Research Article

Relationship Between Academic Self-concept,

Some Selected Variables and Science Course Achievement

Mr. A.VAIYADURAI M.Sc. M.Ed, M.Phil, NET, SET, (Ph D)

Assistant Professor in Education

Avinasi Gounder Mariammal College of

Education, Erode - 638002

ABSTRACT

The aim of this study was to investigate the relationship between students' Academic Self-Concepts and certain demographic variables (gender, location of school, type of family, medium of study and type of school) and the relationship between academic self-concepts and students' achievement in the course of Science. The study was carried out with high school students (N=235). In the study, the data were collected through the Academic Self-Concept scale (the reliability coefficient of the scale was calculated by the researchers as 0.89), achievement scores in the course of science and a questionnaire for the demographic information's of the participants. Descriptive statistics, t-test, C01Telation analysis, were used to analyze the data. The analysis of the data revealed that the no significant relationships and differences were found in students' academic self-concepts with respect to gender, school location, type of the family and type of school. Ln the study, positive relationships were found but low between students' achievement in the course of science and the Academic Self-Concept.

Keywords: self-concept, science achievement, variables, adolescents, education

INTRODUCTION

Self-concept as a construct has had a long account within psychology and education because it provides an estimate to determine the effects of academic and social execution on the emotional well-being of the person (Vaughn et al., 2000). Self-concept is generally viewed as a valued educational outcome. The construct of self-concept is grounded primarily in self-worth theory (Covington, 1992; Covington, 1998; Covington, 2000; Covington & Dray, 2002;

Eccles & Wigfield, 2002). Briefly, self-worth theory suggests that all individuals have a motivational "tendency to establish and maintain a positive self-image, or sense of self-worth" (Eccles & Wigfield, 2002).

Academic self-concept refers to the individual attitude about their academic capability or skills. Some research suggests that it begins developing from ages 3 to 5 due to power from parents and early teachers. By age 10 or 11, children assess their academic capabilities by comparing themselves to their peers.

Some researchers suggest that, to lift academic self-concept, parents and teachers need to provide children with specific response that focuses on their particular skills or abilities. Others also state that learning opportunities should be conducted in groups (both mixed-ability and like-ability) that downplay social association, as too much of either type of grouping can have adverse effects on children's academic self-concept and the way they view themselves in relation to their peers.

Academic self-concept can be explained as "specific attitudes, feelings, and perceptions about one's intellectual or academic skills, representing a person's self beliefs and self-feelings regarding the academic setting" (Lent et al., p. 308). Cokley (2000) defined academic self-concept as a student's view of his or her academic talent when compared with other students.

PURPOSE OF THE STUDY:

The purpose of this explore was to scan high school students who are from an urban and rural atmosphere to determine the correlation between the academic achievement and their academic self-concept. The goal of this study was to promote attentiveness about underrepresented student populations and to assist teachers in gaining imminent into the experiences of these students in order to provide effective program writing.

OBJECTIVES OF THE STUDY

Objectives are the developments and other expected changes that the investigator aims at studying the weakness of the particular field. In the present study the objectives of the investigator, through the study, mentioned below.

√ To study if there is any significant difference of Academic Self- Concept with respect to their

a) Gender,

b) School location,

c) Medium of instruction

d) Types of family

e) School Management

√ To study if there is any relationship between Academic Self-Concept and Science Academic Attainment of high school students.

RESEARCH QUESTIONS

Questions guiding this research study include:

√ Is there any significant difference exists in Academic Self-Concept among high school students with respect to their gender, school location, medium of instruction and school management type?

√ What are the gender differences in the relationship between academic self- concept and academic achievement among these students?

HYPOTHESES OF THE STUDY

The Hypotheses of the study are stated as follows.

1. There is no significant difference between male and female students with respect to their academic self-concept

2. There is no significant difference between rural and urban school students with respect to their academic self-concept

3. There is no significant difference between Tamil medium and English medium students with respect to their academic self-concept.

4. There is no significant difference between Joint family and nuclear family students with respect to their academic self-concept

5. There is no significant difference in Academic Self- Concept among Govermnent, Government Aided and Private School Students

6. There is no. relationship between Academic Self-Concept and Science Academic Achievement of high school students

METHODOLOGY

A total of 235 students attending three types of schools participated in the present study. Among the participants, 111 of them were from a rural high school, 124from urban high school. Of all the participating students, 46% of them (n=108) were male, and 54 % of them (n=127) were female. In the study, The Academic Self-Concept Questionnaire (ASCQ) was developed by Liu & Wang (2005) with four point scale. The original ASCQ consisted of two 10-item sub scales: students' academic confidence (10 items) and students' academic effort (10

items). The academic confidence (AC) sub scale assessed students' feelings and perceptions about their academic competence. The academic effort (AE) sub scale assessed students' commitment to and involvement and interest in schoolwork. Moreover, in order to determine the students' achievement in the course of science, the second term science course achievement records of the students attending four different types of high schools were used. In addition, in order to find out the demographic background of the students, a five item questionnaire for demographic background was applied. The collected data were analyzed statistically and interpreted. In order to identify the relationship of Academic Self-Concept and Academic achievement of the students, the data were analyzed descriptively and differentially.

ANALYSIS AND INTERPRETATION

Table 01: Academic Self- Concept of demographic variables

S.No	Demographic Variables	Sub Groups	N	Mean	SD	't'/'F' Value	'p' Value	Result at 0.05 level of Significance
1	Gender	Male	108	57.22	8.27	0.64	0.521	Not Significant
		Female	127	56.53	8.24			
2	School Location	Rural	111	56.81	7.59	0.06	0.949	Not Significant
		Urban	124	56.88	8.82			
")	Medium	Tamil	157	57.20	7.60	0.94	0.347	Not Significant
		English	78	56.13	9.43			
4	Family Type	Joint Family	88	58.20	8.03	1.96	0.050	Not Significant
		Nuclear Family	147	56.03	8.30			
5	School Management	Government	58	56.22	7.02	1.09	0.336	Not Significant
		Government Aided	99	57.78	7.90			
		Private	78	56.13	9.43			

The table 1 showed the mean score differences in the Academic self-Concept among the students based on their gender, School Location, Medium, Family type and school Management. The obtained 't' values based on gender is (0.64), location of school is (0.06), medium of study is (0.94), Family type is (1.96) and school management type is (1.09) are lesser than the table value at the 0.05 level of significance. Therefore, it is concluded that there

is no significant difference existed in Academic Self Concept based on gender, school location, medium of study, family type and school management. The above stated null hypotheses (1to5) were accepted.

Table 2: Relation between Academic Self- Concept and Academic Achievement of Science

Variables	'r' Value	Result
Academic Self - Concept and Academic Achievement	0.0201	Significant at 0.05 level of Significance

Table 2 reveals that Pearson Coefficient of correlation between Academic Self-Concept and Science Academic achievement of high school students of Erode District is 0.0.0201. It which is positive and low but considerable. It indicates the academic self concept is influenced the academic achievement. Therefore, it is concluded that there is a significant positive relationship existed in Academic Self Concept and academic achievement. The above stated null hypothesis number 6 were rejected.

DISCUSSION AND CONCLUSION

The main objective of this study was to explore relationship between academic self-concept and academic achievement. Results indicated that the positive relationship existed by the students who participated in this study. This result indicates that students may be successful in understanding their emotions, strong and weak characteristics. This situation requires further scrutiny since it draws attention to the importance of academic self-concept. Hence, teachers should try to develop their students' positive academic self-concept so that this will help improving their academic performance. The present study also looked at the results indicated no significant difference occurs in their gender, school location, medium of study, family type and school managements with respect to their Academic Self-Concept. It indicated the above mentioned demographic variables are not influenced with Academic Self-Concept of high school students science achievement.

EDUCATIONAL IMPLICATION

The following suggestions could be put forward depending on the findings obtained in the study:

As it is important to focus on students' achievement and capabilities in high school education, it should also be equally important to determine and recognize the features of their academic self concepts.

For healthy training of individuals, when family factors are taken into consideration, it would be beneficial to develop school-family relationships and to raise families consciousness of students affective features such as academic self concept.

Considering the relationship between achievement in the course of science and academic self -concept, teachers of science in high school education could design their lesson plans in a way to improve students academic self concept.

It would be beneficial to investigate the influence of such factors as the educational background of parents, financial state of the family, the technologies resources available at home and the number of siblings in the family on academic achievement and academic self concept in other fields and in different educational grades.

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