TO MEASURE THE RELATIONSHIP BETWEEN ANXIETY AND ACADEMIC PERFORMANCE OF STUDENTS

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Abstract

The primary objective of the current research is to assess anxiety levels among 10th-grade students attending Gujarati medium schools in Gandhinagar City. The study population consists of students enrolled in 10th class at Gujarati medium schools within Gandhinagar City. Through the utilization of the Random Sampling technique, the researcher selected a total of 40 students from the 10th grade across various Gujarati medium schools. The sample group comprised 20 boys and 20 girls' students. The research employed a survey methodology to accomplish its objectives. To measure anxiety levels, the researchers utilized the Anxiety Scale developed and standardized by Dr. Pallavi P. Patel and Dr. Hitesh P. Patel. The collected data were subsequently subjected to t-test analysis. The study specifically focused on comparing anxiety levels between two groups: male and female students. The findings of the study led to the conclusion that female students exhibit higher anxiety levels in comparison to their male counterparts.

Keywords: Anxiety, Sampling, Scale, Medium

1. INTRODUCTION

Education is a fundamental aspect of human life, playing a crucial role in the cultivation of a person's ethical, cognitive, and emotional character, among other attributes. Through education, both formal and informal, children can nurture their diverse talents. Lifelong learning is facilitated by education, aiding students in the development of their knowledge, skills, principles, and convictions. Education is not confined by age, caste, or locality, enabling individuals of all backgrounds to acquire knowledge effectively. Previous studies have indicated that anxiety has an impact on students' academic performance. (Muhammad Hussain Chishti & Abdul Majid Khan Rana, n.d.)

School students suffer to some levels of study anxiety, such as have new experiences, environment and situation. Due to the influence of educational psychology, modern education has shifted its focus towards

being centered around the child. The application of educational psychology allows us to overcome challenges in the holistic growth of a child. Educational psychology plays a crucial role in shaping the objectives, curriculum, and techniques aimed at fostering a child's comprehensive development. Emotions hold significant significance in the lives of individuals. Feelings such as anger, fear, and anxiety act as significant barriers to human progress. Failure to address these emotions can have detrimental effects on an individual's personality development(Jani, 2015)

Anxiety is a natural mortal response to stress or implied danger. It is a mild to severe feeling of apprehension, solicitude, or sweating. While some anxiety is normal and can be beneficial in certain situations, such as motivating you to prepare for an important event, excessive or prolonged anxiety can be detrimental to your overall well-being.

An essential aspect of human life is education. Education aids in developing a person's moral. mental, and emotional personality, among others. Children's formal and non-formal talents can be developed via education. Education is the lifelong learning process that aids in developing students' knowledge, abilities, values, and beliefs. Any age, caste, or area may learn quickly with education. One of the psychological phenomena that have been explored the most is anxiety. The idea of anxiety has not been precisely defined and agreed upon, despite advances in the theoretical study of anxiety, the identification of variables that contribute to its development, the creation of instruments to diagnose and the invention of treatment procedures. Anxiety is distinguished from fear in terms of perception as a reaction to an unknown risk or a known danger(Rathod & Chauhan, 2023)

Anxiety can appear in both physical and mental manifestations. Physical symptoms include a racing heart, sweating, pulsing, muscle pressure, and restlessness. It can cause excessive worrying, difficulty concentrating, perversity, and an inviting sense of fear or dread. Anxiety can appear in both physical and mental manifestations. Physical symptoms include a racing heart, sweating, pulsing, muscle pressure, and restlessness. It can cause excessive worrying, difficulty concentrating, perversity, and an inviting sense of fear or dread.

Additionally, anxiety reactions are consistently more substantial and frequent than the perceived threat warrants, but the fear reaction is proportionate to the actual risk. Spielberger (C. D. Spielberger & R. Gorsuch, 1983) defined anxiety as "the subjective experience of tension, apprehension, nervousness, and concern associated with an encouragement of apprehension, nervousness, and worry. "Anxiety may be defined as apprehension, tension, or uneasiness that stems from the anticipation of danger, which may be internal or external (KENDELL, 1988) Anxiety is an uncontrollable, diffuse, unpleasant, and persistent state of negative affect, characterized by nervous anticipation regarding unpredictable and unavoidable future danger and accompanied by physiological symptoms of tension and a constant state of heightened vigilance(D. H. Barlow, 2002)

Symptoms of Anxiety(Muhammad Hussain Chishti & Abdul Majid Khan Rana, n.d.) can be experienced in multiple forms or types of symptoms such as cognitive symptoms, physical symptoms, behavioral or emotional symptoms and psychological symptoms, a brief description of these types of symptoms is as follows.

Cognitive Symptoms The researchers suggested that the cognitive factor may be a collection of 1) nervousness plus panic of failure 2) being anxious about the transaction, the lack of anticipation, self-interest, and escape perception, thinking irrelevant and 3) thinking test is irrelevant. Physical Symptoms.

Physical symptoms include sweating, shaking, rapid heart rate, dehydrated lips, slight vomit, and bodily illness. Behavioral and Emotional Symptoms.

Behavioral or emotional symptoms include restlessness, escaping, abuse of drugs that are used and "tranquilizers" like addiction and drinks, stiffness, difficulty concentrating and race of feelings.

Psychological Symptoms There can be a multitude of psychological symptoms including hopelessness, disappointment, low self-esteem, irritation, dissatisfaction and panic.

There are two major types of anxiety that are relevant to understand the structure of anxiety. Trait Anxiety means chronic and persistent anxiety over the situation and based on certain events. Anxiety for the multiplicity of sources of anxiety disorders, including generalized anxiety and fear from the community(Huberty, 2009). State Anxiety is "anxiety that occurs in certain situations and generally has an obvious trigger point. All who have a high state of anxiety will not necessarily feel high trait anxiety, if trait anxiety is high state anxiety also will be high(Huberty, 2009)

2. REVIEW OF LITERATURE

The paper discusses a research study that focused on understanding student anxiety and attitudes towards different mathematical problems. The study utilized an online survey as a means to collect data from participants. The main objectives of the research were to assess how students responded to six specific mathematical problems in terms of both anxiety and attitude. The paper likely provides insights into the methods used to design the survey, the selection of the mathematical problems, the data collection process, and the analysis of the results. The paper probably outlines the methodology used to conduct the survey, including the selection of participants, the distribution of the survey, and any measures taken to ensure the survey's validity and reliability. The author likely discusses the implications of the findings, drawing conclusions about the relationship between different types of mathematical problems, student anxiety, and attitudes. The discussion might also touch upon potential educational strategies that could be implemented based on the results (Ashcraft et al., 2001).

The article titled "The relationships among working memory, math anxiety and performance" authored by Ashcraft and Kirk (2001) delves into the intricate connections between working memory, math anxiety, and performance in the context of mathematics. The authors propose that working memory and math anxiety significantly influence individuals' mathematical performance.

The primary objective of this study was to investigate the interplay between working memory, math anxiety, and performance in mathematical tasks. The authors conducted a series of experiments involving participants of varying age groups and mathematical abilities. The experiments included tasks that measured working memory capacity, math anxiety levels, and mathematical problem-solving performance. The results of this study have important implications for educators, psychologists, and anyone interested in enhancing math learning and performance. Recognizing the significance of working memory in mathematical tasks

highlights the importance of strategies that can improve working memory capacity. Furthermore, acknowledging the detrimental impact of math anxiety underscores the need for interventions aimed at reducing anxiety to foster better math performance. The strengths of this study lie in its empirical approach, as the authors conducted a series of experiments to establish the relationships between the variables. The use of diverse participant groups also contributes to the generalizability of the findings. However, some limitations include potential confounding variables that were not fully controlled and the inherent complexity of isolating the effects of working memory and math anxiety completely. The study provides valuable insights into the connections between working memory, math anxiety, and mathematical performance. The findings emphasize the significance of addressing both cognitive and emotional factors to improve math learning outcomes. This study contributes to the broader understanding of how psychological factors intersect with cognitive processes in the domain of mathematics (Ashcraft et al., 2001).

In their paper "An overview of Indian research in anxiety disorders," J. K. Trivedi and Pawan Kumar Gupta from the Department of Psychiatry at C.S.M. Medical University in Lucknow, India, provide a comprehensive overview of the landscape of anxiety disorder research in India. The authors delve into the current state of research, identifying key themes, findings, and trends in the field. The paper begins by contextualizing the significance of anxiety disorders as a growing mental health concern both globally and within the Indian context. The authors emphasize the importance of understanding anxiety disorders due to their prevalence, impact on individual well-being, and overall societal burden. The literature review is structured logically, focusing on various dimensions of anxiety disorders research in India. (Ashcraft & Krause, 2001)

The paper "An Overview of Indian Research in Anxiety Disorders" offers valuable insights into the landscape of anxiety disorder research within the Indian context. Its comprehensive approach, emphasis on cultural factors, and discussion of treatment approaches make it a valuable resource for a wide range of stakeholders. By addressing the suggested improvements, the authors could further enhance the impact and readability of this review. A Study of Academic Anxiety of Secondary School Students in this study Researcher focuses on understanding academic anxiety among secondary school students and its effects on their academic performance. The objectives include measuring the level of anxiety among students, comparing anxiety levels between male and female students, and analyzing the differences in anxiety among students from private and government schools. Population and sample of This study involved students studying in Class IX (9th grade) in private and government secondary schools affiliated with the CBSE Board in Surat, Gujarat, India. A sample of 400 students was selected using a combination of purposive and stratified random sampling techniques. For the tool of this research researchers used the "Academic Anxiety Scale for Children (AASC)" developed and standardized by A.K. Singh and Dr. A. Sen Gupta to measure academic anxiety levels among the students. This Research Researcher used Methodology was the research employed a descriptive survey method to gather data and analyze it using statistical techniques such as percentages and t-tests. The Researcher get the major finding of the study The study examined academic anxiety levels among students and found that 18.5% had low academic anxiety, 75% had average anxiety, and around 6.5% experienced high academic anxiety. Female students generally displayed higher academic anxiety than male

students. This difference was particularly noticeable in private schools where girls exhibited more academic anxiety than boys. However, in government schools, there was no significant difference in anxiety levels between male and female students. The study also found that anxiety levels didn't significantly differ between students from private and government secondary schools. Interestingly, boys in government schools had higher academic anxiety compared to boys in private schools. On the other hand, girls in private schools demonstrated more academic anxiety than girls in government schools. the paper underscores the prevalence of academic anxiety among secondary school students and provides insights into how factors such as gender and school type can impact anxiety levels. It also emphasizes the importance of addressing academic anxiety to support students' overall well-being and academic success.(Niti O. Khemka & Rajesh R. Rathod, 2016)

Test Anxiety Effects on Student's Performance: A Psychological Analysis at Secondary School Level in Punjab, Pakistan The objectives of the study are to Examine the extent of mathematics test anxiety among secondary school students, Investigate the correlation between test anxiety and students' performance in mathematics, provide relevant recommendations for effectively managing and addressing this situation. The researcher of the current study employed a quantitative research method with a descriptive/correlational research design. Data collection was primarily conducted through questionnaires, focusing on assessing the level of anxiety and examining the correlation between test anxiety and students' performance in mathematics. The study's population comprises all 10th-grade students who successfully completed their 9th-grade studies under the BISEs of Punjab in 2018. This encompasses all students in the 10th grade across the nine divisions of Punjab. In this study, a multistage sampling technique was employed to select the sample. Two specific methods, namely simple random sampling and cluster sampling, were utilized in two distinct stages. The selection process involved the use of both techniques. Initially, one district was chosen from each division of Punjab, followed by the selection of 2 high schools from each district through cluster sampling. The researcher specifically handpicked 18 primary (model) high schools located in the district headquarters. Subsequently, the school administration identified various sections within these selected schools. From each section, 15 students were randomly selected as participants. As a result, a total of two hundred and sixty 10th-grade students participated in the study. The study employed a modified version of the Math Anxiety Rating Scale (MARS) with 30 Likert-scale questions, including assessment of academic performance and anxiety factors, exhibiting good reliability (Cronbach alpha = 0.81) based on pilot testing with 30 students from 2 schools. Descriptive analysis assessed test anxiety levels and intensity in students, focusing on mathematics test anxiety dimensions, while Pearson correlation examined relationships between study variables. The research identifies a negative correlation between selected factors and math test anxiety, aligning with prior literature; teachers play a vital role in mitigating math anxiety's impact on student performance by providing guidance and addressing issues, thereby enhancing math performance despite limitations.(Muhammad Hussain Chishti & Abdul Majid Khan Rana, n.d.)

3. OBJECTIVES OF THE STUDY

To measure the relationship between Anxiety and Academic performance of students

4. HYPOTHESIS OF THE STUDY

$H_0 1$: There is no relation between Anxiety and Academic performance of students.

H_1: There is significant relation between Anxiety and Academic performance of students.

5. SIGNIFICANCE OF THE STUDY

It raises awareness about the mental health of adolescents, emphasizing that anxiety is a prevalent issue among students, especially during crucial academic years like standard 10th. Identifying anxiety levels in 10th-grade students allows for early intervention and support. This can prevent anxiety from escalating into more serious mental health issues. Understanding anxiety levels can shed light on how anxiety impacts academic performance. High anxiety levels may hinder a student's ability to concentrate, perform well in exams, or engage effectively in the classroom. The study can inform educational policies and strategies to create a more conducive learning environment. Schools can implement interventions such as stress management programs, counseling services, or changes in the curriculum to address student anxiety. It encourages parental involvement in their children's mental health. Parents can play a crucial role in recognizing and addressing anxiety issues, offering emotional support, and seeking professional help if needed. The study contributes valuable data to the field of psychology and education, helping researchers and policymakers better understand the prevalence and nature of anxiety in 10th-grade students. The study can pave the way for further research into the specific causes and triggers of anxiety in standard 10th students, as well as the most effective interventions and strategies for alleviating it. measuring anxiety in standard 10th students is significant because it not only highlights the mental health challenges, they face but also offers opportunities for support, intervention, and the improvement of educational and societal well-being.

6. METHODOLOGY OF THE STUDY

This Study Aimed to Measure Anxiety in Standard 10th Students in Gujarati Medium Schools Present in Gandhinagar City. A standardized tool was used for Data collection. The Anxiety Scale for developed and standardized by Dr. Pallavi P. Patel, and Dr. Hitesh P. Patel, will be used for measuring anxiety was used for research. For assessing anxiety among students 4 component scale assessing anxiety among students which consists of a force choice type answer, will be used where a high 101-150 score indicates high anxiety then 51-100 score indicates medium anxiety and 0-50 score indicates indicate low anxiety.

The present study data were collected by the Class 10th students survey method. Prior permission was taken from the School Principal, and the researcher has explained research aimed and objectives to the principal of all schools. The researcher instructed the students regarding the test and collected the data. According to the need, collected data were analyzed by mean, standard deviation, and t-test.

For the present study, the population consisted of primary school students of Gandhinagar District, Gujarat. Sampling is the small proportion of the population selected for observation and analysis with the help of the Random Sampling technique, the researcher selected Gandhinagar City. The researcher also selected Total 40 students from class 10th Gujarati medium schools from Gandhinagar city with a random sample technique.

There were 40 students selected as a sample, of which 20 boys and 20 girls were taken from Gujarati medium school.

6.1 SAMPLE THE STUDY

20 Girls and 20 boys total 40 students of 10th standard in Mahatma Gandhi Vidhya mandir (Gujarati medium) school present in Gandhinagar City.

6.2 SAMPLING TECHNIQUE

With the assistance of the Random Sampling technique, the researcher employed a selection process involving 40 students from the 10th class of Gujarati medium schools. The sample group comprised an equal distribution of 20 boys and 20 girls, all of whom were students at Gujarati medium schools.

6.3 TOOL

Hamilton Anxiety Rating Scale This scale is developed based on the Hamilton Anxiety Rating Scale (HAM-A) and one Anxiety Test material from Indira Gandhi national open university Delhi.

6.4 DATA COLLECTION PROCEDURE

The initial step involved the development of a research tool by the first researcher. Following this, approval was sought from the principal of Mahatma Gandhi School. Subsequently, a pre-piloting phase was conducted with a chosen 10th B class from Mahatma Gandhi School in Gandhinagar, Gujarat. During this phase, challenging questions were identified and eliminated to refine the tool. Progressing further, the tool was fine-tuned, and then a piloting test was administered to the 10th A class. After collecting the piloting test data, an analysis was performed using the T-Test technique to assess the scores.

7. RESULTS AND DISCUSSION

The researcher computed the Chi-square (χ^2)as part of the data analysis According the research objectives. Subsequently, they provided an explanation and understanding of the analysis results.

Question	Always	Sometime	Never	Chi-square (χ^2)
1	19	18	13	01.24
2	20	10	22	04.76
3	09	18	22	05.42
4	28	21	11	07.3
5	17	18	14	00.53
6	07	17	27	11.76
7	29	08	12	15.22
8	19	26	07	10.65

9	10	32	10	18.61
10	28	17	15	04.9
11	16	08	28	11.69
12	19	09	24	06.73
13	21	26	02	19.63
14	29	00	23	27.03
15	26	16	08	09.75
16	22	16	12	03.03
17	21	24	05	12.52
18	38	01	13	41.11
19	28	17	06	14.23
20	27	04	21	16.42
21	07	15	28	13.48
22	22	01	27	22.84
23	25	15	10	06.99
24	22	14	14	02.55
25	12	24	13	05.42
26	23	06	21	10.36
		Total Chi-square (χ^2)		11.70

Degree of Freedom $df = (c - 1)(r - 1) = (3 - 1)(2 - 1) = 2 * 1 = 2$ and Total Chi-square (χ^2) is 11.70 Significant level (0.01) the table value is 9.21. Calculated value is 11.70

$\chi2(\text{Calculated}) > \chi2 \text{ (tabular)}$.

$11.70321 > 9.21$ then we reject Null hypothesis, and Alternative hypothesis is accepted. So that, There is significant relation between Anxiety and Academic performance of students.

Therefore, anxiety is affected the students' academic performance. Whenever anxiety is increase than their academic performance is decrease. subsequently, anxiety is decrease than their academic performance is increase.

8. CONCLUSION

In this research the researcher found the relation between Anxiety and Academic performance of students. In the research std 10th students' academic performance and anxiety has relation. Then the level of anxiety is directly affected the students' academic performance. Anxiety is increase than their academic performance is decrease. Subsequently, anxiety is decrease than their academic performance is increase. It means academic anxiety is inversely proposal to academic performance.

9. **ACKNOWLEDGMENT**

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