

SELF-IMAGE IN RELATION TO ACADEMIC ACHIEVEMENT IN MATHEMATICS AMONG HIGHER SECONDARY STUDENTS

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Introduction

Education is a process of cognitive cartography, mapping all learning experiences and finding a variety of reliable routes to optimal states when you find yourself in non-optimal states. The aims and objectives of education, suggested in the school education policy documents, include individual as well as social aims, with emphasis of social transformation aiming at reconstructing society to make it modernized, productive, participative, and value oriented nation committed to its constitutional obligations. In the educational institution higher secondary is the final stage of schooling. This stage is on the one hand as strong or as weak as the school stage is and is simultaneously a test of soundness of the learning culture developed at the school. The higher secondary is in relation to the school both a mirror and a reflector.

The self image is the representation that everyone has of themselves in physical as well as physiological, sociological and mental terms, envisioned through the prism of each individual self-evaluation at different stage of development and in different situations. But poor self-image is not always caused by other people. It can arise from a variety of factors. Self-image is the idea; conception or mental image on has of oneself. It boosted the student's ability in an abnormal way that he/she secures highest mark in the school examinations. The level of self-image should be increased in the adolescent stage because this stage is the crucial one or rung the ladder of life.

The relationship between Self- image and academic achievement has received much attention (Maruyama, Rubin & Kingsbury, 1981). According to the studies low general Self-Image does not necessarily signal a poor academic achievement. It shows that low general Self-Image is significant predictor o superior school performance. However Self-Image has small positive effect on subsequent educational attainment.

Review of Related Literature

Many studies have been made on the Self-Image of students. Perrin- wall qvist (2010) studied Self-Image and Physical Education-A phenomenology study of Social Context

with teacher and pupils. Sane fuji (2011) investigated Children's Responses to the image of Self, Peer, and Adult. It is Autism and typical development (TD) of social cognition could be rooted in the implicit notion that others are like the self. Norwood, Sarah Jane (2011) studied Self Esteem and Positive Body Image among Preadolescent boys and girls it was to design, implement and evaluate a school based program that aimed to increase Self Esteem.

Tuzun (2011) studied about To Examine the attachment styles and the relation of these styles to the Self-Image in Turkish adolescents. Scott, Amy (2011) investigated the Stability of Self-Concept between Elementary and Junior High School in Catholic School Children. It was hypothesized that their Self Concepts would not fluctuate. Timko, C.Alix (2011) conducted a study on the Implicit Relational Assessment Procedure as a measure of Self Esteem. It measuring attitudes toward the self: one related to body image specifically and another assessing the broader construct of Self Esteem. R. Selveraju (2009) analyzed the impact of Anxiety on Academic Achievement among the higher secondary students a gender wise analysis. Hemming (2011) studied Predicting Mathematics Achievement the Influence of Prior Achievement and Attitude. Thomas (2009) investigated the limited research has been conducted in the United Kingdom to explore Self-Image of adolescents with their learning disabilities.

Need and Significance of the Study

Today everyone should live in a competitive world, where academic excellence is must for successful life. One of the goals of higher secondary education is to equip the school learners with necessary knowledge to the higher education and skills to participate as adults in social and economic life of the larger society. Hence the academic achievement is considered to be a very important factor at the higher secondary education. So the present study will provide a better estimate that the students are put forth into a lot of emotional stress during this stage. In the present condition it is the right time that to study the relationship between self-image of adolescent students and their academic achievement. Emphasizing the importance of self-image of the learners in the society, he/she explains that although the work that one can do well be the ultimate determinant of student's success, knowing how to behave, communicate and present yourself well with him stand apart from the crowd and create a positive impression. A positive self-image in crucial for today; learners as it complements him/her personality, multiplies his power of influence manifold, and helps him to learn and behave better and get things done through others with ease. Hence the investigator has taken up this problem for the study (Self-image and academic achievement of XII standard students of Tiruchirappalli Educational District).

Methodology in Brief**Method**

The investigator followed the survey method for the study. Students' Self-Image scale and academic achievement test were developed and administered to XII standard students studying in various higher secondary schools in Tiruchirappalli Educational District.

Sample:

The Population for the study consisted of XII standard students. The investigator has selected 300 students (Male-160 and Female-140) as sample from various Government and Aided higher secondary Schools in Tiruchirappalli Educational district by using the simple random sampling technique.

Tools Used

The investigator used the self-image scale constructed and validated by John Borker Lunn (1986). The scale consists of 21 statements to measure the various facts of student's self-image and the investigator has also constructed an achievement test in mathematics which validated by the experts in the field of mathematics education.

Statistical Techniques Used:

The data was tabulated and statistically analyzed by adopting: - Mean, Standard Deviation, "t" test and Percentages and Relational Analysis.

Objectives of the study:

The following are the objectives of the study.

1. To study the level of self-image of higher secondary students
2. To study the level of academic achievement of higher secondary students
3. To find out the significant difference in the self-image and mathematics achievement of higher secondary students with respect to gender
4. To find out the significant difference in the self-image and mathematics achievement of higher secondary students with respect to type of management
5. To find out the relationship between self-image and academic achievement in mathematics among higher secondary students

Data Analysis**Hypothesis 1**

The Level of self-image of higher secondary students is not high

Table 1 Level of self-image of higher secondary students

Variable	N	Low		Average		High	
		N	%	N	%	N	%
Self-Image	300	104	34.7	111	37*	85	28.5

*indicates the level of Self-Image

From the above table it is inferred that 37% of higher secondary students falls under average category of Self-Image, 34.7% of higher secondary students falls under the category of low Self- image and only 28.5% of higher secondary students falls under high self-image.

Hypothesis 2

The level of academic achievement of higher secondary students in mathematics is not high

Table 2 Level of Academic achievement in mathematics

Variable	N	Low		Average		High	
		N	%	N	%	N	%
Academic Achievement	300	84	28	139	46.3*	77	25.7

*indicates the level of academic achievement in mathematics

From the above table it is inferred that 46.3% of higher secondary students falls under average category of achievement in mathematics, 28% of higher secondary students falls under the category of low achievement and only 25.7% of higher secondary students falls under high achievement in mathematics.

Hypothesis 3

There is no significant difference in self-image mean scores between male and female higher secondary students

Table 3 Significance of difference in self-image between Male and Female higher secondary students

Gender	N	Mean	S.D	Calculated 't' value	Result
Male	161	18.06	2.838		
Female	139	25.01	2.947	3.01	S

S- Significant at 0.05 level

From the above table it is inferred that the calculated 't' value (3.01) is greater than the table value (1.97) at 0.05 level of significance for df = 298. This implies that the

difference under consideration is statistically significant. Hence, the null hypothesis is rejected. Therefore, it is concluded that the male and female higher secondary students differ significantly in respect of their self-image. Further the higher self-image mean scores of female higher secondary students have a good self-image than the male higher secondary students.

Hypothesis 4

There is no significant difference in self-image mean scores between government and aided higher secondary students

Table 4 Significance of difference in self-image between Government and Aided higher secondary students

Type of Management	N	Mean	S.D	Calculated 't' value	Result
Government	159	18.98	2.902	3.01	S
Aided	141	26.03	2.991		

S- Significant at 0.05 level

From the above table it is inferred that the calculated 't' value (3.01) is greater than the table value (1.97) at 0.05 level of significance for $df = 298$. This implies that the difference under consideration is statistically significant. Hence, the null hypothesis is rejected. Therefore, it is concluded that the Government and aided school students differ significantly in respect to their self-image. Further, the higher self-image mean score of aided school students have a good self-image than the Government school higher secondary students.

Hypothesis 5

There is no significant difference in academic achievement mean scores between male and female higher secondary students

Table 5 Significance of difference in academic achievement between Male and Female Higher Secondary Students

Gender	N	Mean	S.D	Calculated 't' value	Result
Male	161	16.48	4.858	3.63	S
Female	139	26.69	5.122		

S- Significant at 0.01 level

From the above table it is inferred that the calculated 't' value (3.63) is greater than the table value (1.97) at 0.01 level of significance for $df = 298$. This implies that the difference in academic achievement in mathematics mean scores of male and female higher secondary students under consideration is significant. Hence, the null hypothesis is

rejected. Therefore, it is concluded that both male and female higher secondary students differ significantly in respect of their academic achievement mathematics. Further the higher achievement mean scores of female students did better than male students.

Hypothesis 6

There is no significant difference in academic achievement mean scores between government and aided higher secondary students

Table 6 Significance of difference in academic achievement between Government and Aided Higher Secondary Students

Type of management	N	Mean	S.D	Calculated 't' value	Result
Government	159	15.90	5.24	1.448	NS
Aided	141	16.25	4.62		

NS- Not significant at 0.05 level

From the above table it is inferred that the calculated 't' value (1.448) is less than the table value (1.97) at 0.05 level of significance for $df = 298$. This implies that the difference in academic achievement in mathematics mean scores of Government and Aided higher secondary students under consideration is not significant. Hence, the null hypothesis is accepted. Therefore, it is concluded that Government and Aided school students do not differ significantly in respect of academic achievement in mathematics.

Hypothesis 7

There is no relationship between self-image and academic achievement in mathematics among higher secondary students

Table 7 Relationship between self-image and academic achievement in Mathematics of higher secondary students

S. No	Variable	df	'r' value	Result
1	Self-Image	298	0.557	NS
2	Academic Achievement			

NS- Not significant at 0.05 level

From the above table as the calculated 'r' value is less than the table value at 0.05 level of significance for $df = 298$. It is found that there is no relationship between self-image and academic achievement in mathematics among higher secondary students. Hence, the null hypothesis is accepted.

Discussion

The present study was assessed the Self-Image of XII standard students, about 37% of students falls under average self-image category, and 46.3% of students under average

level of achievement in mathematics. No significant difference between the higher secondary students studying in Government and Aided schools in terms of achievement in mathematic. Significant differences noticed between male and female students in terms of their academic achievement in mathematics. There is a marked difference in self-image mean scores between male and female higher secondary students and the students studying in Government and Aided higher secondary schools. Significant difference was also noticed for self-image and academic achievement in mathematics among higher secondary students.

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