



A Study on Mathematics Anxiety at Secondary School Level Students in Hyderabad District

Rehana Mallah¹, Reena Iqbal², Dr. Abdul Ghaffar Mallah³, Alamgir Khan⁴

¹MPhil in Education, Faculty of Education Elsa Kasi Campus University of Sindh Jamashoro, Pakistan

Email: laila27leo@gmail.com

²Department of Mathematics and Statistics, Institute of Business Management, Korangi Creek, Karachi, Pakistan

Email: reena.iqbal373@gmail.com

³Institute of Commerce and Management University of Sindh, Pakistan

Email: ghaffar.mallah@scholars.usindh.edu.pk

⁴Xinjiang University School of Software Urumqi, China. Email: johnalam4@gmail.com

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Corresponding Author:

Rehana Mallah

Email:

laila27leo@gmail.com

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ABSTRACT

The purpose of this research study was to explore the Mathematics Anxiety at Secondary School Level Students in Hyderabad District" having the objectives to identify the symptoms of mathematics anxiety, to determine the level and to analyze the impact of mathematics anxiety and to suggest the measure for handling the mathematics anxiety among secondary school level students. Exploratory research design was selected to explore the symptoms and level of mathematics anxiety and their impact on academic behaviour of girl students. Exploratory research aims to augment understanding of a situation. The systematic random sampling was used, the sample size was derived from taro yamani (1967) formula. Which was 356 girl students studying in grade X from government girls' schools of district Hyderabad. The data was collected through five-point rating scale named as; The Mathematics Anxiety-Apprehension Survey by Dr. T. Nelson Ikegulu (1998). The collected data was interpreted and analyzed by using SPSS.V 16. The major findings of this study indicate that Girl students in secondary school's face mathematics anxiety which increases when students face mathematics test or exam, taking Mathematics test is a scary experience for them their mind seems to go blank during Mathematics test or exams. Students feel nervous about mathematics and when completing Mathematics assignments. Students do not feel confidence when solving Mathematics problems, because it is difficult for them to grasp Mathematics concepts and the Mathematics formulas are difficult for them to remember and they just memorize Mathematics formulas but do not understand their applications. The content given in the text book is not understood well by Mathematics students because they feel difficulty for understanding Mathematics instructions; they take a lot of pressure taking Mathematics subjects so they avoid the Mathematics subjects. Mathematics Anxiety increase more when students go up to a higher class, and usually, girl students do not want to get future careers in the field of mathematics. This study helps parents, school administrators, and policymakers implement measures to reduce anxiety, enhance students' confidence, and promote a positive learning experience in mathematics. Moreover, this study suggests the measures for teachers as main stake holder to reduce the mathematics anxiety through guidance counseling and appropriate teaching strategies.

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Introduction

Over the year, the mathematical operations are considered essential in every field of life in many ways. A key position has been always held by it in the school curriculum. It has a crucial role not only in mathematical areas but in non - mathematical areas also. It is not meant only for computational arithmetic and geometrical measurements. National Curriculum, (2006) claims that Study of mathematics helps to “analyze mathematical situations by use of patterns, known facts, properties and relationships, and their mathematical thinking is enhanced by scrutinize real-life situations based on identifying, mathematically valid arguments and drawing conclusions”.

Mathematics is a compulsory subject at the secondary school level. Every child has the right to access a standard mathematics education. Mathematics motivates the learners to use their ideas to determine accurate relationships to understand the structures, to reason out things and to assess the accuracy of statements.

Mathematics is a logical subject and it needs students’ positive behavior and interest. The students believe that mathematics is very difficult subject and they are unable to solve the mathematical problems, therefore, learners want to escape from such situations (Puteh, 2002). When in the daily life or during mathematics classes students deal with the numbers and solving mathematical problems, they feel stress and anxiety this feeling of stressed and anxious is named Mathematics anxiety. It is also can be visible as a fear of failing, uneasiness about difficult calculations, or a general discomfort with mathematical tasks. These efforts often result in poor academic performance and can negatively affect their academic behavior, further emphasize their anxiety and negative attitudes towards the subject. This ongoing pattern of anxiety and underperformance creates a significant barrier to learning, making it necessary to address these issues to help students rise above their fears and their enhancing mathematical skills.

Mathematics Anxiety is defining as “a feeling of tension and anxiety occurs when someone dealing with numbers and solving the mathematical problems. These feelings can take place in both academic situations, such as classrooms assessment or exams, and assignments, and in daily-life circumstances, such as managing finances or calculating measurements.” (Tobias, 1995). Mathematical anxiety is widespread among girls at the secondary level when someone is inquired to work with numbers and deal with the mathematical problems. Their feelings develop as tension, hopeless, scared and mentally confused which is why girls has ignored the mathematics and do not want to go into any field related to mathematics. Girl students during their high school and college years reported higher level of mathematics anxiety (Betz, 1978; Brush, 1980). Girl students learn only compulsory Mathematics by feeling uneasy.

According to Stuart (2000), Mathematics anxiety develops from a lack of confidence in a situation involving where essentially dealing with numerical information. Mathematics anxiety is one of the factors, which can be a barrier to the way of studying mathematics, and positive factors are associated with it. A mathematics anxiety frequently occurs from apprehension in handling numerical information, which is directly associated to an academic behavior of students. Academic behavior can be divided into two categories: positive and negative. Positive academic behavior contains a number of key actions that highly influences the academic achievement. A useful learning atmosphere encouraged by these positive behaviors and help students to enhance their academic skills confidently. On the other hand, negative academic behavior, can interfere in academics development and influenced the performance.

Students who engage in positive academic behaviors are generally better equipped to manage and overcome mathematics anxiety. By demonstrating concentration in the subject, actively contribute, and when they desired they looking for extra assistance, through improving the performance in mathematics students can tackle on mathematic anxiety. Conversely, negative academic behaviors can intensify mathematics anxiety. For example, students who avoid tasks related to mathematics or fail to attend

lessons frequently due to their lack of preparation and practice may struggle more with anxiety. This anxiety can further hinder their ability to perform well in mathematics and other academic areas.

A positive relationship was established between academic behavior and academic achievement, means that students tend to achieve higher academically with enhanced learning behavior. Good learning behavior, involving higher dedication and better adjustment in psychological aspect, put in to academic success. (Mary, A., & Jebaseelan, A. U. S. 2014).

Symptoms are a sign or an indication of disorder, epically when experienced by an individual as a change from normal function, sensation, or appearance. Symptoms of mathematic anxiety are the mind seems to go blank during mathematics tests, feeling nervous, low scores, feel a lot of pressure, a mathematics test is a scary experience, Mathematics is one of worst subjects, afraid to show mathematics score with my parents and peers, Mathematics formulas are difficult to remember, difficulty to grabbing mathematics concepts, a special dislike for mathematics, feel a lot of stress taking a mathematics class, difficulty to understand mathematics instructions, avoid the mathematics subject, feeling Mathematics is a boring subject, the student generally crams a lot of information before a mathematics test. (Dr. T. Nelson Ikegulu 1998)

Zakaira, Zain, Ahmad, & Erlina (2012) Said that students who are facing high level of Mathematics anxiety often develop doubts about their own abilities and skills. In problem-solving situation these students will show their less confidence when they are dealing with numbers and mathematical concepts. As a researcher, it is essential to know how mathematics anxiety affects students' ability to manage numbers in both everyday life and academic scenarios.

This study helps to understand the concept of mathematics anxiety in Pakistan. Mathematics anxiety is a pervasive problem for all ages across the world. In the international assessments of the Program for International Student Assessment (PISA) studies, a majority of teenager's report feeling anxious and stress during mathematics classes and while solving the mathematics problems. This study aims to investigate the impact of mathematics anxiety on students, analyzing how such anxiety effects their performance and behavior towards mathematics. By exploring these influences, the research seeks to understand to provide insight into how mathematics anxiety affects students' overall learning experience and to identify possible strategies for improves these apprehensions and how it can be handled at the secondary school level in Hyderabad.

Research Objectives

The study aims to:

- To identify the symptoms of mathematics anxiety on academic behavior of girl students of class X.
- To determine the level of mathematics anxiety on girl students of class X.
- To analyze the impact of mathematics anxiety on academic behavior of girl students of class X.
- To suggest the measure for handling the mathematics anxiety among the girl students at secondary school level.

Research Hypothesis

A hypothesis is an unsure generalization has not yet been verified. In its most basic stage the hypothesis may be any hunch, guess, fictitious idea which become a foundation for further investigation (lundberg, 1967).

- Hypothesis 1, H_0 = There are no symptoms of mathematics anxiety in the academic behavior of girl students of class X.
- Hypothesis 2, H_a = In the academic behavior of girl students of class X have symptoms of mathematics anxiety.
- Hypothesis 3, H_0 = There is no surface level of mathematics anxiety in the academic behavior of girl students of class X.
- Hypothesis 4, H_a = There is a high level of Mathematics Anxiety in the academic behavior of girl students of class X.

Review of Literature

When a person dealing with mathematical activities and they are feeling uneasiness or dread, this condition refer as mathematics anxiety and it is described as emotional response of a person when interacting with mathematics or expecting to doing work with related activities (Hembree, 1990). (Richardson and Suinn, 1972) have defined Mathematics anxiety as “it includes the feelings of stress and anxiety that hinder works with numbers and the solutions of mathematical problems in an academic environment and in many normal life situations”. Ashcraft and Moore (2009) is characterize Mathematics anxiety as a feeling of tension, dread, and frightened in mathematical situations, and it is related with bad performance in the academics.

Generally, people who feel nervous about mathematics, and particularly about doing mathematical problems, are possibility to perform unsuccessfully. Disregards the gender of an individual, bad performance in previously linked activities is frequently related to mathematics anxiety. In the past peoples who had bad experiences with mathematical problems and related tasks. They May feel significant anxiety when they deal with similar new mathematics problems, possible to negatively affecting on their performance. Previous studies have shown consistent findings on the connection between mathematics anxiety and mathematics success. Some studies and researches have shown a significant negative relationship between the mathematics anxiety score and achievement in mathematics. (Wither 2003; Khatoon and Mahmood 2010; Hembree 1990; Ma 1999; Pourmoslemi, Erfani and firoozfar 2013).

Anxiety in Mathematics Learning among Secondary School Learners

All aspects of mathematics teaching and learning directly or indirectly has affected by the Mathematics anxiety. Previous negative experiences learning mathematics in the classroom or at home could be reasons for developing Mathematics anxiety in students (Rossnan, 2006).

Mathematics Anxiety and Academic Behavior

The mathematics anxiety and its influence on academic behavior has acquired major attention in educational psychology. This review investigates the role of academic behavior in understanding the relationship between math-anxiety associations and mathematics performance. This highlights the importance of considering self-reported anxiety when examining students' academic performance in math.

Mathematics Anxiety and Teaching Style

The mathematics anxiety develop in students is significantly influenced by their teachers' attitude, beliefs, and teaching methods, as these aspects directly manipulate the students' attitude, motivation, and in learning activities (Aschraft & Ridley, 2005).

Eden, Heine & Jacobs (2013) added that in elementary school female teachers, who face mathematics anxiety, unconsciously may convey their unfavorable behavior to their learners.

Mathematics Anxiety and Gender

Several researches have been accomplished to determine the degree of mathematics anxiety among the girl and boy students. Some researchers have claims that males have lower mathematics anxiety than females (Salwani and Salleh, 2001; Woodard, 2004; Yuksel-Şahin, 2008; Karimi and Venkatesan, 2009; Khatoon and Mahmood, 2010). In addition, Yuksel-Şahin (2008) A research on secondary school students in Turkey reported that girl students thought boys were blessed with the advantage of mathematics expertise. In contrast, the male students thought they were better able to perform in mathematics than their females. Based on several studies, some researchers have argued that there is no significant difference in mathematics anxiety between males and females (Marsh and Tapia, 2002; Elenchothy, 2007; Mohamed and Tarmizi, 2010). Research has confirmed that there a negative correlation between the mathematics anxiety and mathematics performance of the learners. It remains unrecognized whether this connection is different for males and females. Present research aim is to analysis the differences between mathematics anxiety and mathematics success in elementary and secondary school students according to gender. The effect of gender was important on this correlation, with a greater relationship observed in female contrast to males, not considering of grade level. This shows that the association between mathematics achievement and mathematics anxiety is more articulate for girls, prominence the need for increased focus to how female emotionally react to mathematics (Yu et al., 2024).

Research Studies on Mathematic Anxiety

A standard article mainly encouraged this line of work by (Groen, & Parkman, 1972). It is fascinating to examine whether mathematics anxiety effect on student's mathematics performance instantly, particularly influencing the cognitive processes at the same time as performing a mathematics task (Ashcraft and Kirk, 2001). Many others follow these studies (Cavanagh, & Sparrow, 2010a; Cavanagh, & Sparrow, 2010b; Cavanagh, & Sparrow, 2011). The persons with High mathematical anxiety are attributing by a strong prevalence to keep away from mathematics, which eventually negatively affect their mathematics capability and force to lose important paths of career paths. The impact of mathematics anxiety highlights by timed online tests, the effect of mathematics anxiety on solving whole-number arithmetic problems, whereas success tests do not reveal any differences in proficiency. Because algebra and other disciplines of higher-level mathematics considerably depend more on cognitive process, the results of mathematics anxiety may be more visible. It's essential to keep in mind that to distinguish between the influences of low arithmetic proficiency and high mathematics anxiety it might be difficult, when studying topics of advanced mathematics. The development and psychometric properties of the mathematics anxiety apprehension survey (MAAS), a measure of instructional and class room mathematics Phobia is discussed. This instrument was design to assess levels of mathematics anxiety and apprehension in students with varying levels of education and socio-demographic factors. The highly apprehensive students are those for whole their anxiety about mathematics overshadowed their gains from engaging in mathematics and or mathematics related activities.

Atoyebi et al., (2023) researched on The Impact of Mathematics Anxiety on the Mathematical Value of Secondary School Students in Nigeria. This research aimed to examine the effects of mathematics anxiety on the mathematical morals of secondary school students. Specifically, the research will center on three variables: rationalism, control, and critical thinking. The study investigates the connection between these variables and degree to which learner may be influenced by mathematics anxiety. Morals are described in the mathematics education context as profound emotional behavior that is necessary to the learning atmosphere. Deep affecting and dispositional behavior that people might acquire from their educational experiences are referred to as emotional qualities. The term "mathematical value" usually describes people get the intellectual and practical advantages from studying mathematics, several categories include in the range of mathematical morals, as well as objectivity, rationality, control, progress, openness, and critical thinking. In the background of this research which aims to investigate the impact of mathematics

anxiety on mathematical value. By addressing mathematics anxiety and its effects, educational institutions can foster an environment conducive to the growth of well-rounded individuals equipped with the skills and values necessary for success in mathematics and beyond.

Omar et al., (2022) investigated the relationship between mathematics anxiety, performance and strategies that students supposed that could calm mathematics anxiety. The first research question was analyzed using descriptive analysis to determine the level of mathematics anxiety among respondents. To identifying the relationship between mathematics anxiety and mathematics performance among the students using the Pearson Correlation. to identify the approaches the students preferred to defeat mathematics anxiety the researchers used subject base analysis. A moderate level of mathematics anxiety demonstrated by all participants. Conversely, an inverse and strong relationship between mathematics anxiety and mathematics performance demonstrated by students from the low performance level. *Musa & Maat, (2021)* explain the anxiety in the context of mathematics learning, tension or pressure and state of mind are primary concerns of students related to mathematics anxiety. In terms of mathematics evaluation, self-confidence and nervousness are main issues contributing to anxiety. This study also found that both mathematics high- and low-achieving students was experienced the Mathematics anxiety. However, their main influence towards Mathematics anxiety for high-achieving students was motivational factor whereas poor mathematics competency and self-skills for low-achieving students were the major contributors. The article offers in-depth understanding for educators particularly in terms of diagnostic study for Mathematics anxiety through student's perspective and they can use this information to identify ways of reducing.

Yuliani Suryadi & Dahlan (2019) explains the Mathematics anxiety of junior high school students. This study aims to conclude Mathematics anxiety of junior high school students. The descriptive research method used in this study. As students are work with mathematical problems they feel insecure, because students without understanding the implementation of mathematical formulas they just memorize and also, they cannot understand properly the mathematics textbooks material. While students go through the higher classes their Mathematics anxiety is increases, and generally in the future students do not want to choose a field or career which connected with mathematics. To reducing the level of mathematics anxiety teachers, have an important role. *Orbach, Herzog & Fritz (2019)*. This research explores trait-mathematics anxiety during the switch from primary to secondary school. Presently, the broadly contradictory results for primary and early secondary school students can be recognized to not consistent definition and conflicting methods of measuring mathematics anxiety, between the other aspects. This study is aimed at contributing to the definition of terms. *Keziah Jofressel, Salinas, Jecyl Ramayla Tolibao & Dr. Jerald C. Moneva (2019)* The study is all about "Student's Anxiety in Math", where a survey conducted by the researchers and they using a rating scale survey for knowing the anxiety levels of students in connection to their mathematical performance. Personal information of the respondent has shown in the first section of the rating scale the respondents' personal information, such as their mathematics grade was average, while the indicators of mathematics anxiety highlighted in second section. On one hand, the findings demonstrate that in mathematics most students are performing poorly, with the majority of students also experiencing mathematics anxiety at average levels. On the bases of required data, it is concluded that there is no considerable relationship among the levels of mathematics anxiety and mathematics performance of the students.

Yadav & Singh (2018) identified a negative and considerable correlation between mathematics achievement and mathematics anxiety at the 0.05 level of significance. It observed that there was a notable difference in mathematics anxiety levels between high and low achievers at the 0.05 significance level. *Alzahrani & Stojanovski (2017)* described in this research evaluates the effectiveness of different teaching methods and techniques comparatively measures their impact on mathematics performance relative to anxiety levels students. Student performance in mathematics is greater influenced by the anxiety of mathematics. The findings support that in Qatar those students who were performed poorly in

between others students actually they face high level of anxiety about mathematic. *Mary & Jebaseelan (2014)* showed that students' academic behavior significantly impacts their academic achievement, as seen among lower secondary students in Tiruchirapalli's rural, urban, and semi-urban schools. A positive correlation was found between academic behavior and academic achievement, meaning that students with better learning habits tend to achieve higher academically. *Mutodi & Ngirande (2014)* investigated the mathematics anxiety levels of students at a particular tertiary institution in South Africa. Worldwide, mathematics achievement is on a high priority. However, in mathematics education South Africa falls behind and needs to develop successful approaches for teaching of mathematics. among respondents.

Methodology

Research methodology refers to the systematic plan, approach, and processes that researchers use to gather, analyze, and interpret data in a research study. It outlines the steps taken to ensure that the research is conducted in valid, reliable, and objective manner, data collection techniques and data analysis procedures. It provides the foundation and ensuring that the findings are realistic and significant.

Research Design

Exploratory research design was selected to explore the symptoms and level of mathematics anxiety and their impact on academic behaviour of girl students. Because exploratory research aims to augment understanding of a situation. Its purpose is not to come up with conclusions or final decisions but it seek to create hypotheses and explanations about what is going on in a situation, an exploratory design major accentuates is on gaining new ideas and uncovering perspective (De Vos, Strydom, Fouché&Delpont, 2011). The nature of study is descriptive. Because it is an appropriate choice when the research aim is to identify characteristics, frequencies, trends, and categories (McCombes, 2023).

Population and Sample

The population of the study was all the student of class X of Government Girls High Schools of District Hyderabad. The aim of getting sample is only to gather data from the targeted population. It consists of selecting a group of persons for a research, make it sure that these persons are representative of the targeted population (L. R. Gay: 1987). Systematic random sampling was used, in which a random starting point is selected from the targeted population, and then the population is sampled at regular intervals depending on its size. However, in this study every 13th number from the list of the population was selected for drawing the sample size from population. The Taro yamani (1967) formula was be applied.

$$n = \frac{N}{1 + Ne^2}$$

- N = Population of study
- e = Degree of error =0.05
- n = Sample size

The size of the sample for collecting data is shown in the following table.

Table1: Showing the Sample Size of Government Girls High Schools of District Hyderabad

S. NO	TULKA	SCHOOLS	STUDENTS	SAMPLE SIZE
1	HYDERABAD CITY	15	1580	121
2	LATIFABAD	16	1646	126
3	QASIMABAD	6	752	57
4	HYDERABAD RURAL	6	633	48
TOTAL		43	4611	352

Research Tool

The only one tool was used for data collection in the study was the Mathematics Anxiety Rating Scale, adapted from the Mathematics Anxiety-Apprehension Survey by Dr. T. Nelson Ikegulu (1998). This tool was chosen for its relevance and effectiveness in measuring mathematics anxiety. According to the nature of the study, the researcher carefully selected 22 items from the original survey. These items were chosen to align with the socio-cultural context of the targeted population. This adaptation ensured that the tool was both related and understandable to the participants. The careful selection process aimed to enhance the accuracy and reliability of the data collected.

Data Collection

It was necessary to accomplish the purposes of data collection to achieve the information for which some process was done. Firstly, the researcher entered the class with the permission of the School headmistress or any assigned person from the Administration. Then researcher explained the purpose of the study to the students and distributed them questionnaires which had 22 items that were related to their feelings towards mathematics. After that, the researcher briefed the students on how to answer on a 5-point Rating Scale of their feelings toward mathematics. Students were required two or three classes of 35 or 40 minutes to complete the Mathematics Anxiety Rating Scale. After completing the survey, the researcher collected the questionnaires.

Piloting of Test

30 students were selected from the population to check the reliability and validity of the adopted test in different socio-cultural contexts. Reliability shows how constantly a data gathering instrument measures what it is considered to measure. This reliability is assessed by using Cronbach's alpha coefficient, which measures the internal consistency by showing how well all the items in a test reveal the same characteristic (Masitsa, 2011). For this instrument the overall consistency estimate was 0.8325, the consistency of reliability indicates that it is a reliable instrument that assesses student's mathematics anxiety.

Table 2: Showing the Mathematics Anxiety Rating Scale Responses choices and Mean class limit and Results

S.No	Response Choice	Mean Classes	Results
1.	Strongly Disagree	1-1.8	Very low level
2.	Disagree	1.8-2.6	Low level
3.	Neither Agree nor Disagree	2.6-3.4	Moderate level
4.	Agree	3.4- 4.2	High level
5.	Strongly Agree	More then 4.2	Very high level

Elsayed, abdelkader (2020).

Data is a raw proven fact that needs a correct process to draw significant information from it. However, data analysis techniques facilitate to drive of information from acquired knowledge. Data Analysis is the method of classifying and identifying and then reporting the features also the result gets from the considered information (Passer, 2014). In this study, the researcher item-wise data was interpreted through IBM® SPSS® Statistics Version 16.0 by using mean and percentage as descriptive statics techniques while the data was projected through the graphs and tables.

Data Analysis

The purpose of this study was to explore the symptoms and level of Mathematics Anxiety at the Secondary School Level among girls Students in Hyderabad District. So, Students' feelings about

mathematics were measured by 22 items of The Mathematics Anxiety Rating Scale, adapted from the Mathematics Anxiety- Apprehension Survey by Dr T. Nelson Ikegulu (1998). This chapter presents the results of the four specific research objectives: To identify the symptoms of mathematics anxiety on academic behavior of girl students of class X, to determine the level of mathematics anxiety in the academic behavior of girl students of class X, to analyze the impact of mathematics anxiety on academic behavior of girl students of class X, and to suggest measures for handling mathematics anxiety among the girl students at secondary school level. Sample size of this study were 352 students of government girls' secondary school from the district Hyderabad and the responding rate was 100% because we selected the sample from the school as a number, so we completed data collected strictly after the determined sample size. Objective-wise data has been analyzed through IBM® SPSS® Statistics Version 16.0 by using mean and percentage as descriptive statics techniques while the data was projected through the graphs and tables.

Results of the Study

For getting the results of the study the data was calculated in percentage and, weighted mean and standard deviation. According to Elsayed, abdelkader (2020) the level response falls from, 1-1.8 showing a very low level, 1.8-2.6 showing a low level, 2.6-3.4 moderate level, 3.4-4.2 showing a high level and more than 4.2 showing a very high level of math anxiety and most of the mean value of items fall into 3.4-4.2 class interval which shows that the symptoms of mathematics anxiety has identified among the secondary school's girls students and cumulative mean is also fall into same class interval which show there is the high level of math anxiety has found among the secondary school's girls students of x class. Interpreting the data through IBM.SPSS. Statistics Version 16.0.

One-Sample Statistics

The above table presents descriptive statistics for mathematic anxiety symptoms and level among the respondent, by 22 statements. Mean, stander deviation, stander error mean by using IBM.SPSS. Statistics Version 16.0. A number of observations of our variable mathematics anxiety symptoms and mathematics anxiety level according to symptoms.

Table 3: Showing the T- Test Results of Hypotheses

One-Sample Statistics				
	N	Mean	Std. Deviation	Std. Error Mean
Taking a math test is a scary experience for me	352	3.82	1.328	.071
I feel nervous about mathematics	352	3.94	1.273	.068
I have low scores on most of my math tests	352	3.38	1.391	.074
I feel a lot of pressure taking a math subject	352	3.85	1.251	.067
My mind seems to go blank during math tests	352	3.67	1.345	.072
Mathematics is one of my worst subjects	352	3.86	1.187	.063
I am afraid to show my math score with my parents.	352	3.14	1.570	.084
I am afraid to show my math score with my peers.	352	3.09	1.446	.077
Math formulas are difficult for me to remember.	352	3.60	1.321	.070
It is difficult for me to grab on math concepts.	352	3.74	1.319	.070
I have a special dislike for mathematics.	352	3.80	1.242	.066
It takes me a while to solve a math problem	352	3.41	1.246	.066
I feel a lot of stress taking a math class.	352	3.72	1.325	.071
It is difficult for me to understand math instructions.	352	3.72	1.230	.066
I don't want my math tests or assignments to be evaluated	352	3.43	1.413	.075

I avoid the mathematics subject.	352	3.61	1.402	.075
I depend on my tutors for help in math.	352	3.27	1.448	.077
I am not good at solving math problems	352	3.24	1.356	.072
Mathematics is a boring subject.	352	3.25	1.424	.076
I generally cram a lot of information before a math test	352	3.62	1.251	.067
I blame myself for my poor performance in mathematics	352	3.31	1.381	.074
I do my boring math homework alone	352	3.33	1.392	.074
Cumulative mean	352	3.486	1.3617	0.072

As a result, mean score of symptoms of mathematics anxiety are, taking a math test is a scary experience for me have mean (M=3.82, SD=1.328). 2, I feel nervous about mathematics is have mean (M=3.94, SD=1.273). I have low scores on most of my math tests have mean (M=3.38, SD=1.391). I feel a lot of pressure taking a math subject (M=3.85, SD=1.251). My mind seems to go blank during math tests have mean (M=3.67, SD=1.345). Mathematics is one of my worst subjects (M=3.86, SD=1.187). I am afraid to show my math score with my parents. (M=3.14, SD=1.570). I am afraid to show my math score with my peers. (M=3.09, SD=1.421). Math formulas are difficult for me to remember (M=3.60, SD=1.321). It is difficult for me to grab on math concepts. (M=3.74, SD=1.319). I have a special dislike for mathematics (M=3.80, SD=1.242). It takes me a while to solve a math problem (M=3.41, SD=1.246). I feel a lot of stress taking a math class. (M=3.72, SD=1.325). It is difficult for me to understand math instructions. (M=3.72, SD=1.230). I don't want my math tests or assignments to be evaluated (M=3.43, SD=1.413). I avoid the mathematics subject. (M=3.61, SD=1.402). I depend on my tutors for help in math. (M=3.27, SD=1.448). I am not good at solving math problems (M=3.24, SD=1.356). Mathematics is a boring subject. (M=3.25, SD=1.424). I generally cram a lot of information before a math test. (M=3.62, SD=1.251). I blame myself for my poor performance in mathematics. (M=3.31, SD=1.381). I do my boring math homework alone (M=3.33, SD=1.392). Total mean value 3.486 Indicates the high level of mathematics anxiety exits in X class girl students and it indicate that all symptoms of mathematic anxiety is highly influenced on academic behavior of girl students and show clear impact on their academic behavior. While stander deviation 1.3617 dispersion around the mean. The standard error mean is 0.072636 estimates the variability in mean.

The below table shows one sample t.test statistics in the first row is population mean (test values= 0) the second column t value there is 351 degree of freedom (N-1) fourth column (sig. (2 tailed)) is p value it is statistically significant difference between the mean value of the sample and the mean population for significance of the t- test statistics. (if $p > 0.05$) such a p value indicates that the so we must reject the null hypothesis.

Table 4: One –Sample Test

One-Sample Test						
	Test Value = 0			Mean Difference	95% Confidence Interval of the Difference	
	T	Df	Sig. (2-tailed)		Lower	Upper
Taking a math test is a scary experience for me	54.020	351	.000	3.824	3.68	3.96
I feel nervous about mathematics	58.041	351	.000	3.938	3.80	4.07
I have low scores on most of my math tests	45.573	351	.000	3.378	3.23	3.52
I feel a lot of pressure taking a math subject	57.668	351	.000	3.847	3.72	3.98
My mind seems to go blank during math tests	51.221	351	.000	3.673	3.53	3.81
Mathematics is one of my worst subjects	61.046	351	.000	3.861	3.74	3.99

I am afraid to show my math score with my parents.	37.554	351	.000	3.142	2.98	3.31
I am afraid to show my math score with my peers.	40.058	351	.000	3.088	2.94	3.24
Math formulas are difficult for me to remember.	51.072	351	.000	3.597	3.46	3.74
It is difficult for me to grab on math concepts.	53.148	351	.000	3.736	3.60	3.87
I have a special dislike for mathematics.	57.343	351	.000	3.795	3.67	3.93
It takes me a while to solve a math problem	51.359	351	.000	3.412	3.28	3.54
I feel a lot of stress taking a math class.	52.735	351	.000	3.724	3.59	3.86
It is difficult for me to understand math instructions.	56.784	351	.000	3.722	3.59	3.85
I don't want my math tests or assignments to be evaluated	45.581	351	.000	3.432	3.28	3.58
I avoid the mathematics subject.	48.329	351	.000	3.611	3.46	3.76
I depend on my tutors for help in math.	42.408	351	.000	3.273	3.12	3.42
I am not good at solving math problems	44.903	351	.000	3.244	3.10	3.39
Mathematics is a boring subject.	42.790	351	.000	3.247	3.10	3.40
I generally cram a lot of information before a math test	54.296	351	.000	3.619	3.49	3.75
I blame myself for my poor performance in mathematics	44.995	351	.000	3.312	3.17	3.46
I do my boring math homework alone	44.888	351	.000	3.330	3.18	3.48
Cumulative mean	48.2671	351	.000	3.4796	3.34381	3.6227

The following postulated hypotheses foreseen to test are presented as:

1. H_0 = There are no symptoms of mathematics anxiety among girl students of class X.
2. H_a = The girl students of class X have symptoms of mathematics anxiety.
3. H_0 = There is no surface level of mathematics anxiety among girl students of class X.
4. H_a = there is high level of mathematics anxiety among girl students of class X.

In above table, the p values are less than 0.05 ($p = 0.000 < 0.05$) so number one null hypothesis rejected and its alternative hypothesis number two is accepted. The population mean ($M = 0$) shows all symptoms are found in girl students are at high level of Mathematics Anxiety and all the symptoms are influenced and put clear impact on academic behavior of girl students. In this way again, number three hypothesis is rejected and number four is automatically accepted. So, it determines that there is high level of Mathematics Anxiety have founded girl students of class x.

Discussion

Mathematics anxiety is considered to be rooted when students experience the pressure of society in middle school (Perina, 2002). Mathematics anxiety in students can be visible in many different ways and it is influenced on their academic behavior and performance. A student thinks that before the teacher's explanation she is unable to attempting or solving the mathematical problems.

- In academic environment girl students generally have a negative concept towards the mathematics subject. They often feel nervous and not able to sit still or focusing on the lecture.
- Female students with mathematics anxiety may even frighten to attending the mathematics classes.

- In the class of mathematics, girl students are feeling scared when they are answering a teacher's questions as compared to other subjects.
- They usually match their score with their peers' and concern about how their classmates will respond if they are failing to answer correctly or make a mistake in mathematics class
- Girl students are afraid to choose the field related with mathematics for higher education because of their fear of the complexity of mathematics and further difficult challenges associated with mathematics.
- Mathematics anxiety can arise from poor test scores, complexity or unwillingness to deal with the challenging assignments, as well as negative attitudes from parents, mathematics teachers.
- It is very difficult for students to like mathematics when their parents did not help them to understand the mathematics and reduce the mathematics anxiety.
- The quantitative assessment of this research explored that the girl's secondary schools of Hyderabad are facing mathematics anxiety, more than 60% of girl students of class X have identical symptoms of mathematics anxiety and most of the mean values from 22 items which represent the level of mathematics anxiety fall into 3.4- 4.2. it shows that the symptoms of mathematic anxiety and the cumulative mean is also fall into same value which show there is the high level of Mathematics Anxiety has found among the secondary school's girl students of X class.
- The cumulative mean depression score was higher than the population normal depression score of 0.0 where the statistically significance p value = 0.00 which is less than 0.005 so the null hypothesis was rejected there are clear symptoms present and the level of mathematics anxiety was highly shown in Hyderabad secondary girls' schools.
- Furthermore, percentage show the presences of mathematics anxiety.
- Here 73.6% agreed that they feel nervous about mathematics which indicate that they lose self-confidence.
- The 71.1 % girl students agreed on that the Mathematics test is a scary experience for them due to lack of confidence.
- The 65.9% of girl students agreed on that their minds seemed to go blank during Mathematics tests. The mind may also freeze and the student may experience physical tension and rigidity. (Buxton, 1981). That is the reason, it refers to such unhealthy mood responses which occur when some students come up with mathematics problems and manifest themselves as being panicky and losing one's head, depressed and helpless, nervous and fearful (Luo, Wang, & Luo, 2009).
- Similarly, 71.9% of students agreed that they feel a lot of pressure when taking Mathematics classes.
- 52.60% of students agreed that Mathematics is a boring subject,
- Nearly 50.60 % of students agreed that they are afraid to show their Mathematics scores to their parents, from 50.60, 27.3% of students strongly agree with this statement.
- The 65% of students agreed with the statement that they are afraid to show their Mathematics scores to their peers.
- 65.1% of students avoid Mathematics subjects due to mathematics anxiety.
- Highly math-anxious individuals are characterized by a strong tendency to avoid math, which ultimately undercuts their Mathematics competence and forecloses important career paths. The development of Mathematics anxiety often takes its origin from a lack of confidence in situations involving the necessity of handling numerical information. (Stuart, 2000).
- The quantitative data of the study indicate that 76.76% of Students feel that mathematics is a worst subject,
- 63.60% agreed that, it takes a while to solve a Mathematics problem.
- 69 % of students agreed It is difficult for them to grab onto Mathematics concepts.

- The 56.80% of students agreed that I have low scores on most of my Mathematics tests, Woodard (2004) and Karimi and Venkatesan (2009), determined that students who have high anxiety levels tend to earn lower mathematics scores.
- The 65% of students agreed that Mathematics formulas are difficult for them to remember,
- 68.4% agreed that it is difficult for them to understand Mathematics instructions, from 51.70% of students agreed with the statement that they are not good at solving Mathematics problems.
- Ashcraft, (2001) states that routine arithmetic processes like retrieval of simple facts require little in the way of working memory processing, and therefore show only minimal effects of Mathematics anxiety. But problems involving carrying, borrowing, and keeping track in a sequence of operations (e.g., long division) do rely on working memory, and so should show considerable Mathematics Anxiety effects.
- Higher-level Mathematics (e.g., algebra) probably relies even more heavily on working memory, so may show a far greater impact on Mathematics anxiety. How difficult it will be, when investigating high-level Mathematics topics, to distinguish clearly between the effects of high-Mathematics Anxiety and low Mathematics competence.
- The 65.9% of students generally cram a lot of information before a Mathematics test.
- Mathematics anxiety is related to students feeling tense or anxious when working with numbers or solving mathematical problems (Richardson & Suinn, 1972).

Findings

The findings of this research are given below:

- Students have scary experiences with Mathematics tests. 71.1% of the students agree with it, which shows their level of Mathematics Anxiety is high their mean score is 3.82.
- 73.6% of students show their feeling that they feel nervous about mathematics and their mean score is 3.94 which show that they have Mathematics Anxiety when they think about Mathematics or solving Mathematics problem.
- Students get average grade usually, on their Mathematics test due to mathematics anxiety, 56.80% of students have low scores on their Mathematics test, low scoring also create anxiety in students.
- Students have bitter experienced too much haul while taking a mathematics subject they feel pressure when they take Mathematics subjects, 71.9% of students agree that Mathematics is very difficult for them to solve and they feel stress.
- During math test or at the start of math test students seem empty or anxious, 65.9% of students feel that their mind goes blank during mathematics test.
- Above 75% students hate the Mathematics subject above 50 % of students are afraid to show their Mathematics results to their parents and above 60% of students are afraid to show their Mathematics results to their friends.
- Above 65% of students feel difficulty in memorizing math's formulae and grabbing onto Mathematics concepts that difficulty creates mathematics anxiety in students.
- Due to anxiety and above difficulties students dislike Mathematics subjects above 70% girl students agreed that they do not like mathematics subject 63.60 % of students agree that Mathematics problems take time to solve when they spend more time on a single problem that creates anxiety in the students.
- The above findings reveal that the above 60% of girls at the secondary school level in Hyderabad are victim of mathematics anxiety.
- 68.5% of students feel stress taking a Mathematics class and due to stress, 68.5% of girl students feel difficulty understanding Mathematics instruction that show girl students are highly anxious about Mathematics.

- When the girls' students do not properly understand Mathematics instructions more than 65% don't want their tests and assignments to be evaluated and avoid the Mathematics subject but on the other hand, 50% girl students try to take tuition or help from the tutors increasing the understanding level in the mathematics, 65.9 % girl students pay much time before Mathematics test but unfortunately, 51.70% lose their confidence during solving Mathematics problems.
- The 52.60% of girl students feel that it's a boring subject, the worst subject, and start disliking for mathematics subject. The 53% of girls start blaming them self for poor performance in mathematics.
- The all findings of the study conform more than 60% of girl students of class X in Government School of Hyderabad District Facing Mathematics Anxiety.
- The mean of 22 items and their cumulative mean 3.48 fall within the 3.4-4.2 mean class, indicating a high level of mathematics anxiety among the girl students.

Conclusion

Girl students in secondary school's face mathematics anxiety which increases when students face mathematics test or exam, taking Mathematics test is a scary experience for them their mind seems to go blank during Mathematics test or exams. Students feel nervous about mathematics and when completing Mathematics assignments. Students do not feel confidence when solving Mathematics problems, because it is difficult for them to grasp Mathematics concepts and the Mathematics formulas are difficult for them to remember and they just memorize Mathematics formulas but do not understand their applications. The content given in the text book is not understood well by Mathematics students because they feel difficulty for understanding Mathematics instructions, they take a lot of pressure taking Mathematics subjects so they avoid the Mathematics subjects. Mathematics Anxiety increase more when students go up to a higher class, and usually, girl students do not want to get future careers in the field of mathematics. Thus, this study suggests the measures for teachers as main stake holder to reduce the mathematics anxiety through guidance counseling and appropriate teaching methodologies.

Recommendation

For Teachers

Teachers should apply the effective approaches in the classroom to help the students such as: asking for volunteers, being flexible, treating the students with respect, remaining accessible, making referrals, making the subject interesting, encouraging students to write and converse about Mathematics experiences, listening to students, creating a relaxed atmosphere, using cooperative groups, encouraging peer tutoring, treat the students politely, plan interesting assessment techniques, encouraging students to believe in themselves, reviewing basic Mathematics concepts, presenting clear explanations, guiding the students how to take tests, showing emotional involvement, and giving feedback timely.

For Students

Students are encouraged to practice mathematics every day to gain confidence in problem-solving. Use helpful mathematics study methods like to spreading study time over several days instead of cramming it all into one session, A quiet place finding for the study of mathematic, and avoiding too much studying. Use best study techniques for your learning: for visual learning use pictures and videos. If you learn through auditory, properly listen lectures, ask questions for understand and discuss the topics, and if you learn by doing then get hands-on. To feel more confident, Remember past successes. Don't hesitate to ask for help if you're struggling, and consider seeking help from someone outside of class if needed. Try relaxation techniques like deep breathing and positive thinking to reduce anxiety about mathematics. Taking short breaks when feeling frustrated can also be beneficial in maintaining focus and motivation.

For Parents

Students may develop good study habits, attend class regularly, and ask questions, while parents encourage their children to take responsibility, to complete their homework, and to reach out available resources. Thus, parents should try to appreciate their children and do not emphasize on grades, and encourage them and admire their efforts.

For Administration

School administration should develop a strategic plan for overcoming mathematics anxiety. They may arrange training programs workshops, refreshing courses for their teachers to modify the teaching methods and strategies for the and pedagogical skills for mathematics and recognition of emotions to decrease their mathematics anxiety and arrangement of different activities and programs, such as mathematical games and competitions, integration of technology such as computers and calculators increase the interest and ease for students solving the mathematics problem.

For Curriculum Developers

Curriculum developers suggested to blends the theoretical and practical mathematics. From a cross-cultural perspective, mathematics Anxiety is an alarming problem for policy maker and Curriculum developers at macro and micro level both due to its prevalence Promoting resilience to mathematics anxiety requires curriculum developers to identify contextual mechanisms early using a holistic approach. Competent students explain learning difficulties externally and temporarily, while those with a negative style attribute failure internally and permanently. The learning outcomes, content teaching strategies, evolution and academic goals should be reviewed so that overcoming the difficulties may be encountered. According to gender differences and due to the fact that girls have a lower level of confidence in their own abilities, curriculum developers should develop more effective strategies to strengthen the self-expectations of mathematical achievement of girls.

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