4	60.4
	No	99	39.6	100.0
	Total	250	100.0	

4.2.15 Fear of failing the Test

Figure 4.9 shows the results of the question about the fear of failure in the exam. Nearly 66.40% of the students were scared about the result and 33.60% of the students were free from this fear.

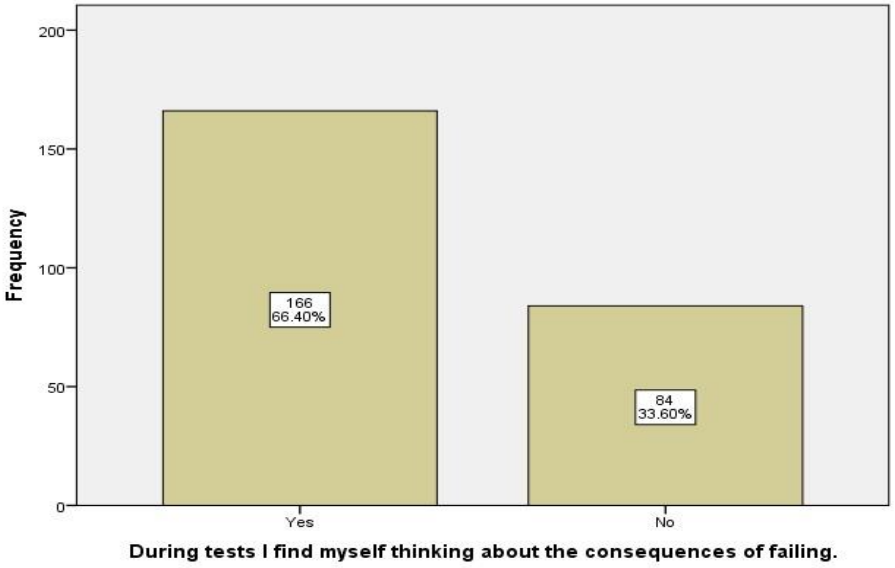

Figure 4.9: Fear of failing the test

4.3 CHI-SQUARE TEST

4.3.1 ASSOCIATION BETWEEN GENDER AND MANAGING TIME FOR STUDY

Table 4.10: Gender * management of time study time?

		Are you able to manage time for study?		Total	Pearson Chi-Square	Df	Asymptotic Significance Yes No e (2-sided)
		Yes	No				
Gender	Male	39	86	125	0	1	1
	Female	39	86	125			
Total		78	172	250			

From the above table, the value of chi-square is 0 with $P - value = 1$ which is greater than 0.05 ($P - value > 0.05$),which indicates an insignificant association between Gender and management of time for study.i.e.thereis no association between Gander and Time.

4.3.2 ASSOCIATION BETWEEN GENDER AND FAILING THE TEST

Table 4.11: Association between Gender and failing the test.

		I usually think about failing the test.		Total	Pearson Chi-Square	Df	Asymptotic Significanc Yes No e (2-sided)
		Yes	No				
Gender	Male	78	47	125	1.793	1	.181
	Female	88	37	125			
Total		166	84	250			

From the above table, the value of chi-square is 1.793 with $P - value = 0.181$ which is greater than 0.05 ($P - value > 0.05$),which indicates an insignificant association between Gender and

failing of testi.e. there is no association between Gander and failing of test.

4.3.3 ASSOCIATION BETWEEN GENDER AND FATHER EDUCATION

Table 4.12: Association between Gender and father education

		Father Education		Total	Pearson Chi-Square	Df	Asymptotic Significance Yes No e (2-sided)
		Illiterate	Literate				
Gender	Male	88	37	125	0.500	1	0.479
	Female	93	32	125			
Total		181	69	250			

From the above table, the value of chi-square is 0.500 with $P - value = 0.479$ which is greater than 0.05 $(P - value > 0.05)$, indicates an insignificant association between Gender and father education. i.e. there is no association between Gander and father education.

4.3.4 ASSOCIATION BETWEEN GENDER AND MOTHER EDUCATION

Table 4.13: Association between Gender and father education

		Mother Education		Total	Pearson Chi-Square	Df	Asymptotic Significance Yes No e (2-sided)
		Illiterate	Literate				
Gender	Male	97	28	125	0.094	1	0.759
	Female	99	26	125			
Total		196	54	250			

From the above table, the value of chi-square is 0.094 with $P - value = 0.759$ which is greater than 0.05 $(P - value > 0.05)$, indicates an insignificant association between Gender and mother education. i.e. there is no association between Gander and mother education.

4.3.5 ASSOCIATION BETWEEN GENDER AND MEMBER OF FAMILY WHO SUFFERED FROM ANXIETY

Table 4.14: Association between Gender and family member suffered from anxiety

		member of the family who suffered from anxiety		Total	Pearson Chi-Square	Df	Asymptotic Significance (2-sided)
		Yes	no				
Gender	Male	77	48	125	1.428	1	0.232
	Female	86	39	125			
Total		163	87	250			

From the above table, the value of chi-square is 1.428 with $P - value = 0.232$ which is greater than 0.05 $(P - value > 0.05)$, indicates an insignificant association between Gender andfamily member who suffers from anxiety. i.e. there is no association between Gander and family members who suffer from anxiety.

Table 4.15: Association between Gender and residential area

		Residential Area		Total	Pearson Chi-Square	Df	Asymptotic Significance (2-sided)
		Urban	Rural				
Gender	Male	52	73	125	0.016	1	0.898
	Female	53	72	125			
Total		105	145	250			

From the above table, the value of chi-square is 0.016 with $P-value=$ 0.898 which is greater than 0.05 ($P-value>0.05$),which indicates an insignificant association between Gender andresidential area.i.e. there is no association between gender and residential area.

4.3.7 ASSOCIATION BETWEEN GENDER AND HOSTEL

Table 4.16: Association between Gender and Hostel

		Hostel		Total	Pearson Chi-Square	Df	Asymptotic Significance (2-sided)
		Yes	No				
Gender	Male	84	41	125	0.681	1	0.409
	Female	90	35	125			
Total		174	76	250			

From the above table, the value of chi-square is 0.681 with $P-value=$ 0.409which is greater than 0.05 ($P-value>0.05$),which indicates an insignificant association between Gender andHostel.i.e. there is no association between Gender and Hostel.

5. DISCUSSION AND CONCLUSION

5.1 DISCUSSION

The topic on which research is conducted i.e Statistical Modeling of Test Anxiety among The Students of Faculty of Numerical and Physical Sciences University of Peshawar.

A well-structured questionnaire was distributed. The overall total of 250 student's cases was studied, out of which 125 were male student's cases, as well as 125, were female students' cases as a result the majority of the students were male as compared to female students. The data were analyzed by using SPSS 23.0 version software.

Two hundred and fifty questionnaires were distributed, out of which all two hundred and fifty were fulfilled properly and returned. The rate of response was 100 %. The frequency of male respondents was 125 and female respondents were 125. 174 students were settled in the university hostels and 76 were day scholars. 181 fathers were illiterate and 69 fathers were literate. 196 mothers were illiterate and 54 mothers were literate. Out of 250 patients, the rural area participants were 145, while the urban area participants were 105. The frequency of participants having income below 40000 rupees were 32, the frequency of participants having income between 40000-60000 rupees were 16, the frequency of participants having income between 60000-80000 rupees were 176, the frequency of participants having income above 80000 rupees was 26. 65.2% of the families are suffering from anxiety. 67% of the students are suffering from exam anxiety. A lower grade in the last exam is also a reason of anxiety. Round about 68% of the students are not able to manage the time for study. There was a total of 250 respondents in which the frequency of the respondents who strongly agreed with Absentees in the class get nervous in the exam were 170, frequency of the respondents who agreed with Absentees in the class get you nervous in the exam were 37, whereas the frequency of the respondents who disagreed and strongly disagree were 30 and 3 and the frequency of respondents who were don't know 10. There was a total of 158 students memorized the lessons without understanding the theme of reading. Only 36.8 % are infavour of understanding the basic concept of the lessons. Majority of students were of the opinion that the lack of preparation for the exam is the main reason of anxiety during the exam. Nearly 66.40% of the students were scared about the result and 33.60% of the students were free from this fear. There is no significant association between Gender and management of time for study. There is also no

association between Gender and failing of test. There is no association between Gender and father education, mother education. There is no association between Gender and family members who suffer from anxiety. There is no association between gender and residential area, hostel.

5.2 SUGGESTIONS AND RECOMMENDATIONS

Govt should arrange the Examination in such a way that students should feel more relax and more comfortable in the examination hall. The conventional system of exam converts into I.T based exam which is fruitful and more relaxes. Also, avoid bookish exams which creates more tension for the students. Students manage and self-monitor their study time e.g. setting goals for themselves and estimating the time it will take to complete each goal, scheduling study time at their best time for learning, and monitoring their attention to the task.

Positive self-statements can improve your studying and test preparation. During test, positive self-talk can build confidence and decrease your test anxiety. These positive statements can help reduce your test anxiety and improve your grades. Before the test, make up some positive statements to tell yourself. Develop strong study skills. Learn to organize your time, take effective notes, identify critical material from lectures and texts, and use strategies to improve your memory. Determine due dates and the exam schedule for each course early in the term so that you can plan accordingly. For example, arrange to complete your term paper such that you have adequate time to study for the midterm. Plan study sessions with classmates to review class notes and to help one another generate potential exam questions and formulate answers. Knowing the material very well will increase your confidence and help reduce anxiety. For this technique to be successful you need to organize your schedule so you have ample time to prepare for exams. Don't wait until the last minute to look for your calculator or ruler. The less you have to worry about prior to the exam, the better. Practice visualizing yourself writing the exam, staying calm and doing well. Get a good night's rest before the exam. For most students, this is essential to good exam performance. Be on time. Rushing to an exam or arriving late will increase your anxiety. You may want to double-check the exam time and location in advance. Try to avoid thinking about past or future exams. Be aware of your thinking. Are you telling yourself, "I'm going to fail" or "I always blank on exams" or do you say, "I can write this exam" and "I am going to stay calm"? Positive thinking can help you.

Choose a seat in the exam room where you will be comfortable. For example, avoid sitting by the door if there will be noise in the hallway. Take the time to read exam questions carefully. Answer exam items you are sure of before responding to more difficult items. This builds confidence and gives you a sense of accomplishment. After finishing an exam double-check your answers. Try not to pay attention to what other students are doing. Once you have worked out time estimates for different sections of an exam, stick to your plan. Don't worry if other students finish before you. After writing an exam, evaluate your effort. Notice any areas of difficulty (e.g., responding to essay questions) and seek assistance (e.g., speak to your professor; check out the programs at the University Learning Centre). Acknowledge your successes and willingness to improve your skills. Take care of your physical health. Try to eat nutritious meals, reduce your caffeine intake, exercise moderately, get enough rest and stop smoking. Make pleasant activities an important part of your schedule. When you are busy and most anxious it is especially important to take time out. Maintain relationships with people who support your efforts at University. Learn proper breathing techniques. Slow, abdominal breathing promotes relaxation and helps reduce feelings of anxiety. This strategy is particularly helpful as you arrive for the exam and wait for it to begin. Seek assistance with drug and alcohol problems. These substances cannot cure the underlying cause of your anxiety and can seriously undermine your success at University. Remember that a certain amount of anxiety is normal. Focus on using the anxiety management strategies that work best for you.

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Appendix A

Questionnaire

Department Name:

Name:

1. Gender:
2. Area:
3. Live in Hostel:
4. Father Education:
5. Mother Education:
6. Father Income:
7. Grade in the last exam:
8. Is there any member of your family suffering from anxiety?
9. Are you suffering from exam anxiety?
10. A grade in the last exam is the main factor of anxiety.
11. Lack of preparation gets you nervous in the exam.
12. During tests I find myself thinking about the consequences of failing.

13. Are you able to manage time for study?
14. Do you think anxiety is the main factor of getting lower grade in the exam?
15. Do you memorize the lessons without understanding?
16. Absentees in the class get you nervous in the exam.