CHAPTER IV

ANALYSIS

4.0. Introduction
4.1. Preliminary Analysis
4.2. Gender difference in the dependent variable (CD)
4.3. Relation of FV with CD.
4.4. Difference in the Relation of FV with CD of the relevant Sub samples.
4.5. Identification of the Significant Predictors of CD by regression analysis.
4.6. Estimation of the Predictive efficiency of each of the predictor variable in predicting the criterion variable.
4.7. Findings of the Study
4.8. Tenability of Hypotheses
4.9. Conclusion
4.0. INTRODUCTION

Statistical analysis is the mathematical process of organizing, analyzing and interpreting numerical data and is one of the basic phases of the research process. The primary interest in studying a sample is to infer the population characteristics by the use of inferential statistics. In this study also, the investigator has made use of inferential statistics for hypothesis testing and hence for arriving at answers to the questions posed or stated.

Details of the statistical analysis done to test the hypotheses and hence to tackle the objectives are discussed in this chapter with the findings of each.

Details of statistical analysis and discussion of results are presented under five major heads as follows.

4.1 Preliminary Analysis

4.2 Test of Significance of gender differences in the Criterion variable (CD)

4.3 Relation of FV with CD for whole sample and sub samples like Boys, Girls, Urban, Rural, Government school and Private school.

4.4 Difference in the relation of FV with CD of the relevant sub samples based on Sex, Locale and Type of Management of School.

4.5 Identification of the significant predictors of CD by regression analysis.
4.6 Estimation of the relative efficiency of each of the predictor variable in predicting the criterion variable.

4.1. PRELIMINARY ANALYSIS

As a preliminary to the inferential statistics, the investigator had worked out certain essential descriptive statistics like mean, median, mode, standard deviation, skewness and kurtosis of all the select FV for the whole sample (N=539). The essential descriptive statistics are presented in Table 4.1.
### TABLE 4.1

**Basic Statistics of all the Variables**

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Variables</th>
<th>Mean</th>
<th>Median</th>
<th>Mode</th>
<th>Standard Deviation</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CRITERION VARIABLE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>CD</td>
<td>48.913</td>
<td>48.000</td>
<td>46.00</td>
<td>14.390</td>
<td>0.431</td>
<td>-0.409</td>
</tr>
<tr>
<td><strong>PREDICTOR VARIABLES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Parental Education</td>
<td>38.525</td>
<td>40.000</td>
<td>40.00</td>
<td>7.310</td>
<td>0.048</td>
<td>-1.106</td>
</tr>
<tr>
<td>3.</td>
<td>Parental Occupation</td>
<td>20.504</td>
<td>20.000</td>
<td>15.00</td>
<td>7.629</td>
<td>2.263</td>
<td>7.022</td>
</tr>
<tr>
<td>4.</td>
<td>Parental Income</td>
<td>20.714</td>
<td>20.000</td>
<td>15.00</td>
<td>7.706</td>
<td>2.052</td>
<td>6.059</td>
</tr>
<tr>
<td>5.</td>
<td>Home Learning Facility</td>
<td>3.200</td>
<td>3.000</td>
<td>3.000</td>
<td>1.684</td>
<td>0.839</td>
<td>3.329</td>
</tr>
<tr>
<td>6.</td>
<td>Parental Care (Health and Physique)</td>
<td>24.519</td>
<td>24.000</td>
<td>24.00</td>
<td>11.593</td>
<td>1.9513</td>
<td>4.266</td>
</tr>
<tr>
<td>7.</td>
<td>Parental Acceptance of Education</td>
<td>34.655</td>
<td>35.000</td>
<td>34.00</td>
<td>5.004</td>
<td>-1.404</td>
<td>5.701</td>
</tr>
<tr>
<td>8.</td>
<td>Parental care (Psycho-Social</td>
<td>70.000</td>
<td>71.000</td>
<td>76.00</td>
<td>10.863</td>
<td>-1.645</td>
<td>5.092</td>
</tr>
<tr>
<td></td>
<td>Development)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Analysis

Discussion of Results

From the Table 4.1, it can be seen that there is not much variation between values of the three measures of central tendencies, mean, median and mode of the CD and for the FV.

Indices of skewness are almost equal to zero for the variables like CD, Parental Education and Home Learning Facility. The variables such as Parental Occupation, Parental Income and Parental care (Health & Physique) have values of skewness slightly greater than zero indicating the distribution of these variables is slightly positively skewed. The variables like Parental Acceptance of Education and Parental care (Psycho-Social Development) have values of skewness slightly less than zero indicating the distribution of these variables are slightly negatively skewed.

Values of kurtosis of the variables CD and Parental Education are less than 0.263. This indicates that the distribution is slightly leptokurtic. The indices of Kurtosis of the variable Parental Occupation, Parental Income, Home Learning Facility, Parental Care (Health & Physique), Parental Acceptance of Education and Parental care (Psycho-Social Development) are greater than 0.263 showing that; the distribution is Platykurtic for these variables.

However, on the whole, it can be seen that the distributions of these variables do not depart markedly from normality. For a large sample, a slight
non-normality of the population doesn't seriously affect the probabilities of acceptance or rejection of the hypothesis. (For a normal distribution, mean, median and mode will coincide at a point, and the coefficient of skewness is zero and that of kurtosis is 0.263).

4.2. TEST OF SIGNIFICANCE OF GENDER DIFFERENCE IN THE DEPENDENT VARIABLE (CD)

The technique of two-tailed test of significance of difference between the means of large independent sample was used to test the significance of gender difference in CD.

The means and standard deviations of Boys and Girls obtained for CD (Achievement in Mathematics, Science, Social Science, English and total score for Achievement) and the 't' value obtained after the test of significance of difference between means are presented in Table 4.2.
### TABLE 4.2

Data and Results of the Test of Significance of Gender Difference in CD

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>CD</th>
<th>Sample</th>
<th>N</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Achievement in Mathematics</td>
<td>Boys</td>
<td>260</td>
<td>9.6385</td>
<td>4.114</td>
<td>2.62**</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Girls</td>
<td>279</td>
<td>8.7849</td>
<td>3.427</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Achievement in Science</td>
<td>Boys</td>
<td>260</td>
<td>14.0846</td>
<td>4.647</td>
<td>0.480</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Girls</td>
<td>279</td>
<td>13.8925</td>
<td>4.728</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Achievement in Social Science</td>
<td>Boys</td>
<td>260</td>
<td>13.9346</td>
<td>4.421</td>
<td>2.54*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Girls</td>
<td>279</td>
<td>12.9677</td>
<td>4.417</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Achievement in English</td>
<td>Boys</td>
<td>260</td>
<td>12.3269</td>
<td>5.221</td>
<td>0.130</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Girls</td>
<td>279</td>
<td>12.2688</td>
<td>4.955</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Total Achievement</td>
<td>Boys</td>
<td>260</td>
<td>49.9846</td>
<td>14.446</td>
<td>1.67</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Girls</td>
<td>279</td>
<td>47.9140</td>
<td>14.292</td>
<td></td>
</tr>
</tbody>
</table>

**Discussion of Results**

The 't' value for mean difference of Achievement in Mathematics presented in Table 4.2 indicates that difference between mean scores of Boys and Girls are significant at 0.01 level in the case of Achievement in Mathematics, since the calculated 't' value (2.62) is greater than the table value of 't' (2.58) at 0.01 level. This suggests that there is gender difference exists in the case of Achievement in Mathematics. The mean scores of Boys is 9.6385 and that of Girls is 8.7849. This further states that Boys excel Girls in the case of Achievement in Mathematics.
In the case of Achievement in Social Science, the 't' value for mean difference indicates that, the difference between mean scores of Boys and Girls is significant at 0.05 levels, since the calculated 't' value (2.540) is greater than the table value of 't' (1.96) at 0.05 levels. This suggests that, there is gender difference exist in the case of Achievement in Social Science. The mean obtained for boys is 13.9346 and that for Girls is 12.9677. This further suggests that Boys excel girls in the case of Achievement in Social Science.

The difference between mean scores of Boys and Girls is not significant even at 0.05 levels, in the case of Science and English, since the calculated t-value is less than the table value of 't' (1.96). This suggests that, there is no gender differences exist in Achievement in Science and Achievement in English.

In the case of Total Achievement (CD), the 't' value for mean difference indicates that the difference between mean scores of Boys and Girls is not significant even at 0.05 levels, since the calculated 't' value (1.67) is less than the table value of t (1.96) at 0.05 levels. Stated differently, Boys and Girls are almost identical in their Achievement for total sample.
4.3. ESTIMATION OF THE EXTENT OF RELATIONSHIP BETWEEN CD AND FAMILY BACKGROUND FOR THE WHOLE SAMPLE AND FOR SUB SAMPLES BASED ON GENDER, LOCALE AND TYPE OF MANAGEMENT OF SCHOOLS

The investigator could use Pearson's Product Moment Coefficient of correlation 'r' as all the variables involved in this study are continuous and of the interval type by their measurement. Besides, in using 'r', the basic assumptions to be met are as under:

1. The distribution of the criterion (dependent) variable should be normal or at least not badly skewed (This was understood by estimating measures of skewness and kurtosis in the previous section).

2. The condition of equal scattering (homosedasticity) should be satisfied (Taking of a large sample for the study, this can be assumed)

As the two assumptions are satisfied, the investigator proceeded with the computation of Pearson's 'r'. The value of 'r' obtained in the case of each Familial Variable is described below in terms of

i) Statistical significance of the coefficient of correlation (by Fischer's t-test).

ii) The size of 'r'.

iii) Direction of 'r'.

iv) 99 percent confidence interval of 'r'.

v) Shared variance, which a variable has in common with the variable associated.

4.3.1. Relation of FV with CD for Total Sample

Details of the relation of each of the FV with CD (Criterion Variable) for total sample are presented in Table 4.3 (N=539).
### TABLE 4.3

Co-efficient of Correlations and other details of relation of FV with CD for Total Sample (N=539)

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>FV</th>
<th>Correlation Coefficient 'r'</th>
<th>Fisher's t</th>
<th>Standard Error of Estimate (SEr)</th>
<th>99% Confidence interval</th>
<th>Shared Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Parental Education</td>
<td>0.38**</td>
<td>9.60</td>
<td>0.03</td>
<td>(0.48, 0.29)</td>
<td>14.65</td>
</tr>
<tr>
<td>2.</td>
<td>Parental Occupation</td>
<td>0.34**</td>
<td>8.39</td>
<td>0.03</td>
<td>(0.44, 0.24)</td>
<td>11.62</td>
</tr>
<tr>
<td>3.</td>
<td>Parental Income</td>
<td>0.35**</td>
<td>8.68</td>
<td>0.03</td>
<td>(0.45, 0.25)</td>
<td>12.32</td>
</tr>
<tr>
<td>4.</td>
<td>Home Learning Facility</td>
<td>0.33**</td>
<td>8.05</td>
<td>0.038</td>
<td>(0.43, 0.23)</td>
<td>10.78</td>
</tr>
<tr>
<td>5.</td>
<td>Parental Care (Health &amp; Physique)</td>
<td>0.10*</td>
<td>2.28</td>
<td>0.042</td>
<td>(0.21, -0.01)</td>
<td>0.09</td>
</tr>
<tr>
<td>6.</td>
<td>Parental Acceptance of Education</td>
<td>0.15**</td>
<td>3.40</td>
<td>0.03</td>
<td>(0.23, 0.06)</td>
<td>0.15</td>
</tr>
<tr>
<td>7.</td>
<td>Parental Care (psycho-Social Development)</td>
<td>0.21**</td>
<td>4.98</td>
<td>0.04</td>
<td>(0.31, 0.10)</td>
<td>0.21</td>
</tr>
</tbody>
</table>

Note: ** Indicates Significance at 0.01 level (P ≤ 0.01)
* Indicates Significance at 0.05 levels (P ≤ 0.05)
Discussion of Results

From Table 4.3 it can be seen that the coefficient of correlation obtained between the FV and CD are significant. In the case of Parental Care (Health and Physique), the relationship is significant at 0.05 levels as the 't' value of 'r' (2.28) is greater than the required value (1.96) for significance at 0.05 levels. For all other variables, the coefficient of correlation obtained are significant (at 0.01 level) as the 't' value exceeds 2.58, the limit set up for significance at 0.01 level. The significant 'r' is indicative of a true relationship and it can be understood that there exists real relationship between CD and the FV like, Parental Education, Parental Occupation, Parental Income, Home Learning Facility, Parental Care (Health & Physique), Parental Acceptance of Education and Parental Care (Psycho-Social Development).

The FV having significant relation with CD are presented below in the order of the extent of relationship.

i. Parental Education (0.38)
ii. Parental Income (0.35)
iii. Parental Occupation (0.34)
iv. Home Learning Facility (0.33)
v. Parental care (Psycho-Social Development) (0.21)
vi. Parental Acceptance of Education (0.15)

vii. Parental Care (Health and Physique) (0.10)

The magnitude of 'r' reveals that the relationship of the variables such as Parental Education, Parental Income, Parental Occupation and Home Learning Facility with CD are almost substantial and of the remaining three variables [Parental care (Psycho-Social Development), Parental Acceptance of Education, Parental Care (Health & Physique)] are low.

It was also found that the relations of the FV Parental Education, Parental Income, Parental Occupation, Home Learning Facility, Parental Care (Psycho-Social Development), Parental Acceptance of Education and Parental Care (Health & Physique) with CD are positive. This suggests that an increase in these variables will be accompanied by a corresponding increase in CD.

Ninety-nine percent confidence interval of 'r' estimated between each of the FV and CD are presented in Table 4.3. These suggest that when 100 samples are studied, in 99 cases, the population 'r' of,

i  Parental Education would lie between 0.29 and 0.48.
ii Parental Income would lie between 0.25 and 0.45.
iii Parental Occupation would lie between 0.24 and 0.44.
iv Home Learning Facility lie between 0.23 and 0.43.
v Parental care (Psycho-Social Development) lie between 0.10 and 0.31.
vi Parental Acceptance of Education lie between 0.06 and 0.23.

vii Parental Care (Health and Physique) lie between -0.01 and 0.21.

Table 4.3 also gives the shared variance of each FV indicating the percentage variance of the Criterion Variable, CD accounted by variation in each of the predictor, FV. The shared variances estimated vary between 0.09 for Parental Care (Health and Physique) and 14.65 (for Parental Education) suggesting that

i 14.65% of the variation in CD is attributable to the variation in Parental Education.

ii 12.32% of the variation in CD is attributable to the variation in Parental Income.

iii 10.78% of the variation in CD is attributable to the variation in Parental Occupation.

iv 10.78% of the variation in CD is attributable to the variation in Home Learning Facility.

v 0.21% of the variation in CD is attributable to the variation in Parental Care (Psycho-Social Development).

vi 0.15% of the variation in CD is attributable to the variation in Parental Acceptance of Education.

vii 0.09% of the variation in CD is attributable to the variation in Parental Care (Health and Physique).
Comments

The values of 'r' and other statistics on the extent of relationship between, CD and the FV reveals that the select seven FV are significantly related to CD for the whole sample.

4.3.2 Relation of FV with CD for Boys

Details of the relation of the FV with CD for Boys are presented in Table 4.4 (N=260).
### TABLE 4.4
Co-efficient of Correlations and other details of relation of FV with CD for Boys (N=260)

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>FV</th>
<th>Correlation Coefficient 'r'</th>
<th>Fisher's 't'</th>
<th>Standard Error of Estimate (SER)</th>
<th>99% Confidence Interval</th>
<th>Shared Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Parental Education</td>
<td>0.32**</td>
<td>5.42</td>
<td>0.06</td>
<td>(0.46, 0.18)</td>
<td>10.24</td>
</tr>
<tr>
<td>2</td>
<td>Parental Occupation</td>
<td>0.32**</td>
<td>5.42</td>
<td>0.06</td>
<td>(0.46, 0.18)</td>
<td>10.24</td>
</tr>
<tr>
<td>3</td>
<td>Parental Income</td>
<td>0.31**</td>
<td>5.34</td>
<td>0.05</td>
<td>(0.43, 0.17)</td>
<td>9.61</td>
</tr>
<tr>
<td>4</td>
<td>Home Learning Facility</td>
<td>0.30**</td>
<td>5.10</td>
<td>0.15</td>
<td>(0.42, 0.15)</td>
<td>9.00</td>
</tr>
<tr>
<td>5</td>
<td>Parental Care (Health &amp; Physique)</td>
<td>0.26**</td>
<td>4.29</td>
<td>0.06</td>
<td>(0.41, 0.11)</td>
<td>6.76</td>
</tr>
<tr>
<td>6</td>
<td>Parental Acceptance of Education</td>
<td>0.16*</td>
<td>2.56</td>
<td>0.06</td>
<td>(0.32, 0.05)</td>
<td>2.56</td>
</tr>
<tr>
<td>7</td>
<td>Parental Care (Psycho, Social Development)</td>
<td>0.20**</td>
<td>3.33</td>
<td>0.06</td>
<td>(0.36, 0.045)</td>
<td>4.00</td>
</tr>
</tbody>
</table>

Note ** Indicates significance at 0.01 level (P ≤ 0.01)
* Indicate significance at 0.05 levels (P≤ 0.05)
Discussion of Results

From table 4.4, it can be seen that the coefficient of correlation obtained between FV and CD are significant at 0.01 level, as the 't'-value exceeds 2.58, the limit set up for significance at 0.01 level. In the case of Parental Acceptance the relationship is significant at 0.05 levels. The significant 'r' is indicative of a true relationship and hence it can be understood that there exists real relationship between CD and FV such as Parental Education, Parental Occupation, Parental Income, Home Learning Facility, Parental Care (Health & Physique), Parental Acceptance of Education, Parental Care (Psycho-Social Development).

The FV having significant relation with CD are presented below in the order of the extent of relationship.

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>i</td>
<td>Parental Education</td>
<td>0.32</td>
</tr>
<tr>
<td>ii</td>
<td>Parental Occupation</td>
<td>0.32</td>
</tr>
<tr>
<td>iii</td>
<td>Parental Income</td>
<td>0.31</td>
</tr>
<tr>
<td>iv</td>
<td>Home Learning Facility</td>
<td>0.30</td>
</tr>
<tr>
<td>v</td>
<td>Parental Care (Health and Physique)</td>
<td>0.26</td>
</tr>
<tr>
<td>vi</td>
<td>Parental Care (Psycho-Social Development)</td>
<td>0.20</td>
</tr>
<tr>
<td>vii</td>
<td>Parental Acceptance of Education</td>
<td>0.16</td>
</tr>
</tbody>
</table>

The magnitude of 'r' reveals that the relationship of the variables such as Parental Education, Parental Income, Parental Occupation and Home
Learning Facility with CD are almost substantial and of the remaining three variables Parental care (Psycho-Social Development), Parental Acceptance of Education, Parental Care (Health & Physique) are low.

It was also found that the relations of the FV, like Parental Education, Parental Income, Parental Occupation, Home Learning Facility, Parental Care (Psycho-Social Development), Parental Acceptance of Education and Parental Care (Health & Physique) with CD are positive. This suggests that an increase in these variables will be accompanied by a corresponding increase in CD.

Ninety-nine percent confidence interval of 'r' estimated between each of the FV and CD are presented in Table 4.4. These suggest that when 100 samples are studied, in 99 cases the population 'r' of

i. Parental Education would lie between 0.18 and 0.46.

ii. Parental occupation would lie between 0.18 and 0.46.

iii. Parental Income would lie between 0.17 and 0.43.

iv. Home Learning Facility would lie between 0.15 and 0.42.

v. Parental Care (Health & Physique) would lie between 0.11 and 0.41.

vi. Parental Care (Psycho-social Development) would lie between 0.04 and 0.36.

vii. Parental Acceptance of Education would lie between 0.05 and 0.32.
Table 4.4 also gives the shared variance of each FV indicating the percentage variance of the Criterion Variable, CD accounted by variation in each of the predictor, FV. The shared variances estimated vary between 2.56 (for Parental Acceptance of Education) and 10.24 (for Parental Education and Parental Occupation) suggesting that

i. 10.24% of the variation in CD is attributable to the variation in Parental Education.

ii. 10.24% of the variation in CD is attributable of the variation in Parental Occupation.

iii. 9.61 of the variation in CD are attributable to the variation in Parental income.

iv. 9.00% of the variation in CD is attributable to the variation in Home Learning Facility.

v. 6.76% of the variation in CD is attributable to the variation in Parental Care (Health & Physique).

vi. 4.00% of the variation in CD is attributable to the variation in Parental Care (Psycho-Social Development).

vii. 2.56% of the variation in CD is attributable to the variation in Parental Acceptance of Education.

Comments
The value of 'r' and other statistics on the extent of relationship between the Criterion Variable, CD and the FV reveals that the select seven FV are significantly related to CD.

4.3.3. Relation of FV with CD for Girls

Details of the relation of FV with CD for Girls are presented in Table 4.5 (N=279).
<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Familial Variable</th>
<th>Correlation Coefficient 'r'</th>
<th>Fisher's 't'</th>
<th>Standard Error of Estimate (SEr)</th>
<th>99% Confidence Interval</th>
<th>Shared Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Parental Education</td>
<td>0.43**</td>
<td>8.02</td>
<td>0.05</td>
<td>(0.55, 0.31)</td>
<td>18.49</td>
</tr>
<tr>
<td>2.</td>
<td>Parental Occupation</td>
<td>0.37**</td>
<td>6.53</td>
<td>0.05</td>
<td>(0.50, 0.24)</td>
<td>13.69</td>
</tr>
<tr>
<td>3.</td>
<td>Parental Income</td>
<td>0.39**</td>
<td>7.13</td>
<td>0.05</td>
<td>(0.52, 0.26)</td>
<td>15.21</td>
</tr>
<tr>
<td>4.</td>
<td>Home Learning Facility</td>
<td>0.35**</td>
<td>6.28</td>
<td>0.05</td>
<td>(0.49, 0.21)</td>
<td>12.25</td>
</tr>
<tr>
<td>5.</td>
<td>Parental Care (Health &amp; Physique)</td>
<td>0.09</td>
<td>0.14</td>
<td>0.06</td>
<td>(0.24, -0.06)</td>
<td>0.81</td>
</tr>
<tr>
<td>6.</td>
<td>Parental Acceptance of Education</td>
<td>0.12*</td>
<td>2.08</td>
<td>0.06</td>
<td>(0.25, -0.03)</td>
<td>1.44</td>
</tr>
<tr>
<td>7.</td>
<td>Parental Care (Psycho-Social Development)</td>
<td>0.22**</td>
<td>3.74</td>
<td>0.06</td>
<td>(0.27, 0.03)</td>
<td>4.84</td>
</tr>
</tbody>
</table>

Note: ** Indicates significance at 0.01 level (P ≤ 0.01)
* Indicates significance at 0.05 levels (P ≤ 0.05)
Discussion of Results

From Table 4.5 it can be seen that the coefficient of correlation obtained between CD and FV are significant (at 0.01 level) for Parental Education, Parental Occupation, Parental Income, Home Learning Facility and Parental Care (Psycho-Social Development). For Parental Acceptance of Education, 'r' is significant at 0.05 levels. But in the case of Parental Care (Health and Physique), the coefficient of correlation is not significant even at 0.05 levels, since the calculated 't' value (0.14) is less than 1.96. The significant 'r' is indicative of a true relationship and it can be understood that there exists real relationship between CD and FV such as Parental Education, Parental Occupation, Parental Income, Home Learning Facility, Parental acceptance of Education and Parental Care (Psycho-Social Development).

The result also suggests that the variable Parental Care (Health & Physique) has no significant relation with CD.

The FV having significant relation with CD are presented below in the order of the extent of relationship.

i. Parental Education (0.43)
ii. Parental Income (0.39)
iii. Parental Occupation* (0.37)
iv. Home Learning Facility (0.35)
v. Parental Care (Psycho-Social Development) (0.22)
vi. Parental Acceptance of Education (0.12)

The magnitude of 'r' reveals that the relationship of the variable such as Parental Education, Parental Income, Parental Occupation and Home Learning Facility with CD are almost substantial and the relation of the remaining variables with CD is low.

It was also found that the relation of the FV such as Parental Education, Parental Occupation, Parental Income, Home Learning Facility, Parental Care (Psycho-Social development) and Parental Acceptance of Education with CD are positive. This suggests that an increase in this variable will be accompanied by a corresponding increase in CD.

Ninety-nine percent confidence interval of 'r' estimated between each of the FV and CD are presented in Table 4.5. These suggest that when 100 samples are studied, in 99 cases the population 'r' of

i. Parental Education would lie between 0.31 and 0.55.

ii. Parental Income would lie between 0.26 and 0.52.

iii. Parental Occupation would lie between 0.24 and 0.50.

iv. Home Learning Facility would lie between 0.21 and 0.49.

v. Parental Care (Psycho-Social Development) would lie between 0.03 and 0.27.

vi. Parental Acceptance of Education would lie between -0.03 and 0.25.
Table 4.5 also gives the shared variance of each Familial Variable indicating the percentage variance of the CD accounted by variation in each of the predictor FV. The shared variance estimated vary between 1.44 (for Parental Acceptance of Education) and 18.49 (for Parental Education) suggesting that

i. 18.49% of the variation in CD is attributable to the variation in Parental Education.

ii. 15.21% of the variation in CD is attributable to the variation in Parental income.

iii. 13.69% of the variation in CD is attributable to the variation in Parental Occupation.

iv. 12.25% of the variation in CD is attributable to the variation in Home Learning Facility.

v. 4.84% of the variation in CD is attributable to the variation in Parental Care (Psycho-Social Development).

vi. 1.44 of the variation in CD is attributable to the variation in Parental Acceptance of Education.
Comments

The value of 'r' and other statistics on the extent of relationship between CD and the FV reveals that the six FV are significantly related to CD for Girls.

4.3.4. Relation of FV with CD for Rural Sample

Details of the relation of FV with CD for Rural Sample are presented in Table 4.6 (N=310).
TABLE 4.6
Co-efficient of Correlation and other details of relation of FV with CD for Rural Sample (N=310)

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>FV</th>
<th>Correlation Coefficient 'r'</th>
<th>Fisher's 't'</th>
<th>Standard Error of Estimate (SER)</th>
<th>99% Confidence Interval</th>
<th>Shared Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Parental Education</td>
<td>0.49**</td>
<td>9.86</td>
<td>0.04</td>
<td>(0.60, 0.38)</td>
<td>24.01</td>
</tr>
<tr>
<td>2.</td>
<td>Parental Occupation</td>
<td>0.35**</td>
<td>6.60</td>
<td>0.05</td>
<td>(0.48, 0.22)</td>
<td>12.25</td>
</tr>
<tr>
<td>3.</td>
<td>Parental Income</td>
<td>0.31**</td>
<td>5.73</td>
<td>0.051</td>
<td>(0.44, 0.18)</td>
<td>9.61</td>
</tr>
<tr>
<td>4.</td>
<td>Home Learning Facility</td>
<td>0.28**</td>
<td>5.12</td>
<td>0.052</td>
<td>(0.42, 0.15)</td>
<td>7.84</td>
</tr>
<tr>
<td>5.</td>
<td>Parental Care (Health &amp; Physique)</td>
<td>0.20**</td>
<td>4.15</td>
<td>0.054</td>
<td>(0.37, 0.09)</td>
<td>5.29</td>
</tr>
<tr>
<td>6.</td>
<td>Parental Acceptance of Education</td>
<td>0.17**</td>
<td>3.03</td>
<td>0.06</td>
<td>0.31, 0.03</td>
<td>2.89</td>
</tr>
<tr>
<td>7.</td>
<td>Parental care (Psycho-Social Development)</td>
<td>0.17**</td>
<td>3.03</td>
<td>0.06</td>
<td>0.31, 0.03</td>
<td>2.89</td>
</tr>
</tbody>
</table>

Note ** Indicates significance at 0.01 level (P ≤ 0.01)
Discussion of Results

From Table 4.6 it can be seen that the coefficient of correlation obtained between CD and FV are significant (at 0.01 level), as the 't' value exceed 2.58, the limit set up for significance at 0.01 level. The significance of 'r' is indicative of a true relationship and hence it can be understood that there exists real relationship between CD and the FV such as Parental Education, Parental Occupation, Parental Income, Home Learning Facility, Parental Care (Health & Physique), Parental Acceptance of Education and Parental Care (Psycho-Social Development).

The FV having significant relation with CD are presented below in the order of the extent of relationship.

i. Parental Education (0.49)
ii. Parental Occupation (0.35)
iii. Parental Income (0.31)
iv. Home Learning Facility (0.28)
v. Parental Care (Health & Physique) (0.20)
vi. Parental Care (Psycho-Social Development) (0.17)
vii. Parental Acceptance of Education (0.17).

The magnitude of 'r' reveals that the relation of variables Parental Education, Parental Occupation and Parental Income are almost substantial and the relation of the remaining four variables [Home Learning Facility,
Parental Care (Health and Physique, Parental Care (Psycho-Social Development) and Parental Acceptance of Education] with CD are low.

It was also found that the relations of all the seven FV with CD are positive. This suggests that an increase in these variables will be accompanied by a corresponding increase in CD.

Ninety-nine percent confidence interval of 'r' estimated between each of the FV and CD are presented in Table 4.6. These suggest that when 100 samples are studied, in 99 cases the population 'r' of

i. Parental Education would lie between 0.38 and 0.60.
ii. Parental Occupation would lie between 0.22 and 0.48.
iii. Parental Income would lie between 0.18 and 0.44.
iv. Home Learning Facility would lie between 0.15 and 0.42.
v. Parental Care (Health & Physique) would lie between 0.09 and 0.37.
vi. Parental Acceptance of Education would lie between 0.03 and 0.31.
vii. Parental care (Psycho-Social Development) would lie between 0.03 and 0.31.

Table 4.6 also reveals the shared variance of each Familial Variable indicating the percentage variance of the criterion variable CD accounted by variation in each of the predictor FV. The shared variances estimated vary between 2.89 [Parental Acceptance of Education and Parental care (Psycho social development)] and 24.01 (Parental Education) suggesting that...
Analysis

i. 24.01% of the variation in CD is attributable to the variation in Parental Education.

ii. 12.25% of the variation in CD is attributable to the variation in Parental occupation.

iii. 9.61% of the variation in CD is attributable to the variation in Parental Income.

iv. 7.84% of the variation in CD is attributable to the variation in Home Learning Facility.

v. 5.29% of the variation in CD is attributable to the variation in Parental Care (Health & Physique).

vi. 2.89% of variation in CD is attributable to the variation in Parental Acceptance of Education.

vii. 2.89% of the variation in CD is attributable to the variation in Parental Care (Psycho-Social Development).
Comments

The value of 'r' and other statistics on the extent of relationship between the Criterion Variable, CD, and the FV reveals that the select seven FV are significantly related to CD for rural sample.

4.3.5. Relation of FV with CD for Urban Sample

Details of the relation of FV with CD for Urban Sample are presented in Table 4.7 (N=229).
TABLE 4.7
Co-efficient of Correlation and other details of relation of FV with CD for Urban Sample (N=229)

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Familial Variable</th>
<th>Correlation Coefficient 'r'</th>
<th>Fisher's 't'</th>
<th>Standard Error of Estimate (SEr)</th>
<th>99% Confidence Interval</th>
<th>Shared Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Parental Education</td>
<td>0.32**</td>
<td>5.07</td>
<td>0.06</td>
<td>(0.48, 0.26)</td>
<td>10.24</td>
</tr>
<tr>
<td>2</td>
<td>Parental Occupation</td>
<td>0.30**</td>
<td>4.74</td>
<td>0.06</td>
<td>(0.45, 0.15)</td>
<td>9.00</td>
</tr>
<tr>
<td>3</td>
<td>Parental Income</td>
<td>0.32**</td>
<td>5.07</td>
<td>0.06</td>
<td>(0.48, 0.26)</td>
<td>10.24</td>
</tr>
<tr>
<td>4</td>
<td>Home Learning Facility</td>
<td>0.19**</td>
<td>2.91</td>
<td>0.06</td>
<td>(0.36, 0.03)</td>
<td>3.61</td>
</tr>
<tr>
<td>5</td>
<td>Parental Care (Health &amp; Physique)</td>
<td>0.23**</td>
<td>3.60</td>
<td>0.06</td>
<td>(0.39, 0.07)</td>
<td>5.29</td>
</tr>
<tr>
<td>6</td>
<td>Parental Acceptance of Education</td>
<td>0.16*</td>
<td>2.44</td>
<td>0.07</td>
<td>(0.33, 0.006)</td>
<td>2.56</td>
</tr>
<tr>
<td>7</td>
<td>Parental Care (Psycho Social Development)</td>
<td>0.19**</td>
<td>2.91</td>
<td>0.06</td>
<td>(0.36, 0.03)</td>
<td>3.61</td>
</tr>
</tbody>
</table>

Note ** Indicates significance at 0.01 level (P ≤ 0.01)
* Indicate significance at 0.05 levels (P ≤ 0.05)
Discussion of Results

From table 4.7 it can be seen that the coefficient of correlation obtained between CD and FV are significant (at 0.01 level), as the 't' value exceeds 2.58, the limit set up for significance at 0.01 level. The variable Parental Acceptance of Education is significant at 0.05 levels. The significant 'r' is indicative of a true relationship and hence it can be understood that there exists real relationship between CD and FV such as Parental Education, Parental Occupation, Parental Income, Home Learning Facility, Parental Care (Health & Physique), Parental Acceptance of Education and Parental Care (Psycho-Social Development).

The FV having significant relation with CD are presented below in the order of the extent of relationship.

i. Parental Education (0.32)
ii. Parental Income (0.32)
iii. Parental Occupation (0.30)
iv. Parental Care (Health & Physique) (0.23)
v. Home Learning Facility (0.19)
vi. Parental Care (Psycho Social Development) (0.19)
vii. Parental Acceptance of Education (0.16)

The magnitude of 'r' reveals that the relation of variables Parental Education, Parental Income and Parental Occupation are almost substantial
and the relation of the remaining four variables like Parental Care (Health & Physique), Home Learning Facility, Parental Care (Psycho-Social Development) and Parental Acceptance of Education with CD are low.

It was also found that the relations of the FV such as Parental Education, Parental Occupation, Parental Income, Home Learning Facility, Parental Care (Health & Physique), Parental Care (Psycho-Social Development and Parental Acceptance of Education with CD are positive. This suggests that an increase in these variables will be accompanied by a corresponding increase in CD.

Ninety-nine percent confidence interval of 'r' estimated between each of the FV and CD are presented in Table 4.7. These suggest that when 100 samples are studied in 99 cases the population 'r' of

i. Parental Education would lie between 0.26 and 0.48.
ii. Parental Income would lie between 0.26 and 0.48.
iii. Parental Occupation would lie between 0.15 and 0.45.
iv. Parental Care (Health & Physique) would lie between 0.07 and 0.39.
v. Home Learning Facility would lie between 0.03 and 0.36.
vi. Parental Care (Psycho-social Development) would lie between 0.03 and 0.36.
vii. Parental Acceptance of Education would lie between 0.33 and 0.006.
Table 4.7 also gives the shared variance of each Familial Variable indicating the percentage variance of the criterion variable CD accounted by variation in each of the predictor Parental Variables. The shared variance estimated vary between 2.56 (for Family Acceptance of Education) and 10.24 (for Parental Education) suggesting that

i. 10.24% of the variation in CD is attributable to the variation in Parental Education.

ii. 10.24% of the variation in CD is attributable to the variation in Parental Income.

iii. 9.00% of the variation in CD is attributable to the variation in Parental Occupation.

iv. 5.29% of the variation in CD is attributable to the variation in Parental Care (Health & Physique)

v. 3.61% of the variation in CD is attributable to the variation in Home Learning Facility.

vi. 3.61% of the variation in CD is attributable to the variation in Parental Care (Psycho Social Development).

vii. 2.56% of the variation in CD is attributable to the variation in Parental Acceptance of Education.

Comments
The value of 'r' and other statistics on the extent of relationship between the Criterion Variable, CD and the FV reveals that the select seven FV are significantly related to CD for Urban sample.

4.3.6. Relation of FV with CD for Private School Students

Details of the relation of FV with CD for Private school students are presented in Table 4.8 (N=352).
### Table 4.8

Co-efficient of Correlation and other details of relation of FV with CD for Private School (N=352)

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Familial Variable</th>
<th>Correlation Coefficient 'r'</th>
<th>Fisher's 't'</th>
<th>Standard Error of Estimate (SEr)</th>
<th>99% Confidence Interval</th>
<th>Shared Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Parental Education</td>
<td>0.33**</td>
<td>6.54</td>
<td>0.05</td>
<td>(0.45, 0.21)</td>
<td>10.89</td>
</tr>
<tr>
<td>2</td>
<td>Parental Occupation</td>
<td>0.31**</td>
<td>6.10</td>
<td>0.04</td>
<td>(0.44, 0.19)</td>
<td>9.61</td>
</tr>
<tr>
<td>3</td>
<td>Parental Income</td>
<td>0.33**</td>
<td>6.54</td>
<td>0.05</td>
<td>(0.45, 0.21)</td>
<td>10.89</td>
</tr>
<tr>
<td>4</td>
<td>Home Learning Facility</td>
<td>0.20**</td>
<td>3.86</td>
<td>0.05</td>
<td>(0.33, 0.07)</td>
<td>4.00</td>
</tr>
<tr>
<td>5</td>
<td>Parental Care (Health &amp; Physique)</td>
<td>0.23**</td>
<td>5.11</td>
<td>0.05</td>
<td>(0.36, 0.10)</td>
<td>5.29</td>
</tr>
<tr>
<td>6</td>
<td>Parental Acceptance of Education</td>
<td>0.18**</td>
<td>3.44</td>
<td>0.05</td>
<td>(0.31, 0.05)</td>
<td>3.24</td>
</tr>
<tr>
<td>7</td>
<td>Parental Care (Psycho-Social Development)</td>
<td>0.28**</td>
<td>5.46</td>
<td>0.04</td>
<td>(0.41, 0.15)</td>
<td>7.84</td>
</tr>
</tbody>
</table>

Note: ** Indicates significance at 0.01 level (P ≤ 0.01)
Discussion of Results

From Table 4.8 it can be seen that the coefficient of correlation obtained between the FV and CD are significant (at 0.01 level), as the 't' value exceeds 2.58, the limit set up for significance at 0.01 level. The significance of 'r' is indicative of a true relationship and hence it can be understood that there exists real relationship between CD and the FV such as Parental Education, Parental Occupation, Parental Income, Home Learning Facility, Parental Care (Health & Physique), Parental Acceptance of Education and Parental Care (Psycho-Social Development).

The FV having significant relation with CD are presented below in the order of the extent of relationship.

i. Parental Education (0.33)
ii. Parental Income (0.33)
iii. Parental Occupation (0.31)
iv. Parental Care (Psycho-Social Development) (0.23)
v. Parental Care (Health & Physique) (0.23)
vi. Home Learning Facility (0.20)
vii. Parental Acceptance of Education (0.18)

The magnitude of 'r' reveals that the relationship of the variable Parental Education, Parental Income and Parental Occupation with CD are almost substantial. The relation of the variables Home Learning Facility,
Parental Care (Psycho-Social Development), Parental Acceptance of Education and Parental Care (Health and Physique) with CD are low.

It was also found that the relations of the FV Parental Education, Parental Occupation, Parental Income, Home Learning Facility, Parental Acceptance of Education, Parental Care (Psycho-Social development) and Parental Care (Health and Physique) with CD are positive. This suggests that an increase in these variables will be accompanied by a corresponding increase in CD.

Ninety-nine percent confident interval of 'r' estimated between each of the FV and CD are presented in Table 4.8. These suggest that when 100 samples are studied, in 99 cases the population 'r' of

i. Parental Education would lie between 0.21 and 0.45.

ii. Parental Income would lie between 0.21 and 0.45.

iii. Parental Occupation would lie between 0.19 and 0.44.

iv. Parental Care (Psycho-Social Development) would lie between 0.15 and 0.41).

v. Parental Care (Health & Physique) would lie between 0.10 and 0.36.
vi. Home Learning Facility would lie between 0.07 and 0.33.

vii. Parental Acceptance of Education would lie between 0.05 and 0.31.

Table 4.8 also gives the shared variance of each Familial Variable indicating the percentage variance of the criterion variable CD accounted by variation in each of the predictor FV. The shared variance estimated vary between 3.24 (for Parental Acceptance of Education) and 10.89 (for Parental Education and for Parental Income) suggesting that

i. 10.89% of the variation in CD is attributable to the variation in Parental Education.

ii. 10.89% of the variation in CD is attributable to the variation in Parental Income.

iii. 9.61% of the variation in CD is attributable to the variation in Parental Occupation.

iv. 7.84% of the variation in CD is attributable to the variation in Parental Care (Psycho-Social development).

v. 5.29% of the variation in CD is attributable to the variation in Parental Care (Health & Physique).

vi. 4.00% of the variation in CD is attributable to the variation in Home Learning Facility.

vii. 3.24% of the variation in CD is attributable to the variation in Parental Acceptance of Education.
Comments

The value of 'r' and other statistics on the extent of relationship between the Criterion Variable, CD and the FV reveals that the select seven FV are significantly related to CD for Private School Students.

4.3.7. Relation of FV with CD for Government School Students

Details of the relation of FV with CD for Government School Students are presented in Table 4.9 (N=187).
<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Familial Variable</th>
<th>Correlation Coefficient 'r'</th>
<th>Fisher's 't'</th>
<th>Standard Error of Estimate (SEr)</th>
<th>99% Confidence Interval</th>
<th>Shared Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Parental Education</td>
<td>0.47**</td>
<td>7.23</td>
<td>0.057</td>
<td>(0.62, 0.32)</td>
<td>22.09</td>
</tr>
<tr>
<td>2</td>
<td>Parental Occupation</td>
<td>0.35**</td>
<td>5.08</td>
<td>0.06</td>
<td>(0.52, 0.18)</td>
<td>12.25</td>
</tr>
<tr>
<td>3</td>
<td>Parental Income</td>
<td>0.43**</td>
<td>6.50</td>
<td>0.06</td>
<td>(0.58, 0.28)</td>
<td>18.49</td>
</tr>
<tr>
<td>4</td>
<td>Home Learning Facility</td>
<td>0.33**</td>
<td>5.02</td>
<td>0.06</td>
<td>(0.49, 0.16)</td>
<td>10.89</td>
</tr>
<tr>
<td>5</td>
<td>Parental Care (Health &amp; Physique)</td>
<td>0.15*</td>
<td>2.06</td>
<td>0.07</td>
<td>(0.29, 0.09)</td>
<td>2.25</td>
</tr>
<tr>
<td>6</td>
<td>Parental Acceptance of Education</td>
<td>0.10</td>
<td>1.37</td>
<td>0.07</td>
<td>(0.335, 0.035)</td>
<td>1.00</td>
</tr>
<tr>
<td>7</td>
<td>Parental Care (Psycho-Social Development)</td>
<td>0.22**</td>
<td>3.07</td>
<td>0.07</td>
<td>(0.400, 0.04)</td>
<td>4.84</td>
</tr>
</tbody>
</table>

Note: ** Indicates significance at 0.01 level (P ≤ 0.01)
* Indicates significance at 0.05 levels (P ≤ 0.05)
Discussion of Results

From Table 4.9 it can be seen that the coefficient of correlation obtained between the FV and CD are significant at (0.01 level) except of Parental Acceptance of Education, as the t-value exceeds 2.58, the limit set up for significance at 0.01 level. The variable Parental Care (Health & Physique) is significant at 0.05 levels. The significance of 'r' is indicative of a true relationship and hence it can be understood that there exists real relationship between CD and the FV Parental Education, Parental Occupation, Parental Income, Home Learning Facility, Parental Care (Health & Physique), Parental Care (Psycho-Social Development).

The result also shows that the variable Parental Acceptance of Education has no significant relation with CD.

The FV having significant relation with CD are presented below in the order of the extent of relationship.

i. Parental Education (0.47)

ii. Parental Income (0.43)

iii. Parental Occupation (0.35)

iv. Home Learning Facility (0.33)
v. Parental Care (Psycho-Social Development) (0.22)

vi. Parental Care (Health & Physique) (0.15)

The magnitude of 'r' reveals that the relations of variables such as Parental Education, Parental Income, Parental Occupation and Home Learning Facility are almost substantial and the relation of the remaining two variables Parental Care (Psycho-Social Development) and Parental Care (Health & Physique) with CD are low.

It was also found that the relations of the FV such as Parental Education, Parental Occupation, Parental Income, Home Learning Facility, Parental Care (Health & Physique) and Parental Care (Psycho-Social development) are positive. This suggests that an increase in these variables will be accompanied by a corresponding increase in CD.

Ninety-nine percent confidence interval of 'r' estimated between each of the FV and CD are presented in Table 4.9. These suggest that when 100 samples are studied, in 99 cases the population 'r' of

i. Parental Education would lie between 0.32 and 0.62.

ii. Parental Income would lie between 0.28 and 0.58.

iii. Parental occupation would lie between 0.18 and 0.52.

iv. Home Learning Facility would lie between 0.16 and 0.49.
v. Parental Care (Psycho-Social Development) would lie between 0.04 and 0.40.

vi. Parental Care (Health & Physique) would lie between 0.09 and 0.29.

Table 4.9 also gives the shared variance of each FV indicating the percentage variance of the criterion variable CD accounted by variation in each of the FV. The shared variance estimated vary between 2.25 (for parental care (Health & Physique) and 22.09 (for Parental Education) suggesting that

i. 22.09% of the variation in CD is attributable to the variation in Parental Education.

ii. 18.49% of the variation in CD is attributable to the variation in Parental Income.

iii. 12.25% of the CD is attributable to the variation in Parental Occupation.

iv. 10.89% of the CD is attributable to the variation in Home Learning Facility.

v. 4.84% of the CD is attributable to the variation in Parental Care (Psycho-Social Development).

vi. 2.25% of the CD in attributable to the variation in Parental Care (Health & Physique).
Comment

The value of 'r' and other statistics on the extent of relationship between the Criterion Variable, CD, and the FV reveals that the select six FV are significantly related to CD for Government School students.

4.4. DIFFERENCE IN THE RELATION OF FV WITH CD OF THE RELEVANT SUB SAMPLES BASED ON SEX, LOCALE AND TYPE OF MANAGEMENT OF SCHOOL.

4.4.1. Comparison of coefficient of correlations for Boys and Girls

Details of Test of Significance of difference in coefficient of correlations between FV and AA for Boys and Girls are presented in Table 4.10.
TABLE 4.10

Data and Results of Test of Significance of Sex Difference in 'r' between CD and FV

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>FV</th>
<th>Coefficient of Correlation</th>
<th>Fisher's 'Z' value</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Boys N=260</td>
<td>Girls N=279</td>
<td>Boys</td>
</tr>
<tr>
<td>1.</td>
<td>Parental Education</td>
<td>0.32</td>
<td>0.43</td>
<td>0.33</td>
</tr>
<tr>
<td>2.</td>
<td>Parental Occupation</td>
<td>0.32</td>
<td>0.37</td>
<td>0.34</td>
</tr>
<tr>
<td>3.</td>
<td>Parental Income</td>
<td>0.32</td>
<td>0.39</td>
<td>0.33</td>
</tr>
<tr>
<td>4.</td>
<td>Home Learning Facility</td>
<td>0.30</td>
<td>0.35</td>
<td>0.32</td>
</tr>
<tr>
<td>5.</td>
<td>Parental Care (Health &amp; Physique)</td>
<td>0.26</td>
<td>0.09</td>
<td>0.27</td>
</tr>
<tr>
<td>6.</td>
<td>Parental Acceptance of Education</td>
<td>0.16</td>
<td>0.12</td>
<td>0.16</td>
</tr>
<tr>
<td>7.</td>
<td>Parental Care (Psycho-Social Development)</td>
<td>0.20</td>
<td>0.22</td>
<td>0.21</td>
</tr>
</tbody>
</table>

Discussion of Result

The 't' value of the test of significance of difference between coefficient of correlations is represented in Table 4.10 indicates that no
significant sex difference exists in the case of six predictor variables with CD, since the calculated 't' vale is less than 1.96, the table value.

This further suggests that the nature of relationship of CD with these six predictor variables [Parental Education, Parental Occupation, Parental Income, Home Learning Facility, Parental Acceptance of Education and Parental Care (Psycho-Social Development)] is identical for boys and girls.

But in the case of Parental Care (Health and Physique), the calculated 't' value, 2.08, indicates that significant sex difference exists in the case of the relation of Parental Care (Health & Physique) and CD.

This further suggests that the nature of relationship of CD with Parental Care (Health & Physique) is not identical for Boys and Girls. Further, the value of 'r' is higher for boys in the case of Parental Care (Health & Physique), suggesting the relation is somewhat higher for boys compared to girls.
4.4.2. Comparison of coefficient of correlations for Urban and Rural School Pupils

Details of Test of Significance of difference in coefficient of correlations between CD and FV for the Locale groups are presented in Table 4.11.

TABLE 4.11

Data and Results of Test of Significance of Difference in 'r' between CD and FV for the Locale group

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>FV</th>
<th>Coefficient of Correlation</th>
<th>Fisher's 'Z' value</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Urban (N = 229)</td>
<td>Rural (N = 310)</td>
<td>Urban</td>
</tr>
<tr>
<td>1.</td>
<td>Parental Education</td>
<td>0.32</td>
<td>0.49</td>
<td>0.34</td>
</tr>
<tr>
<td>2.</td>
<td>Parental Occupation</td>
<td>0.30</td>
<td>0.35</td>
<td>0.32</td>
</tr>
<tr>
<td>3.</td>
<td>Parental Income</td>
<td>0.32</td>
<td>0.31</td>
<td>0.34</td>
</tr>
<tr>
<td>4.</td>
<td>Home Learning Facility</td>
<td>0.19</td>
<td>0.28</td>
<td>0.19</td>
</tr>
<tr>
<td>5.</td>
<td>Parental Care (Health &amp; Physique)</td>
<td>0.23</td>
<td>0.20</td>
<td>0.23</td>
</tr>
<tr>
<td>6.</td>
<td>Parental Acceptance of Education</td>
<td>0.16</td>
<td>0.17</td>
<td>0.16</td>
</tr>
<tr>
<td>7.</td>
<td>Parental Care (Psycho-Social Development)</td>
<td>0.99</td>
<td>0.17</td>
<td>0.97</td>
</tr>
</tbody>
</table>
Discussion of Results

The 't' value of the test of significance of difference between coefficients of correlations presented in Table 4.11 indicates that no significant locale difference exists in the case of six FV, with CD, since the calculated 't' value is less than 1.96, the table value.

This further suggests that the nature of relationship of CD with these six predictor variables [Parental Occupation, Parental Income, Home Learning Facility, Parental Care (Health & Physique), Parental Acceptance of Education, Parental Care (Psycho-Social Development)] are identical for Urban and Rural school students.

But in the case of Parental Education, the calculated 't' value 2.27 indicates that significant difference exists between Urban and Rural school pupils, in the case of the relation between Parental Education and CD. This further suggests that the nature of relationship of CD with Parental Education is not identical for Urban and Rural school pupils. Further, the value of 'r' is higher for rural school pupils, suggesting that the relation is somewhat higher for rural school pupils compared to urban school pupils.

4.4.3. Comparison of coefficient of correlations for Private and Government School Pupils
Details of Test of Significance of difference in coefficient of correlations between CD and FV for Private and Government school pupils are presented in Table 4.12.

### TABLE 4.12

Data and Results of Test of Significance of Difference in 'r' between CD and FV for Private and Government School Pupils

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>FV</th>
<th>Coefficient of Correlation</th>
<th>Fisher's 'Z' value</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Private N=352</td>
<td>Govt. N=187</td>
<td>Private</td>
</tr>
<tr>
<td>1.</td>
<td>Parental Education</td>
<td>0.33</td>
<td>0.47</td>
<td>0.34</td>
</tr>
<tr>
<td>2.</td>
<td>Parental Occupation</td>
<td>0.31</td>
<td>0.35</td>
<td>0.32</td>
</tr>
<tr>
<td>3.</td>
<td>Parental Income</td>
<td>0.33</td>
<td>0.43</td>
<td>0.34</td>
</tr>
<tr>
<td>4.</td>
<td>Home Learning Facility</td>
<td>0.20</td>
<td>0.33</td>
<td>0.26</td>
</tr>
<tr>
<td>5.</td>
<td>Parental Care (Health &amp; Physique)</td>
<td>0.23</td>
<td>0.15</td>
<td>0.23</td>
</tr>
<tr>
<td>6.</td>
<td>Parental Acceptance of Education</td>
<td>0.18</td>
<td>0.10</td>
<td>0.18</td>
</tr>
<tr>
<td>7.</td>
<td>Parental Care (Psycho-Social Development)</td>
<td>0.28</td>
<td>0.22</td>
<td>0.29</td>
</tr>
</tbody>
</table>

Discussion of Results
Discussion of Results

The 't' value of the test of significance of difference between coefficient of correlations presented in Table 4.12 indicates that no significant difference exists between Private and Government school pupils in the case of selected Familial variable with CD.

This further suggests that the nature of relationship of CD with these seven FV [Parental Education, Parental Occupation, Parental Income, Home Learning Facility, Parental Care (Health and Physique), Parental Acceptance of Education, Parental Care (Psycho-Social Development)] is identical for Private and Government School Pupils.

4.5. STEPWISE REGRESSION ANALYSIS TO FIND THE PREDICTOR VARIABLE WHICH BEST PREDICT CRITERION VARIABLE

This part of the analysis has been done with a view to find out the predictor variables that may best predict CD. The technique followed for this is Stepwise Regression Analysis (by ANOVA approach) for which computation was done by means of the SPSS programme of computers. The investigator, as seven-predictor variables showed significant relation with CD and the value of 'r' ranges between 0.10 and 0.38, attempted this analysis.
The predictor variables used for stepwise regression analysis (ANOVA approach) are given below:

**Predictor Variables**

i. Parental Education

ii. Parental Income

iii. Parental Occupation

iv. Home Learning Facility

v. Parental Care (Health & Physique)

vi. Parental Acceptance of Education

vii. Parental Care (Psycho-Social Development)

The data to the above analysis, that is mean, standard deviation (of the criterion and predictor variables) and the coefficient of correlation of the criterion variable with the predictor variables, are given in Table 4.13 and Table 4.14 respectively.
TABLE 4.13
Means and Standard Deviation of the Select Variables as Input Data for Stepwise Regression Analysis

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Variables</th>
<th>Mean</th>
<th>Standard Deviations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Criterion Variables</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Y</td>
<td>CD</td>
<td>48.91</td>
<td>14.39</td>
</tr>
<tr>
<td></td>
<td><strong>Predictor Variables</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. X₁</td>
<td>Parental Education</td>
<td>38.52</td>
<td>7.31</td>
</tr>
<tr>
<td>3. X₂</td>
<td>Parental Income</td>
<td>20.71</td>
<td>7.70</td>
</tr>
<tr>
<td>4. X₃</td>
<td>Parental Occupation</td>
<td>20.50</td>
<td>7.62</td>
</tr>
<tr>
<td>5. X₄</td>
<td>Home Learning Facility</td>
<td>3.20</td>
<td>1.68</td>
</tr>
<tr>
<td>6. X₅</td>
<td>Parental Care (Health &amp; Physique)</td>
<td>24.52</td>
<td>11.59</td>
</tr>
<tr>
<td>7. X₆</td>
<td>Parental Acceptance of Education</td>
<td>34.65</td>
<td>5.00</td>
</tr>
<tr>
<td>8. X₇</td>
<td>Parental Care (Psycho- Social</td>
<td>70.00</td>
<td>10.86</td>
</tr>
</tbody>
</table>

The coefficient of correlation between the criterion variable and each of the predictor variables are given in Table 4.14.
TABLE 4.14
Correlation Coefficients Between Criterion and Predictor Variables

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Predictor Variables</th>
<th>'r'</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Parental Education</td>
<td>0.3828</td>
</tr>
<tr>
<td>2.</td>
<td>Parental Occupation</td>
<td>0.3409</td>
</tr>
<tr>
<td>3.</td>
<td>Parental Income</td>
<td>0.3510</td>
</tr>
<tr>
<td>4.</td>
<td>Home Learning Facility</td>
<td>0.3284</td>
</tr>
<tr>
<td>5.</td>
<td>Parental Care (Health Physique)</td>
<td>0.0230</td>
</tr>
<tr>
<td>6.</td>
<td>Parental Acceptance of Education</td>
<td>0.1453</td>
</tr>
<tr>
<td>7.</td>
<td>Parental Care (Psycho-Social Development)</td>
<td>0.2102</td>
</tr>
</tbody>
</table>

The indices of correlation reported in Table 4.14 indicates that the predictor variable Parental Education ($X_1$) has the highest correlation ($r = 0.3828$) with the criterion variable, and hence it was selected to enter first in the analysis.

Step I

The result of Step I Analysis is given in Table 4.15.
TABLE 4.15

Result of Step I Regression Analysis

<table>
<thead>
<tr>
<th>Variable Entered:</th>
<th>$X_1$ (Parental Education)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Correlation $r$</td>
<td>0.38</td>
</tr>
<tr>
<td>Percentage Variance ($r^2 \times 100$)</td>
<td>14.65</td>
</tr>
<tr>
<td>Beta ($\beta$)</td>
<td>0.38</td>
</tr>
<tr>
<td>Constant</td>
<td>3.08</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Source</th>
<th>DF</th>
<th>SS</th>
<th>MSS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>538</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regression</td>
<td>1</td>
<td>16325.64</td>
<td>16325.64</td>
<td>292.20</td>
</tr>
<tr>
<td>Residual</td>
<td>537</td>
<td>95085.26</td>
<td>177.07</td>
<td></td>
</tr>
</tbody>
</table>

The result shown in Table 4.15 suggests that the percentage variance accounted by the variable Parental Education ($X_1$) in predicting CD is 14.65.

The 'B' weight of the variable in writing the regression equation is 0.75, the Standard Error of B is 0.078.

Here $F = 292.20$

It is therefore be concluded that the regressor $X_1$ is significant in predicting the criterion variable as the calculated $F$ value = (292.00) exceeds table $F$-value for (1,538) df.
Step II

Step II Analysis was taken up to see whether there is any increment in the percentage variation accounted for by the predictor variable.

The predictor variable having second highest partial correlation with criterion variable is Home Learning Facility.

The results of this analysis are shown in Table 4.16.

**TABLE 4.16**

Result of Step II Regression Analysis

| Variable entered: X₁ (Parental Education) and X₄ (Home Learning Facility). |
|-----------------------------|-----------------------------|
| Multiple Correlation (R) = 0.43 |
| Percentage Variance (R² x 100) = 0.43 |
| Percentage Variance (R² x 100) = 18.369 |
| Beta₁ (β₁) = 0.30. B₁ = 0.590 SEₜₜ₁ = 0.084 |
| Beta₂ (β₄) = 0.21 B₄ = 1.792 SEₜₜ₄ = 0.363 |
| Constant = 3.014 |

<table>
<thead>
<tr>
<th>Source</th>
<th>DF</th>
<th>SS</th>
<th>MSS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>538</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regression</td>
<td>2</td>
<td>20464.77</td>
<td>10232.39</td>
<td>160.306</td>
</tr>
<tr>
<td>Residual</td>
<td>536</td>
<td>90946.13</td>
<td>169.68</td>
<td></td>
</tr>
</tbody>
</table>
The result of the step 2 analysis reveals that the percentage variance accounted for by Parental Education and Home Learning Facility (X4) is 18.369.

This further suggests that by adding X2 to X1, R has changed from 0.38 to 0.43 and hence percentage variation increased from 14.65 to 18.369. Thus the increment in percentage variation is 3.719.

Here $F = 160.30$.

This suggests that the regressor X2 is also significant in predicting CD, since the calculated F-value exceeds the table F-value at (2,536) df.

The 'B' weight of this variable X1 and X2 are respectively 0.59 and 1.792, and standard errors of $B_1$ and $B_2$ are 0.084 and 0.363 respectively.

**Step III**

A third step analysis was taken up to see whether there is any increment in the percentage variation accounted for by the third predictor variable.

The predictor variable having third highest partial correlation with criterion variable is Parental Income (X3).

The result of this analysis is shown in Table 4.17.
TABLE 4.17

Result of Step III Regression Analysis

Variables entered:  
X₁ (Parental Education)  
X₄ (Home Learning Facility)  
X₃ (Parental Income)

Multiple Correlation (R) = 0.46
Percentage Variance (R² x 100) = 20.90

<table>
<thead>
<tr>
<th>Beta₁ (β₁) = .219869</th>
<th>B₁ = 0.4328</th>
<th>SE₁ = 0.907</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beta₄ (β₄) = .182582</td>
<td>B₄ = 1.559886</td>
<td>SE₄ = 0.362</td>
</tr>
<tr>
<td>Beta₃ (β₃) = .184980</td>
<td>B₃ = .345424</td>
<td>SE₃ = 0.0834</td>
</tr>
<tr>
<td>Constant = 2.971</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Source</th>
<th>DF</th>
<th>SS</th>
<th>MSS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>538</td>
<td>23289.76</td>
<td>7763.25</td>
<td>47.132</td>
</tr>
<tr>
<td>Regression</td>
<td>3</td>
<td>88121.139</td>
<td>164.71</td>
<td></td>
</tr>
<tr>
<td>Residual</td>
<td>535</td>
<td>88121.139</td>
<td>164.71</td>
<td></td>
</tr>
</tbody>
</table>

The result of the step 3 analysis reveals that when a third variable viz; Parental Income was entered, R become 0.4572 with percentage variance as 20.90. The multiple correlations between the three variables are 0.4572 and the percentage variance accounted for by the three variables Parental Education, Home Learning Facility and Parental Income is 20.904.

This further suggests that by adding X₃ to X₁ and X₄, the multiple correlation R has increased from 0.43 to 0.46 and the percentage variation has increased from 18.369 to 20.90. The increment in multiple correlations and
the percentage variation is 0.02 and 2.531 respectively. Here $F = 47.13217$, $(P<0.01)$ for $(3, 535)$ df.

This suggest that the regressor $X_3$ is also significant in predicting CD as calculated $F$-value at $(3, 535)$ df exceeds the table value.

The 'B' weight of this variable $X_1$, $X_4$ and $X_3$ are 0.4328, 1.5598 and 0.3454 and their standard errors of B are 0.90745, 0.362038 and 0.083408 respectively.

**Step IV**

A fourth step analysis was taken up to see whether there is any increment in the percentage variation accounted for by the fourth predictor variable.

The predictor variable having fourth highest partial correlation with criterion variable is $X_7$, Parental care (Psycho-Social Development).

The result of this analysis is shown in Table 4.18.
TABLE 4.18

Results of Step IV Regression Analysis

Variables entered:  
X₁ (Parental Education)  
X₄ (Home Learning Facility)  
X₃ (Parental Income)  
X₇ (Parental Care - Psycho social development)

Multiple Correlation (R)  =  0.467  
Percentage Variance (R² x 100)  =  21.815

<table>
<thead>
<tr>
<th>Variables Entered</th>
<th>Beta₁ (β₁)</th>
<th>B₁</th>
<th>SE_B₁</th>
</tr>
</thead>
<tbody>
<tr>
<td>X₁</td>
<td>0.2084</td>
<td>0.410</td>
<td>0.90757</td>
</tr>
<tr>
<td>X₄</td>
<td>0.161</td>
<td>1.375</td>
<td>0.3678</td>
</tr>
<tr>
<td>X₃</td>
<td>0.184</td>
<td>0.344</td>
<td>0.0830</td>
</tr>
<tr>
<td>X₇</td>
<td>0.995</td>
<td>0.132</td>
<td>0.0529</td>
</tr>
<tr>
<td>Constant</td>
<td></td>
<td>4.287</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Source</th>
<th>DF</th>
<th>SS</th>
<th>MSS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>538</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Regression</td>
<td>4</td>
<td>24301.634</td>
<td>6075.409</td>
<td>37.244</td>
</tr>
<tr>
<td>Residual</td>
<td>534</td>
<td>87109.267</td>
<td>163.126</td>
<td></td>
</tr>
</tbody>
</table>

The result shown in Table 4.18 reveals that 'R' and percentage variance in this case are 0.467 and 21.815 respectively.

That is by adding variable X₇ to X₁, X₄ and X₃, R has increased to 0.467 from 0.457, and percentage variation is increased to 21.813 from 20.903. The increment in R and the percentage variation is 0.010 and 0.910 respectively. Here F = 37.2437 (P<0.001) for (4,534) df.
This suggest that the regressor X₇ is also significant in predicting CD, since the calculated 't' value exceeds the table F-value at (4,354) df.

The B weight of Variable X₁, X₄, X₃ and X₇ are 0.4103, 1.3752, 0.343504, and 0.1318 and standard errors of B are 0.0907, 0.3678, 0.083 and 0.0529.

After step 4 analysis it was found that further addition of predictor variables has not much to contribute to R or the percentage variation. When fourth variable X₇ was entered, R increased only by 0.01, which is negligible, and the percentage variation increased only by 0.910.

Thus it was found that there are four significant predictor variables. The four-predictor variables in the order, as found in the stepwise regression analysis, are as follows.

i. X₁ - Parental Education
ii. X₄ - Home Learning Facility
iii. X₃ - Parental Income
iv. X₇ - Parental Care (Psycho-Social Development).

A summary of the successive R's, percentage variance, increase in R and increase in percentage variation are given in Table 4.19.
TABLE 4.19
Details Regarding Increase in Percentage Variation

<table>
<thead>
<tr>
<th>Step</th>
<th>Variables Entered</th>
<th>R</th>
<th>Increase in R</th>
<th>Percentage Variation ((R^2 \times 100))</th>
<th>Increase in Percentage variation</th>
</tr>
</thead>
<tbody>
<tr>
<td>X₁</td>
<td>Parental Education</td>
<td>0.383</td>
<td></td>
<td>14.65</td>
<td></td>
</tr>
<tr>
<td>X₄</td>
<td>Home Learning Facility</td>
<td>0.429</td>
<td>0.40</td>
<td>18.37</td>
<td>3.720</td>
</tr>
<tr>
<td>X₃</td>
<td>Parental Income</td>
<td>0.457</td>
<td>0.28</td>
<td>20.904</td>
<td>1.539</td>
</tr>
<tr>
<td>X₇</td>
<td>Parental Care (Psycho-Social Development)</td>
<td>0.467</td>
<td>0.010</td>
<td>21.227</td>
<td>0.910</td>
</tr>
</tbody>
</table>

The successive equations to the regression lines for predicting CD, by means of the variables Parental Education, Home Learning Facility, Parental Income and Parental Care (Psycho-Social Development) are

1. \( Y = 0.75 \ X₁ + 3.08 \) (for predicting CD from Parental Education).

2. \( Y = 0.590 \ X₁ + 1.792 \ X₄ + 3.014 \) (for predicting CD from Parental Education and Home Learning Facility).

3. \( Y = 0.4328 \ X₁ + 1.5599 \ X₄ + 0.3454 \ X₃ + 2.971 \) (for predicting CD from Parental Education, Home bearing Facility and Parental Income).
4. \[ Y = 0.41 X_1 + 1.375 X_4 + 0.344 X_3 + 0.132 X_7 + 4.287 \] (for predicting CD from Parental Education, Home Learning Facility, Parental Income and Parental Care (Psycho-Social Development).

These four equations will help us to predict CD (Y) when given a combination of the four predictor FV used in the study or when some among them are given.

**Comments**

Analysis done by step-wise regression shows that there are four significant predictor variables (FV) to predict the criterion variable (CD).

**4.5. PREDICTIVE EFFICIENCY OF THE SIGNIFICANT PREDICTORS**

The multiple correlations R between the criterion variable Y and that of the four significant predictors [Parental education (X_1), Home Learning Facility (X_4), Parental income (X_3) and Parental care - Psycho-Social development (X_4)] is 0.467. This index of prediction (R) was tested for significance by finding \[ SE_R = (1 - R^2) / \sqrt{N-m} \]. Here \[ SE_R = 0.0338 \]. Since \[ SE_R \] is close to zero, the index of prediction is highly significant. This
suggests that CD can be significantly predicted by means of the four predictor variables $X_1$, $X_3$, $X_4$ and $X_7$.

In order to find the relative efficiency of these variables in predicting the criterion variable, the coefficient of multiple determination ($R^2$) was computed.

The value of $R^2$ (for the combined effect of $X_1$, $X_4$, $X_3$ and $X_7$) is 0.21813.

$R^2 = 0.21813$ suggests that 21.81 percent of whatever makes students differ in CD is attributable to differences in Parental Education ($X_1$) Home Learning Facility ($X_4$), Parental Income ($X_3$) and Parental Care (Psycho-Social development ($X_7$). That is around 21.81 percent of variation in CD is the contribution of the four variables obtained as best predictors by step-wise regression analysis. This also means that the remaining 78.19 percent of the variance of CD can be attributable to the variation in other variables that have not been studied here.

In order to find the relative efficiency of each of these four predictor variables, the coefficient of determination $R^2$ in terms of $\beta$'s and 'r' was computed. This is the index of predictive efficiency. This $R^2$ as $\Sigma \beta r$ is presented in the Table 4.20.
### TABLE 4.20

Details Regarding Regression Coefficients (β), Coefficient of Correlation (r) and their products after Step 4 Regression Analysis

<table>
<thead>
<tr>
<th>Variable Number</th>
<th>Variables</th>
<th>Regression Coefficients (β)</th>
<th>Coefficient of Correlation (r)</th>
<th>β x r</th>
</tr>
</thead>
<tbody>
<tr>
<td>X₁</td>
<td>Parental Education</td>
<td>0.2084</td>
<td>0.383</td>
<td>0.0798</td>
</tr>
<tr>
<td>X₃</td>
<td>Parental Income</td>
<td>0.1839</td>
<td>0.351</td>
<td>0.0645</td>
</tr>
<tr>
<td>X₄</td>
<td>Home Learning Facility</td>
<td>0.16097</td>
<td>0.328</td>
<td>0.0528</td>
</tr>
<tr>
<td>X₇</td>
<td>Parental Care (Psycho-Social Development)</td>
<td>0.0995</td>
<td>0.2102</td>
<td>0.0209</td>
</tr>
</tbody>
</table>

\[ \Sigma \beta r = R^2 = 0.2180 \]

The result shown in Table 4.20 thus suggests that,

i. 7.98 percentage is the contribution of the predictor variable, Parental Education.

ii. 6.45 percentage is the contribution of the predictor variable, Parental income.

iii. 5.28 percentage is the contribution of the predictor variable, Home Learning Facility.

iv. 2.09 percentage is the contribution of the predictor variable parental care (Psycho-Social Development).
Findings

It was found that among the four-predator variables, Parental Education is the best predictor of CD. The predictor variables are listed below according to the extent of predictability of CD.

i. Parental Education (X₁)
ii. Parental Income (X₃)
iii. Home Learning Facility (X₄)
iv. Parental Care (Psycho-Social Development) (X₇)

4.6. SUMMARY OF FINDINGS

Findings of the study derived by all analysis are summarized below:

4.6.1.i. By the technique of two-tailed test of significance of difference between the means of large independent sample, it was found that, there is gender difference exists in the case of Achievement in Mathematics. In this case Boys excel Girls.

ii. In the case of Social Science also there is gender difference exists and Boys excel Girls.

iii. There is no gender difference exists in the case of Science. That is, Boys and Girls are identical in their achievement in science.
iv. In the case of English also, there exists no gender difference.

4.6.2.i. The selected seven FV are significantly correlated with CD for total sample. The variable Parental Education, Parental Occupation, Parental Income, Home Learning Facility, Parental Acceptance of Education and Parental Care (Psycho-social Development) are significant at 0.01 level and the Parental Care (Health & Physique) is significant at 0.05 levels.

ii. In the case of Boys also, the selected seven FV [Parental Education, Parental Occupation, Parental Income, Home Learning Facility, Parental care (Health & Physique), Parental Acceptance of Education, Parental Care (Psycho-Social Development)] have significant relation with CD.

iii. In the case of Girls, six FV [Parental Education, Parental Occupation, Parental Income, Home Learning Facility, Parental Acceptance of Education, Parental Care (Psycho-Social Development)] have significant positive relationship with CD. In the case of Parental Care (Health & Physique) there is no significant relationship with CD.

iv. In the case of Rural Sample all the selected FV have significant relationship with CD at 0.01 level.
v. In the case of urban sample also, all the selected FV have significant relationship with CD. Six FV (Parental Education, Parental Occupation, Parental Income, Home Learning Facility, Parental Care (Health & Physique) and Parental Care (Psycho-Social Development) have significant relationship with CD at 0.01 level. In the case of Parental Acceptance of Education, the relationship is significant only at 0.05 levels.

vi. In the case of Private school, the seven FV [Parental Education, Parental Occupation, Parental Income, Home Learning Facility, Parental Acceptance of Education, Parental Care (Psycho-Social Development)] are significant at 0.01 level.

vii. But in the case of Government school Parental Acceptance of Education is not significant even at 0.05 levels. But the other six FV (Parental Education, Parental Occupation, Parental Income, Home Learning Facility, Parental Care (Health & Physique) have significant positive relationship with CD at 0.01 level, and Parental Care (Health & Physique) have significant relationship at 0.05 level with CD.

4.6.3.i. The nature of relationship of CD with six FV [Parental Education, Parental Occupation, Parental Income, Home Learning
Family, Parental Acceptance of Education and Parental Care (Psycho-
Social Development) is identical for Boys and Girls. But in the case of
Parental Care (Health & Physique) significant sex difference exists.

ii. The nature of relationship of CD with the six FV (Parental Occupation,
Parental Income, Home Learning Facility, Parental Care (Health and
Physique), Parental Acceptance of Education, Parental Care (Psycho-
Social Development) are identical for Urban and Rural school students.
But the nature of relationship of CD with Parental Education is not
identical for Urban and Rural school pupils.

iii. No significant difference exists between Private and Government
school pupils in the case of all selected FV [Parental Education,
Parental Occupation, Parental Income, Home Learning Facility,
Parental Acceptance of Education, Parental Care (Psycho-Social
Development)] with CD.

4.6.4. Four FV such as Parental Education, Home Learning Facility, Parental
Income, and Parental Care (Psycho-Social Development) were found
to be significant predictors of CD. The Coefficient of predictive
efficiency of these four variables is 0.467 and the combined effect of
these four predictors on CD is 0.218. The four significant predictor
variables in the order of their efficiency for predicting CD are Parental Education, Parental Income, Home Learning Facility and Parental Care (Psycho-Social Development).

4.6.5. The regression equation to predict CD in terms of the four significant predictors is

\[ Y = 0.41 X_1 + 1.375 X_4 + 0.344 X_3 + 0.132 X_7 + 4.287 \]

Where \( Y \) is the predicted score of CD, \( X_1, X_4, X_3 \) and \( X_7 \) are individual raw score on the Variable Parental Education, Home Learning Facility, Parental Income and Parental Care (Psycho-Social Development) respectively.

4.7. TENABILITY OF HYPOTHESES

Acceptance or rejection of the hypotheses stated for the study is checked here in relation to the findings of the study.

i. The first hypothesis stated that, "significant gender difference exists in the dependent variable, CD."

The technique of two-tailed test of significance of difference between the means of large independent sample was used to test the significance of gender difference in CD. It was found that in the case of Mathematics and Social science significant sex difference exists.
But in the case of Science and English there is no significant sex difference exists. Therefore the first hypothesis is only partially validated.

ii. Second hypothesis stated that, "significant relationship exists between CD and each of the FV for the total sample and for sub samples based on Sex, Locale and Type of Management of School".

The coefficient of correlations (Pearson's r) obtained between CD and each of the FV revealed that all selected FV have significant relation with CD for the total sample, and for sub samples based on Boys, Rural, Urban and Private School Students. But in the case of sub samples consisting of Girls and Government School students six FV have significant relation with CD. Thus the second hypothesis is almost validated.

iii. The third hypothesis stated that, "significant difference exists in the relationship of CD with each of the Familial Variable of the relevant sub samples based on Sex, Locale and Type of Management of school".

The result of Test of significance of difference between r's for large independent samples using Fischer's 't' test shows that no significant sex
difference exists in the case of six predictor variables with CD. Only in the case of Parental Care (Health & Physique), sex difference exists.

No significant locale difference exists; for six FV. But in the case of Parental Education, significant difference exists between Urban and Rural school pupils.

But in the case of Private and Government school pupils no significant difference exists for all selected FV in their relationship with CD. Therefore the third hypothesis is almost not validated.

iv. The fourth hypothesis stated that, "CD can be significantly predicted from the select set of FV".

It was found from the regression analysis that four out of seven FV are significant predictors of CD. Thus the fourth hypothesis is substantiated to a greater extent.

v) The fifth hypothesis stated that, "The predictive efficiency between CD and significant predictors will be high and significant."

The predictive efficiency between CD and the four significant predictors was found to be significant when tested for significance. This suggests that the fifth hypothesis is also substantiated.

CONCLUSION
It is found that there is a significant positive relationship exists between CD and all select FV for Total sample and sub samples based on sex, locale and type of management and we can predict CD of a student from the significant FV. The findings of the present study along with conclusion and suggestions are summarized in the final chapter, which follows.