CHAPTER 4

CHAPTER-IV

DISCUSSION OF RESULTS

INTRODUCTION

The aim of the present research was three fold namely :

1) To study the affect of age, sex and deprivation on six learning difficulties and five academic achievement areas.

2) To study the relationship between the six learning difficulties and five academic achievement areas with fifteen deprivation factors for boys and girls separately.

3) To predict the six learning difficulties and five academic achievement scores on the basis of fifteen deprivation factors.

The sample consisted of 439 pupils from sixth and seventh standards of Baroda Municipal Corporation schools. They were administered the deprivation scale to measure deprivation. Ratings for each child on five learning difficulties were obtained from their respective teachers, while academic achievement scores in the form of final year examination marks were collected from the official records by the investigator.

After the data collection the questionnaires were scored. Individual scores were converted into standard scores and fed into computer for the purpose of statistical analysis which provided Fratios, correlations, and regression data.

The discussion of the results is divided into three parts according to the design of the research. The first part deals with analysis of variance wherein the main and interaction effects of sex age and deprivation is studied on six learning difficulties and five scholastic achievements. In

the second part, the relationship between six learning difficulties and five academic achievement scores and fifteen deprivation factors is studied for boys and girls separately. In the third part learning difficulties and academic achievement scores are predicted for boys and girls separately on the basis of fifteen deprivation areas.

PART I : ANALYSIS OF VARIANCE

Part one of the research is concerned with the result of analysis of variance, which involves a 2x2x2 factorial design. The aim of this part is to study the variations in learning difficulties and academic achievement as a function of sex, age, and deprivation. There are two categories of sex, namely boys and girls, two levels of age viz., young (below 12 years) and old (above 12 years), and two levels of deprivation namely high deprivation and low deprivation. Learning difficulties and academic achievement are the dependent variables, where as sex, age and deprivation are independent variables. The following pages provide a detailed description of the analysis of variance results.

TABLE NO.1

A 2 x 2 x 2 FACTORIAL DESIGN FOR SPOKEN LANGUAGE

SOURCE OF VARIANCE	DF	SUM OF SQUARES	MEAN SQUARES	F	SIGNIFICANCE
MAIN EFFECTS					
SEX	1	32.23	32.23	1.47	NS
AGE	1	16.39	16.39	.75	NS
DEPRIVATION	1	986.45	986.45	44.84	.01
2 WAY INTERACTION					
SEX X AGE	1	6.12	6.12	.28	NS
SEX X DEPRIVATION	1	6.79	6.79	.30	NS
AGE X DEPRIVATION	1	39.03	39.03	1.78	NS
3 WAY INTERACTION					
SEX X AGE X DEP	1	.13	.13	.00	NS
S S BETWEEN	7	1061.78	151.59	6.89	NS
S S WITHIN	431	9483.29	22.00		
TOTAL	438				

TABLE NO.2

NUMBER AND MEAN SCORES ON SPOKEN LANGUAGE

	NUMBER	MEAN
BOYS	210	29.87
GIRLS	229	29.90
YOUNG	218	30.07
OLD	221	29.70
HIGH DEPRIVATION	235	28.51
LOW DEPRIVATION	204	31.47

Table 1 and 2 show the results of spoken language in relation to sex, age and deprivation. The table one shows the main effect of sex, age and deprivation as well as interaction effect. Beginning with the main effect of sex variable it is observed that F Value is 1.47 which is not

significant at .05 level. It means that boys and girls do not differ from each other on spoken language. This implies that sex as a variable does not affect the spoken language. In the light of these findings the null hypothesis that sex will have no effect on spoken language is accepted. With regard to age the F value is found to the .75 which is also not significant at .05 level. This means that young pupils (below 12 years) and old pupils (above 12 years) do not differ from each other in the spoken language. This shows that age also does not account for variation in spoken language. Thus in the light of these result the null hypothesis that age will have no effect on spoken language is accepted. Examining the effect of deprivation in spoken language it is observed that the F value for this variable is 44.84 which is significant at .01 level. This means deprived and non deprived children differ in their spoken language. Further it can be said that variation in spoken language is because of degree of deprivation. Looking to the mean scores (presented in table two) of high deprived and low deprived pupils it is seen that the mean score of high deprived children is 28.51 and of low deprived children is 31.47. The inference that can be he drawn from these scores is that less deprived children are better on spoken language than more deprived children. Thus in the light of present result the null hypothesis is that deprivation will have no effect on spoken language is rejected. Deprivation doesaffect the performance on spoken language positively.

The F Value for the interaction of age and sex is .28 which is not significant at .05 level. Similarly the F Values for sex and deprivation and age and deprivation are .30 and 1.78 respectively. Both these values are not significant. This implies that sex and age, sex and deprivation, and age and deprivation jointly do not influence spoken language.

The F Value for the interaction effect of sex, age, and deprivation is equal to .00 which is not significant at .05 level. This implies that sex, age and deprivation jointly do not affect spoken language.

TABLE NO.3

A 2 x 2 x 2 FACTORIAL DESIGN FOR MOTOR COORDINATION ABILITY

SOURCE OF VARIANCE	DF	SUM OF SQUARES	MEAN SQUARES	F	SIGNIFICANCE
MAIN EFFECTS					
SEX	1	31.92	31.92	2.14	NS
AGE	1	48.39	48.39	3.24	NS
DEPRIVATION	1	446.14	446.14	29.88	.01
2 WAY INTERACTION					
SEX X AGE	1	32.98	32.98	2.20	NS
SEX X DEPRIVATION	1	60.77	60.77	4.07	.05
AGE X DEPRIVATION	1	64.72	64.72	4.34	.05
3 WAY INTERACTION					
SEX X AGE X DEP	1	46.09	46.09	3.09	NS
S S BETWEEN	7	816.21	116.60	7.80	NS
S S WITHIN	431	6436.82	14.94		
TOTAL	438				

TABLE NO.4

NUMBER AND MEAN SCORES ON MOTOR COORDINATION ABILITY

	NUMBER	MEAN
BOYS	210	27.11
GIRLS	229	28.05
YOUNG	218	27.94
OLD	221	27.28
HIGH DEPRIVATION	235	26.60
LOW DEPRIVATION	204	28.76

Table 3 and 4 show the result of motor coordination ability in relation to sex, age and deprivation. For sex variable it is observed that F value is 2.14 which is not significant at .05 level. It means that boys and girls

do not differ from each other on motor coordination ability. This implies that sex as a variable does not affect the motor coordination ability. In the light of these findings the null hypothesis that sex will have no effect on motor coordination is accepted. With regard to age the F value is found to be 3.24 which is also not significant at .05 level. This means that young pupils (below 12 years) and old pupils (above 12 years) do not differ from each other in motor coordination ability. This shows that age also does not account for variation in motor coordination. Thus in the light of these results the null hypothesis that age will have no effect on motor coordination ability is accepted. Examining the effect of deprivation on motor coordination it is observed that the F value for this variable is 29.88 which is significant at .01 level. This means deprived and non deprived children differ in their motor coordination ability. Further it can be said that variations in motor coordination ability are because of degree of deprivation. Looking to the mean score (presented in table 4) of high deprived and low deprived pupils it is seen that the mean score of high deprived children is 26.60 and low deprived children is 28.76. The inference that can be drawn from these score is that low deprived children are better on motor coordination ability than high deprived children. Thus in the light of present results the null hypothesis that deprivation will have no effect on motor coordination ability is rejected.

The F value for the interaction of age and sex is 2.20 which is not significant at .05 level. But the F value for sex and deprivation and age and deprivation are 4.07 and 4.34 respectively. Both these values are significant at .05 level. This implies that sex and deprivation and age and deprivation jointly do influence the motor coordination ability.

In order to see the inter group mean differences for the interaction effect of sex and deprivation and age and deprivation Tukey's gap test was applied. These resulted are presented in table No. 5.

TABLE 5

Interaction between sex and deprivation

	BOYS	GIRLS
	N = 133	N = 77
HD	M = 26.06 **a**	M = 28.94 **b**
	N = 102	N = 127
LD	M = 27.30 **c**	M = 28.65 **d**

FORMULA FOR GAP TEST

$$SEd = \sqrt{\frac{MSW}{na} + \frac{MSW}{nb} + \frac{MSW}{nc} + \frac{MSW}{nd}}$$

$$SEd = \sqrt{\frac{14.94}{133} + \frac{14.94}{77} + \frac{14.94}{102} + \frac{14.94}{127}}$$

$$SEd = \sqrt{0.12 + 0.19 + 0.15 + 0.12}$$

$$SEd = \sqrt{0.58}$$

$$SEd = \sqrt{0.76}$$

$$SEd = .76$$

With 431 df 't' at .05 level = 1.97 x .76 = 1.49

.01 level = 2.59 x .76 = 1.96

a-b = 26.06 - 28.94 = 2.88 .01

a-c = 26.06 - 27.30 = 1.24 NS

a-d = 26.06 - 28.65 = 2.59 .01

b-c = 28.94 - 27.30 = 1.64 .05

b-d = 28.94 - 28.65 = 0.29 NS

c-d = 27.30 - 28.65 = 1.35 NS

The intergroup mean differences when compared with 't' values of 1.49 (.05level) and 1.96 (.01 level) it is observed that there is significant difference between highly deprived boys and highly deprived girls, highly deprived boys and lowly deprived girls, and high deprived girls

and lowly deprived boys on motor coordination ability. In the light of these results it can be said that highly deprived girls do better than highly deprived boys, lowly deprived girls do better than highly deprived boys and highly deprived girls do better than lowly deprived boys on motor coordination ability.

TABLE NO.6

Interaction between age and deprivation

	HIGH DEP.	LOW DEP.
	N = 117	N = 101
YOUNG	M = 27.35 **a**	M = 28.61 **b**
	N = 118	N = 103
OLD	M = 25.86 **c**	M = 28.90 **d**

SEd = 0.74

With 431 df 't' at .05 level = 1.97 x 0.74 = 1.46

.01 level = 2.59 x 0.74 = 1.92

a-b = 27.35 - 28.61 = 1.26 NS

a-c = 27.35 - 25.86 = 1.49 .05

a-d = 27.35 - 28.90 = 1.55 .05

b-c = 28.61 - 25.86 = 2.75 .01

b-d = 28.61 - 28.90 = 0.29 NS

c-d = 25.86 - 28.90 = 3.04 .01

The intergroup mean difference were compared with 't' value of 1.46 (.05 level) and 1.92 (.01 level) for the interaction effect of age and deprivation. It is observed that there is significant difference between highly deprived young pupils and highly deprived old pupils; highly deprived young pupils and lowly deprived old pupils; highly deprived old pupils and lowly deprived old pupils on motor coordination ability. In the light of these results it can be said that highly deprived young pupils are better than highly deprived old pupils, highly deprived young

pupils are better than lowly deprived old pupils and lowly deprived young pupils are better than highly deprived old pupils and lowly deprived old pupils are better than highly deprived old pupils on motor coordination.

The F value for the interaction effect of sex, age, and deprivation is equal to 3.09 which is not significant at .05 level. This implies that sex, age and deprivation jointly do not affect motor coordination ability.

TABLE NO.7

A 2 x 2 x 2 FACTORIAL DESIGN FOR PERSONAL SOCIAL BEHAVIOUR

SOURCE OF VARIANCE	DF	SUM OF SQUARES	MEAN SQUARES	F	SIGNIFICANCE
MAIN EFFECTS					
SEX	1	114.27	114.27	4.19	.05
AGE	1	178.60	178.60	6.54	.05
DEPRIVATION	1	751.50	751.50	27.52	.01
2 WAY INTERACTION					
SEX X AGE	1	217.93	217.93	7.99	.01
SEX X DEPRIVATION	1	117.24	117.24	4.29	.05
AGE X DEPRIVATION	1	52.48	52.48	1.92	NS
3 WAY INTERACTION					
SEX X AGE X DEP	1	85.84	85.84	3.15	NS
S S BETWEEN	7	1713.77	244.83	8.97	
S S WITHIN	431	11768.99	27.30		
TOTAL	438				

TABLE NO.8

NUMBER AND MEAN SCORES ON PERSONAL SOCIAL BEHAVIOUR

	NUMBER	MEAN
BOYS	210	28.85
GIRLS	229	30.40
YOUNG	218	30.30
OLD	221	29.03
HIGH DEPRIVATION	235	28.33
LOW DEPRIVATION	204	31.19

Table 7 and 8 show the results of personal social behaviour in relation to sex, age, and deprivation. The table seven shows the main effects of sex, age and deprivation as well as interaction effect. Beginning with the main effect of sex variable it is observed that F value is 4.19 which is significant at .05 level. It means that boys and girls differ from each other on personal social behaviour. This implies that sex as a variable does effect the personal social behaviour. In the light of these findings the null hypothesis that sex will have no effect on personal social behaviour is rejected. With regard to age the F value is found to be 6.54 which is also significant at .05 level. This means that young pupils (below 12 years) and old pupils (above 12 years) do differ from each other in personal social behaviour. This shows that age also accounts for variation in personal social behaviour. Thus in the light of these results the null hypothesis that age will have no effect on personal social behaviour is rejected. Examining the effect of deprivation on personal social behaviour it is observed that the F value for this variable is 27.52, which is significant at .01 level. This means deprived and non deprived children differ in their personal social behaviour. Further it can be said that variations in personal social behaviour are because of degrees of deprivation. Looking to the mean scores (presented in table No. 8) of high deprived and low deprived pupils it is seen that the mean score of high deprived children is 28.33 and of low deprived children is 31.19.

The inference that can be drawn from these scores is that low deprived children are better on personal social behaviour than high deprived children. Thus in the light of present results the null hypothesis that deprivation will have no effect on personal social behaviour is rejected.

The F values for sex and age and sex and deprivation are 7.99 and 4.29 respectively. Both these values are significant at .05 level. This implies that sex and age and sex and deprivation jointly do influence the personal social behaviour.

TABLE NO.9

Interaction between sex and age

	BOYS	GIRLS
	N = 104	N = 106
YOUNG	M = 30.32 **a**	M = 27.42 **b**
	N = 114	N = 115
OLD	M = 30.32 **c**	M = 30.51 **d**

SEd = 0.99

With 431 df 't' at .05 level = 1.97 x 0.99 = 1.97

.01 level = 2.59 x 0.99 = 2.59

a-b = 30.32 - 27.42 = 2.9 .01

a-c = 30.32 - 30.28 = 0.04 NS

a-d = 30.32 - 30.51 = 0.19 NS

b-c = 27.42 - 30.28 = 2.86 .01

b-d = 27.42 - 30.51 = 3.09 .01

c-d = 30.28 - 30.51 = 0.23 NS

The intergroup mean differences were compared with 't' values of 1.97 (.05 level) and 2.59 (.01 level). It was observed that there was significant difference between male young pupils and male old pupils and male old pupils and female young pupils, and male old pupils and female old pupils. In the light of these results it can be said that male young

pupils are better than male old pupils. Female young pupils are better than male old pupils and female old pupils are better than female young pupils on personal social behaviour.

TABLE NO. 10

Interaction between sex and deprivation

	BOYS	GIRLS
	N = 133	N = 77
LD	M = 27.46 **a**	M = 31.26 **b**
	N = 102	N = 127
HD	M = 29.46 **c**	M = 31.15 **d**

SEd = 1.022

With 431 df 't' at .05 level = 1.97 x 1.022 = 2.01

.01 level = 2.59 x 1.022 = 2.65

a-b = 27.46 - 31.26 = 3.8 .01

a-c = 27.46 - 29.46 = 2.0 .05

a-d = 27.46 - 31.15 = 3.69 .01

b-c = 31.26 - 29.46 = 1.8 NS

b-d = 31.26 - 31.15 = 0.11 NS

c-d = 29.46 - 31.15 = 1.69 NS

The inter group mean differences were compared with 't' values of 2.01 (.05 level) and 2.65 (.01 level) to test the significance of means for interaction effect of sex and deprivation. It was observed that there was significant difference between highly deprived boys and highly deprived girls, highly deprived boys and lowly deprived boys and highly deprived boys and lowly deprived girls on personal social behaviour. In the light of these results it can be said that highly deprived girls are better than highly deprived boys, lowly deprived boys are better than highly deprived boys and lowly deprived girls are better than highly deprived boys on personal social behaviour. The F value for the interaction of

age and deprivation is 1.92 which is not significant at .05 level. The F value for the interaction effect of sex, age and deprivation is equal to 3.15 which is also not significant at .05 level. This implies that sex, age and deprivation jointly do not effect the personal social behaviour.

TABLE NO.11

A 2 x 2 x 2 FACTORIAL DESIGN FOR MEMORY

SOURCE OF VARIANCE	DF	SUM OF SQUARES	MEAN SQUARES	F	SIGNIFICANCE
MAIN EFFECTS					
SEX	1	191.84	191.84	6.71	.01
AGE	1	254.57	254.57	8.90	.01
DEPRIVATION	1	913.56	913.56	31.97	.01
2 WAY INTERACTION					
SEX X AGE	1	199.42	199.42	6.98	.01
SEX X DEPRIVATION	1	222.06	222.06	7.77	.01
AGE X DEPRIVATION	1	210.34	210.34	7.36	.01
3 WAY INTERACTION					
SEX X AGE X DEP	1	184.88	184.88	6.47	.05
S S BETWEEN	7	2474.01	353.43	12.37	
S S WITHIN	431	12319.53	28.59		
TOTAL	438				

TABLE NO.12

NUMBER AND MEAN SCORES ON MEMORY

	NUMBER	MEAN
BOYS	210	29.10
GIRLS	229	31.00
YOUNG	218	30.85
OLD	221	29.33
HIGH DEPRIVATION	235	28.60
LOW DEPRIVATION	204	31.80

Table 11 and 12 show the result of memory scores in relation to sex, age and deprivation. The table eleven shows the main effects of sex, age and deprivation as well as interaction affect. Beginning with the main effect of sex variable it is observed that F value for this is 6.71. Which is significant at .01 level. This means that male and female children differ in their memory. Further it can be said that variations in memory are because of difference of sex. Looking to the mean score (presented in table no. 12) of male pupils and female pupils it is seen that the mean score of male children is 29.10 and of female children is 31.00. The inference that can be drawn from these scores is that female pupils, are better on memory than male pupils. Thus in the light of present results the null hypothesis that sex will have no effect on memory is rejected. With regard to age F value is found to be 8.90 which is also the significant at .01 level. This means young pupils (below 12 years) and old pupils (above 12 years) differ in their memory. Further it can be said that variations in memory are because of age. Looking to the mean scores (table no.12) of young and old pupils it is seen that the mean score of young children is 30.85 and of old children is 29.33. This shows that young children are better on memory than old children. Thus in the light of present result the null hypothesis that age will have no effect on memory is rejected. Examining the effect of deprivation on memory it is observed that the F value for this variable is 31.97 which is also significant at .01 level. This means deprived and non deprived children differ in their memory. Further it can be said that variations in memory are because of degree of deprivation. Looking to the mean scores (table 12) of high deprived and low deprived pupils it is seen that the mean score of high deprived children is 28.60 and of low deprived children is 31.80. The inference that can be drawn from these scores is that low deprived children are better on memory than high deprived children. Thus in the light of present result the null hypothesis that deprivation will have no effect on memory is rejected.

The F value for the interaction of sex and age, sex and deprivation and age and deprivation are 6.98, 7.77 and 7.54 respectively. All the three values are significant at .01 level. This implies that sex, age and deprivation all jointly do influence the memory.

In order to see the inter group mean difference for the interaction effect of sex and age, sex and deprivation and age and deprivation, Tukey's test was applied and standard score of difference was computed which was found to be .99.

TABLE NO. 13

Interaction between sex and age

	BOYS	GIRLS
	N = 104	N = 106
YOUNG	M = 30.72 **a**	M = 27.50 **b**
	N = 114	N = 115
OLD	M = 30.97 **c**	M = 31.03 **d**

SEd = 0.99

With 431 df 't' at .05 level = 1.97 x 0.99 = 1.96

.01 level = 2.59 x 0.99 = 2.57

a-b = 30.72 - 27.50 = 3.22 .01

a-c = 30.72 - 30.97 = 0.25 NS

a-d = 30.72 - 31.03 = 0.31 NS

b-c = 27.50 - 30.97 = 3.47 .01

b-d = 27.50 - 31.03 = 3.53 .01

c-d = 30.97 - 31.03 = 0.06 NS

The inter group mean difference were compared with 't' values of 1.96 (.05 level) and 2.57 (.01 level). It was observed that there was significant difference between male young pupils and male old pupils, male old pupils and female young pupils and male old pupils and female old

pupils on memory. In the light of these results it can be said that male young pupils are better than male old pupils, female young pupils are better than male old pupils and female old pupils are better than female young pupils on memory ability.

TABLE NO. 14

Interaction between sex and deprivation

	BOYS	GIRLS
	N = 133	N = 77
HD	M = 27.44 **a**	M = 31.95 **b**
	N = 102	N = 127
LD	M = 30.12 **c**	M = 31.71 **d**

SEd = 1.05

With 431 df 't' at .05 level = 1.97 x 1.05 = 2.06

.01 level = 2.59 x 1.05 = 2.70

a-b = 27.44 - 31.95 = 4.51 .01

a-c = 27.44 - 30.12 = 2.68 .05

a-d = 27.44 - 31.71 = 4.27 .01

b-c = 31.95 - 30.12 = 1.83 NS

b-d = 31.95 - 31.71 = 0.24 NS

c-d = 30.12 - 31.71 = 1.59 NS

The intergroup mean difference were compared with 't' values of 2.06 (.05 level) and 2.70 (.01 level). It was observed that there was significant difference between highly deprived boys and the highly deprived girls, lowly deprived boys and lowly deprived girls on memory. In the light of these results it can be said that highly deprived girls are better than highly deprived boys, lowly deprived boys are better than highly deprived boys, and lowly deprived girls are better than highly deprived boys on memory ability.

TABLE NO.15

Interaction between age and deprivation

	HIGH DEP.	LOW DEP.
	N = 117	N = 101
YOUNG	M = 30.15 **a**	M = 31.66 **b**
	N = 118	N = 103
OLD	M = 27.07 **c**	M = 31.93 **d**

SEd = 1.03

With 431 df 't' at .05 level = 1.97 x 1.03 = 2.02

.01 level = 2.59 x 1.03 = 2.66

a-b = 30.15 - 31.66 = 1.51 NS

a-c = 30.15 - 27.07 = 3.08 .01

a-d = 30.15 - 31.93 = 1.78 NS

b-c = 31.66 - 27.07 = 4.59 .01

b-d = 31.66 - 31.93 = 0.27 NS

c-d = 27.07 - 31.93 = 4.86 .01

The intergroup mean differences were compared with 't' values of 2.02 (.05 level) and 2.66 (.01 level) for their significance. It was observed that there was significant difference between highly deprived young pupils and highly deprived old pupils, lowly deprived young pupils and highly deprived old pupils, and highly deprived old pupils and lowly deprived old pupils on memory. In the light of these results it can be said that highly deprived young pupils are better than highly deprived old pupils, lowly deprived young pupils, are better than highly deprived old pupils and lowly deprived old pupils are better than highly deprived old pupils on memory.

The F value for the interaction effect of sex, age and deprivation is equal to 6.47 which is significant at .05 level. This implies that sex, age and deprivation jointly do affect memory. The intergroup means are presented in table No.15.

TABLE NO.16

Interaction between sex, age and deprivation

	HIGH DEPRIVATION		LOW DEPRIVATION	
	BOYS	GIRLS	BOYS	GIRLS
	N = 66	N = 51	N = 38	N = 63
YOUNG	M = 30.12 **a**	M = 30.20 **b**	M = 31.76 **c**	M = 31.60 **d**
	N = 67	N = 51	N = 39	N = 64
OLD	M = 24.81 **e**	M = 30.04 **f**	M = 32.13 **g**	M = 31.81 **h**

SEd = 2.09

With 431 df 't' at .05 level = 1.97 x 2.09 = 4.12

.01 level = 2.59 x 2.09 = 5.42

a-b = 30.12 - 30.20 = 0.08 NS

a-c = 30.12 - 31.76 = 1.64 NS

a-d = 30.12 - 31.60 = 1.48 NS

a-e = 30.12 - 24.81 = 5.31 .05

a-f = 30.12 - 30.04 = 0.08 NS

a-g = 30.12 - 32.13 = 2.01 NS

a-h = 30.12 - 31.81 = 1.69 NS

b-c = 30.20 - 31.76 = 1.56 NS

b-d = 30.20 - 31.60 = 1.4 NS

b-e = 30.20 - 24.81 = 5.39 .05

b-f = 30.20 - 30.04 = 0.16 NS

b-g = 30.20 - 32.13 = 1.93 NS

b-h = 30.20 - 31.81 = 1.61 NS

c-d = 31.76 - 31.60 = 0.16 NS

c-e = 31.76 - 24.81 = 6.95 .01

c-f = 31.76 - 30.04 = 1.72 NS

c-g = 31.76 - 32.12 = 0.37 NS

c-h = 31.76 - 31.81 = 0.05 NS

d-e = 31.60 - 24.81 = 6.79 .01

d-f = 31.60 - 30.04 = 1.56 NS

d-g = 31.60 - 32.13 = 0.53 NS

e-f = 24.81 - 30.04 = 5.23 .05

e-g = 24.81 - 32.13 = 7.32 .01

e-h = 24.81 - 31.81 = 7.00 .01

f-g = 30.04 - 32.13 = 2.09 NS

f-h = 30.04 - 31.81 = 1.77 NS

g-h = 32.13 - 31.81 = 0.32 NS

The intergroup mean differences were compared with 't' values of 4.12 (.05 level) and 5.42 (.01 level). It was observed that there was significant difference between highly deprived young boys and highly deprived old boys, highly deprived young girls and highly deprived old boys, lowly deprived young girls and highly deprived old boys lowly deprived young girls and highly deprived old boys, highly deprived old boys and highly deprived old girls, highly deprived old boys and lowly deprived old boys, and highly deprived old boys and lowly deprived old girls.

In the light of these results it can be said that highly deprived young boys are better than highly deprived old boys. Highly deprived young girls are better than highly deprived old boys. Lowly deprived young boys are better than highly deprived old boys. Lowly deprived young girls are better than highly deprived old boys. Highly deprived old girls are better than highly deprived old boys. Lowly deprived old boys are better than highly deprived old boys. Lowly deprived old girls are better than highly deprived old boys on memory.

TABLE NO.17

A 2 x 2 x 2 FACTORIAL DESIGN FOR VISUAL PERCEPTION

SOURCE OF VARIANCE	DF	SUM OF SQUARES	MEAN SQUARES	F	SIGNIFICANCE
MAIN EFFECTS					
SEX	1	35.60	35.60	.93	NS
AGE	1	9.36	9.36	.25	NS
DEPRIVATION	1	828.10	828.10	21.62	.01
2 WAY INTERACTION					
SEX X AGE	1	23.20	23.20	.60	NS
SEX X DEPRIVATION	1	77.20	77.20	2.02	NS
AGE X DEPRIVATION	1	53.84	53.84	1.40	NS
3 WAY INTERACTION					
SEX X AGE X DEP	1	20.00	20.00	.53	NS
S S BETWEEN	7	1162.39	166.06	4.34	NS
S S WITHIN	431	16512.78	38.31		
TOTAL	438				

TABLE NO. 18

NUMBER AND MEAN SCORES ON VISUAL PERCEPTION

	NUMBER	MEAN
BOYS	210	28.33
GIRLS	229	29.44
YOUNG	218	29.05
OLD	221	29.76
HIGH DEPRIVATION	235	27.55
LOW DEPRIVATION	204	30.47

Table 17 and 18 show the results of visual perception ability in relation to sex, age and deprivation. The table seventeen shows the main effects of sex, age and deprivation as well as interaction effects. Beginning with the main effect of sex variable it is observed that F value is .93 which

is not significant at .05 level. It means that boys and girls do not differ from each other on visual perception ability. This implies that sex as a variable does not affect the visual perception, In the light of these findings the null hypothesis that sex will have no effect on visual perception is accepted. WIth regard to age, the F value is found to be .25 which is also not significant at .05 level, this means that young pupils (below 12 years) and old pupils (above 12 years) do not differ from each other in the visual perception. This shows that age also does not account for variation in visual perception. Thus in the light of these results the null hypothesis that age will have no effect on visual perception is accepted. Examining the effect of deprivation on visual perception it is observed that the F value for this variable is 21.62 which is significant at .01 level. This means deprived and non deprived children differ in their visual perception. Further it can be said that variations in visual perception are because of degree of deprivation. Looking to the mean scores (presented in table no.18) of high deprived and low deprived pupils it is seen that the mean score of high deprived children is 27.55 and low deprived children is 30.47. The inference that can be drawn from these scores is that low deprived children are better on visual perception than high deprived children. Thus in the light of present results the null hypothesis that deprivation will have no effect on visual perception is rejected.

The F value for the interaction of age and sex is .60 which is not significant at .05 level. Similarly, the F values for sex and deprivation and age and deprivation are 2.02 and 1.40 respectively both these values are not significant. This implies that sex and age, sex and deprivation, and age and deprivation jointly do not influence visual perception.

The F value for the interaction effect of sex, age and deprivation is equal to .53 which is not significant at .05 level. This implies that sex, age and deprivation jointly do not affect visual perception.

TABLE NO. 19

A 2 x 2 x 2 FACTORIAL DESIGN FOR AUDITORY COMPREHENSION

SOURCE OF VARIANCE	DF	SUM OF SQUARES	MEAN SQUARES	F	SIGNIFICANCE
MAIN EFFECTS					
SEX	1	10.60	10.60	.44	NS
AGE	1	56.96	56.96	2.33	NS
DEPRIVATION	1	214.36	214.36	8.75	.01
2 WAY INTERACTION					
SEX X AGE	1	23.27	23.27	0.95	NS
SEX X DEPRIVATION	1	28.90	28.90	1.18	NS
AGE X DEPRIVATION	1	20.67	20.67	0.85	NS
3 WAY INTERACTION					
SEX X AGE X DEP	1	41.92	41.92	1.71	NS
S S BETWEEN	7	417.43	59.63		
S S WITHIN	431	10567.66			
TOTAL	438				

TABLE NO. 20

NUMBER AND MEAN SCORES ON AUDITORY COMPREHENSION

	NUMBER	MEAN
BOYS	210	27.76
GIRLS	229	28.34
YOUNG	218	27.70
OLD	221	28.43
HIGH DEPRIVATION	235	27.37
LOW DEPRIVATION	204	28.86

Table 19 and 20 show the results of auditory comprehension in relation to sex, age and deprivation. For the main effect of sex variable F value is .44 which is not significant at .05 level. It means that boys and girls do not differ from each other on auditory comprehension. This implies

that sex is a variable does not effect the auditory comprehension. In the light of these findings the null hypothesis that sec will have no effect on auditory comprehension is accepted. With regard to age, the F value is found to be 2.33 which is also not significant at .05 level. This means that young pupils (below 12 years) and old pupils (above 12 years) do not differ from each other in auditory comprehension. This shows that age also does not account for variation in auditory comprehension. Thus in the light of these results the null hypothesis that age will have no effect auditory comprehension is accepted. Examining the effect of deprivation on auditory comprehension it is observed that the F value for this variable is 8.75 which is significant at .01 level. This means that deprived and non deprived children differ in their auditory comprehension. Further it can be said that variations in auditory comprehension are because of degree of deprivation. Looking to the mean scores (table no. 20) of high deprived and low deprived pupils it is seen that the mean score of high deprived children is 27.37 and of low deprived children is 28.86. The inference that can be drawn from these scores is that low deprived children are better on auditory comprehension than high deprived children. Thus in the light of present results the null hypothesis that deprivation will have no effect on auditory comprehension is rejected.

The F value for the interaction of sex and age is .95 which is not significant at .05 level. Similarly the F values for sex and deprivation and age and deprivation are 1.18 and .85 respectively. Both these values are not significant. This implies that sex and age, sex and deprivation, and age and deprivation jointly do not influence auditory comprehension.

The F value for the interaction effect of sex, age and deprivation is equal 1.71 which is not significant at .05 level. This shows that sex, age and deprivation jointly do not effect auditory comprehension.

TABLE NO.21

A 2 x 2 x 2 FACTORIAL DESIGN FOR ACHIEVEMENT IN MATHEMATICS

SOURCE OF VARIANCE	DF	SUM OF SQUARES	MEAN SQUARES	F	SIGNIFICANCE
MAIN EFFECTS					
SEX	1	11736.33	11736.33	52.69	.01
AGE	1	973.19	973.19	4.60	.05
DEPRIVATION	1	1792.22	1792.22	8.48	.01
2 WAY INTERACTION					
SEX X AGE	1	3185.45	3185.45	15.08	.01
SEX X DEPRIVATION	1	8035.38	8035.38	38.03	.01
AGE X DEPRIVATION	1	118.89	118.89	.563	NS
3 WAY INTERACTION					
SEX X AGE X DEP	1	27.50	27.50	.130	NS
S S BETWEEN	7	27866.57	3980.94		
S S WITHIN	431	91085.59	211.34		
TOTAL	438				

TABLE NO. 22

NUMBER AND MEAN ACHIEVEMENT SCORES IN MATHEMATICS

	NUMBER	MEAN
BOYS	210	29.80
GIRLS	229	40.84
YOUNG	218	34.07
OLD	221	37.03
HIGH DEPRIVATION	235	32.74
LOW DEPRIVATION	204	38.81

Table No. 21 and 22 show the results of achievement in mathematics marks in relation to sex, age, and deprivation. The table twenty one shows the main effects of sex, age, and deprivation as well as interaction effect on achievement in mathematics (marks).

Beginning with the main effect of sex variable it is observed that F value is 52.695 which is significant at .01 level. It means that boys and girls differ from each other in achievement in mathematics. This implies that sex as a variable does effect the mathematical ability. In the light of these finding the null hypothesis that sex will have no effect on mathematics is rejected. With regard to age the F value is found to be 4.60 which is also significant at .05 level. This means that young pupils (below 12 years) old pupils (above 12 years) differ from each other in mathematics achievement. This shows that age also accounts for variations in mathematic ability. Thus in the light of these results the null hypothesis that age will have no effect on achievement in mathematics is rejected. Examining the effect of deprivation on mathematical achievement it is observed that F value for this variable is 8.48 which is significant at .01 level. This means deprived and non deprived children differ in their mathematical achievement. Looking to the mean scores (table no.22) of high deprived and low deprived pupils it is seen that the mean score of high deprived children is 32.74 and of low deprived children is 30.81. The inference that can be drawn from these scores is that low deprived children are better on achievement in mathematics than high deprived children. Thus in the light of the present results the null hypothesis that deprivation will have no effect on achievement in mathematics is rejected.

The F values for sex and age and sex and deprivation are 15.08 and 38.03 respectively. Both these values are significant at .01 level. This implies that sex and age and sex and deprivation jointly do influence the scholastic achievement in mathematics.

TABLE NO.23

Interaction between sex and age

	YOUNG	OLD
	N = 104	N = 106
MALE	M = 31.31 **a**	M = 28.33 **b**
	N = 114	N = 115
FEMALE	M = 36.59 **c**	M = 45.05 **d**

SEd = 2.78

With 431 df 't' at .05 level = 1.97 x 2.78 = 5.48

.01 level = 2.59 x 2.78 = 7.19

a-b = 31.31 - 28.33 = 2.98 NS

a-c = 31.31 - 36.59 = 5.28 NS

a-d = 31.31 - 45.05 = 13.74 .01

b-c = 28.33 - 36.59 = 8.26 .01

b-d = 28.33 - 45.05 = 16.72 .01

c-d = 36.59 - 45.05 = 8.46 .01

The intergroup mean differences were compared with 't' values of 5.48 (.05 level) and 7.19 (.01 level). It was observed that there was significant difference between male young pupils and female old pupils, male old pupils and female young pupils, male old and female old pupils, and female young and female old pupils in mathematics achievement. In the light of these results it can be said that female old pupils are better than male young pupils, female young pupils are better than male old pupils, female old pupils are better than male old pupils, and female old pupils are better than male young pupils in mathematics achievement.

TABLE NO.24

Interaction between sex and deprivation

	BOYS	GIRLS
	N = 133	N = 77
HD	M = 31.74 **a**	M = 26.45 **b**
	N = 102	N = 127
LD	M = 34.04 **c**	M = 46.30 **d**

SEd = 2.84

With 431 df 't' at .05 level = 1.97 x 2.84 = 5.59

.01 level = 2.59 x 2.84 = 7.36

a-b = 31.74 - 26.45 = 5.29 NS

a-c = 31.74 - 34.04 = 2.3 NS

a-d = 31.74 - 46.30 = 14.56 .01

b-c = 26.45 - 34.04 = 7.59 .01

b-d = 26.45 - 46.30 = 19.85 .01

c-d = 34.04 - 46.30 = 12.26 .01

The intergroup mean differences were compared with 't' values of 5.59 (.05 level) and 7.36 (.01 level). It was observed that there was significant difference between highly deprived boys and lowly deprived girls, highly deprived girls and lowly deprived boys and lowly deprived boys and lowly deprived girls in achievement in mathematics. In the light of these results it can be said that lowly deprived girls are better than highly deprived boys, lowly deprived boys are better than highly deprived girls, lowly deprived girls are better than highly deprived girls and lowly deprived girls are better than lowly deprived boys, in mathematics achievement.

The F value for the interaction of age and deprivation is .57 which is not significant at .05 level. This implies that age and deprivation do not influence mathematics achievement.

The F value for the interaction effect of sex, age and deprivation is equal to .13 which is not significant at .05 level. This implies that sex, age and deprivation jointly do not effect in achievement in mathematics.

TABLE NO. 25

A 2 x 2 x 2 FACTORIAL DESIGN FOR ACHIEVEMENT IN HINDI

SOURCE OF VARIANCE	DF	SUM OF SQUARES	MEAN SQUARES	F	SIGNIFICANCE
MAIN EFFECTS					
SEX	1	1118.19	1118.19	9.86	.01
AGE	1	430.06	430.06	3.79	NS
DEPRIVATION	1	774.89	774.89	6.84	.01
2 WAY INTERACTION					
SEX X AGE	1	290.06	290.06	2.56	NS
SEX X DEPRIVATION	1	615.70	615.70	5.43	.05
AGE X DEPRIVATION	1	1414.03	1414.03	12.47	.01
3 WAY INTERACTION					
SEX X AGE X DEP	1	4987.15	4987.15	43.97	NS
S S BETWEEN	7	9866.62	1409.52	12.43	
S S WITHIN	431	48885.29	113.43		
TOTAL	438				

TABLE NO. 26

NUMBER AND MEAN ACHIEVEMENT SCORES IN HINDI

	NUMBER	MEAN
BOYS	210	23.60
GIRLS	229	27.36
YOUNG	218	24.57
OLD	221	26.57
HIGH DEPRIVATION	235	24.02
LOW DEPRIVATION	204	27.35

Table No. 25 and 26 show the results of achievement in Hindi marks in relation to sex, age and deprivation. Table 25 shows the main effect of sex, age and deprivation as well as interaction effect. Beginning with the main effect of sex variable it is observed that F value is 9.86 which is significant at .01 level. This means male and female children differ in their Hindi language marks. Further it can be said that variations in achievement in Hindi are because of sex difference. Looking to the mean scores (table no.26) of male and female pupils it is seen that the mean score of male student is 23.60 and of female students 27.36. The inference that can be drawn from these scores is than female student are better in learning Hindi than male students. Thus in the light of present result the null hypothesis that sex will have no effect on Hindi language marks is rejected. With regard to age F value is found to be 3.79 which is not significant at .05 level. This means that young pupils (below 12 years) and old pupils (above 12 years) do not differ from each other in achievement in Hindi marks. This shows that age does not account for variations in the performance of Hindi subject. Thus in the light of these results the null hypothesis that age will have no effect on learning of Hindi language is accepted. Examining the effect of deprivation on achievement in Hindi subject it is observed that the F value for this variable is 6.84 which is significant at .01 level. This means deprived and non deprived children differ in their achievement of Hindi marks. Further it can be said that variations in Hindi language are because of degree of deprivation. Looking to the mean score (table no.26) of high deprived and low deprived pupils it is seen that the mean score of high deprived and low deprived children are 24.02 and 27.35 respectively. The inference that can be drawn from these scores is that low deprived children achieve more marks in Hindi subject than high deprived children. Thus in the light of the present result that the null hypothesis that deprivation will have no effect on Hindi learning is rejected.

The F value for the interaction of age and sex is 2.56 which is notsignificant at .05 level but the F values for sex and deprivation and age and deprivation are 5.43 and 12.47 respectively. Both these values are significant at .05 level and .01 level respectively. This implies that sex and deprivation and age and deprivation jointly do influence the achievement in Hindi subject.

In order to see intergroup mean differences for the interaction effect of sex and deprivation and age and deprivation, Tukey's gap test was applied.

TABLE NO. 27

Interaction between sex and deprivation

	BOYS	GIRLS
	N = 133	N = 77
HD	M = 23.56 **a**	M = 23.69 **b**
	N = 102	N = 127
LD	M = 24.62 **c**	M = 29.57 **d**

SEd = 2.09

With 431 df 't' at .05 level = 1.97 x 2.09 = 4.10

.01 level = 2.59 x 2.09 = 5.39

a-b = 23.56 - 23.69 = 0.13 NS

a-c = 23.56 - 24.62 = 1.06 NS

a-d = 23.56 - 29.57 = 6.01 .01

b-c = 23.69 - 24.62 = 0.93 NS

b-d = 23.69 - 29.57 = 5.88 .01

c-d = 24.62 - 29.57 = 4.95 .05

The intergroup mean differences were compared with 't' values of 4.10 (.05 level) and 5.39 (.01 level). It was observed that there was significant difference between highly deprived boys and the lowly deprived girls,

highly deprived girls and lowly deprived girls, lowly deprived boys and lowly deprived girls in Hindi subject marks.

In the light of these results it can be said that lowly deprived girls are better than highly deprived boys, lowly deprived girls are better than highly deprived girls and lowly deprived girls are better than lowly deprived boys in achievement of Hindi language marks.

TABLE NO. 28

Interaction between age and deprivation

	HD	LD
	N = 117	N = 101
YOUNG	M = 24.59 **a**	M = 24.54 **b**
	N = 118	N = 103
OLD	M = 23.45 **c**	M = 30.10 **d**

SEd = 2.04

With 431 df 't' at .05 level = 1.97 x 2.04 = 4.02

.01 level = 2.59 x 2.04 = 5.29

a-b = 24.59 - 24.54 = 0.05 NS

a-c = 24.59 - 23.45 = 1.14 NS

a-d = 24.59 - 30.10 = 5.51 .01

b-c = 24.54 - 23.45 = 1.09 NS

b-d = 24.54 - 30.10 = 5.56 .01

c-d = 23.45 - 30.10 = 6.65 .05

The intergroup mean difference were compared with 't' values of 4.02 (.05 level) 5.29 (.01 level). It was observed that there was significant difference between highly deprived young pupils and lowly deprived old pupils, lowly deprived young pupils and lowly deprived old pupils, highly deprived old pupils and lowly deprived old pupils on Hindi marks.

In the light of these results it can be said that lowly deprived old pupils are better than highly deprived young pupils, lowly deprived old pupils are better than lowly deprived young pupils and lowly deprived old pupils are better than highly deprived old pupils in achievement of Hindi language.

TABLE NO. 29

Interaction between sex, age and deprivation

	HIGH DEPRIVATION		LOW DEPRIVATION	
	BOYS	GIRLS	BOYS	GIRLS
	N = 66	N = 51	N = 38	N = 63
YOUNG	M = 20.67 **a**	M = 29.67 **b**	M = 24.58 **c**	M = 24.52 **d**
	N = 67	N = 51	N = 39	N = 64
OLD	M = 26.40 **e**	M = 19.57 **f**	M = 22.82 **g**	M = 34.54 **h**

SEd = 4.17

With 431 df 't' at .05 level = 1.97 x 4.17 = 8.20

.01 level = 2.59 x 4.17 = 10.79

a-b = 20 67 - 29.67 = 9.00 .05

a-c = 20.67 - 27.58 = 3.91 NS

a-d = 20.67 - 24.52 = 3.85 NS

a-e = 20.67 - 26.40 = 5.73 .05

a-f = 20.67 - 19.57 = 1.10 NS

a-g = 20.67 - 22.82 = 2.15 NS

a-h = 20.67 - 34.53 = 13.86 NS

b-c = 29.67 - 24.58 = 5.09 NS

b-d = 29.67 - 24.52 = 5.15 NS

b-e = 29.67 - 26.40 = 3.27 NS

b-f = 29.67 - 19.57 = 10.10 .05

b-g = 29.67 - 22.82 = 6.85 NS

b-h = 29.67 - 34.53 = 4.86 NS

c-d = 24.58 - 24.52 = 0.06 NS

c-e = 24.58 - 26.40 = 1.82 NS

c-f = 24..58 - 19.57 = 5.01 NS

c-g = 24.58 - 22.82 = 1.76 NS

c-h = 24.58 - 34.53 = 9.95 .05

d-e = 24.52 - 26.40 = 1.88 NS

d-f = 24.52 - 19.57 = 4.95 NS

d-g = 24.52 - 22.82 = 1.70 NS

d-h = 24.52 - 34.53 = 10.01 .05

e-f = 26.40 - 19.57 = 6.83 NS

e-g = 26.40 - 22.82 = 3.58 NS

e-h = 26.40 - 34.53 = 8.13 .05

f-g = 19.57 - 22.82 = 3.25 NS

f-h = 19.57 - 34.53 = 14.98 .01

g-h = 22.82 - 34.53 = 11.71 .01

The intergroup mean differences were compared with 't' values of 8.20 (.05 level) and 10.97 (.01 level). It was observed that there was significant difference between highly deprived young boys and highly deprived young girls, highly deprived young boys and lowly deprived old girls, highly deprived young girls and highly deprived old girls, lowly deprived young boys and lowly deprived old girls, lowly deprived young girls and lowly deprived old girls, highly deprived old boys and lowly deprived old girls, highly deprived old girls and lowly deprived old girls, and lowly deprived old boys and lowly deprived old girls, in achievement of Hindi marks.

In the light of these results it can be said that highly deprived young girls are better than highly deprived young boys. Lowly deprived old girls are better than highly deprived young boys, highly deprived young girls are better than highly deprived old girls, lowly deprived old girls are better than lowly deprived young boys, lowly deprived old girls are

better than lowly deprived young girls, lowly deprived old girls are better than highly deprived old boys, highly deprived old girls, are better than highly deprived old girls and lowly deprived old girls are better than lowly deprived old boys in achievement of Hindi marks.

TABLE NO. 30

A 2 x 2 x 2 FACTORIAL DESIGN FOR ACHIEVEMENT IN SCIENCE

SOURCE OF VARIANCE	DF	SUM OF SQUARES	MEAN SQUARES	F	SIGNIFICANCE
MAIN EFFECTS					
SEX	1	9961.79	9961.79	63.60	.01
AGE	1	305.54	305.54	1.96	NS
DEPRIVATION	1	3234.66	3234.66	20.66	.01
2 WAY INTERACTION					
SEX X AGE	1	18.20	18.20	.12	NS
SEX X DEPRIVATION	1	3864.56	3864.56	24.68	.01
AGE X DEPRIVATION	1	83.60	83.60	.54	NS
3 WAY INTERACTION					
SEX X AGE X DEP	1	73.10	73.10	.47	NS
S S BETWEEN	7	20228.39	2889.77		
S S WITHIN	431	67504.40	136.63		
TOTAL	438				

TABLE NO. 31

NUMBER AND MEAN ACHIEVEMENT SCORES IN SCIENCE

	NUMBER	MEAN
BOYS	210	24.84
GIRLS	229	35.60
YOUNG	218	31.30
OLD	221	29.62
HIGH DEPRIVATION	235	27.03
LOW DEPRIVATION	204	34.40

Table No. 30 shows the result of achievement in science marks in relation to sex, age and deprivation. The table shows the main effect of sex age and deprivation as well as interaction effect. Beginning with the main effect of sex variable it is observed that F value is 63.60 which is significant at .01 level. This means boys and girls differ in their science subject marks. Further it can be said that variations in achievement in Science subject are because of difference in sex. Looking to the mean marks (table no. 31) of boys and girls it is seen that the mean marks of boys are 24.84 and of girls 35.60. The inference that can be drawn from these marks is the girl student are better in achievement in science subject than boy students. Thus in the light of present results the null hypothesis that sex will have no effect on achievement in Science subject marks is rejected. With regard to age the F value is found to be 1.96 which is not significant at .05 level. This means that young pupils (below 12 years) and old pupils (above 12 years) do not differ from each other in the science achievement. This shows that age does not account for variation in achievement in science subject performance. Thus in the light of these results the null hypothesis that age will have no effect on science marks is accepted. Examining the effect of deprivation on achievement in science marks it is observed that the F value for this variable is 20.66 which is significant at .01 level. This means deprived and non-deprived children differ in their achievement of Science marks. Further it can be said that variations in achievement in Science subject are because of degree of deprivation. Looking to the mean marks (table no. 31) of high deprived and low deprived pupils it is seen that the mean marks of high deprived children are 27.03 and of low deprived children 34.40. The inference that can be drawn from these marks is that low deprived children perform better in Science subject than high deprived children. Thus in the light of the present result, the null hypothesis that deprivation will have no effect on Science Subject marks is rejected.

The F value for the interaction of sex, and age is .12 which is not significant at .05 level, but the F value for sex and deprivation 24.68 which is significant at .01 level. This emplies that sex and deprivation do influence Science subject marks.

In order to see the intergroup mean differences for the interaction effect of sex and deprivation Tukey's gap test was applied, the result of which are presented in table no. 32.

TABLE NO. 32

Interaction between sex and deprivation

	BOYS	GIRLS
	N = 133	N = 77
HD	M = 25.20 **a**	M = 24.22 **b**
	N = 102	N = 127
LD	M = 29.41 **c**	M = 40.57 **d**

SEd = 2.45

With 431 df 't' at .05 level = 1.97 x 2.45 = 4.82

.01 level = 2.59 x 2.45 = 6.34

a-b = 25.20 - 24.22 = 0.98 NS

a-c = 25.20 - 29.41 = 4.21 NS

a-d = 25.20 - 40.57 = 15.37 .01

b-c = 24.22 - 29.41 = 5.19 .05

b-d = 24.22 - 40.57 = 16.35 .01

c-d = 29.41 - 40.57 = 11.16 .01

The intergroup mean difference were compared with 't' values of 4.82 (.05 level) and 6.34 (.01 level). It was observed that there was significant difference between highly deprived boys and lowly deprived girls, highly deprived girls and lowly deprived boys, and lowly deprived boys and lowly deprived girls in achievement of Science subject marks.

In the light of these results it can be said that lowly deprived girls are better than highly deprived boys, lowly deprived boys are better than highly deprived girls, lowly deprived girls are better than highly deprived girls, and lowly deprived girls are better than lowly deprived boys.

Similarly the F value for the interaction of age and deprivation is .54 which is not significant at .05 level. This implies that age and deprivation jointly do not influence achievement in Science subject.

The F value for the interaction effect of sex, age and deprivation is equal .47 which too is not significant at .05 level, implying that sex, age and deprivation jointly do not affect Science performance.

TABLE NO. 33

A 2 x 2 x 2 FACTORIAL DESIGN FOR ACHIEVEMENT IN SOCIAL STUDIES

SOURCE OF VARIANCE	DF	SUM OF SQUARES	MEAN SQUARES	F	SIGNIFICANCE
MAIN EFFECTS					
SEX	1	7585.09	7585.09	55.93	.01
AGE	1	17.05	17.05	.13	NS
DEPRIVATION	1	1443.79	1443.79	10.65	.01
2 WAY INTERACTION					
SEX X AGE	1	1210.47	1210.47	8.93	.01
SEX X DEPRIVATION	1	2327.16	2327.16	17.16	.01
AGE X DEPRIVATION	1	1401.90	1401.90	10.34	.01
3 WAY INTERACTION					
SEX X AGE X DEP	1	1267.58	1267.58	9.35	.01
S S BETWEEN	7	17479.39	2497.06	18.42	
S S WITHIN	431	58455.67	135.63		
TOTAL	438				

TABLE NO. 34

NUMBER AND MEAN ACHIEVEMENT SCORES IN SOCIAL STUDIES

	NUMBER	MEAN
BOYS	210	24.56
GIRLS	229	33.73
YOUNG	218	29.15
OLD	221	29.53
HIGH DEPRIVATION	235	26.88
LOW DEPRIVATION	204	32.18

Table No. 33 and 34 show the result of social studies marks in relation to sex,age and deprivation. The table 34 shows the main effect of sex, age and deprivation as well as interaction effect. Beginning with the main effect of sex variable it is observed that F value is 55.93 which is significant at .01 level. This means that boys and girls differ in their achievement of social studies marks. Further it can be said that variations in achievement in social studies are because of sex differences. Looking to the mean marks (table no. 34) of boy and girl students it is seen that the mean marks of boy students are 24.56 and of girl students 33.73. The conclusion that can be drawn from these marks is that girls do better in social studies subjects than boys. Thus in the light of present result the null hypothesis that sex will have no effect on achievement in Social studies is rejected. With regard to age the F value is found to be .13 which is not significant at .05 level. This means that young pupils (below 12 years) and old pupils (above 12 years) do not differ from each other in achievement of social studies marks. This shows that age does not account for variation in achievement in social studies. Thus in the light of these results the null hypothesis that age will have no effect on achievement in Social Studies is accepted. Examining the effect of deprivation on Social Science marks it is observed that the F value for this variables is 10.65 which is significant at .01 level. This means deprived and non deprived children differ in

their performance of social studies subject. Further it can be said that variations in achievement in Social Studies are because of degree of deprivation. Looking to the mean score marks (table no. 34) of high deprived and low deprived pupils it is seen that the mean score of high deprived student is 26.88 and low deprived student is 32.18. The inference that can be drawn from these scores is that low deprived children perform better in social studies than high deprived children. Thus in the light of the present result the null hypothesis that deprivation will have no effect on achievement in Social Studies is rejected.

The F value for the interaction of age and sex, and sex and deprivation and age and deprivation are 8.93, 17.16 and 10.34 respectively. All these three values are significant at .01 level. This implies that sex and age, sex and deprivation and age and deprivation all jointly do influence the achievement in social studies.

TABLE NO. 35

Interaction between age and sex

	YOUNG	OLD
	N = 104	N = 106
MALE	M = 26.51 **a**	M = 22.56 **b**
	N = 114	N = 115
FEMALE	M = 31.65 **c**	M = 35.88 **d**

SEd = 2.23

With 431 df 't' at .05 level = 1.97 x 2.23 = 4.39

.01 level = 2.59 x 2.23 = 5.77

a-b = 26.51 - 22.65 = 3.86 NS

a-c = 26.51 - 31.56 = 5.05 .05

a-d = 26.51 - 35.88 = 9.37 .01

b-c = 22.65 - 31.56 = 8.91 .01

b-d = 22.65 - 35.88 = 13.23 .01

c-d = 31.56 - 35.88 = 4.32 .05

In order to see the intergroup mean differences for the interaction effect of sex and age, age and deprivation and sex and deprivation Tukey's gap test was applied. These results are presented in table No. 35. The intergroup mean differences were compared with 't' values of 4.39 (.05 level) 5.77 (.01 level). It was observed that there was significant difference between male young pupils and female young pupils, male young pupils and female old pupils, male old pupils and female young pupils, male old pupils and female old pupils and female young pupils and female old pupils in social studies performance.

In the light of these findings it can be said that female young pupils are better than male young pupils, female old pupils are better than male young pupils, female young pupils are better than male old pupils, female old pupils are better than male old pupils, female old pupils are better than female young pupils.

TABLE NO. 36

Interaction between sex and deprivation

	BOYS	GIRLS
	N = 133	N = 77
HD	M = 25.06 **a**	M = 23.70 **b**
	N = 102	N = 127
LD	M = 29.25 **c**	M = 37.52 **d**

SEd = 2.28

With 431 df 't' at .05 level = 1.97 x 2.28 = 4.49

.01 level = 2.59 x 2.28 = 5.89

a-b = 25.06 - 23.70 = 1.36 NS

a-c = 25.06 - 29.25 = 4.19 NS

a-d = 25.06 - 37.32 = 12.26 .01

b-c = 23.70 - 29.25 = 5.25 .05

b-d = 23.70 - 37.32 = 13.62 .01

c-d = 29.25 - 37.32 = 8.07 .01

The intergroup mean differences were compared with 't' values of 4.39 (.05 level) 5.78 (.01 level). It was observed that there was significant difference between highly deprived young pupils and highly deprived old pupils, lowly deprived young pupils and highly deprived old pupils, lowly deprived young pupils and lowly deprived old pupils an highly deprived old pupils and lowly deprived old pupils in achievement in Social Studies marks.

In the light of these findings it can be said that lowly deprived old pupils are better than highly deprived young pupils, lowly deprived young pupils are better than highly deprived old pupils, lowly deprived old pupils are better than lowly deprived young pupils, and lowly deprived old pupils are better than highly deprived old pupils in achievement of social studies.

TABLE NO. 37

Interaction between sex, age and deprivation

	HIGH DEPRIVATION		LOW DEPRIVATION	
	BOYS	GIRLS	BOYS	GIRLS
	N = 66	N = 51	N = 38	N = 63
YOUNG	M = 26.97 **a**	M = 30.92 **b**	M = 25.71 **c**	M = 32.08 **d**
	N = 67	N = 51	N = 39	N = 64
OLD	M = 23.18 **e**	M = 27.59 **f**	M = 21.74 **g**	M = 42.48 **h**

SEd = 4.56

With 431 df 't' at .05 level = 1.97 x 4.56 = 8.97

.01 level = 2.59 x 4.56 = 11.79

a-b = 26.97 - 30.92 = 3.95 NS

a-c = 26.97 - 25.71 = 1.26 NS

a-d = 26.97 - 32.08 = 5.11 NS

a-e = 26.97 - 23.18 = 3.79 NS

a-f = 26.97 - 27.59 = 0.62 NS

a-g = 26.97 - 21.74 = 5.23 NS

a-h = 26.97 - 42.48 = 15.51 .01

b-c = 30.92 - 25.71 = 5.21 NS

b-d = 30.92 - 32.08 = 1.16 NS

b-e = 30.92 - 23.18 = 7.74 NS

b-f = 30.92 - 27.59 = 3.33 NS

b-g = 30.92 - 21.74 = 9.18 .05

b-h = 30.92 - 42.48 = 11.56 .05

c-d = 25.71 - 32.08 = 6.37 NS

c-e = 25.71 - 23.18 = 2.53 NS

c-f = 25.71 - 27.59 = 1.88 NS

c-g = 25.71 - 21.74 = 3.97 NS

c-h = 25.71 - 42.48 = 16.77 .01

d-e = 32.08 - 23.18 = 8.96 .05

d-f = 32.08 - 27.59 = 4.49 NS

d-g = 32.08 - 21.74 = 10.34 .05

d-h = 32.08 - 42.48 = 10.40 .05

e-f = 23.18 - 27.59 = 4.41 NS

e-g = 23.18 - 21.74 = 1.44 NS

e-h = 23.18 - 42.48 = 19.3 .01

f-g = 27.59 - 21.74 = 5.85 NS

f-h = 27.59 - 42.48 = 14.98 .01

g-h = 21.74 - 42.48 = 20.74 .01

The intergroup mean differences were compared with 't' values of 8.97 (.05 level) and 11.79 (.01 level). It was observed that there was significant difference between highly deprived young boys and lowly deprived old girls, highly deprived young girls and lowly deprived old boys, highly deprived young girls and lowly deprived old girls, lowly deprived young boys and lowly deprived old girls, lowly deprived young girls and highly deprived old boys, lowly deprived young girls and lowly deprived old boys, lowly deprived young girls and lowly deprived old girls, highly deprived old boys and lowly deprived old girls, highly deprived old girls and lowly deprived old girls, lowly deprived old boys and lowly deprived old girls in achievement of Social studies mark.

In the light of these results it can be said that highly deprived young boys are better than lowly deprived old girls, highly deprived young girls are better than lowly deprived old boys, highly deprived young girls are better than lowly deprived old girls, lowly deprived young boys are better than lowly deprived old girls, lowly deprived young girls are better than highly deprived old boys, lowly deprived young girls are better than lowly deprived old boys, lowly deprived old girls are better than lowly deprived young girls, highly deprived old girls are better than highly deprived old boys, lowly deprived old girls are better than highly deprived old girls, lowly deprived old girls are better than lowly deprived old boys on achievement in social studies.

TABLE NO .38

A 2 x 2 x 2 FACTORIAL DESIGN FOR ACHIEVEMENT IN GUJARATI

SOURCE OF VARIANCE	DF	SUM OF SQUARES	MEAN SQUARES	F	SIGNIFICANCE
MAIN EFFECTS					
SEX	1	9194.79	9194.79	91.46	.01
AGE	1	112.36	112.36	1.12	NS
DEPRIVATION	1	475.82	475.82	4.74	.05
2 WAY INTERACTION					
SEX X AGE	1	447.48	447.48	4.46	.05
SEX X DEPRIVATION	1	1132.12	1132.12	11.26	.01
AGE X DEPRIVATION	1	155.58	155.58	1.55	NS
3 WAY INTERACTION					
SEX X AGE X DEP	1	1031.03	1031.03	10.26	.01
S S BETWEEN	7	13843.90	1977.70		
S S WITHIN	431	43333.52	100.55		
TOTAL	438				

TABLE NO. 39

NUMBER AND MEAN ACHIEVEMENT SCORES IN GUJARATI

	NUMBER	MEAN
BOYS	210	21.89
GIRLS	229	31.62
YOUNG	218	26.46
OLD	221	27.46
HIGH DEPRIVATION	235	25.16
LOW DEPRIVATION	204	29.04

Table No. 38 and 39 show the result of Gujarati language marks in relation to sex, age and deprivation. The table No. 38 shows the main effect of sex, age and deprivation as well as interaction effect. Beginning with the main effect of sex variable it is observed that F value is 91.46 which is significant at .01 level. This means that boys and girls differ

in their Gujarati language achievement in the form of marks obtained in final examinations. Further it can be said that variations in performance in Gujarati language is because of sex. Looking to the mean scores (table no. 39) of boys and girls pupils it is seen that the mean score of boys is 27.89 and of girls is 31.62. The inference that can be drawn from these scores is that girl students are better in Gujarati language marks than boy students. Thus in the light of present results the null hypothesis that sex will have no effect on Gujarati language marks is rejected. With regard to age the F value is found to 1.12 which is not significant at .05 level. This means that young pupils (below 12 years) and old pupils (above 12 years) do not differ from each other in achievement of Gujarati language marks. This shows that age does not account for variation in Gujarati language achievement. Thus in the light of these results the null hypothesis that age will have no effect on Gujarati language is accepted. Examining the effect of deprivation on learning Gujarati language it is observed that the F value for this variable is 4.74 which is significant at .01 level. This means that deprived and non deprived children differ in their acquisition of Gujarati language. Further it can be said that variations in the performance of Gujarati language are because of degree of deprivation. Looking to the mean score (table no. 39) of high deprived and low deprived pupils it is seen that the mean score of high deprived children is 25.16 and of low deprived children is 29.04. The inference that can be drawn from these scores is that low deprived children are better on Gujarati language learning than high deprived children. Thus in the light of present results, the null hypothesis that deprivation will have no effect on achievement in Gujarati language is rejected.

The F values for the interaction of sex and age, and sex and deprivation are 4.46 and 11.26 respectively. Both the values are significant at .05 level and .01 level respectively. This implies that sex and age, and sex and deprivation jointly do influence in achievement in Gujarati.

TABLE NO. 40

Interaction between sex and age

	YOUNG	OLD
	N = 104	N = 106
MALE	M = 22.59 **a**	M = 21.21 **b**
	N = 114	N = 115
FEMALE	M = 30.00 **c**	M = 33.22 **d**

SEd = 1.92

With 431 df 't' at .05 level = 1.97 x 1.92 = 3.78

.01 level = 2.59 x 1.92 = 4.97

a-b = 22.59 - 21.21 = 1.38 NS

a-c = 22.59 - 30.00 = 7.41 .01

a-d = 22.59 - 33.22 = 10.63 .01

b-c = 21.21 - 30.00 = 8.79 .01

b-d = 21.21 - 33.22 = 12.01 .01

c-d = 30.00 - 33.22 = 3.22 NS

In order to see the intergroup mean differences for the interaction effect of sex and age and sex and deprivation Tukey's gap test was applied. These results are presented in table No. 40 and 41.

The intergroup mean differences were compared with 't' values of 3.78 (.05 level) 4.97 (.01 level). It was observed that there was significant difference between male young pupils and female young pupils; male young pupils and female old pupils; male old pupils and female young pupils; and male old pupils and female old pupils in achievement of Gujarati language.

Thus it can be said that female young pupils are better than male young pupils; female old pupils are better than male young pupils; female

young pupils are better than male old pupils; and female old pupils are better than male old pupils in learning Gujarati language.

TABLE NO. 41

Interaction between sex and deprivation

	BOYS	GIRLS
	N = 133	N = 77
HD	M = 22.41 **a**	M = 21.00 **b**
	N = 102	N = 127
LD	M = 28.75 **c**	M = 33.92 **d**

SEd = 1.96

With 431 df 't' at .05 level = 1.97 x 1.96 = 3.86

.01 level = 2.59 x 1.96 = 5.08

a-b = 22.41 - 21.00 = 1.41	NS
a-c = 22.41 - 28.75 = 6.34	.01
a-d = 22.41 - 33.92 = 11.51	.01
b-c = 21.00 - 28.75 = 7.75	.01
b-d = 21.00 - 33.92 = 12.92	.01
c-d = 29.75 - 33.92 = 5.17	.01

The intergroup mean differences were compared with 't' values of 3.86 (.05 level) and 5.08 (.01 level). It was observed that there was significant difference between highly deprived boys and lowly deprived boys; highly deprived boys and lowly deprived girls; highly deprived girls and lowly deprived boys; highly deprived girls and lowly deprived girls; and lowly deprived boys and lowly deprived girls in achievement of Gujarati language.

In the light of these findings it can be said that lowly deprived boys are better than highly deprived boys; lowly deprived girls are better than highly deprived boys; lowly deprived boys are better than highly

deprived girls; lowly deprived girls are better than highly deprived girls; and lowly deprived girls are better than lowly deprived boys in achievement of Gujarati language marks.

The F value for the interaction of age and deprivation is 1.55 which is not significant at .05 level. This implies that age and deprivation do not effect the achievement in Gujarati language.

The F value for the interaction effect of sex, age and deprivation is equal to 10.26 which is significant at .01 level. This indicates that sex, age and deprivation jointly do effect scholastic achievement of Gujarati language.

TABLE NO. 42

Interaction between sex, age and deprivation

	HIGH DEPRIVATION		LOW DEPRIVATION	
	BOYS	GIRLS	BOYS	GIRLS
	N = 66	N = 51	N = 38	N = 63
YOUNG	M = 22.30 **a**	M = 29.43 **b**	M = 23.08 **c**	M = 30.46 **d**
	N = 67	N = 51	N = 39	N = 64
OLD	M = 22.51 **e**	M = 28.06 **f**	M = 18.97 **g**	M = 37.33 **h**

SEd = 3.92

With 431 df 't' at .05 level = 1.97 x 3.92 = 7.72

.01 level = 2.59 x 3.92 = 10.15

a-b = 22.30 - 29.43 = 7.13	NS
a-c = 22.30 - 23.08 = 0.78	NS
a-d = 22.30 - 30.46 = 8.16	.05
a-e = 22.30 - 22.51 = 0.21	NS
a-f = 22.30 - 28.06 = 5.76	NS
a-g = 22.30 - 18.97 = 3.33	NS
a-h = 22.30 - 37.33 = 15.03	.01

b-c = 29.43 - 23.08 = 6.35 NS

b-d = 29.43 - 30.46 = 1.03 NS

b-e = 29.43 - 22.51 = 6.92 NS

b-f = 29.43 - 28.06 = 1.37 NS

b-g = 29.43 - 18.97 = 10.46 .01

b-h = 29.43 - 37.33 = 7.90 .05

c-d = 23.08 - 30.46 = 7.38 NS

c-e = 23.08 - 22.51 = 0.57 NS

c-f = 23.08 - 28.06 = 4.98 NS

c-g = 23.08 - 18.97 = 4.11 NS

c-h = 23.08 - 37.33 = 14.25 .01

d-e = 30.46 - 22.51 = 7.95 .05

d-f = 30.46 - 28.06 = 2.40 NS

d-g = 30.46 - 18.97 = 11.49 .01

d-h = 30.46 - 37.33 = 6.87 NS

e-f = 22.51 - 28.06 = 5.55 NS

e-g = 22.51 - 18.97 = 3.54 NS

e-h = 22.51 - 37.33 = 14.82 .01

f-g = 28.06 - 18.97 = 9.09 .05

f-h = 28.06 - 37.33 = 9.27 .05

g-h = 21.74 - 37.33 = 18.36 .01

The inter group mean differences were compared with 't' values of 7.22 (.05 level) and 10.15 (.01 level). It was observed that there was significant difference between highly deprived young boys and lowly deprived young girls; highly deprived young boys and lowly deprived old girls; highly deprived young girls and lowly deprived old boys; highly deprived young girls and lowly deprived old girls; lowly deprived young boys an lowly deprived old girls; lowly deprived deprived young girls and highly deprived old boys; lowly deprived young girls and lowly deprived old boys; highly deprived old boys and lowly deprived old girls; highly deprived old girls and lowly deprived old boys; highly deprived

old girls and lowly deprived old girls; lowly deprived old boys and lowly deprived old girls, in achievement of Gujarati language.

In the light of these results it can be said that lowly deprived young girls are better than highly deprived young boys; lowly deprived old girls are better than highly deprived young boys; highly deprived young girls are better than lowly deprived old boys; lowly deprived old girls are better than highly deprived young girls; lowly deprived old girls are better than lowly deprived young boys; lowly deprived young girls are better than highly deprived old boys; lowly deprived young girls are better than lowly deprived old boys; lowly deprived old girls are better than highly deprived old boys; highly deprived old girls are better than lowly deprived old boys; lowly deprived old girls are better than highly deprived old girls; lowly deprived old girls are better than lowly deprived old boys in achievement of Gurajati language.

PART II : CORRELATION BETWEEN DEPENDENT AND INDEPENDENT VARIABLES

The second part of research was concerned with the relationship between dependent and independent variables, wehre in separate correlations for boys and girls were computed. The details of the analysis and interpretations of the correlations is described in the following pages. It may be noted that majority of correlations are significant but negative. It is because deprivation is a negative condition, while learning difficulties and scholastic achievement being positive conditions. Thus significant negative relationship indicates that high scores on deprivation are associated with low scores on learning difficulties (i.e. greater learning difficulties) and low scores on academic achievement (poor achievement). In other words as the degree of deprivation increases, learning difficulties also increase and academic achievement decreases.

Table No. 43 shows relationship among the fifteen independent variables for boys. A close scrutiny shows that there are 105 Inter-correlations and all these correlations are significant at .01 level. Not only that the correlations are significant but the degree of relationship is also very high. The co-efficient of correlations range from .4651 to .8106. On the basis of these relationship it can be said that the fifteen independent variables be further reduced to few variables by way of factor analysis.

Table No. 44 shows the relationship among the fifteen independent variables for girls. A close scrutiny shows that there are 105 inter correlations and except two all these correlations are significant at .01 level. Not only that the correlations are significant but the degree of relationship is also very high. The co-efficients of correlation range from .1472 to .7504. On the basis of these relationships by way of factor analysis, some common factors can be identified.

It may be noticed that magnitude of relationship among independent variables is high in the case of boys than the girls. For the sample of boys the correlations range from .4651 to .8106, while in the case of girls they range from .1472 to .7504.

TABLE NO. 43

INTER-CORRELATION AMONG THE FIFTEEN INDEPENDENT VARIABLES FOR BOYS (N = 210)

	HOCO	HOME	ECOSU	FOOD	CLTG	EDUEX	CHHD	REEX	PARCH	INPAR	MOTEX	EMOEX	TRARE	RELEX	SOCUL
1. HOCO															
2. HOME	.6820														
3. ECOSU	.6210	.6169													
4. FOOD	.5841	.5483	.5696												
5 CLTG	6435	.7153	.6280	6716											
6. EDUEX	.6802	6804	6093	.5935	6756										
7. CHHD	.6800	.6611	.5292	5391	6870	.6671									
8. REEX	.7214	7072	.6419	.6092	7582	.7498	.7417								
9. PARCH	7054	.7189	6561	.6186	.7269	.7299	.7212	.8106							
10 INPAR	.6813	7158	.6169	.6020	6945	7338	.7272	.7630	.7485						
11 MOTEX	.6460	.6544	.6117	5422	6444	6615	.6624	.7205	7074	.6823					
12 EMOEX	.6263	6689	.5865	.5058	6180	.6116	6309	7143	.7239	6625	7461				
13. TRARE	6246	6653	5066	.5374	6129	6147	5900	6419	.6511	.6056	.6039	.6318			
14. RELEX	5623	5503	.5422	.4752	.5852	.6090	.5107	5885	5650	.5697	.5950	.5992	.6741		
15 SOCUL	.6076	5425	5656	.4651	6049	.5852	.6058	.5960	.6051	.5899	.6098	5553	.6522	.6456	

* All the correlations are significant at 01 level.

TABLE NO. 44

INTER-CORRELATION AMONG THE FIFTEEN INDEPENDENT VARIABLES FOR GIRLS (N = 229)

	HOCO	HOME	ECOSU	FOOD	CLTG	EDUEX	CHHD	REEX	PARCH	INPAR	MOTEX	EMOEX	TRARE	RELEX	SOCUL
1. HOCO															
2. HOME	.5088														
3. ECOSU	.4344	.4137													
4. FOOD	5572	.5873	.4470												
5. CLTG	.5130	.5809	.3689	.5556											
6. EDUEX	.6729	5790	.4442	.6097	.5852										
7. CHHD	6142	.5136	3998	.5587	.5317	.7504									
8 REEX	.5285	.4468	.3735	.4710	.4287	6291	.6720								
9. PARCH	.5339	.5089	.3654	.5099	.4527	.6549	.6042	.5046							
10. INPAR	.5565	5407	.3902	.4658	.5305	.7036	.6958	.5859	.5967						
11. MOTEX	4716	.4411	.2957	.3736	.3266	.5946	.5048	.4658	.5387	.6052					
12. EMOEX	.3930	.4134	.2980	.3161	.3695	.5447	.4711	.4371	.5113	.5867	.6775				
13. TRARE	.4370	.4801	.3413	.3321	.4241	.5767	.4552	.4312	.4766	.5051	3696	.4721			
14. RELEX	.3786	.3702	.3231	3293	.3822	.5110	.5221	4204	.4083	.5256	.3653	.2916	.3648		
15 SOCUL	.2403	.2273	.1472*	.2217	.2974	.3680	.3542	.2584	.1813	.3879	.2429	.1609*	.2486	.6223	

Figures without * astericks are significant at .01 level (at .01 level = .181)

Figures with * astericks are significant at .05 level (at .05 level = .138)

TABLE NO. 45

INTER-CORRELATION AMONG THE ELEVEN DEPENDENT VARIABLES FOR BOYS (N= 210)

	SPLA	MOCO	PESO	MEMO	VIPE	AUCO	MATHS	HINDI	SCIN	SOST	GUJA
SPLA											
MOCO	4198**										
PESO	.2853**	.2534**									
MEMO	.2245**	.1838**	.3080**								
VIPE	.1435*	.3836**	.0642	.1817**							
AUCO	.0937	.3523**	.0623	- 0284	.3472*						
MATHS	-.0884	-.0103	- 0582	-.0186	-.0130	-.0709					
HINDI	0895	-.0112	- 0500	-.1308*	- 0192	.0819	.1247				
SCIN	-.012	0833	.1191	.1163	.0253	.1259	.0534	- 0081			
SOST	0124	-.0607	.0746	- 0462	.0245	- 0407	.1137	-.0774	.0047		
GUJA	0530	-.0296	.0995	0737	-.1108	.0161	.0548	.2020**	.1468*	.0180	

Figures without astericks are not significant

Figures with * asterick are significant at .05 level (r at 05 level = 138)

Figures with ** astericks are significant at .01 level (r at .01 level = .181)

Table No. 45 shows the correlations among the dependent variables for boys (N = 210). It is observed that spoken language is positively significantly related with motor cordination, personal social behaviour, memory and visual perception, but it is not related with auditory comprehension, and scholastic achievement, in Mathematics, Hindi, Social studies, Science and Gujarati.

Motor coordination ability is positively related with personal social behaviour, memory, visual perception and auditory comprehension but not related with performance in Mathematics, Hindi, Science, Social Studies and Gujarati.

Personal social ability is positively and significantly related with memory but not related with visual perception, auditory comprehension, and marks in Mathematics, Hindi, Science, Social Studies and Gujarati.

Memory is positively related with visual perception and negatively related with achievement in Hindi but not related with auditory comprehension, and marks in Mathematics, Science, Social Studies, and Gujarati.

Visual perception is positively significantly related with auditory comprehension but not related with performance in Mathematics, Hindi, Science, Social Studies, and Gujarati.

Auditory comprehension is not related with any of the scholastic achievements. Performance in Mathematics is not related with performance of Hindi, Science, Social Studies and Gujarati. Performance in Hindi is positively and significantly related with performance in Gujarati. Achievement in Science is also positively and significantly related with Gujarati. However, there is no significant relation between marks in Social Studies and marks in Gujarati language.

TABLE NO. 46

INTER-CORRELATION AMONG THE ELEVEN DEPENDENT VARIABLES FOR GIRLS (N= 229)

	SPLA	MOCO	PESO	MEMO	VIPE	AUCO	MATHS	HINDI	SCIN	SOST	GUJA
SPLA											
MOCO	.3489**										
PESO	.3548**	.7152**									
MEMO	.3114**	.6015**	.6443**								
VIPE	.2739**	.4995**	.4802**	4555**							
AUCO	.2445**	.3946**	.3945**	.4430**	.4820**						
MATHS	.1112	.1503*	0927	.1154	.0867	.1248					
HINDI	.1019	.1293	0561	1152	1252	.1218	.2914*				
SCIN	.0701	.1020	.1333*	.0521	.0056	.0035	.2449**	.3329**			
SOST	.1110	.1868**	.1354*	.0966	.1497*	.1197	.3483**	.4148**	.2529**		
GUJA	.1329*	.1045	.1327*	.1168	.0946	.0444	.2274**	.4045**	.3130**	.3488**	

Figures without astericks are not significant

Figures with * asterick are significant at .05 level (r at .05 level = .138)

Figures with ** astericks are significant at .01 level (r at .01 level = .181)

Table No. 46 shows co-relations among the eleven dependent variable for the sample of girls (N = 229). It is observed that spoken language is positively significantly related with motor coordination, personal social behaviour, memory visual perception, auditory comprehension and marks in Gujarati but not related with scholastic achievement in Mathematics, Hindi, Science, Social Studies.

Motor cordination ability is positively significantly related with personal social behaviour, memory, visual perception, auditory comprehension and performance in Mathematics and Social Studies, but it is not related with performance in Science, Hindi, and Gujarati.

Personal social behaviour is positively related with memory, visual perception, auditory comprehension and achievement in Science, Social Studies and Gujarati, but not related with achievements in Mathematics and Hindi.

Memory is positively and significantly related with visual perception and auditory comprehension but not related with scholastic achievement in Mathematics, Hindi, Science, Social Studies, and Gujarati.

Visual perception is positively and significantly related with auditory comprehension and achievement in Social Studies but not related with achievement in Mathematics, Hindi, Science and Gujarati.

Auditory comprehension ability is not related with any of the scholastic achievement, in the subjects of Mathematics, Hindi, Science, Social Studies, and Gujarati. Achievement in Mathematics is significantly related with achievement in Hindi, Science, Social Studies and Gujarati. Similarly, there is significant relation between marks of Hindi, Science, Social Studies and Gujarati; between marks of Science, Social Studies and Gujarati; and between marks of Social Studies and Gujarati.

TABLE NO. 47

INTER-CORRELATION AMONG THE FIFTEEN INDEPENDENT WITH ELEVEN DEPENDENT VARIABLES FOR BOYS (N= 210)

	SPLA	MOCO	PESO	MEMO	VIPE	AUCO	MATHS	HINDI	SCIN	SOST	GUJA
1. HOCO	-.2114**	-.3347**	-.3431**	-.3062**	-.2180**	-.1225	1099	- 0170	- 0492	-.6723	.0502
2. HOME	-.2037**	-.2967**	-.3168**	-.2821**	- 1412**	-.1195	.0942	-.0314	-.0320	-.1303	.0361
3 ECOSU	-.2308**	-.2446**	-.3102**	-.1868**	-.2227**	-.9960	.1010	-.0508	.0335	-.1165	.0830
4. FOOD	-.2484**	-.2714**	-.3057**	-.2924**	-.2189**	-.1267	.0258	-.0199	.0889	-.0681	.0588
5. CLTG	- 2635**	-.2803**	-.2999**	-.2866**	- 1529*	-.0851	.1557*	-.0071	.0104	-.0366	.1323
6 EDUEX	-.2423**	-.2492**	-.3292**	-.2841**	-.1896**	-.0001	.0062	-.0058	-.0392	-.1020	.1272
7. REEX	- 2365**	-.2796**	-.3138**	-.3182**	- 1506*	-.0831	.0569	- 0187	-.0171	-.0473	.1002
8. PARCH	-.2338**	-.3084**	-.3497**	-.3363**	- 1598*	- 0582	.1280	-.0434	-.0181	-.0229	.0868
9. INPAR	-.1824**	-.2835**	-.3156**	-.2765**	-.2219**	-.1288	.1509*	-.0293	.0325	-.0278	.1900**
10. MOTEX	-.2048**	-.3442**	- 3186**	-.2471**	-.2013**	-.1379	.0676	-.1537*	.0292	-.0271	.0846
11. EMOEX	-.2228**	-.2617**	-.3351**	-.2701**	-.2088**	-.1253	.0368	-.1461*	-.0321	-.0411	.0540
12. TRARE	-.1767*	-.2989**	-.3177**	-.2718**	- 1776*	-.0977	.1378	-.0646	0384	-.0088	.0087
13. RELEX	- 1574*	-.2333**	-.2556**	-.2734**	-.2193**	-.0864	.0432	-.0014	-.0819	-.1441*	.0405
14. SOCUL	-.1858**	-.2767**	-.2956**	- 2059**	-.2266**	-.1060	.0579	- 0059	-.0467	-.1293	.0525
15. CHHD	-.1821**	-.2615**	-.2966**	-.2237**	-.2195**	-.0982	-.0149	- 1042	-.0604	-.1398*	.0815

Figures without asterick are not significant at .05 level

Figures with * asterick are significant at .05 level (r at .05 level = .138)

Figures with ** astericks are significant at .01 level (r at .01 level = .181)

Table No. 47 shows relationship between independent variables and dependent variables for boys (N = 270). It is observed that housing condition variable is significantly related at .01 level with spoken language, motor coordination, personal social behaviour, memory and visual perception. The relationship is negative. it is because deprivation is a negative condition and learning difficulties and scholastic achievement being positive condition. The significant relationship indicates that high scores on deprivation is associated with low scores on learning difficulties and academic achievement. Thus it can be inferred that poor housing conditions do effect the learning difficulties as revealed by the correlations. However poor housing conditions are not significantly related with auditory comprehension and achievement in Mathematics, Sciences, Social Studies, and Gujarati and Hindi as revealed by the co-efficient of correlation. This means poor housing condition does not affect auditory comprehension ability and scholastic achievement in Mathematics, Hindi, Science, Social Studies and Gujarati.

It is observed that home environment variable is significantly related at .01 level with spoken language, motor cordination, personal social behaviour memory and visual perception. The relationship is negative. It is because deprivation is a negative condition and learning difficulties and scholastic achievement being positive conditions. The significant relationship indicates that high scores on deprivation is associated with low scores on learning difficulties. Thus it can be inferred that poor home environment too effects learning difficulties. However, poor home environment is not significantly related with auditory comprehension, mathematics, hindi, science, social studies, gujarati. This means poor home environment does not affect scholastic achievement in mathematics, science, social studies, gujarati, and hindi.

Other variables namely economic sufficiency and food are significantly related at .01 level with spoken language, motor co-ordination, personal

social behaviour, memory and visual perception. These significant relationship indicate that high scores on deprivation is associated with low scores on learning difficulties and academic achievement. Thus it can be inferred that poor economical background, and insufficient food do effect the learning difficulties adversely as revealed by the correlations. However poor economics background and insufficiency of food are not significantly related and with auditory comprehension and achievement in mathematics, science, social studies, gujarati and hindi language as revealed by the co-efficients of correlation. This means poor economical background and insufficient food do not affect auditory comprehension and scholastic achievement in mathematics, hindi, science, social studies and gujarati language as revealed by the co-efficients of correlation. This means poor economical background and insufficient food do not affect auditory comprehension and scholastic achievement in mathematics, hindi, science, social studies and gujarati.

Proceeding further it may be observed that conditions like clothing, education experiences, recreational experiences, and parental characteristics are significantly related at .01 level, with spoken language, motor coordination, personal social behaviour, memory and visual perception. The relationship is negative. It is because deprivation is negative condition and learning difficulties and scholastic achievement being positive conditions. The significant relationship indicates that high scores on deprivation is associated with low scores on learning difficulties and academic achievement., thus it can be inferred that insufficient clothing poor educational experiences, recreational experiences, and parental characteristics do effect the learning difficulties as revealed by the correlations. However insufficient clothing, poor educational and recreational experiences and parental characteristics are not significantly related with auditory comprehension and performance in mathematics, science, social studies, gujarati as revealed by the co-efficient of correlation. This means insufficient clothing, poor

education recreational experience are parental characteristic do not affect auditory comprehension and scholastic achievement in mathematics, hindi, science, social studies, gujarati.

Other variables such as interaction with parents, motivational experiences, emotional experiences, travel and recreation, religious experiences, social cultural experiences and childhood experience are significantly related at .01 level with spoken language, motor cordination, personal social behaviour memory, and visual perception. The relationship is negative. It is because deprivation is negative condition and learning difficulties and scholastic achievement being positive conditions. The significant relationships indicate that high scores on deprivation are associated with low scores on learning difficulties and academic achievement. Thus it can be inferred that less interaction with parents, lack of motivational experiences, travel and recreation opportunities, religious experiences, socio cultural experiences and childhood experiences do effect learning difficulties as revealed by the correlations. However less interaction with parents lack of motivational experiences, emotional experiences, travel and recreation, religious experiences, social cultural experiences and childhood experiences are not significantly related with auditory comprehension, and marks in mathematics, science, social studies, gujarati, hindi subject. As revailed by the co-efficient of correlation. This means these independent variables do not effect auditory comprehension and scholastic achievement in mathematics hindi, science, social studies and gujarati.

TABLE NO. 48

INTER-CORRELATION AMONG THE FIFTEEN INDEPENDENT WITH ELEVEN DEPENDENT VARIABLES FOR GIRLS (N= 229)

	SPLA	MOCO	PESO	MEMO	VIPE	AUCO	MATHS	HINDI	SCIN	SOST	GUJA
1. HOCO	-.2773**	-.0742	-.0450	-.0929	- 0918	-.0525	-.1830**	-.1326	-.2412**	-.1209	-.1282
2. HOME	-.2117**	-.1879**	-.1528*	-.0877	- 0746	-.0076	-.2134**	-.0222	-.0915	-.1253	-.0240
3. ECOSU	-.2027**	-.0478	.0562	.0083	- 0509	-.0830	-.1693*	- 1101	-.1516*	-.1273	-.0655
4. FOOD	-.2935**	-.0639	-.0260	-.0011	-.0649	-.0088	-.2122**	-.1056	-.2088**	-.1709*	-.1071
5. CLTG	-.2435**	-.1693**	-.1436*	-.0774	-.0866	- 0410	-.1846**	-.1360	-.1839**	-.1271	-.0934
6. EDUEX	-.3103**	-.2096**	-.1257	-.1756*	-.2181**	-.0541	-.2223**	-.2273**	-.2310**	-.1750*	-.1486*
7. REEX	-.3409**	-.2381**	-.1598*	-.1762*	-.2202**	-.1253	-.2527**	- 1449*	-.2443**	-.1966**	-.1289
8. PARCH	-.2393**	-.1643*	-.1352*	-.1114	-.1196	-.1203	-.1223	-.1452*	-.2177**	-.1518*	-.1611*
9. INPAR	-.2142**	-.1662*	-.1386*	-.1465*	-.1663*	-.1088	-.2002**	-.1219	-.2491**	-.2126**	-.1303*
10. MOTEX	-.2707**	-.1980**	-.1151	-.1209	-.1804**	-.1255	-.1931**	-.1922**	-.2048**	-.1387*	-.0947
11. EMOEX	.2326**	- 1528*	-.1767*	- 1542*	- 1843**	-.0635	- 1734*	-.1129	-.2122**	-.1708*	-.0562
12. TRARE	-.1965**	-.1503*	-.1514*	-.0857	-.1442*	-.0625	-.1337	-.0572	-.1901**	-.1514*	-.0734
13. RELEX	-.2018**	-.1433*	-.1096	-.1241	- 1548*	- 1114	-.0762	- 1513*	-.1521*	-.0204	-.0840
14. SOCUL	- 2891**	-.1326	-.0631	- 0791	-.0991	-.0504	-.1037	-.3004**	-.2613**	-.1404*	-.2141**
15. CHHD	-.1330**	-.1034	-.0043	-.0413	-.0451	-.0546	-.0837	-.3143**	-.1199	-.2008**	-.1702*

Figures without asterick are not significant

Figures with * asterick are significant at .05 level (r at .05 level = .138)

Figures with ** astericks are significant at .01 level (r at .01 level = .181)

Table No. 48 shows relationship between independent variable and dependent variables for girls (N = 229). It is observed that housing condition is significantly related at .01 level, with spoken language achievement in Mathematics, and Science. The relationship is negative. it is because deprivation is a negative condition and learning difficulties and scholastic achievement being positive conditions. The significant relationship indicates that high scores on deprivation are associated with low scores on learning difficulties and academic achievement. Thus it can be inferred that poor housing conditions do affect learning difficulties and academic achievement. However, poor housing conditions are not significantly related with motor coordination, personal social behaviour, memory, visual perception auditory comprehension and achievement in Hindi, Social Studies, Gujarati etc. This means poor housing conditions do not affect the above learning difficulties and scholastic achievement in Hindi, Social Studies and Gujarati.

It is observed that home environment is significantly related with spoken language, motor coordination, personal social behaviour and achievement in mathematics. The significant relationship indicates that high scores on deprivation are associated with low scores on learning difficulties and academic achievement. Thus it can be inferred that poor home environment affects some learning difficulties as well as achievement. However poor home environment is not significantly related with memory, visual perception, auditory comprehension and achievement in Hindi, Science, Social Studies, and Gujarati as revealed by the co-efficient of correlation. This means poor home environment does not affect memory, visual perception, auditory comprehension and scholastic achievement in Hindi, Science, Social Studies, and Gujarati.

Economic sufficiency and food variable are significantly related at .01 level with spoken language and performance in Mathematics and Science. Food variable is also related with marks in science. The

relationship is negative but significant which indicates that high scores on deprivation are associated with low scores on learning difficulties and academic achievement. Thus it can be inferred that poor economical background and insufficient food do effect spoken language and achievement in Mathematics, Science and Social Studies. However, poor economical background relations and food are not significantly related with Motor cordination, personal social behaviour, memory, visual perception auditory comprehension and achievements in Hindi, and Gujarati as revealed by the co-efficient of correlations.

It is observed that clothing is significantly related at .01 level with spoken language, motor cordination, achievements in Mathematics and Science. The significant relationship indicates that high score on deprivation are associated with low scores on learning difficulties and academic achievement. Thus it can be inferred that insufficient clothing results into certain learning difficulties and low achievement in certain subjects as revealed by the correlations. However insufficient clothing has no adverse effects on memory, visual perception, auditory comprehension and achievement in Hindi, Social Studies and Gujarati.

It is observed that education experience and recreation experiences is significantly related at .01 level with spoken language, motor coordination, memory, visual perception, performance in Mathematics, Hindi, Science, and Social Studies but both the variable are not related with personal social baheviour, and auditory comprehension. It can be inferred that the loss of educational experiences and recreation experiences do cause certain learning difficulties and also decrease achievement in certain subjects.

Other variables such as parental characteristics and interaction with parents are significantly related at .01 level with spoken language, motor coordination, personal social behaviour and marks in Science,

Social Studies and Gujarati. Thus it can be said that parental characteristics and less interaction with parents are cause for poor memory, visual perception, auditory comprehension and poor achievement in Mathematics and Hindi.

It is observed that motivational experiences are significantly related at .01 level with spoken language, motor coordination, visual perception, and achievement in Mathematics, Hindi, Science, and Social Studies etc. This significant relationship indicates that high scores on deprivation is associated with low scores on learning difficulties and academic achievement. Thus it can be said that lack of motivational experiences do cause above referred learning difficulties poor achievement in above mentioned subjects.

Lack of emotional experiences is significantly related with learning difficulties associated with spoken language, motor coordination, personal-social behaviour, memory, visual perception and achievement in Mathematics, Science, and Social Studies. The implication of significant relationship is that children with lack of emotional experiences do face problems in above areas and suffer in scholastic achievement in the above subjects.

Travel and recreation as one of the prolonged deprivation areas is significantly related with spoken language, motor coordination, personal-social behaviour, visual perception and marks in Science and Gujarati. On the basis of significant relationship it can be said that lack of travel and recreational experiences are responsible for the above mentioned learning difficulties and low achievement in Science and Social Studies.

The area of religious experience is significantly related with spoken language, motor coordination, visual perception, and achievement in Hindi and Science.

Social and cultural deprivation is significantly related with difficulty in spoken language and achievement of marks in the subjects of Hindi, Science, Social Studies and Gujarati.

The last variable namely childhood experiences is significantly related with difficulty in spoken language and the learning of the subjects of Hindi, Social Studies and Gujarati. It can be said that inadequate childhood experiences are accountable for difficulties in spoken language and poor achievement in the subjects of Hindi, Social Studies and Gujarati.

PART III : PREDICTION OF LEARNING DIFFICULTIES AND ACADEMIC ACHIEVEMENT

The third part of research was concerned with the prediction of dependent variables, namely learning difficulties and academic achievement on the basis of fifteen deprivation areas. Separate prediction studies for boys and girls were made and separate regression equations were developed. The beginning is made with the development of regression equations for boys.

STEP WISE REGRESSION EQUATIONS FOR BOYS

EQUATION NO. 1. DEPENDENT VARIABLE : SPOKEN LANGUAGE

The various numerical values essential for regression equation for the prediction of spoken language are shown in table no. 49.

TABLE NO. 49

Variable	Beta Weight	Constant Value	Correl	Multiple R
Clothing	-.26	43.74	-.26	.26
R Square	**Adjusted R Square**	**F Value**	**df**	**Level of Sig**
.07	.07	15.52	1,208	.01

The above table shows that of the 15 deprivation areas variable no. 5 namely deprivation of clothing is the best predictor of spoken language. The F value which is equal to 15.52 is significant at .01 level. What percent of variable No. 5 predicts spoken language? To seek an answer to this question following formula was used : 100 x $R.^2$ Substituting the value of $R.^2$ we get 100 x .07 = 7.0 %.

This means inadequate clothing as an area of deprivation predicts 7.0% of learning difficulties in spoken language. The prediction percentage is very less but significant. It may be noted that for the prediction purpose of dependent variable, step-wise regression was used, which selects variables one after the other on priority basis in terms of their maximum predictive value. In present case except inadequate clothing no other variable contribute significantly to the prediction of spoken language and therefore other variables were not included in the further process. Thus it can be said that of all the fifteen variables No. 5 that is inadequate clothing is the best predictor of spoken language. The regression equation for the prediction of spoken language is stated below.

$$\overline{Y} = a + b_5X_5$$

where $\overline{Y}$ = criterion variable, spoken language

a = constant value

b_5 = beta weight for predictor variable 5

X_5 = predictor variable 5

Substituting the values of a and b_5 we get

$$\overline{Y} = 43.74 - .26X_5.$$

TABLE NO. 50

EQUATION NO. 2. DEPENDENT VARIABLE : MOTOR COORDINATION

Variable	Beta Weight	Constant Value	Correl	Multiple R
Interaction with	-.22	48.25	-.34	.34
Parents and				
Housing condition	-.19		-.33	.37

R Square	Adjusted R Square	F Value	df	Level of Sig
.12	.12	27.96	1,208	.01
.14	.13	16.46	1,207	.01

The above table reveals that of all the fifteen independent variables, interaction with parents is the best predictor of motor co-ordination ability which is one form of learning difficulty. The F value for multiple R is significant at .01 level. This variable predicts motor co-ordination ability to the extent of 11.42. The next important variable which contributed most in the prediction of motor co-ordination activity was found to be poor housing conditions which was combined with variable No. 10 (interaction with parent). Both these variables yielded a multiple 'R' of .370 which was significant at .01 level. The total percent of variance accounted by both these variables was 12.90 percent. The regression equation predicting motor co-ordination is stated below.

Motor co-ordination $\overline{Y} = 48.25 - .22X_{10} - .9X_{1}$

TABLE NO. 51

EQUATION NO. 3 DEPENDENT VARIABLE : PERSONAL SOCIAL BEHAVIOUR

Variable	Beta Weight	Constant Value	Correl	Multiple R
Recreational Experiences	-.21	.58	-.35	.35
Housing condition	.19			

R Square	Adjusted R Square	F Value	df	Level of Sig
.12	.12	28.98	1,208	.01
.14	.13	16.78	1,207	.01

The above table reveals that of all the fifteen independent variables, recreational experiences is the best predictor variable of personal social behaviour. The F value is significant at .01 level. This variable predicts personal social ability to the extent of 11.81 %. The next important variable which contributed most in the prediction of personal social activity was found to be housing condition. This was combined with variable No. 8 (Recreational experience). Both these variables resulted into a multiple R of .3735 which was significant at .01 level. The total percent of variance accounted by both these variable was 13.12 percent. The regression equation predicting personal social ability is stated below.

Personal Social Behaviour $\overline{Y} = 58.02 - .21X_3 + .19X_1$.

TABLE NO. 52

EQUATION NO. 4 DEPENDENT VARIABLE: MEMORY

Variable	Beta Weight	Constant Value	Correl	Multiple R
Recreational Experiences	-.34	54.79	-.34	.34

R Square	Adjusted R Square	F Value	df	Level of Sig
.11	.11	26.52	1,208	.01

The above table shows that variable No. 8 namely recreational experiences is the best predictor of memory. The F value which is equal to 26.52 is significant at .01 level. The recreational experiences as an area of deprivation predicts 10.88% of memory. In present case no other variable contributes to the prediction of memory apart from recreational experiences and therefore they were not included in further process. Thus it can be said that of all the fifteen variables, No.8 namely recreational experiences is the best predictor of memory. The regression equation for the prediction of memory is stated below.

Memory $\overline{Y} = 54.79 - .34X_8$

TABLE NO. 53

EQUATION NO.5 DEPENDENT VARIABLE : VISUAL PERCEPTION

Variable	Beta Weight	Constant Value	Correl	Multiple R
Religious Experiences	-.23	47.06	-.23	.23
R Square	**Adjusted R Square**	**F Value**	**df**	**Level of Sig**
.06	.05	11.26	1,208	.01

The above table shows that the variable No. 14 namely religious experiences is the best predictor of visual perception, which predicts 4.68% of visual perception. The prediction percentage though very less is significant. In present case no other variables contributes to the prediction of visual perception apart from religious experiences and therefore they were not included in the further calculations. Thus it can be said that of all the fifteen deprivation areas, variable No. 14 that is deprivation of religious experiences is the best predictor of visual perception. The regression equation for the prediction of visual perception is stated below.

Visual perception $\overline{Y} = 47.06 - .23X_{14}$

TABLE NO. 54

EQUATION NO. 6 DEPENDENT VARIABLE : AUDITORY COMPREHENSION

Variable	Beta Weight	Constant Value	Correl	Multiple R
Interaction with Parents	-.29	35.29	-.44	.14
Educational Experiences	.22		-.01	.20
R Square	**Adjusted R Square**	**F Value**	**df**	**Level of Sig**
.02	.02	4.03	1,208	.05
.04	.03	4.44	1,207	.01

The above table reveals that of all the fifteen independent variables, interaction with parents is best predictor of auditory comprehension associated with learning difficulty. The F value is significant at .05 level. This variable predicts auditory comprehension ability to the extent of 1.43%. The next important variable which contributed in the prediction of auditory comprehension difficulty was found to be educational experiences. This was combined with variable No.10 (Interaction with parents). Both these variables predicted auditory comprehension learning difficulty to the extent of 3.20%. The regression equation predicting auditory comprehension is stated below.

Auditory comprehension $\overline{Y} = 35.29 - .30X_{10} + .22X_{6}$

TABLE NO. 55

EQUATION NO. 7 DEPENDENT VARIABLE : ACHIEVEMENT IN MATHEMATICS

Variable	Beta Weight	Constant Value	Correl	Multiple R
Clothing	.26	17.94	.16	.16
Socio-cultural Experiences	-.17		-.01	.20

R Square	Adjusted R Square	F Value	df	Level of Sig
.02	.01	5.17	1,208	.05
.04	.03	4.65	1,207	.01

The above table reveals that out of fifteen independent variables, clothing is the best predictor of performance in mathematics which is one of the dependent variables of academic achievement. The F value is significant at .05 level. This variable predicts mathematics performance to the extent of 1.95%. The next important variable which contributed most in the prediction of achievement in mathematics was found to be socio cultural experiences. This was combined with variable number five namely clothing. Both these variables resulted into a R^2 of .03 which was significant at .01 level. The total percent of variance accounted by these variable was 3.38%. The regression equation predicting achievement in mathematics is stated below.

Achievement in mathematics $\overline{Y} = 17.95 = 26X_5 - 17X_{15}$

TABLE NO. 56

EQUATION NO. 8 DEPENDENT VARIABLE : ACHIEVEMENT IN HINDI

Variable	Beta Weight	Constant Value	Correl	Multiple R
Interaction with Parents	-.34	35.40	-.15	.15
Educational Experiences	.26		.01	.23

R Square	Adjusted R Square	F Value	df	Level of Sig
.02	.02	5.03	1,208	.05
.06	.05	5.92	1,207	.01

The above table shows that variable ten namely interaction with parents is the best predictor of achievement in hindi marks, which is one of the scholastic achievements. The F value is significant at .05 level. This variable predicts achievement in Hindi to the extent of 1.90%. The next best variable which contributed in the prediction of Hindi marks was found to educational experiences which was combined with variable No.10 (Interaction with parents). Both these variables resulted into a multiple R of .05 which was significant at .01 level. The total percent of variance accounted by these variables was 4.5% The regression equation, predicting achievement in Hindi is stated below.

Achievement in Hindi $\overline{Y} = 35.40 - .34X_{10} + .26X_{6}$

EQUATION NO.9 DEPENDENT VARIABLE : ACHIEVEMENT IN SCIENCE

Achievement in science was not predicted significantly at all by any of the 15 deprivation conditions, therefore no table of numerical value is presented here.

TABLE NO. 57

EQUATION NO. 10. DEPENDENT VARIABLE :ACHIEVEMENT IN SOCIAL STUDIES

Variable	Beta Weight	Constant Value	Correl	Multiple R
Travel and Recreation	.15	48.94	.15	.15
R Square	**Adjusted R Square**	**F Value**	**df**	**Level of Sig**
.02	.02	4.40	1,208	.05

The above table shows that the variable No.13 namely travel and recreational experiences is the best predictor of achievement in social studies. The percent of prediction made by this variable is 1.61 which is significant at .05 level. In present case no other variable contributes to the prediction of social studies marks apart from travel and recreational experiences and therefore they were not included in the further computation process. Thus it can be said that out of all fifteen variables, No.13 variable that is travel and recreational experiences is the best predictor of achievement in social studies. The regression equation for the predication of achievement in social studies is stated below.

Achievement in social studies $\overline{Y} = 40.94 - .15X_{13}$

TABLE NO. 58

EQUATION NO.11 DEPENDENT VARIABLE : ACHIEVEMENT IN GUJARATI

Variable	Beta Weight	Constant Value	Correl	Multiple R
Parental Characteristics	.39	16.42	.19	.19
Emotional Experiences	-.27		.00	.27
R Square	**Adjusted R Square**	**F Value**	**df**	**Level of Sig**
.04	.03	7.79	1,208	.01
.07	.06	7.71	1,207	.01

The above table shows that the variable 9 i.e. parental characteristics is the best predictor of achievement in gujarati. The F value is significant at .01 level. This variable predicts gujarati language success to the extent of 3.20%. The next important variable which contributed in the prediction of gujarati language was found to be emotional experiences. This was combined with variable numbers 9(Parental characteristics). Both these variable resulted into a multiple R^2 of .06 which was significant at .01 level. The total percent of variance accounted by these is 6.30%. The regression equation predicting achievement in gujarati is stated below.

Achievement in Gujarati $\overline{Y} = 16.42 + .39X_9 - .27X_{12}$.

STEP WISE REGRESSION EQUATIONS FOR GIRLS

EQUATION NO. 12. DEPENDENT VARIABLE : SPOKEN LANGUAGE

The various numerical values essential for regression equations are shown in the following table.

TABLE NO. 59

Variable	Beta Weight	Constant Value	Correl	Multiple R
Childhood Experiences	-.26	43.14	-.35	.35
Religious Experiences	-.15		-.29	.37

R Square	Adjusted R Square	F Value	df	Level of Sig
.12	.11	29.85	1,227	.01
.14	.12	12.63	1,226	.01

The above table shows that the variable No.7 namely childhood experiences is the best predictor of spoken language among the girls. The F value which is equal to 29.85 is significant at .01 level. The

childhood experiences as an area of deprivation predicts performance in spoken language to the extent of 11.30 percent. The next important variable which contributed in the prediction of spoken language ability was found to be religious experiences. Which was combined with variable number 7, childhood experiences. Both these variables resulted into a multiple R of .37 which was significant at .01 level. The total percent of variance accounted by these variables was 13.32. The regression equation predicting spoken language is stated below.

Spoken language $\overline{Y} = 43.14 - .26X_7 - .15X_{14}$

TABLE NO. 60

EQUATION NO. 13 DEPENDENT VARIABLE : MOTOR COORDINATION

Variable	Beta Weight	Constant Value	Correl	Multiple R
Childhood Experiences	-.23	32.32	-.23	.23
R Square	**Adjusted R Square**	**F Value**	**df**	**Level of Sig**
.057	.053	13.65	1,227	.01

The above table shows that the variable No.7 namely childhood experiences is the best predictor of motor coordination ability. The F value which is equal to .13.65 is significant at .01 level. This variable predicts coordination ability to the extent of 5.30 percent. The prediction percentage though very less is significant .01 level. In present case no other variable contributed to the prediction of motor coordination apart from childhood experiences and therefore they were not included in the further process. Thus it can be said that of all the fifteen variables, variable No. 7, that is childhood experiences is the best predictor of motor coordination ability. The regression to predict motor coordination is as follows.

Motor coordination $\overline{Y} = 32.32 - .23X_7$

TABLE NO. 61

EQUATION NO. 14 DEPENDENT VARIABLE : PERSONAL SOCIAL BEHAVIOUR

Variable	Beta Weight	Constant Value	Correl	Multiple R
Motivational Experiences	-.18	38.40	-.18	.18
R Square	**Adjusted R Square**	**F Value**	**df**	**Level of Sig**
.03	.02	7.32	1,227	.01

The above table shows that the variable No.11 namely motivational experiences is the best predictor of personal social behaviour. The F value which is equal to 7.32 is significant at .01 level. The motivational experiences as an area of deprivation predicts 2.20% of personal social behaviour. The prediction percentage is less but significant. In present case no other variable contributed to the prediction of personal social behaviourapart from motivational experiences and therefore they were ignored. Thus it can be said that of all the fifteen variables. Only variable No.11 i.e. motivational experiences is the best predictor of personal social behaviour.The regression equation for the prediction of personal social behaviour is stated below.

Personal social behaviour $\overline{Y} = 38.40 - .18X_{11}$

TABLE NO. 62

EQUATION NO.15 DEPENDENT VARIABLE MEMORY

Variable	Beta Weight	Constant Value	Correl	Multiple R
Childhood Experiences	-.18	35.46	-.18	.18
R Square	**Adjusted R Square**	**F Value**	**df**	**Level of Sig**
.03	.02	7.27	1,227	.01

The above table shows that variable No.7 namely childhood experiences is the best predictor of memory. The F value which is equal to 7.27 is

significant at .01 level. This variable predicts memory to the extent of 2.70%. In the present case no other variable contributed to the prediction of memory apart from childhood experiences and therefore they were not included in the further analysis. Thus it can be said that of all the fifteen variables, variable No. 7 that is childhood experiences is the best predictor of memory. The regression equation for the prediction of memory is stated below.

Memory $\overline{Y} = 35.46 - .18X_7$

TABLE NO. 63

EQUATION NO. 16 DEPENDENT VARIABLE : VISUAL PERCEPTION

Variable	Beta Weight	Constant Value	Correl	Multiple R
Childhood Experiences	.22	35.62	-.22	.22

R Square	Adjusted R Square	F Value	df	Level of Sig
.04	.05	11.58	1,227	.01

The above table shows that variable No. 7 namely childhood experiences is also the best predictor of visual perception. The F value which is equal to 11.58 is significant at .01 level. The childhood experiences as an area of deprivation predicts, 45% of visual perception. In the present case no other variable contributed to the prediction of visual perception apart from childhood experiences and therefore they were discarded. The regression equation for the prediction of visual perception is stated below.

Visual perception $\overline{Y} = 35.62 - .22X_7$

EQUATION NO. 17 DEPENDENT VARIABLE : AUDITORY COMPREHENSION

Auditory comprehension ability was not predicted significantly at all

by any of the 15 deprivation conditions, therefore no table of numerical values is provided

TABLE NO. 64

EQUATION NO. 18 DEPENDENT VARIABLE : ACHIEVEMENT IN MATHEMATICS

Variable	Beta Weight	Constant Value	Correl	Multiple R
Childhood Experiences	.26	68.18	.26	.26
R Square	**Adjusted R Square**	**F Value**	**df**	**Level of Sig**
.07	.26	15.49	1,227	.01

The above table shows that the variable No. seven namely childhood experiences is again found to be the best predictor in the case of achievement in mathematics. The F value which is equal to 15.49 is significant at .01 level. In this case also of all the fifteen independent variables, childhood experiences is best predictor of achievement in mathematics. This variable predicts achievement in mathematics to the extent of 6.00 percent. In the present case no other variable contributed to the prediction of achievement in mathematics apart from childhood experiences. The regression equation for the prediction of achievement in mathematics is stated below.

Achievement in mathematics $\overline{Y} = 68.18 - .26X_7$

TABLE NO. 65

EQUATION NO.19 DEPENDENT VARIABLE : ACHIEVEMENT IN HINDI

Variable	Beta Weight	Constant Value	Correl	Multiple R
Socio--cultural Experiences	-.20	67.66	-.32	.32
Religious Experiences	-.17		-.30	.35
R Square	**Adjusted R Square**	**F Value**	**df**	**Level of Sig**
.09	.09	24.88	1,227	.01
.12	.10	14.93	1,226	.01

The above table reveals that of all the fifteen independent variables, socio cultural factors is the best predictor of achievement in hindi language. The F Value is significant at .01 level. This variable predicts achievement in hindi to the extent of 9.5%. The next important variable which contribute in the prediction of achievement in hindi was found to be religious experiences variable which was combined with variable No. 15 (socio cultural experiences). Both these variables resulted into a multiple R of .35 which was significant at .01 level. The total percent of variance accounted by these variables was 10.90% The regression equation predicting Hindi marks is stated below.

Achievement in Hindi $\overline{Y} = 67.66 - .20X_{15} - .17X_{14}$

TABLE NO. 66

EQUATION NO. 20 DEPENDENT VARIABLE : ACHIEVEMENT IN SCIENCE

Variable	Beta Weight	Constant Value	Correl	Multiple R
Religious Experiences	-.19	86.30	-.27	.27
Parental Characteristics	-.17	86.30	-.18	.37

R Square	Adjusted R Square	F Value	df	Level of Sig
.07	.07	16.64	1,227	.01
.09	.09	11.54	1,226	.01

The above table reveals that of all the fifteen independent variables religious experiences variable is the best predictor of achievement in science subject. The F Value is significant at .01 level. This variable predicts achievement in science marks to the extent of 7.0 percent. The next important variable which contributed in the prediction of achievement in Science marks was found to be parental characteristics variable, which was combined with variable No. 14 (religious experiences.) Both these variables yielded a multiple R of .31 which was significant of .01 level. The total percent of variance accounted by these variables was 9.0 percent. The regression equation predicting marks in science subject is stated below.

Achievement in Science $\overline{Y} = 86.30 - .19X_{14} - .17X_{9}$

TABLE NO. 67

EQUATION NO. 21 DEPENDENT VARIABLE : ACHIEVEMENT IN SOCIAL STUDIES

Variable	Beta Weight	Constant Value	Correl	Multiple R
Parental Characteristics	-.28	74.60	-.22	.22
Socio-cultural Experiences	-.20		-.20	.27
Travel and Recreation	.19		.02	.32

R Square	Adjusted R Square	F Value	df	Level of Sig
.05	.05	10.75	1,227	.01
.07	.07	8.82	1,226	.01
.02	.09	8.53	1,225	.01

The above table shows that of all the fifteen deprivation variables parental characteristics variable is the best predictor of social studies subject. This subject is one of the scholastic achievements. The F value is significant at .01 level. This variable predicts achievement in social studies marks to the extent of 5 percent. The next important variables which contributed in the prediction of social studies marks was fond to be socio-cultural deprivation and travel and recreational deprivation. These both were combined with variable No. 9 (Parental characteristics). All these variables resulted into multiple R of .27 and .32 respectively. Both were significant at .01 level. The total percent of variance explained by these variable was 9 percent. The regression equation predicting achievement in social studies marks is stated below.

Achievement in social studies $\overline{Y} = 74.60 - .28X_9 - .20X_{15} + .19X_{13}$

TABLE NO. 68

EQUATION NO.22 DEPENDENT VARIABLE : ACHIEVEMENT IN GUJARATI

Variable	Beta Weight	Constant Value	Correl	Multiple R
Religious Experiences	-.22	50.59	-.22	.22
R Square	**Adjusted R Square**	**F Value**	**df**	**Level of Sig**
.05	.05	10.91	1,227	.01

The above table shows that the variable No. 14 namely inadequate religious experiences is the best predictor of achievement in gujarati language. The F value which is equal to 10.91 is significant at .01 level. The religious experiences as an area of deprivation predicts 5% of achievement in gujarati language. In the present case no other variable contributes to the prediction of achievement in gujarati language apart from religious experiences and therefore they were not considered. The regression equation for the prediction of achievement in gujarati language is stated below.

Achievement in Gujarati $\overline{Y} = 50.59 - .22\ X_{14}$

CONCLUSIONS

1. Boys have more learning difficulties in personal social behaviour, and memory as compared to girls.

2. Girls scholastic achievement is significantly higher in Mathematics, Hindi, Science, Social Studies and Gujarati as compared to boys.

3. Old pupils irrespective of their sex have more learning difficulties on Personal social behaviour and memory as compared to young pupils.

4. Old pupils achieve more marks in mathematics than young pupils.

5. High deprived students irrespective of their sex and age face more learning difficulties on spoken language, motor coordination ability, Personal social behaviour, memory visual perception and auditory comprehension as compared to low deprived students.

6. High deprived children achieve less marks in mathematics, Hindi, Science, social studies and Gujarati as compared to lowdeprived children.

7. Sex and age jointly affected personal social behaviour, memory, achievement in mathematics, social studies and gujarati.

8. Sex and deprivation jointly affected personal social behaviour memory, achievement in mathematics, Hindi, science, social studies and gujarati.

9. Age and deprivation jointly influenced motor coordination ability, memory, achievement in Hindi, social studies.

10. Sex, age and deprivation had a combined effect on memory, achievement in Hindi, social studies and gujarati.

11. In the case of boys there was significant relationship between all the fifteen deprivation areas and six learning difficulties. Emplying that deprivation had positive effect on learning difficulties and a more simple way the finding shows that as the deprivation increases learning difficulties also increase in other words deprivation any of fifteen areas as major cause of learning difficulties. Home environment which is one of the area of deprivation is significantly related with social studies. Clothing was found to be significantly related with scholastic achievement and gujarati.

12. In the case of girls all the fifteen deprivation areas were significantly related with spoken language and motor coordination learning difficulties

and achievement in Mathematics, Hindi, Science and social studies. These indicates that the deprivation area are responsible for learning difficulties and scholastic achievement.

13. In terms of their importance in predicting learning difficulties and academic achievement religious experiences, childhood experiences, interaction with parents, socio cultural experiences parental characteristics clothing, housing condition, rearing experiences, travel and recreational experiences, emotional experiences, motivational experiences were found to be the best predictors.

14. Childhood experiences significantly contributed in the prediction of five dependent variable namely spoken language, motor coordination ability, memory visual perception, achievement in mathematics and religious experiences significantly contributed in the prediction of visual perception, spoken language, achievement in Hindi, Science and Gujarati.
