

Achievement in Mathematics among Scheduled Caste in Relation to Mathematical Anxiety

Parmvir Singh

Research scholar Ph.d Enrolment No. 19130 Punjab University Chandigarh, India

Abstract

The subject mathematics is basis for scientific, industrial and technological advancement of any country. The study of mathematics was established to produce competent person who is able to apply knowledge of mathematics in everyday life effectively and responsibly in solving problems and making decisions. Thus mathematics is essentially a programme of education, which fosters higher order mental processes. Mathematics is a tool in which students and youngsters get knowledge and experience about life, they learn how to deal with the problems, and apply their knowledge into real life problems, it helps to improve their ability about logical thinking and reasoning and make them ready for their future. This study found that There exists significant negative relation between achievement in mathematics and mathematical anxiety for scheduled caste students.

KEYWORDS : Achievement, Mathematics, Mathematical anxiety

Introduction

Shoenfeld (1992) viewed mathematics as a living subject which understands the patterns that permeate both the world around us and mind within us. He further stressed motivation for students to move beyond rules to be able to express things in the language of mathematics. The students should focus on seeking rules, not just memorising procedures and exploring patterns, not just memorising formula and formulating conjectures, not just doing exercise. Achievement in mathematics is the end product of learning and its level and performance are affected by many psychological and environmental factors such as anxiety, creativity and attitude towards mathematics and socio- economic level.

MATHEMATICS

Anyone can be a mathematician mostly people do not agree with this. But, I insist that anyone with average intelligence if properly guided can master the science of mathematics.

The history of human civilization reveals the necessity of counting, measuring, weighing and drawing in all aspects of environment. Mathematics is an integral part of the world, and its every aspect is quantitative.

Mathematics has not become important only today but it occupied and kept this important place from the earlier times and is perhaps the only subject which merits this destination.

ACHIEVEMENT IN MATHEMATICS

According to Crow and Crow (1956) Achievement means the extent to which learner is profiting from instructions in a given area of learning.

According to Kulkarni (1970) Achievement in mathematics refers to understanding of mathematical concepts, application of knowledge to new situations and logical reasoning as involved in interpretation of data, identification of missing links etc.

Good's Dictionary of Education (1973) defines achievement as the knowledge attained or skills developed in school subjects usually designated by the test scores or by marks assigned by the teacher or by both.

Garret (1981) defined achievement as the actual performance; it is what a person does regardless of his capabilities. Most psychologists agree that it is the people's need for achievement that give rise to some of the strongest social motive. The need for achievement motivates people to strive for bigger and better accomplishment.

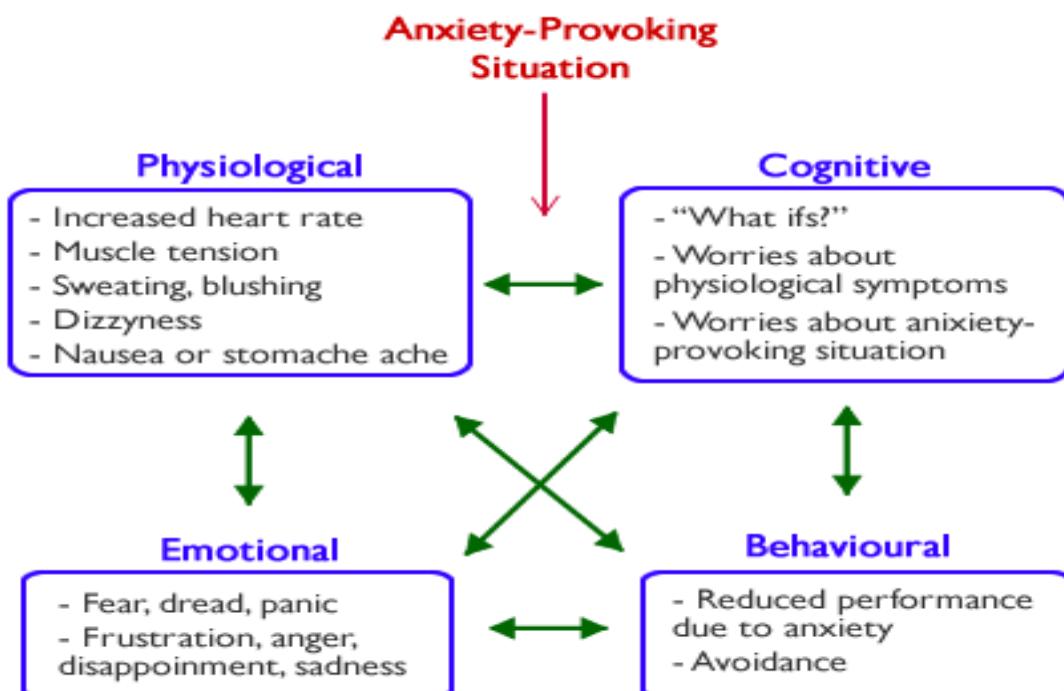
ANXIETY

It has correlation with learning achievement. Anxiety has many definitions sometimes it is interred related as panic or fear.

Frued (1943) differentiated three types of anxiety –objective anxiety,neurotic anxiety and moral anxiety. All the three types have the single quality of being unpleasant. They differ only in respect of their sources.

Symonds (1946) considered anxiety as a fundamental factor in the psychology of adjustment. He defined anxiety as mental distress with respect to some anticipated frustrations.

Johnson (1951) called anxiety as disturbed state.



MATHEMATICAL ANXIETY

Mathematical anxiety is a psychological factor that influences achievement in mathematics. Many students who are weak in mathematics worry while attempting to use maths skills to solve problems. Due to the presence of mathematics anxiety, students will try to escape from any situation that involves mathematics. If students perceive that mathematics is difficult during their earlier years, mathematics anxiety will be triggered.

Richardson and Suinn (1972) described mathematical anxiety as feeling of tension and anxiety that impair the ability to manipulate numbers and solve mathematical problems in a wide variety of ordinary life and academic situations.

Hendel and Davis (1978) conceptualized mathematics anxiety as an effective response that includes avoidance of mathematics, subsequent failure to learn mathematics skills, and thus negative career and school-related decisions.

Kogelman and Warren (1978) described mathematical test anxiety as an adverse reaction to mathematics.

STATEMENT OF THE PROBLEM

ACHIEVEMENT IN MATHEMATICS AMONG SCHEDULED CASTE STUDENTS IN RELATION TO THEIR MATHEMATICAL ANXIETY.

OBJECTIVES

1. To investigate the significance of difference in achievement in mathematics among rural and urban scheduled caste students.
2. To find the relation between achievement in mathematics and mathematical anxiety of scheduled caste students.
3. To find the relation between achievement in mathematics and mathematical anxiety of rural scheduled caste secondary students.
4. To find the relation between achievement in mathematics and mathematical anxiety of urban scheduled caste students.

HYPOTHESES

Directed towards the objectives of the study and on the basis of review of the related literature, following null hypotheses were formulated for the verification:-

- H1. There was no significant difference between achievement in mathematics among rural and urban scheduled caste students.
- H2. There will be no significant relationship between achievement in mathematics and mathematical anxiety of scheduled caste students.
- H3. There will be no significant relationship between achievement in mathematics and mathematical anxiety of rural scheduled caste students.

H4. There will be no significant relationship between achievement in mathematics and mathematical anxiety of urban scheduled caste students.

Results and Discussions

Table 1 : Significance of difference in achievement in mathematics of rural and urban scheduled caste students (N=400)

	Mean	Standard deviation	t-ratio
Rural scheduled caste students	26.63	7.19	0.578
Urban scheduled caste students	26.95	8.64	(N.S.)

N.S. means non-significant

Table 1 reveals that the values of mean for rural and urban scheduled caste students are 26.63 and 26.95 respectively. The value of t- ratio is 0.578 which is non significant at both the levels of significance. Thus there is no significance difference in the achievement in mathematics of rural and urban scheduled caste students. This leads to acceptance of null hypothesis 1 which states that ‘There will be no significant difference between achievement in mathematics of rural and urban scheduled caste students’.

Table 2: Significance of relationship between achievement in mathematics and mathematical anxiety of scheduled caste students

Variables	N	R
Achievement in mathematical	800	-0.129**
Mathematical anxiety		

***Significant at 0.01 level of significance*

Table 2 reveals that for scheduled caste students the value of correlation between achievement in mathematical and mathematical anxiety is -0.129. This value is significant at 0.01 level of significance. Thus there exists significant negative relation between achievement in mathematical and mathematical anxiety for scheduled caste students. This leads to the rejection of null hypothesis 2. which states that ‘There will be no significant relationship between achievement in mathematical and mathematical anxiety for scheduled caste students’.

Table 3: Significance of relationship between achievement in mathematics and mathematical anxiety of rural scheduled caste students

Variables	N	R
Achievement in mathematical	400	-0.128**
Mathematical anxiety		

***Significant at 0.05 level of significance*

Table 3 reveals that for rural scheduled caste students the value of correlation between achievement in mathematical and mathematical anxiety is -0.128. This value is significant at 0.05 level of significance. Thus there exists significant negative relation

between achievement in mathematical and mathematical anxiety for rural scheduled caste students. This leads to the rejection of null hypothesis 3. which states that 'There will be no significant relationship between achievement in mathematical and mathematical anxiety of rural scheduled caste students'.

Table 4 : Significance of relationship between achievement in mathematics and mathematical anxiety of urban scheduled caste students

Variables	N	R
Achievement in mathematics	400	-0.135**
Mathematical anxiety		

*Significant at 0.01 level of significance

Table 4 reveals that for urban scheduled caste students the value of correlation between achievement in mathematical and mathematical anxiety is -0.135. This value is significant at 0.01 level of significance. Thus there exists significant negative relation between achievement in mathematical and mathematical anxiety for urban scheduled caste students. This leads to the rejection of null hypothesis 4. which states that 'There will be no significant relationship between achievement in mathematical and mathematical anxiety of urban scheduled caste students'.

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