

Mathematics Anxiety and Self-Esteem among Young Adults Aged 18-30 Years

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ABSTRACT

Math anxiety prevents pupils from studying mathematics, having a positive attitude towards mathematics, and feeling at ease since it is an unjustified fear of mathematical operations and math lessons. Low self-esteem, disappointment, and academic failure are all results of this phobia. Many signs of math anxiety could be listed, including panic, thinking of failure, tension, irritability, doubt, fear, despair, shame, and feeling of failure, as well as sweating, nausea, tension in the stomach, difficulty breathing, inadequate listening to the teacher, difficulty focusing, discomfort using words related to mathematics, and negative internal speech. Mathematics anxiety may be influenced by certain variables like Self-esteem, especially in academics. The purpose of the study was to analyse the relationship between Mathematics and Self-esteem among Young Adults. The current study was conducted on 77 Young Adults of all genders between the age group of 18-30 years, who are residing in the cities of Lucknow, Meerut and Bengaluru. Quantitative approach was used along with Correlational research design was adopted and the sampling technique was purposive. Mathematics Anxiety Rating Scale- Revised (MARS-R) and Self-Esteem Rating Scale (SERS) were administered on the participants on all genders. Correlational analysis showed a very weak significant negative correlation between Mathematics Anxiety and Self-esteem among Young Adults. Results showed no significant difference in the level of mathematics and self-esteem among Young Adults. The results of the study will help to develop interventions for people with low levels of mathematics anxiety and will also help to develop interventions for people with high levels of Self-esteem.

Keywords: *Mathematics Anxiety, Self-Esteem among Young Adults*

Math anxiety prevents pupils from studying mathematics, having a positive attitude towards mathematics, and feeling at ease since it is an unjustified fear of mathematical operations and math lessons. Low self-esteem, disappointment, and academic failure are all results of this phobia. Many signs of math anxiety could be listed, including panic, thinking of failure, tension, irritability, doubt, fear, despair, shame, and feeling of failure, as well as sweating, nausea, tension in the stomach, difficulty breathing, inadequate listening to the teacher, difficulty focusing, discomfort using words related to mathematics, and negative internal speech. Mathematics anxiety may be influenced by

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certain variables like Self-esteem, especially in academics. Learning mathematics requires a healthy sense of self. Students evaluate and assess themselves as part of developing their self-esteem, which is a component of self-concept. However, there are still some students who do not view themselves favourably, which leads to pupils' low self-esteem or lack of confidence when they are learning mathematics.

Negative experiences they had prior to studying mathematics can contribute to low self-esteem or a lack of confidence. While students' outcomes in learning mathematics are positively impacted by their sense of self-worth. There is evidence from studies showing self-esteem and maths learning success are positively correlated. What then can a maths instructor do to assist students in building their self-esteem? The use of a contextual teaching and learning method is one way that educators might be able to assist pupils in growing their self-esteem. Contextual learning and teaching involve relating academic material to real-world situations.

One subject that is present at every age and in every situation is mathematics. As a result, it has value outside of the classroom and at school. Therefore, it is essential that students learn mathematics thoroughly and in-depth. It is also the study of numbers and how they are used, according to Merriam-Webster. The purpose of studying maths is to equip one with the skills necessary to solve problems and make decisions in daily life in a responsible and effective manner.

Math anxiety is characterised as tension, trepidation, and fear in response to mathematical situations. Math anxiety has been proven to have a negative correlation with math achievement, both because it causes pupils to avoid math and because it interferes with their ability to use their working memory to answer challenging math problems. Students who are really anxious about mathematics tend to doubt their own abilities. These kids will demonstrate less assurance while addressing problems using numbers and mathematical ideas. Additionally, pupils who perform well in maths have a favourable attitude towards the subject.

Deeply interested students might be encouraged to work and train without the teacher's permission. In order to understand how to deal with math anxiety and eventually achieve good exam results, one must be interested in and confident in this area. This will affect how well one performs in math. Every kid aspires to do well in maths, not just for themselves but also for their parents and the school. Undoubtedly, some students struggle to learn mathematics. The perspectives of learning mathematics vary between the sexes. In this scenario, there are certain circumstances that may cause students' anxiety in maths in regard to their understanding of how to appreciate it.

As a researcher, it is crucial to understand how mathematics anxiety affects students' ability to manipulate numbers in a range of real-world and academic contexts. The purpose of this study is to identify student differences in math anxiety and to make judgements about student differences in math achievement based on those student differences in math anxiety.

After many years of research, it is still unclear if pupils' subpar mathematical ability causes math anxiety or vice versa. Many students in upper classes can be struggling with math anxiety as a result of a poor math experience or performance when they were younger, or because they don't have adequate mathematical knowledge that will help them when they need it.

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According to Ray Hembree's Debilitating Anxiety Theory, which he developed in 1990, math anxiety can have a negative impact on students' engagement and attitude towards mathematical tasks, as well as their ability to learn math concepts, solve problems, and acquire knowledge. In addition, unlike those who deal with lower rates of math anxiety, people who suffer from higher rates perform poorly in their exams because they tend to answer quickly and finish their exam as fast as possible without checking the accuracy of their answers. Such reality suggests that those who suffer from high rates of math anxiety are unable of processing the mathematical task on hand and understanding the math concepts and definitions properly.

Students who struggle with math anxiety may not always struggle with anxiety in other courses. It is confirmed that a person's maths aptitude is, in contrast, inversely correlated with their level of worry. Therefore, the researcher sought to reduce students' anxiety and boost their performance by using a reciprocal learning technique. In an approach called reciprocal learning, the teacher and the student take turns handling the work or the content. This is a research-based technique, and the abundance of papers that support it solidify it. Comparatively to students who did not use this teaching method, students who engaged in reciprocal learning increased their academic. A performance, worked more independently, and demonstrated greater independence. Additionally, because the students were more intellectually involved and linked with the subject matter and task, the disruptive behaviours were reduced in the reciprocal learning classrooms.

All of us possess a fundamental sense of self. We have a highly developed cognitive self-concept, but we also have a very accessible affective sense of our worth, competence, and deserving. The term "self-esteem" refers to this overall assessment of one's value. People with high self-esteem feel very positively about themselves, whilst those with low self-esteem feel ambivalent or doubtful about themselves. Self-esteem is often seen as a continuous dimension spanning from high to low. True self-hatred or unfavourable self-evaluations are uncommon and typically restricted to therapeutic populations. The most typical definition of self-esteem is this overall assessment, which is regarded as reasonably stable (i.e., a person can be said to have a dispositional level of self-esteem). Other names for it include "self-worth," "self-regard," and "self-evaluation," all of which signify the same thing in essence. Within the field of psychology, the concept of self-esteem has a long and rocky past. One of the early psychologists, William James (1890), first suggested that people build high self-esteem when they repeatedly achieve their individually significant goals or standards in life. He also acknowledged that such a "meeting" is subjective rather than factually correct. Modern theories of self-esteem also focus on subjectively felt value rather than objective worth. Self-esteem was hailed as a psychologically significant concept during the 20th century.

Self-esteem, however, truly started to gain popularity in the 1960s. By creating the first questionnaire measure of self-esteem and establishing itemological links between anxiety and depression, Rosenberg's (1965) extensive survey of adolescents increased the concept's popularity among scholars. At the same time, Coopersmith (1967) and Branden (1969) established well-known connections between mental health, academic success, and self-esteem and confidence. Self-esteem has come to be seen as a cure-all and the secret to success in life. The so-called "self-esteem movement" in Western society developed and gained sway during the ensuing decades. Its central tenet is that improving people's (especially children's) self-esteem will lead to greater happiness, success, and law-abiding behaviour. Numerous educational curricula, rehabilitation programmes, and self-help books

were created using this premise in an effort to raise the self-esteem of students, criminal defendants, addicts, and people with various psychological issues (Nolan, 1998). Up until the 1990s, very little empirical study had been done to assess the veracity of these assumptions or the effectiveness of these programmes. The effectiveness of self-esteem therapies was questioned when such research was conducted because of its outcomes, which were at best inconsistent.

LITERATURE OF REVIEW

Review of fresh findings from recent longitudinal studies looking at the evolution of self-esteem and its impact on significant life outcomes. The data lends credence to the next three findings. Aside from the fact that there are no cohort variations in the self-esteem trajectory from adolescence to old age, it is important to note that self-esteem rises from adolescence to middle adulthood, peaks at around age 50 to 60, and then declines rapidly into old life. Second, although it is by no means unchangeable, self-esteem is a quality that is largely stable. People who have relatively high or low self-esteem at one point in their lives are likely to continue to do so decades later. Third, having a strong sense of self-worth makes you more likely to succeed and be happy in areas of your life including relationships, employment, and health. The issue of self-esteem growth is extremely essential for society given the mounting evidence that it has significant real-world effects.

Based on strong evidence from longitudinal studies, many of which comprised sizable and representative samples, prolonged study durations, several waves of data, and advanced statistical modelling, research on the development of self-esteem has lately made considerable strides. However, there is still a lot of work to be done. For instance, additional study is required to chart the development of self-esteem in young children. Although theory and cross-sectional evidence indicate that self-esteem declines from childhood through adolescent, longitudinal research have not consistently supported the self-esteem decline during middle childhood. Furthermore, the influences on the growth of self-esteem need to be better understood. Although the evidence for how self-esteem affects life outcomes is now very robust (as was discussed above), there is still little data on its root causes. For instance, it would be useful to understand whether, and if so, how, good and bad life experiences affect a person's trajectory of self-esteem. Additionally, because theory places a great emphasis on the interpersonal aspect of self-esteem, future studies should give this aspect of self-esteem growth in the setting of intimate relationships more weight. Future studies should look into the relative stability of the more objective sources of self-esteem, such as skills, social acceptance, and successful life experiences, as well as the extent to which self-esteem stability is caused by cognitive biases (such as selective attention to positive vs. negative information about the self). However, the fact that self-esteem consistently increases and decreases throughout the course of a person's life shows that information processing biases cannot account for the stability of self-esteem alone. The study that was examined in this article has numerous significant ramifications. First, the information about the normal life-span trajectory of self-esteem is significant since, for a very long time, scholars held the belief that self-esteem did not alter consistently across the life course. Furthermore, substantial disparities across birth cohorts have been ruled out by longitudinal research, indicating that the trajectory of the average life expectancy has not changed throughout the course of the 20th century. Second, a sizable part of individual variations in self-esteem are entirely stable across time, suggesting that self-esteem is a personality characteristic like neuroticism and extraversion. Third, ongoing research points to the importance of self-esteem for people's achievement in a variety of areas, including relationships, employment, and health. Finally, the findings have significant practical ramifications since they indicate risk

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factors for negative developmental trajectories and highlight developmental stages during which people are susceptible to low self-esteem (such as adolescence and old age). Overall, the data discussed in this article may support treatments meant to have a favourable impact on the growth of self-esteem. **(Orth & Robins, 2014b)**

The uncomfortable feelings that prevent one from completing mathematical problems are known as math anxiety. A child's success in school and in later life might be hampered by worry in general and maths anxiety in particular. Due to the significance of mathematics in daily life, it is crucial that instructors and parents assist kids in overcoming their math fear so they may successfully learn the subject. Regardless of one's mathematical education and abilities, math anxiety affects people of all ages and is not only a theoretical idea. This research outlines the methods that parents, instructors, and students may use to reduce or eliminate arithmetic fear.

Math anxiety, according to Tobias and Wessbrod (1980), is when a person is expected to answer a mathematical issue and experiences panic, helplessness, immobility, and mental disarray. Students in all grades struggle with math anxiety, which has a negative impact on their academic achievement. Students who struggle with math anxiety more than their peers do poorly in math class and learn less. Given the growing necessity for mathematics in today's culture, the topic should be seen positively in order to lessen math phobia. Teachers must thus adopt contemporary teaching techniques as conventional ones are no longer effective with the prior generation of pupils. Parents must act positively to encourage their children to use maths in everyday life, just like teachers do. The need of the hour is for parents and teachers to collaborate in order to teach kids that math is not boring, useless, or insignificant. so that students would enthusiastically master all the maths skills required for success. **(Wani, 2021b)**

A person's opinion of their own worth is known as their self-esteem. Global self-esteem is the most well-known type since it is a broad, dispositional, and consciously available self-evaluation. Self-esteem, according to psychologists, is crucial since it conveys a person's level of social acceptance and cultural worth. People are therefore driven to pursue and preserve high self-esteem via a variety of tactics. Despite levels varying over the life span and depending on experiences of interpersonal acceptance, the majority of people have reasonably high levels of self-esteem. Self-esteem level impacts well-being and some psychopathologies, but not other outcomes (some of which are instead controlled by self-esteem fragility), despite the long-held belief that it governs many life outcomes. Instead, the data is conflicting. For the purpose of informing therapeutic therapy, it might be helpful to comprehend the complexity of self-esteem.

All of us possess a fundamental sense of self. We maintain a highly accessible emotive sense of how talented, lovable, and worthy we are as people in addition to a well-developed cognitive self-concept. The term "self-esteem" refers to this overall assessment of one's value. Generally speaking, self-esteem is seen as a continuous variable that ranges from high to low: individuals who have high self-esteem are extremely optimistic about themselves, whereas those who have low self-esteem are ambivalent or doubtful about themselves. True self-hatred or unfavourable self-evaluations are uncommon and often only encountered in. The most typical definition of self-esteem is this overall assessment, which is seen as reasonably constant (i.e., a person can be said to have a dispositional level of self-esteem). It is also known as self-worth, self-regard, or self-evaluation, all of which pertain to the same concept. In the field of psychology, the concept of self-esteem has a long and proven track record. The

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idea that people build high self-esteem when they regularly achieve their personally significant objectives or standards in life was first put out by one of the first psychologists, William James (1890). Additionally, he acknowledged that such a "meeting" is subjective and not factually correct. Similar to traditional notions of self-esteem, modern ones emphasise subjective evaluations of value above perceived ones. Self-esteem was celebrated as a psychologically significant concept throughout the 20th century. Abraham Maslow, a psychologist, placed self-esteem as a basic need in his well-known hierarchy of needs in 1943, contending that it is impossible to find fulfilment without first satisfying the need for self-worth and self-respect. Similar to this, prominent humanistic thinker Carl Rogers (1959) emphasised self-worth (also known as self-esteem) as reflecting the congruence between one's present-day self and ideal self. According to Rogers, our sense of self-worth is a reflection of the degree to which our parents and other people have shown us love and respect without conditions. Self-worth decreases if others provide unreasonable goals or make us feel we fall short of those ideals. Rogers shared Maslow's belief that a person's ability to accept difficulties, deal with issues effectively, and build healthy relationships is largely dependent upon their level of self-worth. But the 1960s were when self-esteem really started to gain popularity.

By creating the first questionnaire measure of self-esteem and establishing an empirical relationship between it and anxiety and depression, Rosenberg's (1965) extensive study of teenagers increased the concept's popularity among researchers. At the same time, Coopersmith (1967) and Branden (1969) established well-known connections between mental health, academic success, and self-esteem and confidence. Self-esteem has come to be seen as a cure-all and the secret to success in life. The so-called "self-esteem movement" in Western civilization, which was centred on the notion that boosting people's (particularly children's) self-esteem will make them happy, successful, and law-abiding, developed and became dominant in the decades that followed. The creation of educational curriculum, rehabilitation programmes, and self-help publications that aimed to boost the self-esteem of students, criminally charged individuals, and those dealing with addictions or other psychiatric issues made extensive use of this notion. Up until the 1990s, very little empirical study had been done to assess the veracity of these assumptions or the effectiveness of these programmes. The effectiveness of self-esteem therapies was questioned when such research was conducted because of its outcomes, which were at best inconsistent. Numerous empirical research have been undertaken in recent years on the evolution, correlates, and effects of self-esteem. Additionally, self-esteem is no longer a cure-all since it is less relevant (or causally significant) to some aspects of intrapersonal and interpersonal functioning while still being very essential to others. Greater understanding of these difficulties can assist researchers and practitioners in better understanding and incorporating self-esteem into clinical practise. A plethora of research shows the relationship between belonging and self-esteem. Perceived social acceptability, a history of acceptance/rejection events, and other indications of relational worth all predict global self-esteem favourably. Although some claim that the pattern reflects group hierarchical status, research suggests that acceptance is a greater predictor of self-esteem than dominance. Similarly, social acceptance increases and rejection decreases state self-esteem (i.e., fleeting sentiments about oneself). **(Hepper, 2016b)**

Maths became one of the pillars of student achievement in modern times. Learning mathematics provides a tool for dealing with real-world circumstances that call for computation; as a result, maths is crucial, especially on a daily basis. "Student's Anxiety in Maths" is the title of the study. Its nature was quantitative. The Grade 11 students from Jagobiao National High School who participated in the study's purposive sampling method.

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The study concentrated on the relationship between students' degrees of math anxiety and their mathematical ability. A checklist-type device was used to collect the data. It was discovered that 1 out of 136 respondents had a high degree of math anxiety and their math grade sits between 86 and 90. 96 out of 136 respondents had an average level of arithmetic anxiety and their math grade lies between 80 and below, which is typical. To illustrate, the majority of pupils perform in a "poor state" in math and have significant levels of arithmetic anxiety. Students' levels of math anxiety decline as their mathematical proficiency rises. On the other hand, their sense of math anxiety rises as their arithmetic achievement declines. The chart shows that students' levels of math anxiety are average, which is considered to be normal, regardless of how well they perform mathematically (bad, fair, or satisfactory). There should be a session held at the school regarding the many types of math anxiety and how it may impair students' arithmetic performance. Every country includes mathematics as a crucial element in its educational curricula. According to the same article, mathematics has been addressed to help young people comprehend the numerical data that is given to them and to demonstrate that knowledge (both basic and sophisticated) in day-to-day interactions. Learning mathematics is cumulative in nature, structured step-by-step from the easiest problems to the most difficult ones. However, Ashcraft and Krause (2007) noted that the extremely abstract nature of mathematical symbols undoubtedly contributes to the challenges that individuals have when learning maths, including challenges with the storage and utilisation of knowledge in students' working memory (246–247). While children who perform badly in math but feel it is important for success may not experience math anxiety, those who perform poorly yet desire to succeed may do so. Therefore, mathematical worry may contribute to poor mathematical performance.

The focus of the study is "Students' Anxiety in Math," and to find out how anxious the students are about their arithmetic performance, the researchers performed a survey and used a rating scale. The researchers wanted to discover how students at Jagobiao National High School-Senior High School Department reacted to math anxiety in connection to their arithmetic grade. The respondents' personal information, including their average math grade, was displayed in the first section of the rating scale. The data in the first table shows that students' weighted average across all groups is 2.27. This indicates that the majority of Grade 11 pupils have significant levels of maths anxiety. On the one hand, the second table demonstrates that the majority of kids' maths performance is in a "poor state" overall. Table 3 demonstrates that most students have typical levels of math anxiety in regard to this. In addition to this, it has been found that math anxiety increases and math performance decreases in inverse proportion. Last but not least, table 4 demonstrates that the calculated value of chi-square with a degree of freedom of 4 is 6.61. The evidence at hand lead to the conclusion that there is no discernible connection between a student's level of math anxiety and their mathematical ability. The computed value of chi-square is smaller than the critical value, which is 9.49, hence the null hypothesis, "There is no significant relationship between student's math anxiety level and their academic performance," is rejected. **(Keziah et al., 2021b)**

In their 2010 study, Kumar and Karimi looked at the connection between students' arithmetic ability and math anxiety. A survey on math anxiety received responses from 424 school pupils. They even looked at the disparities in math anxiety between males and girls. The study's findings showed that math anxiety has a negative correlation with pupils' arithmetic ability and that both males and girls are equally affected by it. Researchers found a correlation between anxiety and bad maths grades and standardised test scores, although not all math-anxious people do poorly in the subject. They said that while having a foundation in

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maths is helpful in daily life, many people experience anxiety when forced to use maths in their daily activities. More crucially, researchers discovered in 2012 that those with high levels of math anxiety performed considerably worse on math tasks when compared to non-math content. Additionally, researchers asserted that identifying and effectively addressing variables like anxiety that impact math students' grades will increase our students' chances of enrolling in higher education institutions to learn and pursue professions in the sciences. Furthermore, Buckley (2013) noted that many people think that only pupils with high IQs are capable of mastering increasingly complex mathematical concepts. The researcher revealed that a US study's set of tests had demonstrated that worry may lower maths performance on an exam by limiting the number of resources a person can use to successfully finish a mathematical examination. As many nervous people tend to avoid classes, courses, and occupations that entail maths, which may limit their options and career path-ways, Buckley (2013) also found that anxiety can lead to pupils developing a negative attitude towards mathematics. Last but not least, Beilock and Willingham (2014) found that when math anxiety is triggered during problem solving, it can steal most people's working memory, which can then affect performance. Additionally, according to Beilock and Willingham (2014), teachers can help kids who are anxious about maths. **(Anouti et al., 2018b)**

The current study aims to investigate the association between high school students' self-esteem and instructors' personality traits and their mathematical anxiety. A total of 480 high school students were selected categorically based on their traits, and 60 math teachers were also selected using this approach from among the high school students. Cooper Smith's self-esteem questionnaire, Neo's mathematics anxiety questionnaire, and personality questionnaire were used to gather the data. The following conclusions were reached following data analysis: The students' self-esteem, mathematics anxiety, and anxiety are all negatively correlated. The pupils' personality traits, their mathematics anxiety, and their teacher's personality traits are all significantly correlated. The amount of education of high school pupils and their mathematical anxiety are not significantly correlated. The level of mathematical anxiety among students majoring in humanities, natural sciences, and mathematics differs significantly from that of physics and mathematics majors. Male and female students experience mathematics anxiety in very different ways.

Results from several research demonstrate how gender is a demographic characteristic that affects academic ability in mathematics. Some academics think that social and cultural variables have an impact on how well people do in maths. Gender inequalities in mathematics are also influenced by the difficulty and format of a certain homework assignment or maths test. Another demographic factor whose affects on academic success have been shown by research is parent education level. One of the most significant markers of social and economic status is this characteristic. According to research, having a positive attitude towards arithmetic and the connection between math anxiety and it can help prevent it. It is important to note that there is a high association between a bad attitude towards mathematics and the "agreeableness variable" attitude. This demonstrates that those who have unfavourable sentiments towards maths are less likely to engage in the course's assignments and are more likely to feel unwell and worn out from doing so. According to the findings of research studies, students who enjoy math and enjoy participating in tasks that call for applying their knowledge of the subject perform better academically in math courses. **(Abbasi et al., 2013)**

The issue of kids' low levels of self-esteem is what spurred this research. The goal of this study was to ascertain if students' self-esteem rose as a result of realistic mathematics

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instruction in math classes as well as the students' reactions to such instruction. This kind of study uses questionnaire analysis to do descriptive research. A self-esteem questionnaire and a questionnaire for student replies make up the tool used to assess students' self-esteem abilities. In this study, data were collected to observe student responses to learning mathematics using mathematics education, which were analysed using a Likert attitude scale, and to assess the growth in self-esteem of students with genuine mathematics education in learning mathematics. Students' evaluations of their mathematical aptitude, success, relevance, and goodness, as well as their own mathematical worthiness, make up the four components of the self-esteem measure. A realistic mathematical education may be used to view self-esteem in mathematics as a whole, according to the study's findings. It demonstrates that 86.56% of students provided good feedback.

Based on the analysis of research findings on mathematics students' self-esteem, it can be deduced that, overall, when using a realistic mathematical education, 86.56% of students responded favourably. This indicates that almost all students view themselves favourably when learning mathematics based on a realistic mathematical education. To pique interest, inspire kids to study, and increase students' self-esteem in all disciplines, schools and instructors may develop unique and innovative learning that incorporates the use of actual mathematical education. It's hoped that it'll be possible. Additionally, they urge you to employ several instructional strategies to aid in your pupils' self-esteem development. The researcher suggests that the following researcher perform comparable study that is more in-depth, wider, and complimentary to other mathematical abilities using a realistic mathematical education. (Siregar et al., 2022)

METHODOLOGY

Research Question

To evaluate that there is no Significant relationship between mathematics anxiety and self esteem.

Objective

To find that there is no significant relationship between mathematics anxiety and self esteem.

Hypothesis

There is no significant relationship between mathematics anxiety and self-esteem.

Research Design

Quantitative approach was followed for the study. Correlational research design was used.

Sampling and Techniques

The sample of the present study comprised of 77 Young Adults (22 men and 55 women). They belong to the age range of 18 to 30 years. Purposive sampling technique was applied for collecting sample of 77 Young Adults (22 men and 55 women) from the cities of Lucknow, Meerut and Bengaluru. Quantitative approach was followed for the study. Correlational research design was used. The data was collected by using two questionnaires, the Barbara S.Plake and Clair S.Parker Revised (MARS-R) and William R.Nugent and Janita W.Thomas scale and the questionnaires were to filled by individuals via Google form. Participants were provided with Barbara S.Plake and Clair S.Parker Revised (MARS-R) to measure their levels of Mathematics Anxiety with Self-esteem scale to measure anxiety associated with perceived negative evaluation.

Tools for the Study

1. **MATHEMATICS ANXIETY RATING SCALE-REVISED (MARS-R)**- Authors Barbara S. Plake and Clair S. Parker. This 24-item instrument is designed to measure anxiety related to involvement in statistics and mathematic courses. The instrument is a revised version of a 98-item scale by Richardson and Suinn (1972). The current version is more focused on situation-specific (state) anxiety, general (trait) anxiety, and test anxiety. The instrument forms two subscales: learning math anxiety (LMA), which pertains to the process of learning math and statistics, and mathematic evaluation anxiety (MEA), which measures anxiety over being tested about math and statistics. Data are reported on 170 college students enrolled in three introductory statistics classes at a large, urban, Midwestern university. The mean MARS-R score was 59.84 with a standard deviation of 20.55.

Reliability: The reliability of the revised form has been tested for internal consistency using coefficient alpha. The scale has excellent reliability, with an alpha of .98. No data are presented on stability.

Validity: There are mixed findings regarding the MARS-R. Scores were not correlated with achievement anxiety, but were correlated with Spielberger's State-Trait Anxiety measures. Concurrent validity was established with correlations between the MARS-R and math achievement, and with significant correlations with the 98-item version.

2. **SELF-ESTEEM RATING SCALE (SERS)**- Authors William R. Nugent and Janita W. Thomas. The SERS is a 40-item instrument that was developed to provide a clinical measure of self-esteem that can indicate not only problems in self-esteem but also positive or nonproblematic levels. The items were written to tap into a range of areas of self-evaluation including overall self-worth, social competence, problem-solving ability, intellectual ability, self-competence, and worth relative to other people. The SERS is a very useful instrument for measuring both positive and negative aspects of self-esteem in clinical practice. The SERS was studied initially with two samples. Sample I contained 246 people, of whom 91 were male and 155 females, with an average age of 32.5 years and an average of 15.7 years of formal education. Thirtyone percent were white, 11.8% black, 4.5% Hispanic, 7.7% Asian, and the rest were mixed or other groups. Sample 2 involved 107 people including 23 males and 84 females, with an average of 15.3 years of education; 93.5% were white, 4.7% black, and the rest in other groups. Actual norms were not available

Reliability: The SERS has excellent internal consistency, with an alpha of .97. The standard error of measurement was 5.67. Data on stability were not reported.

Validity: The SERS was reported as having good content and factorial validity. The SERS has good construct validity, with significant correlations with the Index of Self-Esteem and the Generalized Contentment Scale (a measure of depression) as predicted, and generally low correlations with a variety of demographic variables, also as predicted.

Inclusion Criteria:

- Young adults aged 18-30 were included in the study.
- All genders are included in the study.
- Young adults from Lucknow, Meerut and Bangalore were included in the study.

Exclusion Criteria:

- Any other city other than Lucknow,

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- Meerut and Bangalore were excluded from the study.
- Individuals above the age of 30 were excluded from the study.
- Individuals below age 18 years were excluded.
- Participants who cannot follow English Language.

Procedure

Several preparations were made for the data collecting after the measurements were chosen. The questionnaires and information sheets were prepared and organized. The study was initiated by choosing those individuals who are between 18-30 years. Informed consent was taken from the participants and were asked to fill the questionnaire through Google form, from a link sent to them. In addition to the written instructions, they were also encouraged to seek clarification on any aspect related to the study. The questionnaires were self-administered by those who could read and write. On an average the time taken to administer the scale was Ten to Fifteen minutes.

RESULTS AND DISCUSSION

The purpose of the study was to analyse that there is no significant relationship between Mathematics Anxiety and Self-esteem among Young Adults. The data was collected through Google Forms using MATHEMATICS ANXIETY RATING SCALE-REVISED (MARS-R) and SELF-ESTEEM RATING SCALE (SERS) scale. Total sample size was 77 Young Adults within the age group of 18-30 years residing in cities of Lucknow, Meerut and Bengaluru were selected. The data was entered into Microsoft Excel and then exported into SPSS 20 for statistical analysis.

Hypothesis: To evaluate that there is no significant relationship between Mathematics Anxiety and Self-esteem among Young Adults aged 18-30 years.

Table 1: Showing there is no significant relationship between Mathematics Anxiety and Self-esteem.

		TOTAL SCORE MATHS	TOTAL SCORE SELF-ESTEEM
TOTAL SCORE MATHS	Pearson Correlation	1	-.153
	Sig. (2-tailed)		.184
	N	77	77
TOTAL SCORE SELF-ESTEEM	Pearson Correlation	-.153	1
	Sig. (2-tailed)	.184	
	N	77	77

The correlation was calculated for the two variables, i.e., Mathematics Anxiety and Self-esteem Evaluation for 77 Young Adults. The Pearson correlation results showed that there was very weak significant negative correlation between Mathematics Anxiety and Self-esteem ($r = -.153$, $p < 0.01$), indicating that lower levels of Mathematics anxiety were related to higher levels of Self-esteem. Therefore, accepting the null hypothesis.

Hypothesis – There is no significant relationship between mathematics anxiety and self-esteem

Table 2: Showing mean, standard deviation and Numbers of participants

	Mean	Std. Deviation	N
TOTAL SCORE MATHS	58.03	20.744	77
TOTAL SCORE SELF-ESTEEM	21.90	40.308	77

Results showing that there is no significant relationship between Mathematics Anxiety and Self-esteem among young adults ages 18-30 years. **Therefore, accepting the null hypothesis.**

CONCLUSION

- The results interpreted showed there was very weak significant negative correlation between Mathematics Anxiety and Self-esteem among Young Adults.
- The study revealed that there was no significant difference in the levels of Mathematics among Young Adults. But it was noted that lower levels of Mathematics anxiety were related to higher levels of Self-esteem.
- It was also noted that mean of mathematics is 58.03 and standard deviation is 20.744 and mean of self-esteem is 21.90 and standard deviation is 40.308.

Implications

- The findings of the present study can be used to develop interventions for people with lower level of mathematics anxiety.
- The findings will also help to develop interventions for people with high levels of Self-esteem.
- If the levels of self-esteem are reduced then the individual can be more feel anxiety.

Limitations

- As the sample was taken only from a particular geographical area (Lucknow, Meerut and Bengaluru city) it cannot be generalized to the whole population.
- The sample of the study included Young Adults between the age group of 18-30 years. The study could focus on a different age range.
- Participants had to fill the questionnaire online. This could have affected the concentration of participant resulting in inaccurate responses.

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Conflict of Interest

The author(s) declared no conflict of interest.

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