CHAPTER IV

RESULTS AND DISCUSSIONS

The collected data pertaining to the study has been analyzed and presented in this chapter. The purpose of the study was to investigate the correlation among sports performance, academic achievements and economic status of school girl students. In order to achieve the purpose 400 girl students from IX^{th}, X^{th} and XI^{th} standard were selected as subjects.

This chapter contains statistically treated data results, findings and discussions with regard to the correlation among sports performance, academic achievements and economic status of school girl students. To achieve the purpose of the study 400 girl students from IX^{th}, X^{th} and XI^{th} standard were selected from various schools in the age group of 16 to 18 years.

Sports performance, IX^{th}, X^{th} and XI^{th} standard academic achievements and economic status were collected for the selected subjects. The collected data were analyzed by applying pearson product moment correlation which identifies the relationship between the variables. To test the hypothesis 0.05 level of significance was fixed.

4.1 Findings on relationship between sports performance and academic achievement

The relationship between sports performance and IX^{th}, X^{th} and XI^{th} standard academic achievements were analyzed and findings were given in the tables (III to VIII).

The data collected on sports performance and IXth standard academic achievement was analysed by applying pearson product moment correlation test and the results were given in table-III.

Table - III

Mean and Standard Deviation Values of Sports Performance and IXth Standard Academic Achievement

	Mean	**Std. Deviation**	**N**
Sports Performance	40.23	22.15	400
IXth Std Academic Achievement	53.49	8.58	400

Table III showed the sports performance mean value of 40.23 ± SD 22.15 and IXth std academic achievement mean value of 53.49 ± SD 8.58 for the selected 400 girl students.

Table - IV

Pearson Product Moment Correlation Between Sports Performance and IXth Standard Academic Achievement

		IXth Std Academic Achievement
Sports Performance	Pearson Correlation	.783(**)
	Sig. (2-tailed)	.000
	N	400

* significant at 0.05 level with 398 df, $p<0.05$

As denoted in the table IV correlation between the sports performance and IXth standard academic achievement was 0.783. The obtained 'r' value was significant at 0.05 level ($p<0.05$) of significance. Hence, the hypothesis was accepted.

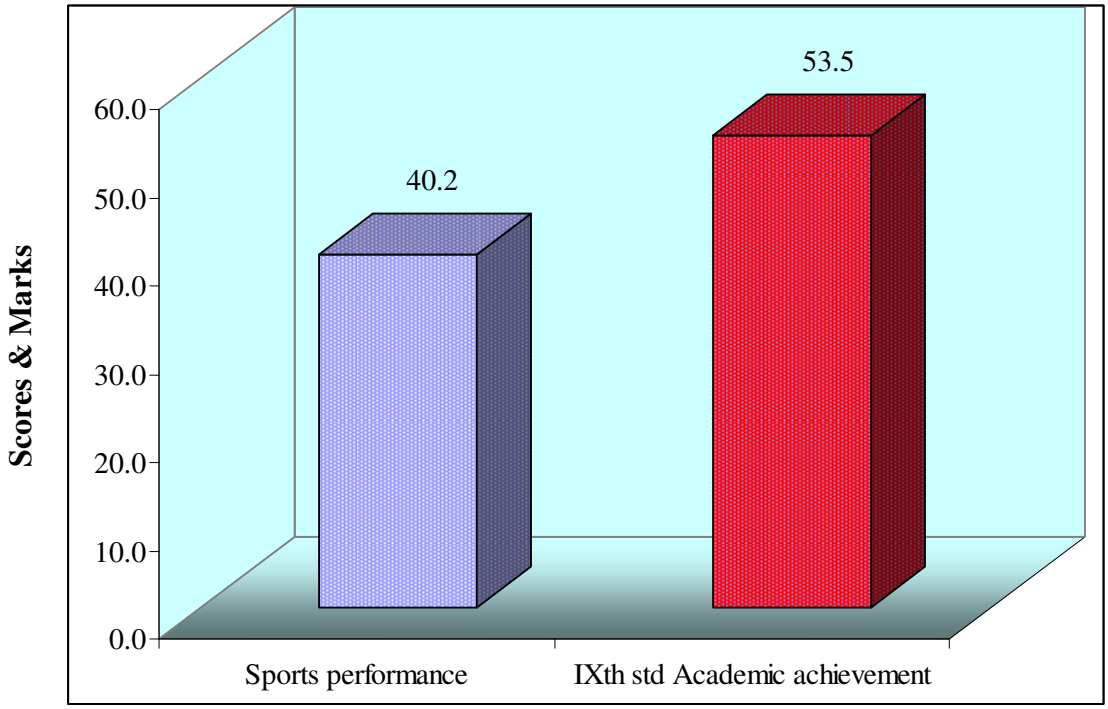

Figure 2: Mean Values of Sports Performance and IXth Std Academic Achievement

Table - V

Mean and Standard Deviation Values of Sports Performance and X^{th} Standard Academic Achievement

	Mean	Std. Deviation	N
Sports Performance	40.23	±22.15	400
X^{th} Std Academic Achievement	58.83	±8.54	400

Table V shows the sports performance mean value of 40.23 ± SD 22.15 and X^{th} std academic achievement mean value of 58.83 ± SD 8.54 for the selected 400 girl students.

Table - VI

Pearson Product Moment Correlation Between Sports Performance and X^{th} Standard Academic Achievement

		X^{th} Std Academic Achievement
Sports Performance	Pearson Correlation	.706(**)
	Sig. (2-tailed)	.000
	N	400

* significant at 0.05 level with 398 df, $p<0.05$

As denoted in the table VI correlation between the sports performance and X^{th} standard academic achievement was 0.706. The obtained 'r' value was significant at 0.05 level ($p<0.05$) of significance. Hence, the hypothesis was accepted.

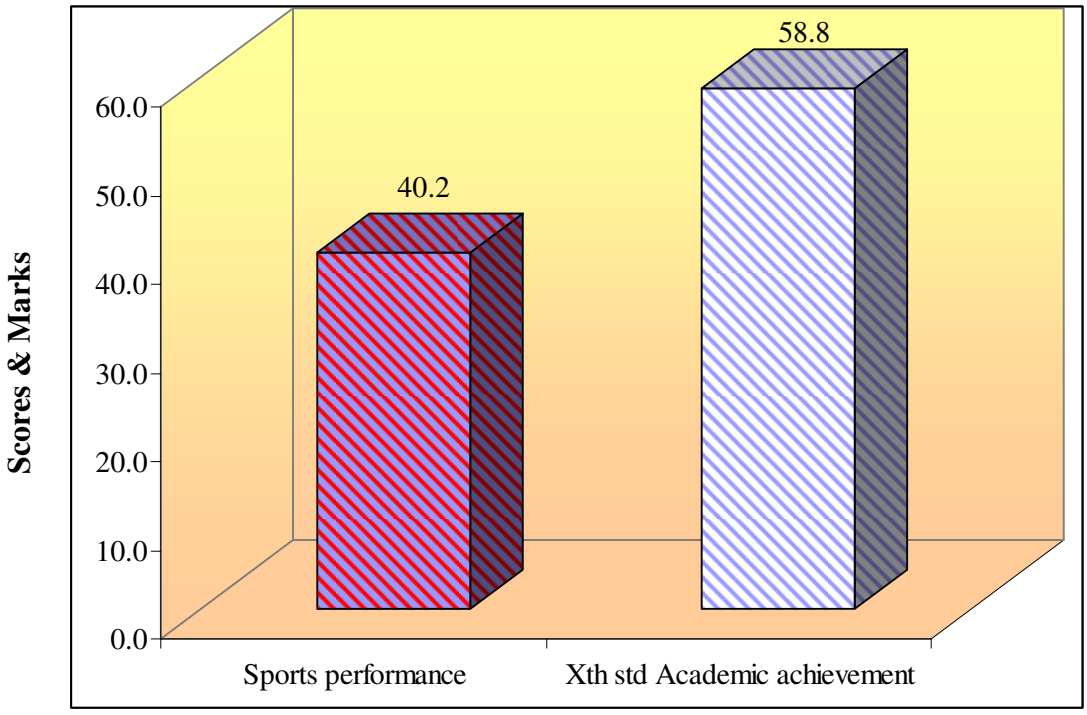

Figure 3: Mean Values of Sports Performance and Xth Std Academic Achievement

Table - VII

Mean and Standard Deviation Values of Sports Performance and XIth Standard Academic Achievement

	Mean	Std. Deviation	N
Sports Performance	40.23	±22.15	400
XIth Std Academic Achievement	64.96	±10.51	400

Table VII shows the sports performance mean value of 40.23 ± SD 22.15 and XIth std academic achievement mean value of 64.96 ± SD 10.51 for the selected 400 girl students.

Table – VIII

Pearson Product Moment Correlation Between Sports Performance and XIth Standard Academic Achievement

		XIth Std Academic Achievement
Sports Performance	Pearson Correlation	.725(**)
	Sig. (2-tailed)	.000
	N	400

* significant at 0.05 level with 398 df, $p<0.05$

As denoted in the table VIII correlation between the sports performance and XIth standard academic achievement was 0.725. The obtained 'r' value was significant at 0.05 level ($p<0.05$) of significance. Hence, the hypothesis was accepted.

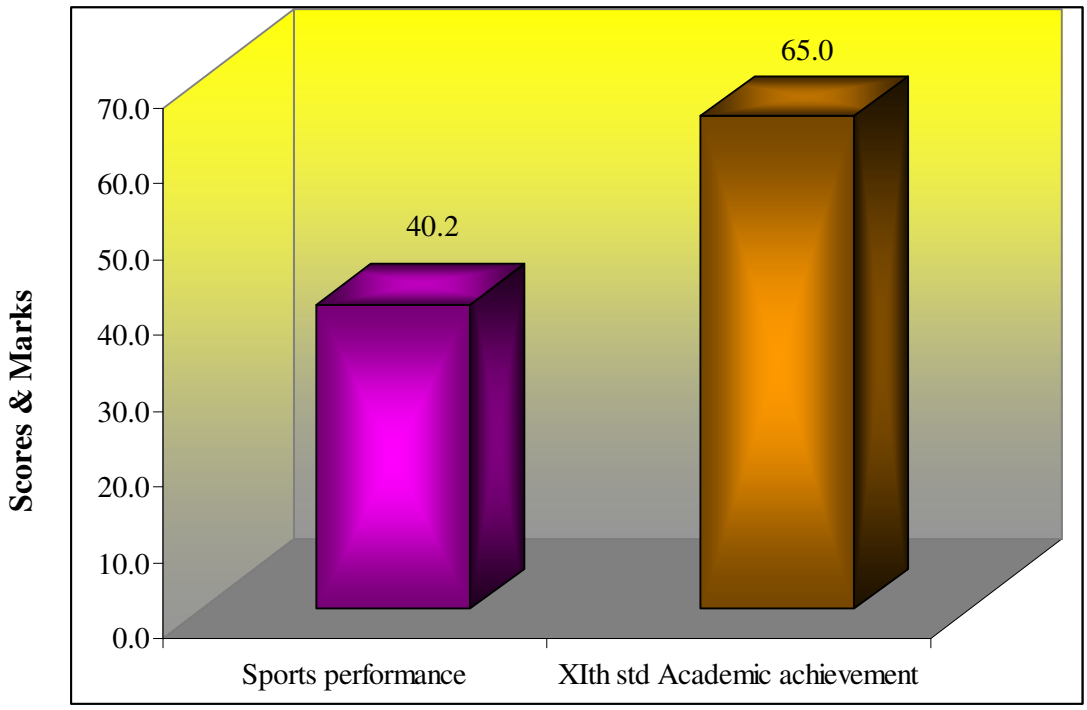

Figure 4: Mean Values of Sports Performance and XIth Std Academic Achievement

4.2 Findings on relationship between sports performance and economic status

The relationship between sports performance and economic status were analyzed and findings were given in the tables (IX and X).

Table - IX

Mean and Standard Deviation Values of Sports Performance and Economic Status

	Mean	Std. Deviation	N
Sports Performance	40.23	±22.15	400
Economic Status	50.73	±11.52	400

Table IX shows the sports performance mean value of 40.23 ± SD 22.15 and economic status mean value of 50.73 ± SD 11.52 for the selected 400 girl students.

Table – X

Pearson Product Moment Correlation Between Sports Performance and Economic Status

		Economic Status
Sports Performance	Pearson Correlation	.051
	Sig. (2-tailed)	.312
	N	400

not significant at 0.05 level with 398 df, $p>0.05$

As noted in the table X correlation between the sports performance and economic status was 0.051. The obtained 'r' value was not significant at 0.05 level ($p>0.05$) of significance. Hence, the hypothesis was rejected.

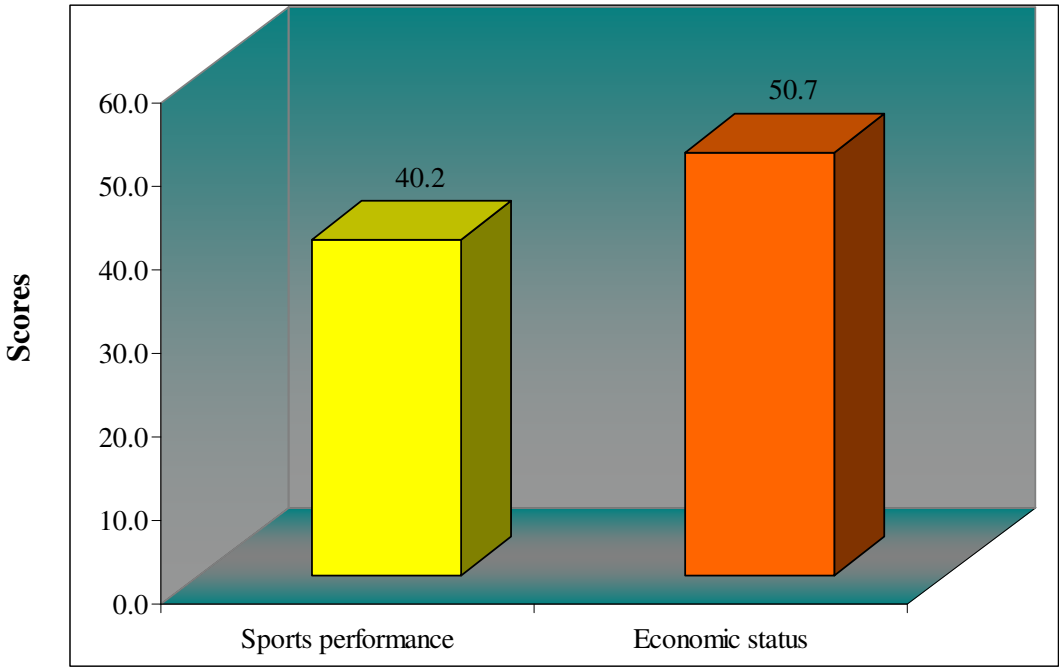

Figure 5: Mean Values of Sports Performance and Economic Status

4.3 Findings on relationship between economic status and academic achievement

The relationship between economic status and IXth, Xth and XIth standard academic achievement were analyzed and findings were given in the tables (XI to XVI).

Table - XI

Mean and Standard Deviation Values of Economic Status and IXth Standard Academic Achievement

	Mean	Std. Deviation	N
Economic Status	50.73	$\pm$11.52	400
IXth Std Academic Achievement	53.49	$\pm$8.58	400

Table XI shows the economic status mean value of 50.73 ± SD 11.52 and IXth standard academic achievement mean value of 53.49 ± SD 8.58 for the selected 400 girl students.

Table - XII

Pearson Product Moment Correlation Between Economic Status and IXth Standard Academic Achievement

		IXth Std Academic Achievement
Economic Status	Pearson Correlation	.071
	Sig. (2-tailed)	.155
	N	400

not significant at 0.05 level with 398 df, p>0.05

As mentioned in the table XII correlation between the economic status and IXth standard academic achievement was 0.071. The obtained 'r' value was not significant at 0.05 level (p>0.05) of significance. Hence, the hypothesis was rejected.

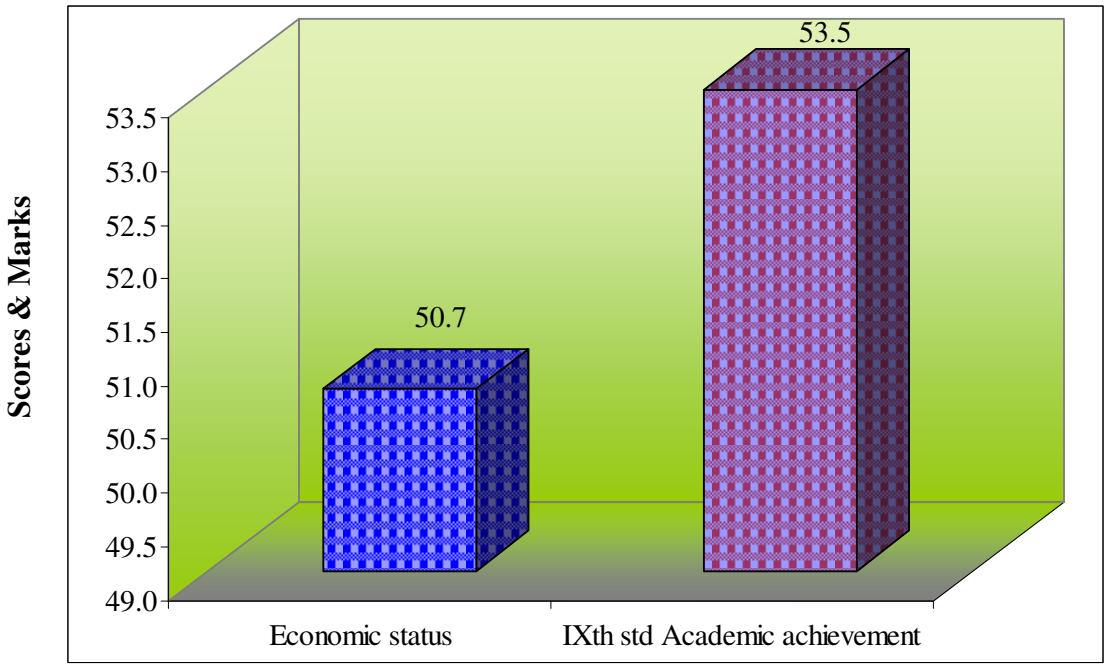

Figure 6: Mean Values of Economic Status and IXth Std Academic Achievement

Table - XIII

Mean and Standard Deviation Values of Economic Status and Xth Standard Academic Achievement

	Mean	Std. Deviation	N
Economic Status	50.73	±11.52	400
Xth Std Academic Achievement	58.83	±8.54	400

Table XIII shows the economic status mean value of 50.73 ± SD 11.52 and Xth standard academic achievement mean value of 58.83 ± SD 8.54 for the selected 400 girl students.

Table - XIV

Pearson Product Moment Correlation Between Economic Status and Xth Standard Academic Achievement

		Xth Std Academic Achievement
Economic Status	Pearson Correlation	.081
	Sig. (2-tailed)	.106
	N	400

not significant at 0.05 level with 398 df, p>0.05

As mentioned in the table XIV correlation between the economic status and Xth standard academic achievement was 0.081. The obtained 'r' value was not significant at 0.05 level (p>0.05) of significance. Hence, the hypothesis was rejected.

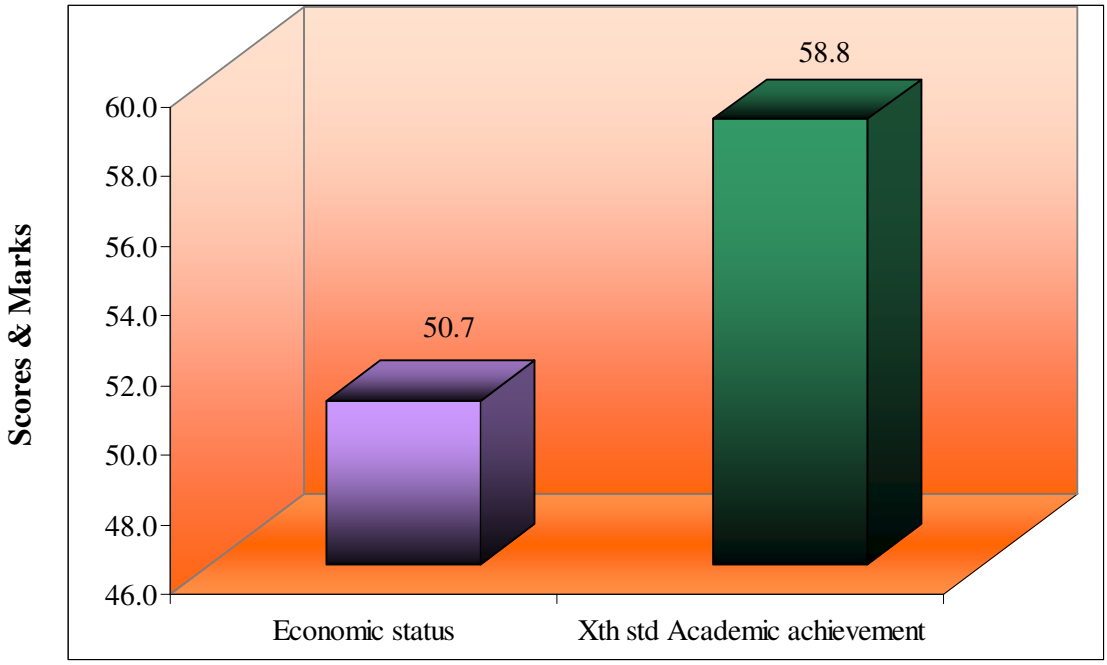

Figure 7: Mean Values of Economic Status and Xth Std Academic Achievement

Table - XV

Mean and Standard Deviation Values of Economic Status and XIth Standard Academic Achievement

	Mean	Std. Deviation	N
Economic Status	50.73	±11.52	400
XIth Std Academic Achievement	64.96	±10.51	400

Table XV shows the economic status mean value of 50.73 ± SD 11.52 and XIth standard academic achievement mean value of 64.96 ± SD 10.51 for the selected 400 girl students.

Table - XVI

Pearson Product Moment Correlation Between Economic Status and XIth Standard Academic Achievement

		XIth Std Academic Achievement
Economic Status	Pearson Correlation	.039
	Sig. (2-tailed)	.438
	N	400

not significant at 0.05 level with 398 df, p>0.05

As mentioned in the table XVI correlation between the economic status and XIth standard academic achievement was 0.039. The obtained 'r' value was not significant at 0.05 level (p>0.05) of significance. Hence, the hypothesis was rejected.

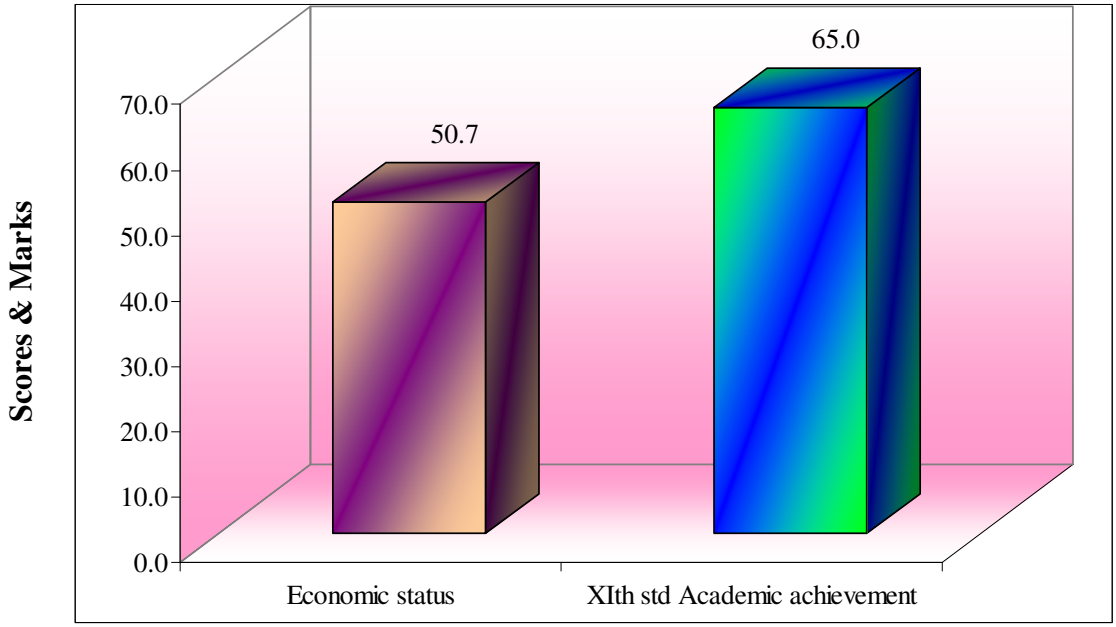

Figure 8: Mean Values of Economic Status and XIth Std Academic Achievement

4.4 Findings on relationship between sports performance and academic achievement with economic status controlled

The relationship between sports performance and IXth, Xth and XIth standard academic achievement with economic status was analyzed and findings were given in the table (XVII).

Table - XVII

Partial Correlation Between Sports Performance and Academic Achievement With Economic Status Controlled

Control Variable		Sports Performance
Economic Status	IXth Std Academic- Correlation	0.782
	Achievement Significance (2-tailed)	0.000
	df	397
	Xth Std Academic- Correlation	0.705
	Achievement Significance (2-tailed)	0.000
	df	397
	XIth Std Academic- Correlation	0.724
	Achievement Significance (2-tailed)	0.000
	df	397

Table XVII reveals that the partial correlation scores between sports performance and IXth, Xth and XIth standard academic achievement were 0.782, 0.705 and 0.724 and it was significant at 0.05 level. The bivariate correlation (table IV, VI

and VIII) between sports performance and academic achievements in IXth, Xth and XIth standard were r (df=398) = 0.783, 0.706 and 0.725 significant at 0.05 level ($p<0.05$). This indicates that girl students with sports performance had higher academic achievements. When economic status was controlled, the correlation r (dr=397) = 0.782, 0.705 and 0.724, significant at 0.05 level ($p<0.05$). Hence, the hypothesis was rejected.

4.5 Findings on relationship between economic status and academic achievement with sports performance controlled

The relationship between economic status and IXth, Xth and XIth standard academic achievement with sports performance was analyzed and findings were given in the table (XVIII).

Table - XVIII

Partial Correlation Between Economic Status and Academic Achievement With Sports Performance Controlled

Control Variable			Economic Status
Sports Performance	IXth Std Academic-Achievement	Correlation	0.051
		Significance (2-tailed)	0.311
		df	397
	Xth Std Academic-Achievement	Correlation	0.064
		Significance (2-tailed)	0.202
		df	397
	XIth Std Academic-Achievement	Correlation	0.003
		Significance (2-tailed)	0.953
		df	397

Table XVIII shows that when sports performance was controlled the partial correlation scores between economic status and IX^{th}, X^{th} and XI^{th} standard academic achievements were 0.051, 0.064 and 0.003 and it was not significant at 0.05 level. The bivariate correlation (table XII, XIV and XVI) between economic status and academic achievements in IX^{th}, X^{th} and XI^{th} standard was r (df=398) = 0.071, 0.081 and 0.039 not significant at 0.05 level ($p<0.05$). This indicates that girl students IX^{th}, X^{th} and XI^{th} standard academic achievements have not any relationship with the economic status. Hence, the hypothesis was rejected.

4.6 Discussion on findings

The purpose of the research was to investigate the relation between the sports performance, economic status and academic achievements of school girls. To achieve the purpose of the study 400 school girls were selected in the age group of 16 to 18 years. Twenty five subjects from 16 schools from various districts in Tamil Nadu state were selected for the study. Selected girl students sports performance, academic achievements and economic status were collected from the school records, mark sheet and certificates.

The result of the study indicated that there was a significant relationship between sports performance and IX^{th}, X^{th} and XI^{th} standard academic achievements among selected 400 girl students in the age group of 16 to 18 years.

The study is in line with the findings of the Marsh (1988) that sports involvement tended to engender high perceived peer status which in turn stimulated a desire of the student for further status acquisition in academics.

The finding of the study is in relation with the outcome of the study conducted by Symons et al., (1997) that healthy children learn better and they cautioned that no curriculum can compensate for deficiencies in students' health issues confronting today students in school, face enormous pressure to improve academic skills. Improving students' health through sports participation represents a means to achieving improved academic outcomes.

Physical activity (Lindner, 1999) was found enhanced brain function energy levels of body builds perception, self esteem and behaviour have been attributed to physical activity and to improve academic performance.

Researcher proved that exercise and sports related to positive mental health as indicated by relief in symptoms of depression and anxiety, and can also be of value in promoting sound mental health and improve concentration. (PCPFS Research Digest, 1996)

Exercise stimulates the production of new brain cells (Science daily, 2007) which is important to memory and learning, that enhances the students to do more achievement in academics when they are taking part in sports.

Regular participation in sports improves the functioning capacity of the endocrine glands. The glands are responsible for charging and recharging brain cells, which directly affect our mental development like memory, learning and intelligence. As the brain cells are recharged through sports participation allowing new thought waves to surface in the minds. Through this process, persons mind will continue to develop to a higher level of consciousness and reasoning power, making new realms in life possible.

Participation in sports and games stimulates or stirs the endocrine glands enhancing mental development and restoring health and better education performance. The result of the study reveals that percentage of marks in IX^{th}, X^{th} and XI^{th} standard (53.5%, 58.8% and 65%) increase in relation to the improvement in the sports

participation. Participation in sports improves the academic achievement of the girl students.

The result of the study reveals that there is no significant relationship between sports performance and economic status of the selected subjects.

The finding of the study is in relation to the study of Hanwshek (1997) that economic status does not affect the sports performance. Students are taking part in the sports and achieving more in sports and games irrespective of their economic status. There is no positive correlation between the sports performance and economic status.

Enthusiasm and interest of the students plays a vital role in the participation of sports and games. Economic status is only the main object which supports the student financially during their participation. Performance in sports is attained by the player through the interest, perceptual learning, execution of motor skills and their physical fitness.

The result of the study indicates that there is no significant relationship between economic status and IX^{th}, X^{th} and XI^{th} standard academic achievements among selected 400 girls student.

The findings of the study is in accordance with the findings of Calfos & Taylor (1994) that mental development like improvement in self esteem and self concept are the real outcome of the sports participation and it enhances a student to achieve more in the academics and in sports and games not the economic status.

Students' intelligence is through functioning of the brain cells. Intelligence, physical health and mental health help the students to achieve more than optimum level in their academics than the money and status.

4.7 Discussion on hypotheses

1. In the first hypothesis the investigator stated that there would be a significant relationship between sports performance and academic achievements. The results of the study proved that there was a significant relationship between sports performance and IXth, Xth and XIth standard academic achievements of the selected girl students. Hence, the hypothesis was accepted at 0.05 level of confidence.

2. In the second hypothesis the researcher stated that there would be a significant relationship between economic status and academic achievements. The results of the study showed that there was no significant relationship between economic status and IXth, Xth and XIth standard academic achievements among selected subjects. Hence, the hypothesis was rejected.

3. Third hypothesis stated that there would be a significant relationship between sports performance and economic status. The results of the study revealed that there was no significant relationship between sports performance and economic status of the selected subjects. Hence, the hypothesis was rejected.

4. Fourth hypothesis stated that there would be significant economic status contribution in the relationship between sports performance and academic achievements while controlling economic status. The economic status has not

contributed in the relationship between sports performance and IXth, Xth and XIth standard academic achievement. It can be inferred that the relationship between sports performance and IXth, Xth and XIth standard academic achievement is not mediated by economic status. Hence, the hypothesis was rejected.

5. Fifth hypothesis stated that there would be significant sport performance contribution in the relationship between economic status and academic achievements while controlling sports performance. The results showed that there was no significant relationship between economic status and IXth, Xth and XIth standard academic achievement even sports performance was controlled or not. Hence, the hypothesis was rejected.