Chapter - IV

RESULT
RESULT:

Below are presented findings from testing the previously framed research hypotheses one at a time.

Results of Mean, SD and z ratio test of Achievement motivation

Table 1

<table>
<thead>
<tr>
<th>Variable</th>
<th>Normal Achievers</th>
<th>Under Achievers</th>
<th>Z</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>S.D</td>
<td>Mean</td>
</tr>
<tr>
<td>Achievement</td>
<td>152.58</td>
<td>15.38</td>
<td>146.39</td>
</tr>
<tr>
<td>Motivation</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Significant beyond .01 level of probability

Table 1 showed the average achievement motivation level of the normal achievers which had been 152.58 while the average was 146.29 in case of the underachievers. The SD values were found to be 15.38 for normal achievers and 20.41 for under achievers. The obtained Z ratio was 2.97 which was significant beyond 0.01 level of probability. Table 1 represented that underachievers would differ from the normal achievers in respect of their achievement motivation.
Table 2

<table>
<thead>
<tr>
<th>Variable</th>
<th>Normal Achievers</th>
<th>Under Achievers</th>
<th>Z ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>S.D</td>
<td>Mean</td>
</tr>
<tr>
<td>Study Habit</td>
<td>175.32</td>
<td>24.16</td>
<td>167</td>
</tr>
</tbody>
</table>

*Significant beyond .05 level of probability

Table 2 represented the result of study habit inventory. The mean of the study habit of normal achievers was found to be 175.32 and S.D. was found to be 24.16. And the mean scores of underachievers was found to be 167 and SD was found to be 31.09. The Z ratio was found to be 2.6, which was significant beyond 0.05 level.
Table 3

<table>
<thead>
<tr>
<th>Variables</th>
<th>Normal Achievers</th>
<th>Under Achievers</th>
<th>z ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>S.D</td>
<td>Mean</td>
</tr>
<tr>
<td>PCS with father</td>
<td>96.74</td>
<td>22.28</td>
<td>79.89</td>
</tr>
<tr>
<td>PCS with mothers</td>
<td>103.25</td>
<td>22.71</td>
<td>97.4</td>
</tr>
</tbody>
</table>

* significant beyond .05 level of probability

** significant beyond .01 level of probability

Table No. 3 represented the results of PCS with father and PCS with mothers of both normal achievers and underachievers. The mean value of PCS with father of normal achiever was found to be 96.74 and SD 22.28 and in case of PCS of mother's normal achievers secured average value – 103.25 and S.D. 22.71. In case of underachievers the mean of PCS with father was found to be 79.89 and SD was 21.89 and mean of PCS with mother was found to be 97.4 and SD 21.69.

The value of Z ratio was found to be 6.80 in case of PCS with father and it was significant beyond 0.01 level of probability. And in case of PCS with mother the value of Z ratio was found to be 2.28 which was significant beyond 0.05 level of probability.
Table 4

<table>
<thead>
<tr>
<th>Variable</th>
<th>Normal Achievers</th>
<th>Under Achievers</th>
<th>Z ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>S.D</td>
<td>Mean</td>
</tr>
<tr>
<td>School Adjustment</td>
<td>12.92</td>
<td>6.32</td>
<td>15.49</td>
</tr>
</tbody>
</table>

**significant at .01 level

Table No. 4 represented the mean, SD and Z ration test values of school adjustment. As regards to school adjustment smaller the score better is the adjustment. As such the normal group had the mean 12.92, while the underachievers had the mean score 15.49. The value of Z ratio was found to be 3.25, which was significant beyond .01 level of probability.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Normal Achievers</th>
<th>Under Achievers</th>
<th>( z ) ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>S.D</td>
<td>Mean</td>
</tr>
<tr>
<td>State Anger</td>
<td>12.88</td>
<td>4.08</td>
<td>14.02</td>
</tr>
<tr>
<td>Trait Anger</td>
<td>18.58</td>
<td>5.59</td>
<td>18.46</td>
</tr>
<tr>
<td>Ax/Ex</td>
<td>21.40</td>
<td>7.60</td>
<td>23.40</td>
</tr>
</tbody>
</table>

*Significant beyond .05 level of probability

The above table presented the average of STAXI (state anger, trait anger and anger expression). Normal achievers’ average score on state anger was found to be 12.88, where underachievers’ score was found to be 14.02. The obtained \( z \) ratio was 2.167 – significant beyond .05 level of probability. The mean of trait anger of normal achievers was found to be 18.58, and 18.46 for underachievers. The \( z \) ratio score was found to be .188, which had been statistically insignificant. The mean of anger expression for normal achievers was found to be 21.40 and 23.40 for under achievers. The \( z \) ratio score was 2.22, which was significant beyond .05 level.
Table 6

<table>
<thead>
<tr>
<th>Variable</th>
<th>Normal Achievers</th>
<th>Under Achievers</th>
<th>( z ) ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>S.D</td>
<td>Mean</td>
</tr>
<tr>
<td>Family Pathology</td>
<td>73.56</td>
<td>12.18</td>
<td>81.24</td>
</tr>
</tbody>
</table>

**Significant at .01 level.

Table no 6. represented the results of family pathology manifested by their mother’s perception of way of relating to the child. The mean score of normal achievers was found to be 73.56 and of underachievers was found to be 81.24. The \( Z \) ratio test was found to be 5.86 which was significant beyond 0.01 level.

*Diagramme depicting discrepencies between Normal Achivers and Underachievers in respect of the relevant psychological variables*
Logistic Regression Analysis of the variables

1. Classification Table
   \[\begin{array}{c|cc|c}
   \hline
   & \text{Observed} & \text{Predicted} & \text{Percentage Correct} \\
   & \text{Achievement} & 1.00 & 2.00 \\
   \hline
   \text{Step 0} & \text{Achievement} & 1.00 & 0 & 150 & 0 \\
   & & 2.00 & 0 & 150 & 100.0 \\
   \hline
   & \text{Overall Percentage} & & & & 50.0 \\
   \hline
   \end{array}\]

   a. Constant is included in Model.
   b. The cut value is .500

2. Omnibus Tests of Model Coefficients
   \[\begin{array}{c|cc|c}
   \hline
   \text{Step 1} & \text{Chi-square} & \text{df} & \text{Sig} \\
   \hline
   \text{Step} & 46.224 & 9 & .000 \\
   \text{Block} & 46.224 & 9 & .000 \\
   \text{Model} & 46.224 & 9 & .000 \\
   \hline
   \end{array}\]

3. Model Summary
   \[\begin{array}{c|cc|c|c}
   \hline
   \text{Step} & \text{2 Log Likelihood} & \text{Cox and Snieil R Square} & \text{Nagelkerke R Square} \\
   \hline
   1 & 369.664 & .143 & .190 \\
   \hline
   \end{array}\]

   a. Estimation terminated at iteration number 4 because parameter estimates changed by less than .001.
Nagelkerke R = 19%

4. Classification Table\textsuperscript{a}

<table>
<thead>
<tr>
<th></th>
<th>Observed</th>
<th></th>
<th>Predicted</th>
<th>Percentage Correct</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Achievement</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.00</td>
<td>2.00</td>
<td></td>
</tr>
<tr>
<td>Step 1</td>
<td>Achievement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.00</td>
<td>98</td>
<td>52</td>
<td>65.3</td>
</tr>
<tr>
<td></td>
<td>2.00</td>
<td>56</td>
<td>94</td>
<td>62.7</td>
</tr>
<tr>
<td></td>
<td>Overall Percentage</td>
<td></td>
<td></td>
<td>64.0</td>
</tr>
</tbody>
</table>

\textsuperscript{a} The cut value is .500
### 5. Variables in the Equation

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>S. E.</th>
<th>Wald</th>
<th>df</th>
<th>Sig.</th>
<th>Exp(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ach.m</td>
<td>-0.07</td>
<td>0.07</td>
<td>1.150</td>
<td>1</td>
<td>.284</td>
<td>.993</td>
</tr>
<tr>
<td>st.ha</td>
<td>-0.05</td>
<td>0.05</td>
<td>0.924</td>
<td>1</td>
<td>.336</td>
<td>.995</td>
</tr>
<tr>
<td>com.f</td>
<td>-0.04</td>
<td>0.07</td>
<td>0.438</td>
<td>1</td>
<td>.508</td>
<td>.996</td>
</tr>
<tr>
<td>Com.m</td>
<td>0.03</td>
<td>0.06</td>
<td>0.169</td>
<td>1</td>
<td>.681</td>
<td>1.003</td>
</tr>
<tr>
<td>Sch.ad</td>
<td>0.021</td>
<td>0.021</td>
<td>1.023</td>
<td>1</td>
<td>.312</td>
<td>1.021</td>
</tr>
<tr>
<td>f.p</td>
<td>0.056</td>
<td>0.12</td>
<td>22.271</td>
<td>1</td>
<td>.000</td>
<td>1.057</td>
</tr>
<tr>
<td>s.a</td>
<td>0.025</td>
<td>0.034</td>
<td>0.540</td>
<td>1</td>
<td>.462</td>
<td>1.025</td>
</tr>
<tr>
<td>t.a</td>
<td>-0.042</td>
<td>0.028</td>
<td>2.324</td>
<td>1</td>
<td>.127</td>
<td>0.959</td>
</tr>
<tr>
<td>Ax.ex</td>
<td>0.007</td>
<td>0.019</td>
<td>0.153</td>
<td>1</td>
<td>.695</td>
<td>1.007</td>
</tr>
<tr>
<td>constant</td>
<td>-2.352</td>
<td>1.495</td>
<td>2.475</td>
<td>1</td>
<td>.116</td>
<td>0.095</td>
</tr>
</tbody>
</table>

Step 1:

- Variables entered on Step 1: ach.m, st.ha, com.f, com.m, sch.ad, f.p, s.a, t.a, ax.ex.

The logistic regression determines the impact of multiple independent variables presented simultaneously to predict membership of one or other aspect of the dichotomized dependent variables. Since the dependent variable is dichotomous, we cannot predict a numerical value for it, and that is the reason of using logistic regression.

Table 3 represents omnibus tests of model coefficients. The overall significance is tested using SPSS calls the model Chi square which is derived from the likelihood of observing the actual data under assumption that the model, that has been fitted is accurate. In this study, the model chi square has 9 degrees of freedom, a value of 46.224 and a probability of p < 0.000. Thus the indication is that the model has a considerable good fit with the model containing the predictors as they have a significant effect on the DV.

Although, there is no close analogous statistic in logistic regression to the coefficient of determination R², the model summary Table 4 provides some
approximations. Cox and Snell’s R square attempts to imitate multiple R square based on ‘likelihood’, but its maximum can be less than 1.0. Here it is indicating that 14.3% of the variation in the DV is explained by the logistic model. The Nagelkerke modification that does range from 0 to 1 is a more reliable measure of the relationship. In this case it is .190, indicating a moderate relationship of 19% between predictors and prediction.

Looking at the table 5 it is observed that family pathology as depicted by mother’s perception of relating to her child singularly contributes significantly to the model. Whereas the other variables are found to be insignificant in explaining the satisfactory results in underachievement of female adolescents.