

A STUDY OF SELF-CONFIDENCE AND ACADEMIC ACHIEVEMENT OF HIGH SCHOOL STUDENTS IN RELATION TO CERTAIN SOCIO-DEMOGRAPHIC VARIABLES

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Introduction: In a world of shrinking fast into a global village characterized by knowledge, technology and industries taking off at top speed and information highways opening up new vistas of prospects, the profile of a student coming out of an institution must be quite different. For this, education is increasingly perceived as a stake of cultural significance, capable of modifying the economic scenario and transforming the dreams of millions of human beings for a better and higher quality of life into a reality. Education is a process of human enlightenment and empowerment for the achievement of a better and high quality of life. A sound and effective system of education results in the enfoldment of learners' potentialities, enlargement of their competencies and transformation of their interests, attitudes and values. To improve the quality of education in our schools, we will have to pay proper attention to harness the potentialities of our students by raising their level of self-confidence. Self-confidence has crucial role to play in the process of teaching and learning. Research shows that if a student lacks confidence, his performance will definitely be hampered. Various dimensions have been studied with the sole purpose to find out the effect of different variables on the self-confidence of the students. The present study aims to delineate the factors (socio-demographic) which have got direct bearing on the self-confidence of the students. Also, an effort is also made to find out the difference in the academic achievement of students at different levels of their self-confidence. It is hoped that the results of the present study will throw some light on the effect of socio-demographic factors on academic achievement in science and self-confidence of the students which will prove to be of immense help to teachers, policy framers and various organizations working in the field of education in formulating some intervention programmes for enhancing the self-confidence of the students which will further help in improving their academic achievement.

Objectives

1. To study the difference in the academic achievement (in science) of high school boys and girls.
2. To study the difference in the academic achievement) in science) of high school students belonging to scheduled caste and non- scheduled caste categories.
3. To study the difference in the academic achievement (in science) of high school students coming from nuclear family and joint families.
4. To study the difference in the academic achievement (in science) of high school students coming from rural and urban areas.
5. To study the difference in academic achievement (n science) of high school students at different levels of their self-confidence.
6. To study the difference in self-confidence of high school boys and girls.
7. To study the difference in self-confidence of high school students belonging to scheduled caste and non-scheduled caste categories.
8. To study the interactional effect of gender and social category on the self-confidence of high school students.
9. To study the difference in self-confidence of high school students coming from nuclear and joint families.
10. To study the interactional effect of family type and gender on the self-confidence of high school students.
11. To study the difference in self-confidence of high school students coming from rural and urban areas.

12. To study the interactional effect of residential background (rural and urban) and gender on the self-confidence of high school students.

Hypotheses

1. There is significant gender difference in academic achievement (in science) of high school students.
2. Students belonging to scheduled caste and non-scheduled caste categories do not differ significantly in their academic achievement (in science).
3. Students coming from nuclear and joint families do not differ significantly in their academic achievement (in science).
4. There is no significant difference in academic achievement (in science) of high school students studying in schools situated in rural and urban areas.
5. There is no significant difference in academic achievement (in science) of high school students having high, average and low level of self-confidence.
6. Boys and girls do not differ significantly in their self-confidence.
7. Students belonging to scheduled caste and non-scheduled caste categories do not differ significantly in their self-confidence.
8. Social category and gender do not interact significantly with regard to the self-confidence of the students.
9. Students coming from nuclear and joint families differ significantly in their self-confidence.
10. Family type and sex do not interact significantly with regard to the self-confidence of the students.
11. Students coming from rural and urban areas differ significantly in their self-confidence.
12. Residential background and sex do not interact significantly with regard to the self-confidence of the students.

Methodology

The present study aims at studying the academic achievement and self-confidence of high school students of Himachal Pradesh in relation to certain socio-demographic variables. So Descriptive method of Survey was used for the conduct of study.

Sampling

In the present investigation, a sample of class 9th students (who had just passed class 8th) was drawn from Mandi district. The selection of the schools from the above mentioned district was made by the draw of the lots. A representative sample of 284 students studying in 9th grade in the sampled schools was selected. Since, the students belonging to scheduled caste category were available in large proportion; therefore, sample from this category was drawn by making use of random numbers table. However, few students belonging to general category, other backward classes and scheduled tribe category were available in selected schools; so all the students belonging to these categories were clubbed up in the sample and named as non-SC category group.

Research tool used

For measuring the self confidence level of class 9th students, 'Self-confidence Inventory' by Rekha Agnihotri was used.

Research Tool Developed

For measuring the achievement of the students on science, an achievement test in science was developed and standardized by the investigator. This test was based on seven chapters of 9th class science text book prescribed by H.P. Board of School Education, Dharamshala (H.P.).

Data Collection and Tabulation

The data was collected personally by the researcher. The information collected from the students after administering achievement test in science and self-confidence inventory, was tabulated separately for various independent variables namely; gender, social category, type of family and residential background. The academic achievement of the students in science and their scores on self-confidence inventory were taken as dependent variables. Further, the sampled students were categorized into following three groups i.e. high, average and low on the basis of their self-confidence by using the formulae $M \pm S.D.$

Data Analysis

In order to study the differences in the academic achievement (in science) of the students with regard to gender, social category, residential background and type of family, 't' test was used separately.

Further, for computing the difference in the academic achievement (in science) of the students at different levels of self-confidence, the statistical technique of 'Analysis of variance (one way)' was used. In order to find out the main effects and interactional effects of different independent variables on self-confidence of the students, the statistical technique of 'analysis of variance (Two Way)' was used. Before employing these techniques, the groups were made equal in terms of number of students by using random number table.

The designs of the study for studying the main and interactional effects are given as under:

- 2×2 factorial design to study the main effects and interactional effect of gender and social category.
- 2×2 factorial design design to study the main effects and interactional effect of gender and type of family.
- 2×2 factorial design design to study the main effects and interactional effect of gender and residential background.

Table-1: Gender-wise difference inn Academic Achievement of High School Students in Science

Variable		Category		SE _{DM}	t-value
		Boys (N=125)	Girls (N=100)		
Academic Achievement in Science	Mean	41.12	41.02	0.21	.0.6 (NS)
	SD	11.60	12.80		

NS- Not significant at 0.05 level.

Table-1 indicates that the calculated value of 't' for finding out the difference in the academic achievement in science of boys and girls, for df 223, came out to be 0.06 which is less than the table value even at 0.05 level of significance.

Hence the hypotheses no. 1 that, "There is significant gender difference in academic achievement (in science) of high school students" was not accepted.

Table-2: Category-Wise Differences in Academic Achievement of High School Students in Science

Variable		Category		SE _{DM}	t-value
		SC (N=90)	Non-SC (N=135)		
Academic Achievement in Science	Mean	40.71	41.71	.01	.60 (NS)
	SD	12.04	12.38		

NS- Not significant at 0.05 level.

Table-2 reveals that the calculated value of 't' for finding out the difference in academic achievement (in science) of the students belonging to SC and non-SC categories, for df 223, was found to be 0.60 which is less than the table value even at 0.05 level of significance.

Hence hypotheses no. 2 that, "Students belonging to SC and Non-SC categories do not differ significantly in their academic achievement (in science)" was accepted.

Table-3: Family-Wise Differences in Academic Achievement of High School Students in Science

Variable		Type of Family		SE _{DM}	t-value
		Nuclear (N=130)	Joint (N=95)		
Academic Achievement in Science	Mean	41.73	39.90	0.21	1.14 (NS)
	SD	11.90	11.97		

NS- Not significant at 0.05 level.

Table-3 depicts that the calculated value of 't' for finding out the significance of the difference in the means of academic achievement (in science) of the students belonging nuclear and joint families, for df 223, came out to be 1.14 which is below the table value at 0.05 level of significance.

Hence, the Hypotheses no. 3 that, 'students coming from nuclear and joint families do not differ significantly in their academic achievement (in science)" was accepted. However, students coming from nuclear families have slightly higher mean of academic achievement scores in science (41.73) than their counterparts coming from joint families joint families (39.90) but this difference is not found to be statistically significant.

Table-4: Area-Wise Differences in Academic Achievement of High School Students in Science

Variable		Area		SE _{DM}	t-value
		Rural (N=125)	Urban (N=100)		
Academic Achievement in Science	Mean	35.56	47.31	0.19	8.04**
	SD	11.06	10.72		

** - Significant at 0.01 level.

From Table-4, it is evident that the computed value of 't' for finding out the significance of the difference in the academic achievement of the students in science who are studying in schools situated in rural and urban areas, for df 223, came out to be 8.04, which is higher than table value even at 0.01 level of significance.

Hence, hypotheses no. 4 that, "There is no significant difference in academic achievement (in science) of high school of high school students studying in schools situated in rural and urban areas" was not accepted.

Table-5: Summary of the Results of Analysis of Variance for Academic Achievement Scores of Three Different Groups in Science

S.N.	Source of variation	Sum of Sq.	df	Mean square variance	F-ratio	S.D.
1	Among means	1479	2	739.5	4.78**	
2	Within conditions	20427	132	154.75		12.43
3	Total	21906	134			

** - Significant at 0.01 level.

Table-5 shows that the calculated value of 'F' for finding out the significance of the difference in the means of academic achievement scores in science at different levels of their self-confidence, for df 2 and 132, came out to be 4.78, which is higher than the table value even at 0.01 level of significance.

Hence, the Hypotheses no. 5 that, "There is no significant difference in academic achievement (in science) of high school students having high, average and low level of self-confidence" was accepted.

Table-6: Means of Academic Achievement Scores in Science and Difference between Means for Three Different Groups

S.N.	Name of the Group	No. of Students	Mean Acad. Ach. Score	Difference between Means
A	High Self Confidence Group	45	47.42	6.02* (A-C)
B	Average Self Confidence Group	45	39.71	1.69 (NS) (B-C)
C	Low Self Confidence Group	45	41.40	7.71** (A-B)

* - Significant at 0.05 level of significance.

** - Significant at 0.01 level of significance.

NS- Not Significant.

From table-6, it is evident that the computed value of difference in the mean academic achievement scores in science between high self-confidence group and average self-confidence group came out to be 7.71, which is greater than least significant difference (6.882) at 0.01 level of significance, for df 132. Similarly difference in the mean academic achievement scores in science between high self-confidence group and low self-confidence group was found to be 6.02, which is greater than least significant difference (5.1678) at 0.05 level of significance, for df 132. Hence, it may be interpreted that students with high self-confidence level have exhibited significantly higher mean academic achievement score (47.42) in science as compared to the students with either average or low self-confidence level (39.71) and (41.40) respectively.

It is concluded that students with average and low self-confidence levels did not differ significantly from each other with respect to their academic achievement in science.

Table-7: Summary Table of Analysis of Variance

S.N.	Source of Variation	Sum of Sq.	df	Mean Square Variance	F-Ratio
1	Gender (A)	122.50	1	122.50	2.096 (NS)
2	Social Category (B)	112.225	1	112.225	1.920 (NS)
3	Interaction (A×B)	11.025	1	11.025	0.188 (NS)
4	Residual/Error Variance	9116.25	156	58.437	
5	Total	9362.00	159		

NS- Not Significant.

Table-7 reveals that the computed value of 'F' for the main effect of gender on self-confidence level of students, irrespective of their social category, for df 1 and 156, came out to be 2.096, which is less than the table value (3.90) at 0.05 level of significance.

Hence the Hypotheses no. 6 that, "Boys and Girls do not differ significantly in their self-confidence" was accepted.

Further the calculated 'F' value for the main effect of social category on self-confidence of high school students irrespective of their gender came out to be 1.92 for df 1/156, which is very less than the table value (3.900 even at 0.05 level of significance. **Hence, the Hypothesis no. 7 that, "Students belonging to scheduled caste and non-scheduled caste categories do not differ significantly in their self-confidence" was accepted.**

Also the calculated value of 'F' for the interactional effect of gender and social category on self-confidence scores of students came out to be 0.188, for df 1/156, which is lower than the table value (3.90) even at 0.05 level of significance. **Hence, the Hypotheses no. 8 that, "Social category and gender do not interact significantly with regard to the self-confidence of the students" was accepted.**

Table-8: Summary Table of Analysis of Variance

S.N.	Source of Variation	Sum of Sq.	df	Mean Square variance	F-Ratio
1	Gender (A)	148.225	1	148.225	3.18(NS)
2	Residential Background (B)	168.10	1	168.10	3.60 (NS)
3	Interaction (A×B)	84.10	1	84.10	1.80 (NS)
4	Residual/ Error Variance	7276.35	156	46.94	
5	Total	7676.77	159		

NS- Not Significant

The obtained value of 'F' for the main effect of type of family on self-confidence of the students, irrespective of their gender, was found to be 3.60, for df 1/156, which is less than the table value (3.90) even at 0.05 level of significance. **Hence Hypothesis no. 9 that, "Students coming from nuclear and joint families differ significantly in their self-confidence" was not accepted.**

It is evident from table-8 that the calculated value of 'F' for the interactional effect of gender and type of family on self-confidence level of high school students came out to be 1.80, for df 1/156, which is very less than the table value (3.90) even at 0.05 level of significance. **Hence, the Hypothesis no. 10 that, "Family type and sex do not interact significantly with regard to the self-confidence of the students" was accepted.**

Table-9: Summary table of Analysis of Variance

S.N.	Source of Variation	Sum of Sq.	df	Mean Square variance	F-Ratio
1	Gender (A)	70.225	1	70.225	1.32 (NS)
2	Type of Family (B)	1060.90	1	1060.90	19.955**
3	Interaction (A×B)	12.10	1	12.10	0.23 (NS)
4	Residual/ Error Variance	8293.55	156	53.163	
5	Total	9436.77	159		

** - significant at 0.01 level.

NS-Not significant

The computed value of 'F' for the main effect of residential background on self-confidence level of students, irrespective of their gender, came out to be 19.955, for df 1/156, which is much higher than the table value (6.81) even at 0.01 level of significance. **Hence, the Hypotheses no. 11 that, "Students coming from rural and urban areas differ significantly in their self-confidence" was accepted.**

Further, the obtained value of 'F' for the interactional effect of gender and residential background on self-confidence level of high school students came out to be 0.23, for df 1/156, which is lower than the table value (3.90) even at 0.05 level of significance.

Hence the Hypothesis no. 12 that, “Residential background and sex do not interact significantly with regard to the self-confidence of the students” was accepted.

General Conclusions

On the basis of the results of the study, following conclusions may be drawn:

1. There was no significant difference between boys and girls with regard to their academic achievement in science.
2. The high school students belonging to scheduled caste and non-scheduled caste categories did not differ significantly from each other with regard to their academic achievement in science. However, students belonging to non-scheduled caste categories have shown higher mean of academic achievement scores than SC students.
3. The high school students coming from nuclear and joint families did not differ significantly from each other with respect to their means of academic achievement scores in science. However, students coming from nuclear families have exhibited higher mean of academic achievement score in science as compared to the students coming from joint families.
4. The high school students studying in schools situated in urban areas have shown significantly higher mean of academic achievement scores in science in comparison to the students studying in rural schools.
5. Academic achievement was found to be significantly correlated with self-confidence level of high school students. The students with high self-confidence level have shown higher academic achievement in science in comparison to the students with average and low self-confidence levels. However, high school students with low self-confidence level have reflected higher academic achievement as compared to the students with average self-confidence level.
6. There is no significant difference between boys and girls with regard to their level of self-confidence.
7. The high school students belonging to scheduled caste and non-scheduled caste categories did not differ significantly from each other with respect to their means of self-confidence scores. However, students belonging to non-scheduled caste categories were found to have high self-confidence than non-SC category students.
8. Gender and social category did not interact significantly with respect to their combined influence on self-confidence of the students.
9. The high school students coming from nuclear and joint families did not differ significantly from each other in relation to their means of self-confidence scores. However, students coming from nuclear type of families have shown higher mean of self-confidence scores than the students coming from joint families.
10. Gender and type of family did not interact significantly with respect to their combined effect on self-confidence of high school students.
11. The high school students studying in schools situated in urban areas have shown significantly higher mean of self-confidence scores as compared to the students studying in schools situated in rural areas. However, students studying in urban schools have higher mean of achievement score as compared to the students studying in schools situated in rural areas.
12. Gender and residential background did not interact significantly with respect to their combined influence on self-confidence of high school students.

Delimitations of the study

The present study was delimited in its scope to the following aspects:

1. The sample includes only class 9th students (who have just passed class 8th) studying in Govt. schools of Mandi district of Himachal Pradesh.
2. The study was confined to two dependent variables i. e. self-confidence academic achievement.
3. The students' performance in science was measured by a self-developed and standardized achievement test in science. The achievement test was based on seven chapters of the science textbook prescribed by H.P. Board of school Education, Dharamshala (H.P.). The achievement of the students in this test was only considered as their academic achievement in science.

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