A STUDY OF UNDERACHIEVEMENT IN SCIENCE IN RELATION TO THEIR GENDER, TYPE OF SCHOOL AND SOCIO-ECONOMIC STATUS

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ABSTRACT

The study investigated on 400 (200 male and 200 female) underachievers in science of 9th standard students selected from eight Government and eight Government Aided secondary schools located at Faridabad district of Haryana. Achievement test in science was prepared by the investigator himself to know the achievement of the students in science. Underachievers in science were identified by comparing students Z-scores on science achievement test with their performance on Raven's Progressive Matrices Intelligence test. Mean, standard deviation, and t- test were used for analysis of the data. The result revealed that there is no significant difference between socio- economic status of male and female underachievers in science whereas it is significant in case of government and government-aided secondary school students who are underachievers in science. It was found that the socio-economic status of government —aided school students was higher than the students studying in government schools.

KEYWORDS: *Underachievement in Science; Socio-economic status;*

INTRODUCTION

Science is a process as well as a product. The understanding of this process is possibly only when the individual will get thorough knowledge about the skills involved in each process. Without the understanding of skills, one cannot follow or study about the scientific process. In view of this it were very useful to undertake a study to find out underachievement in science in relation to socio-economic status of secondary school students, which will through some light to the researchers and people involved in educational process.

UNDERACHIEVEMENT IN SCIENCE

Underachievement can be defined as an inability or failure to perform appropriately for one's age or talents, i.e. unfulfilled potential. Underachievement refers to the case that a student attains a level of achievement that is below his or her potential. If the students achieve below their potential in science subject, this is called as underachievement in science. In the present study those students who scored at least 1δ less marks in Achievement Test of Science   as compared to their marks on Intelligence Test, were identified as underachievers in science.

SOCIO-ECONOMIC STATUS

It refers to the social and economic position. A person who has high position in community and has good income lives in a well-furnished house of a good quality is said to have a good socio-economic status (SES). So Socio-Economic Status is a position that the individual or family occupies with reference to prevailing standard of cultural possession, effective income, material possession and participation in group activities of the community. Webster (1980) defined Socio-Economic status as "pertaining to a concept of social and economic factors as

intertwined in their effect with each factor tending to reinforce and enhance the influence of the other."

NEED AND SIGNIFICANCE OF THE STUDY

The comparison between socioeconomic status (SES) and student achievement has been debated for decades. How SES influences student achievement is not clear, and there have been many theories to explain the relationship. In India, there is wide disparity between socio-economic statuses of people belonging to different sections of society. Families with high socioeconomic status often have more success in preparing their young children for school because they typically have access to a wide range of resources to promote and support young children's development. Again, families with low socioeconomic status often lack the financial, social, and educational supports that characterize families with high socioeconomic status. Poor families also may have inadequate or limited access to community resources that promote and support children's development and school readiness. To a developing country like ours, this challenge is of great social significance also as it involves colossal wastage of human potential. Taking into consideration the above observation, the investigator thought it necessary to look into socioeconomic status and its effect with underachievement in science of secondary school students.

STATEMENT OF THE PROBLEM

'A study of underachievement in science in relation to their gender, type of school and socio-economic status'.

OBJECTIVES

1. To compare the socio-economic status of male and female underachievers in science.
2. To compare the socio-economic status of government and government –aided secondary school students, who are underachievers in science.

HYPOTHESES:

1. There is no significant difference between socio-economic status of male and female underachievers in science.
2. There is no significant difference between socio-economic status of Government and Government-Aided Secondary school students, who are underachievers in science.

OPERATIONAL DEFINITION OF THE KEY TERMS

Underachievement: Achievement refers to the knowledge acquired and skill developed in school subjects, generally indicated by marks obtained in the school test. Underachievement refers to the case that a student attains a level of achievement that is below his or her potential.

Underachievers in Science: Underachievers in Science refers to those secondary school students who scored at least 1δ less marks in achievement test in science in comparison to the marks they obtained in intelligence test.

Socio-economic status: Socio-economic status of a family would mean the ranking of the family in the milieu to which the family belongs, in respect of defined variables viz., physical assets, economic status, education, occupation, social position, social participation, caste, muscle power, political influence, etc.

METHODOLOGY

The present research work is descriptive in nature.

Population: Students of Government and government –aided secondary schools located in urban areas of Faridabad district (Haryana).

Sample: The sample for the study consists of 400 students of class IX (100 male and 100 female from Govt. school and 100 male and 100 female from Govt. aided schools) selected randomly from eight Government and eight Government –Aided secondary schools of Faridabad. The schools were also selected randomly.

TOOLS USED

The following tools were used to collect data for the present study.

1. Achievement Test in Science: It was prepared by the investigator to measure the achievement of students in science subject.
2. Advanced Raven Progressive Matrices was used to measure the intelligence of secondary school students.
3. Socio-Economic Status Scale: Developed by Sunil Kumar Upadhyay and Alka Sexena, Department of Teacher Education, D.B.S. (P.G) College Kanpur (2008). It was used to measure the socio-economic status of students.

SAMPLING TECHNIQUE AND DATA COLLECTION

The investigator collected the required data by personally visiting the randomly selected schools of Faridabad and administering the selected tools. At first Achievement Test in science was administered on Class IX students to assess their achievement in science. Thereafter Advanced Raven Progressive Matrices was administered on the same population to measure their intelligence. The difference of standard scores of achievement test in science and intelligence was calculated. Those secondary school students (Class-IX) who scored at least 1δ less marks in achievement test in science in comparison to their marks obtained in intelligence test were taken as sample for study. Thereafter Socio –Economic Status Scale of Sunil Kumar Upadhyay and Alka Sexena, developed in 2008 was administered to measure the socio-economic status of students.

DELIMITATIONS OF THE STUDY

The study was delimited to;

1. Secondary school students particularly, class IX.
2. The government and government-aided secondary schools.
3. Urban schools of Faridabad.

ANALYSIS AND INTERPRETATION OF DATA

Statistical Techniques such as mean, standard deviation and t- test were used for the analysis of data.

Table-1: Socio-economic Status of male and female underachievers in Science belonging to Government -Aided & Government Secondary Schools

Norms	SES Level	Male	Female	Govt. -Aided Sec. School	Govt. Sec. School
0-35	Low	17 (8.5%)	10(5%)	8 (4%)	19 (9.5%)
36-48	Below Average	75(37.5%)	74(37%)	50 (25%)	99 (49.5%)
49-61	Average	48(24%)	61(30.5%)	68 (34%)	41 (20.5%)
62-74	Above Average	37(18.5%)	35(17.5%)	41 (20.5%)	31 (15.5%)
Above-75	High	23(11.5%)	20(10%)	33 (16.5%)	10 (5%)
Mean		53.63	54.72	58.80	49.55
S.D.		15.56	14.43	15.18	13.33
Combined t-ratio		0.726		6.475	
Result		Not Significant		Significant at 0.05 & 0.01 levels	

The overall mean of Socio-economic Status of underachievers in science was calculated 53.63 and 54.72 for male and female students of secondary schools respectively. The t-ratio between the mean socio-economic status of male and female underachievers in science was found to be 0.726 which is not significant at both levels i.e. at 0.01 and 0.05 levels of significance. Hence, it is concluded that there is no significant difference between the socio-economic status of male and female underachievers in science studying in Secondary schools of Faridabad.

The calculated combined t-value between Government Aided and government school students, who were underachievers in science, was 6.475 which is significant at 0.01 and 0.05 levels. Hence, it is concluded that underachievers in science studying in Government-Aided schools showed higher level of Socio-economic Status in comparison to their counterpart studying in government secondary schools of Faridabad.

CONCLUSION

It is concluded that male and female underachievers in science at secondary level do not differ significantly on their socio-economic statuses. It may be said that gender, underachievement in science and socio-economic status do not influence one another. On the other hand, underachievers in science studying in Government and Government-aided schools differ significantly on socio-economic status, with Government-aided school underachievers in science at the higher side.

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