CHAPTER – 4

RESULTS AND INTERPRETATION

The previous chapter represents the complete methodology of this research. In this chapter researcher has been presented a detail account of the results obtained in the research, along with the employed data analysis techniques. The primary goal of data analysis is to determine whether our observations support a claim about behaviour (Abelson, 1995). There are three distinct, but related stages of data analysis. In this chapter researcher used the three stage approach to data analysis. (Shaughnessy, 2005)

1) **An exploratory (investigative) stage**- In this stage researcher try to get to know the data, inspect the data carefully, get a feel for it, checked and remove errors and have assured that the data makes sense.

2) **A summary stage**- Summarizing the data in meaningful way.

3) **Confirmation stage**- Confirming what the data tells us. Does the data confirm our tentative claim or hypothesis? And try to learn more about trends and patterns among the observations.

**4.1 Data screening and assessing normality:**

Researcher has been prepared a computer data file from the master chart, for this process extreme care was taken with respect to accuracy of the input of data. In the screening process there were two outliers were found. But researcher eliminated them and replaces appropriate figures. The data file was
completely checked three times till the errorless trials. Thus, the data in each group were carefully scrutinized by employing normality tests. The present sample consisted of six groups –

Since the major analyses of the present data involved the 2x2x2 factorial design. Type of college, SES and gender as the three independent variables, varied at two levels. Thus the data in each group were carefully scrutinized by employing frequency distributions, descriptive statistics and plots. As such the analyses, reported further, are based on the data file corrected for the extreme observations of the outlier cases. In order to find out the differences between the type of college, SES and gender 2x2x2 analysis of variance (ANOVA) was carried out treating type of college, SES and gender as independent variables and the achievement motivation, assertiveness and anxiety are the dependent variable. In this research researcher analyzed the data in following manner.

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Levels</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of College</td>
<td>Professional</td>
<td>200</td>
</tr>
<tr>
<td></td>
<td>Non-professional</td>
<td>200</td>
</tr>
<tr>
<td>Gender</td>
<td>Male</td>
<td>200</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>200</td>
</tr>
<tr>
<td>Socioeconomic Status</td>
<td>High</td>
<td>200</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>200</td>
</tr>
</tbody>
</table>
Graph: 4.1- Showing the normality of the data of variable achievement motivation in the form of histogram.

This histogram provides information concerning the distribution of scores on continuous variables i.e. achievement motivation’s skewness and kurtosis. Mean is 10.6 and SD is 3.50. Total sample is 400, which is distributed in a normal shape and showing in histogram. This information is needed for the use of parametric statistical techniques. (Julie Pallant, 2001). The above histogram reveals the normal nature of data. If it is symmetrical in nature, and there is no problem to use the parametric statistics. Additionally we have large sample (Tabachnick and Fidell, 1996). According to figure it is described in following table.
Table 4.1: Assessing normality of the variable achievement motivation with descriptive statistics.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Descriptives</th>
<th>Statistic</th>
<th>Std. Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>Achievement Motivation</td>
<td>Mean</td>
<td>10.64</td>
<td>.181</td>
</tr>
<tr>
<td></td>
<td>5% Trimmed Mean</td>
<td>10.65</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Median</td>
<td>11.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Variance</td>
<td>12.28</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Std. Deviation</td>
<td>3.50</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Minimum</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Maximum</td>
<td>22.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Range</td>
<td>21.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Skewness</td>
<td>.055</td>
<td>.122</td>
</tr>
<tr>
<td></td>
<td>Kurtosis</td>
<td>.227</td>
<td>.243</td>
</tr>
</tbody>
</table>

In the above table showing a descriptive statistics of whole sample (N=400). Mean is 10.64 which is close to the trimmed mean 10.65. The meaning of the trimmed mean is the mean of the distribution with the top 5% and the bottom 5% of scores removed. The purpose of this trimming is to obtain a measure of central tendency that is unaffected by extreme values (outliers) (Sheridan, J Coakes, 2006). Median (11.00) is greater than the mean (10.64) and it interprets that the distribution of scores is somewhat negatively skewed. Variance is 12.28, SD is 3.50 and the range between highest and lowest score is 21. The value of kurtosis (.227) is smaller than 0.263, the distribution is said to be leptokurtic; means distribution of scores is ‘peaked’. (Julie Pallant, 2001).
It was noted that the assumption of normality, level of measurement, and random sampling did not pose any problem for the ANOVA. The above analysis indicated that the assumptions underlying ANOVA are met quite satisfactorily in the present analysis, thus justifying the presentation of ANOVA results below.

**Table 4.2:** Showing descriptive statistics of the variable achievement motivation on the basis of each cell.

<table>
<thead>
<tr>
<th>Type of College</th>
<th>Gender</th>
<th>Socioeconomic Status</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional</td>
<td>Male</td>
<td>High</td>
<td>10.94</td>
<td>3.72</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low</td>
<td>10.66</td>
<td>3.71</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>10.80</td>
<td>3.70</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>High</td>
<td>12.14</td>
<td>3.28</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low</td>
<td>11.24</td>
<td>4.00</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>11.69</td>
<td>3.67</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>High</td>
<td>11.54</td>
<td>3.54</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low</td>
<td>10.95</td>
<td>3.85</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>11.25</td>
<td>3.70</td>
<td>200</td>
</tr>
<tr>
<td>Non-professional</td>
<td>Male</td>
<td>High</td>
<td>10.46</td>
<td>3.45</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low</td>
<td>10.06</td>
<td>3.11</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>10.26</td>
<td>3.27</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>High</td>
<td>10.30</td>
<td>3.45</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low</td>
<td>9.36</td>
<td>2.69</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>9.83</td>
<td>3.11</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>High</td>
<td>10.38</td>
<td>3.43</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low</td>
<td>9.71</td>
<td>2.91</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>10.05</td>
<td>3.19</td>
<td>200</td>
</tr>
</tbody>
</table>
The above table provides the mean scores, standard deviations and N for each subgroups of the three independent variables and here achievement motivation is treated as dependent variable. Inspecting the pattern of these values give us an indication of the impact of Independent Variable.
Table 4.3: Showing summary of ANOVA of the dependent variable achievement motivation.

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
<th>Partial Eta Squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of College</td>
<td>144.000</td>
<td>1</td>
<td>144.000</td>
<td>12.02</td>
<td>0.01</td>
<td>.030</td>
</tr>
<tr>
<td>Gender</td>
<td>5.290</td>
<td>1</td>
<td>5.290</td>
<td>.41</td>
<td>NS</td>
<td>--</td>
</tr>
<tr>
<td>SES</td>
<td>39.690</td>
<td>1</td>
<td>39.690</td>
<td>3.48</td>
<td>NS</td>
<td>--</td>
</tr>
<tr>
<td>Type of College X Gender</td>
<td>43.560</td>
<td>1</td>
<td>43.560</td>
<td>3.67</td>
<td>NS</td>
<td>--</td>
</tr>
<tr>
<td>Type of College X SES</td>
<td>.160</td>
<td>1</td>
<td>.160</td>
<td>.013</td>
<td>NS</td>
<td>--</td>
</tr>
<tr>
<td>Gender X SES</td>
<td>8.410</td>
<td>1</td>
<td>8.410</td>
<td>.708</td>
<td>NS</td>
<td>--</td>
</tr>
<tr>
<td>Type of College X Gender X SES</td>
<td>.040</td>
<td>1</td>
<td>.040</td>
<td>.003</td>
<td>NS</td>
<td>--</td>
</tr>
<tr>
<td>Error</td>
<td>4658.440</td>
<td>392</td>
<td>11.884</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>50226.000</td>
<td>400</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>4899.590</td>
<td>399</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Significant Level, 0.05= (1,392) 3.86 0.01= (1,392) 6.70
Eta Squared effect size, .01= small .06= moderate .14= large effect (Cohen, 1988)

A two-way between groups analysis of variance was conducted to explore the impact of type of college, gender and SES on achievement motivation of professional and non-professional college students. Here achievement motivation means the sense of achieving high. Subjects were divided into two subgroups. Before commenting on these results, a brief remark on the effect sizes needs to be made. In the context of Cohen’s d, the present researcher has decided to regard an eta square of 0.010 as small, the eta square of 0.059 as medium, and the eta square of 0.138 as the large effect size. Eta square multiplied by 100 provides another familiar measure of effect size, the PV (percent of variance explained). While interpreting the significant
effects, the effect sizes are interpreted in this light. Effect sizes (eta squares) are not reported for the insignificant effects.

In the above table the main effect of first Independent Variable i.e. type of college (professional and non-professional college students), the F value (1,392) is 12.12, which is significant on 0.01 statistical level. Because the table values are 0.05= 3.86 and 0.01= 6.70, are smaller than F value. This means that there is significant difference in scores of achievement motivation for professional and non-professional college students. The eta square, the measure of effect size, associated with the main effect of type of college is 0.030 indicates small effects and meaning thereby that only 3 % of the variance is explained in dependent variable achievement motivation.

The main effect of second Independent Variable i.e. gender (male and female college students) , the F value (1,392) is 0.445 which is not significant. Since the table values are 0.05= 3.86 and 0.01= 6.70. The obtained F value is much smaller than table values. Hence it is not significant. This means that there is no difference in scores of achievement motivation and gender of college students. The eta square, the measure of effect size, associated with the main effect of gender is not mention here, because of non-significant result.

The main effect of third Independent Variable i.e. SES (high SES and low SES college students) , the F value (1,392) is 3.340 which is not significant. Since the table values are 0.05= 3.86 and 0.01= 6.70. The obtained F value is much smaller than table values. Hence it is not significant. This means that there is no difference in scores of achievement motivation and socioeconomic
status of college students. The eta square, the measure of effect size, associated with the main effect of SES is not mention here, because of non-significant result.

All the interaction effect between type of college and gender, gender and SES, and type of college and SES are and overall type of college, gender and SES is not significant. Their associated eta square values, not mention here because of non significant differences. This means there is no significant interaction between type of college, gender and SES.

According to above figures we interpret that there is significant difference between professional and non-professional college going students in terms of their achievement motivation. The mean value of professional college students group is (Mean =11.25 and SD = 3.70), and non-professional college students group is (Mean =10.05 and SD = 3.19) interprets that professional college students have high need for achievement. Hence, we reject our seventh null hypothesis as ‘There is no significant difference between professional and non-professional college going students in terms of their achievement motivation’.

But there is no significant difference between gender and socioeconomic status of professional and non-professional college students and accepts eighth and ninth hypotheses such as ‘There is no difference between professional and nonprofessional college students and their gender in relation to achievement need.’ And ‘There is no significant difference between high and low
socioeconomic status of professional and nonprofessional college students in relation to their need for achievement.

**Graph: 4.2-** Professional and non-professional college student wise comparative level of achievement motivation.
Graph: 4.3- Showing the normality of the data of variable assertiveness in the form of histogram.

This histogram provides information concerning the distribution of scores on continuous variables i.e. assertiveness’s skewness and kurtosis. Mean is 67.6 and SD is 13.98. Total sample is 400, which is distributed in a normal shape and showing in histogram. This information is needed for the use of parametric statistical techniques. (Julie Pallant, 2001). The above histogram reveals the normal nature of data. If it is symmetrical in nature, and there is no problem to use the parametric statistics. Additionally we have large sample (Tabachnick and Fidell, 1996). According to figure it is described in following table.
Table 4.4: Assessing normality of the variable assertiveness with descriptive statistics.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Descriptives</th>
<th>Statistic</th>
<th>Std. Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assertiveness</td>
<td>Mean</td>
<td>67.56</td>
<td>.699</td>
</tr>
<tr>
<td></td>
<td>5% Trimmed Mean</td>
<td>67.70</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Median</td>
<td>68.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Variance</td>
<td>195.51</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Std. Deviation</td>
<td>13.98</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Minimum</td>
<td>26.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Maximum</td>
<td>105.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Range</td>
<td>79.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Skewness</td>
<td>-.184</td>
<td>.122</td>
</tr>
<tr>
<td></td>
<td>Kurtosis</td>
<td>.274</td>
<td>.243</td>
</tr>
</tbody>
</table>

In the above table showing a descriptive statistics of whole sample (N=400). Mean is 67.56 which is close to the trimmed mean 67.70. Hence, we conclude here that the data is unaffected by extreme values (outliers) (Sheridan, J Coakes, 2006). Median (68.00) is greater than the mean (67.56) and it interprets that the distribution of scores is somewhat negatively skewed. Variance is 195.51, SD is 13.98 and the range between highest and lowest score is 79.00. The value of kurtosis (.274) is greater than 0.263, the distribution is said to be platykurtic; means distribution of scores is somewhat ‘flattened’. (Julie Pallant, 2001).

It was noted that the assumption of normality, level of measurement, and random sampling did not pose any problem for the ANOVA. The above analysis indicated that the assumptions underlying ANOVA are met quite
satisfactorily in the present analysis, thus justifying the presentation of ANOVA results below.

**Table 4.5:** Showing descriptive statistics of the variable assertiveness on the basis of each cell.

<table>
<thead>
<tr>
<th>Type of College</th>
<th>Gender</th>
<th>Socioeconomic Status</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional</td>
<td>Male</td>
<td>High</td>
<td>70.18</td>
<td>12.56</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low</td>
<td>68.82</td>
<td>11.59</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>69.50</td>
<td>12.04</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>High</td>
<td>71.10</td>
<td>12.18</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low</td>
<td>67.06</td>
<td>11.37</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>69.08</td>
<td>11.90</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>High</td>
<td>70.64</td>
<td>12.32</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low</td>
<td>67.94</td>
<td>11.46</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>69.29</td>
<td>11.94</td>
<td>200</td>
</tr>
<tr>
<td>Non-professional</td>
<td>Male</td>
<td>High</td>
<td>70.46</td>
<td>16.37</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low</td>
<td>60.82</td>
<td>12.37</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>65.64</td>
<td>15.22</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>High</td>
<td>68.64</td>
<td>15.82</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low</td>
<td>63.42</td>
<td>16.00</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>66.03</td>
<td>16.04</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>High</td>
<td>69.55</td>
<td>16.04</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low</td>
<td>62.12</td>
<td>14.29</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>65.84</td>
<td>15.60</td>
<td>200</td>
</tr>
</tbody>
</table>

Continued on next page no.
The above table provides the mean scores, standard deviations and N for each subgroup of the three independent variables and here assertiveness is treated as dependent variable. Inspecting the pattern of these values give us an indication of the impact of Independent Variable.
Table 4.6: Showing summary of ANOVA of the dependent variable assertiveness.

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
<th>Partial Eta Squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of College</td>
<td>1193.702</td>
<td>1</td>
<td>1193.702</td>
<td>6.63</td>
<td>0.05</td>
<td>0.016</td>
</tr>
<tr>
<td>Gender</td>
<td>0.022</td>
<td>1</td>
<td>0.022</td>
<td>0.00</td>
<td>NS</td>
<td>--</td>
</tr>
<tr>
<td>SES</td>
<td>2565.422</td>
<td>1</td>
<td>2565.422</td>
<td>12.69</td>
<td>0.01</td>
<td>0.034</td>
</tr>
<tr>
<td>Type of College X Gender</td>
<td>16.403</td>
<td>1</td>
<td>16.403</td>
<td>0.088</td>
<td>NS</td>
<td>--</td>
</tr>
<tr>
<td>Type of College X SES</td>
<td>559.323</td>
<td>1</td>
<td>559.323</td>
<td>2.990</td>
<td>NS</td>
<td>--</td>
</tr>
<tr>
<td>Gender X SES</td>
<td>18.922</td>
<td>1</td>
<td>18.922</td>
<td>0.101</td>
<td>NS</td>
<td>--</td>
</tr>
<tr>
<td>Type of College X Gender X SES</td>
<td>315.063</td>
<td>1</td>
<td>315.063</td>
<td>1.684</td>
<td>NS</td>
<td>--</td>
</tr>
<tr>
<td>Error</td>
<td>73337.580</td>
<td>392</td>
<td>187.086</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1903883.00</td>
<td>400</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>78006.438</td>
<td>399</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Significant Level, 0.05= (1,392) 3.86  0.01= (1,392) 6.70
Eta Squared effect size, .01= small .06= moderate .14= large effect (Cohen, 1988)

A two-way between groups analysis of variance was conducted to explore the impact of type of college, gender and SES on assertiveness of professional and non-professional college students. Here assertiveness means the sense of proactive behavior. Subjects were divided into two subgroups. Here, once again researcher has been used Cohen’s d, as an eta square of 0.010 as small, the eta square of 0.059 as medium, and the eta square of 0.138 as the large effect size. Eta square multiplied by 100 provides another familiar measure of effect size, the PV (percent of variance explained). While interpreting the significant effects, the effect sizes are interpreted in this light. Effect sizes (eta squares) are not reported for the insignificant effects.
In the above table the main effect of first Independent Variable i.e. type of college (professional and non-professional college students), the F value (1,392) is 6.63, which is significant on 0.05 statistical level. Because the table values are 0.05= 3.86 and 0.01= 6.70 and obtained F value is between table values. This means that there is significant difference in scores of assertiveness for professional and non-professional college students. The eta square, the measure of effect size, associated with the main effect of type of college is 0.016 indicates small effects and meaning thereby that only 1.6 % of the variance is explained in dependent variable assertiveness.

The main effect of second Independent Variable i.e. gender (male and female college students) , the F value (1,392) is 0.000 which is not significant. Since the table values are 0.05= 3.86 and 0.01= 6.70. Hence it is not significant. This means that there is no gender difference in scores of assertiveness of college students. The eta square, the measure of effect size, associated with the main effect of gender is not mention here, because of non-significant result.

The main effect of third Independent Variable i.e. SES (high SES and low SES college students) , the F value (1,392) is 12.69 which is also significant on 0.01 level. Since the table values are 0.05= 3.86 and 0.01= 6.70. The obtained F value is much greater than table values. Hence it is significant. This means that there is difference in scores of assertiveness and socioeconomic status of college students. The eta square, the measure of effect size, associated with the main effect of socioeconomic status is 0.034 indicates small effects.
and meaning thereby that only 3.4 % of the variance is explained in dependent variable assertiveness.

All the interaction effect between type of college and gender, gender and SES, and type of college and SES are and overall type of college, gender and SES are not significant; Their eta square values, not mention here because of non significant differences. This means there is no significant interaction between type of college, gender and SES.

According to above figures we interpret that there is significant difference between professional and non-professional college going students and high and low socioeconomic status college students in terms of their assertiveness. Hence, we reject our fourth null hypothesis as ‘There is no significant difference between professional and nonprofessional college students in relation to their assertive behavior’.

There is no gender difference and accepts fifth hypothesis as ‘There is no difference between professional and nonprofessional college students and their gender in relation to assertiveness’.

The mean value of professional college students group is (Mean =\(69.29\) and SD = 11.94), and non-professional college students group is (Mean =\(65.84\) and SD = 15.60) interprets that professional college students are more assertive than non-professional college students.

According to socioeconomic status of students, the mean value of high SES is (Mean =\(70.10\) and SD = 14.27), and low SES is (Mean =\(65.03\) and SD
= 13.24) interprets that students belongs to high socioeconomic status are more assertive than students belongs to low socioeconomic status.

Hence, we reject our sixth null hypothesis as ‘There is no significant difference between high and low socioeconomic status of professional and nonprofessional college students in relation to assertive behaviour’.

**Graph: 4.4-** Professional and non-professional college student wise comparative level of assertiveness.
**Graph: 4.5-** Comparative level of high and low socioeconomic status of college student and their trait of assertiveness.

**Graph: 4.6-** Showing the normality of the data of variable anxiety in the form of histogram.
This histogram provides information concerning the distribution of scores on continuous variables i.e. anxiety’s skewness and kurtosis. Mean is 28.2 and SD is 16.51. Total sample is 400, which is distributed in a normal shape and showing in histogram. This information is needed for the use of parametric statistical techniques. (Julie Pallant, 2001). The above histogram reveals the somewhat normal nature of data. If it is symmetrical in nature, and there is no problem to use the parametric statistics. Additionally we have large sample (Tabachnick and Fidell, 1996). According to figure it is described in following table.

**Table 4.7:** Assessing normality of the variable anxiety with descriptive statistics.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Descriptives</th>
<th>Statistic</th>
<th>Std. Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anxiety</td>
<td>Mean</td>
<td>28.20</td>
<td>.826</td>
</tr>
<tr>
<td></td>
<td>5% Trimmed Mean</td>
<td>27.53</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Median</td>
<td>27.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Variance</td>
<td>272.72</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Std. Deviation</td>
<td>16.51</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Minimum</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Maximum</td>
<td>77.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Range</td>
<td>76.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Skewness</td>
<td>.519</td>
<td>.122</td>
</tr>
<tr>
<td></td>
<td>Kurtosis</td>
<td>.355</td>
<td>.243</td>
</tr>
</tbody>
</table>

In the above table showing a descriptive statistics of whole sample (N=400). Mean is 28.20 which is near to the trimmed mean 27.53. Here, the distribution of scores is unaffected by extreme values (outliers) (Sheridan, J
Coakes, 2006). Median (27.00) is smaller than the mean (28.20) and it interprets that the distribution of scores is somewhat positively skewed. Variance is 272.72, SD is 16.51 and the range between highest and lowest score is 76.00. The value of kurtosis (.355) is greater than 0.263, the distribution is said to be platykurtic; means distribution of scores is ‘flattened’. (Julie Pallant, 2001).

It was noted that the assumption of normality, level of measurement, and random sampling did not pose any problem for the ANOVA. The above analysis indicated that the assumptions underlying ANOVA are met quite satisfactorily in the present analysis, thus justifying the presentation of ANOVA results below.

**Table 4.8:** Showing descriptive statistics of the variable anxiety on the basis of each cell.

<table>
<thead>
<tr>
<th>Type of College</th>
<th>Gender</th>
<th>Socioeconomic Status</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional</td>
<td>Male</td>
<td>High</td>
<td>27.18</td>
<td>18.87</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low</td>
<td>21.12</td>
<td>14.02</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>24.15</td>
<td>16.82</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>High</td>
<td>22.80</td>
<td>13.21</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low</td>
<td>31.82</td>
<td>17.00</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>27.31</td>
<td>15.81</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>25.73</td>
<td>16.36</td>
<td>200</td>
</tr>
<tr>
<td>Non-professional</td>
<td>Male</td>
<td>High</td>
<td>30.68</td>
<td>13.68</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low</td>
<td>29.62</td>
<td>18.42</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>30.15</td>
<td>16.15</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>High</td>
<td>29.78</td>
<td>16.19</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low</td>
<td>32.60</td>
<td>17.03</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>31.19</td>
<td>16.59</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>30.67</td>
<td>16.34</td>
<td>200</td>
</tr>
</tbody>
</table>
The above table provides the mean scores, standard deviations and N for each subgroups of the three independent variables and here anxiety is treated as dependent variable. Inspecting the pattern of these values give us an indication of the impact of Independent Variable.

Table 4.9: Showing summary of ANOVA of the dependent variable anxiety.

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
<th>Partial Eta Squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of College</td>
<td>2440.360</td>
<td>1</td>
<td>2440.360</td>
<td>9.44</td>
<td>0.01</td>
<td>.023</td>
</tr>
<tr>
<td>Gender</td>
<td>441.000</td>
<td>1</td>
<td>441.000</td>
<td>1.67</td>
<td>NS</td>
<td>--</td>
</tr>
<tr>
<td>SES</td>
<td>139.240</td>
<td>1</td>
<td>139.240</td>
<td>.704</td>
<td>NS</td>
<td>--</td>
</tr>
<tr>
<td>Type of College X Gender</td>
<td>112.360</td>
<td>1</td>
<td>112.360</td>
<td>.429</td>
<td>NS</td>
<td>--</td>
</tr>
<tr>
<td>Type of College X SES</td>
<td>9.000</td>
<td>1</td>
<td>9.000</td>
<td>.034</td>
<td>NS</td>
<td>--</td>
</tr>
<tr>
<td>Gender X SES</td>
<td>2246.760</td>
<td>1</td>
<td>2246.760</td>
<td>8.580</td>
<td>0.01</td>
<td>.021</td>
</tr>
<tr>
<td>Type of College X Gender X SES</td>
<td>784.000</td>
<td>1</td>
<td>784.000</td>
<td>2.994</td>
<td>NS</td>
<td>--</td>
</tr>
<tr>
<td>Error</td>
<td>102643.280</td>
<td>392</td>
<td>261.845</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>426912.000</td>
<td>400</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>108816.000</td>
<td>399</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Significant Level, 0.05= (1,392) 3.86 0.01= (1,392) 6.70
Eta Squared effect size, .01= small .06= moderate .14= large effect (Cohen, 1988)
A two-way between groups analysis of variance was conducted to explore the impact of type of college, gender and SES on anxiety of professional and non-professional college students. Here anxiety means an unpleasant emotional state in which a present and continuing desire or drive seems likely to miss its goal, a fusion of fear with the anticipation of future evil, marked and continuous fear of low intensity. Subjects were divided into two subgroups. As previously mentioned, researcher has decided to regard an eta square of 0.010 as small, the eta square of 0.059 as medium, and the eta square of 0.138 as the large effect size. Eta square multiplied by 100 provides another familiar measure of effect size, the PV (percent of variance explained). While interpreting the significant effects, the effect sizes are interpreted in this light. Effect sizes (eta squares) are not reported for the insignificant effects.

In the above table the main effect of first Independent Variable i.e. type of college (professional and non-professional college students), the F value (1,392) is 9.44, which is significant on 0.01 statistical level. Because the table values are 0.05= 3.86 and 0.01= 6.70, are smaller than F value. This means that there is significant difference in scores of anxiety for professional and non-professional college students. The eta square, the measure of effect size, associated with the main effect of type of college is 0.023 indicates small effects and meaning thereby that only 2.3 % of the variance is explained in dependent variable anxiety.

The main effect of second Independent Variable i.e. gender (male and female college students), the F value (1,392) is 1.67 which is not significant.
Since the table values are 0.05= 3.86 and 0.01= 6.70. The obtained F value is much smaller than table values. Hence it is not significant. This means that there is no gender difference in scores of anxiety of college students. The eta square, the measure of effect size, associated with the main effect of gender is not mention here, because of non-significant result.

The main effect of third Independent Variable i.e. SES (high SES and low SES college students), the F value (1,392) is 0.704 which is not significant. Since the table values are 0.05= 3.86 and 0.01= 6.70. The obtained F value is much smaller than table values. Hence it is not significant. This means that there is no socioeconomic difference in scores of anxiety of college students. The eta square, the measure of effect size, associated with the main effect of SES is not mention here, because of non-significant result.

All the interaction effect except gender and socioeconomic status (F(1,392) = 8.58) between type of college and gender, type of college and SES are and overall type of college, gender and SES is not significant. Their eta square values, not mention here because of non significant differences. This means there is no significant interaction between type of college, gender and SES.

According to above figures we interpret that there is significant difference between professional and non-professional college going students in terms of their anxiety. Hence, we reject our first null hypothesis as ‘There is no significant difference between professional and non-professional college going students in terms of their anxiety level’.
But there is no significant difference found in gender and socioeconomic status and accepts following second and third hypotheses ‘There is no difference between professional and nonprofessional college students and their gender in relation to anxiety level.’

‘There is no significant difference between high and low socioeconomic status of professional and nonprofessional college students in relation to anxiety level.’

The mean value of professional college students group is (Mean =25.73 and SD = 16.36), and non-professional college students group is (Mean =30.67 and SD = 16.34) interprets that non-professional college students experiences high anxiety than professional college students.

**Graph**: 4.7- Comparison between professional and non-professional college student in terms of their anxiety level.
The r value between anxiety and assertiveness, Pearson product moment correlation, \( r = -0.12 \) indicates negative significant correlation, and reject tenth hypothesis as ‘There is no relationship between anxiety and assertiveness behaviour of professional and nonprofessional college students.’

Between anxiety and need for achievement, Pearson product moment correlation, \( r = -0.24 \), indicates negative significant correlation and reject 11\(^{th}\) hypothesis as ‘There is no relationship between anxiety and need for achievement of professional and nonprofessional college students.’

Assertiveness and need for achievement, Pearson product moment correlation, \( r = 0.16 \), indicates positive significant correlation and reject 12\(^{th}\) hypothesis as ‘There is no relationship between need for achievement and assertiveness behaviour of professional and nonprofessional college students.’

The overall picture presented by this statistical analysis demonstrates that some variables showing significant differences and some not. A point of special significance in this respect is that the professional college students have different trait of achievement motivation, assertiveness and non-professional college students’ experiences more anxiety.

4.2 Discussion:

The statistical analysis is presented in previous section of this chapter. Here, the discussion of these findings and their interpretation has been attempted. As has already been said earlier, the aim of the study is to find out the differences between professional college students and non-professional
college students’ achievement motivation, assertiveness style and their experiences about anxiety.

To find out differences, researcher has been used ANOVA and to find out correlation, researcher has used the Pearson product moment correlation. Through the statistical findings it is concluded that professional college students are highly motivated about their achievement. They are more assertive. And non-professional college students are more anxious about their future. As noted earlier, the anxiety is an unknown fear of the future events. Though the maximum students are enrolled in non-professional educational settings, they are not confident about getting the job. In contrast, professional college and courses are job oriented. These students grab various jobs easily. This is the main reason of the anxiety occurs in non-professional college students.

There are various studies undertaken in this context, which are important to focus on light on this issue. Some are supportive for present research and there is diversity of opinion on the issue of the relation between anxiety and socio-economic status. Sarason (1960) has reported that upper class children have lower level of anxiety than lower class children. Earlier Sarason and Mandler (1952) had found that college students belonging to middle class were more anxious than those coming from upper class. Studies by Brown (1936), Sewell and Haller (1956, 1959). Dahlstrom and Welsh (1960) and Haywood and Dobbs (1964) have also demonstrated that individual's belonging to lower class have more anxiety than those hailing from upper class. Endler and Bain
(1960), Dunn (1968), Hawkes and Koff (1969) and Dale (1969) have shown that lower class children are more anxious than even middle and upper class children. In contradiction to these findings Pintner and Lev (1940), and Lotsof and Centers (1959) have shown that SES and anxiety are unrelated.

Contradiction in findings has been the rule in the studies of Indian researchers also. Sharma (1971), Murlidharan and Sharma (1971), Nijhawan (1972), Srivastava and Sinha (1975), and Singh and Kaur (1976) have reported that lower class children and adults have higher levels of anxiety. In a recent study, Sandeep (1977) has shown that SES is inversely related to anxiety in case of the total sample and the subsample consisting of boys only. The picture becomes complicated when one looks at the findings of those researchers who have found no relation between SES and anxiety (Durrett, 1965; Mohanty, 1967; Gokulnathan 1971; Ghosh and Singhal 1973; Dutt 1968; Singh and Singh (1973). These latter findings are in consonance with the findings of the present study.

In the present study, significant negative correlation has been obtained between n Achievement and anxiety ($r=-.24$). The negative trend of relationship between these two variables has been observed by a number of other researchers. Raphelson (1957) reported that the pattern of results for high n Ach subjects corresponded to the pattern of those with low anxiety; while the high pattern of those low in n Ach was similar to those scoring high on anxiety. Kausler and Trapp (1958) used the Taylor MAS and French Achievement Motive Scale and obtained a significant negative correlation between the two
sets of scores. Peterson (1976) Ziroba (1977), and Hill and Eaton (1977) have all demonstrated negative relationship between n Ach and anxiety. This trend of relationship has been confirmed by the studies of some Indian researchers also. Chaudhary (1971) using boys and girls from higher secondary schools as subjects has found a negative but insignificant correlation between n Ach and test anxiety. Singru (1972) has shown that there is significant negative correlation between n Ach and test anxiety scores of high school boys and girls. The findings were affirmed by the fact that the mean anxiety scores of high and low n Ach groups had significant difference. Studies by Mukherjee and Sinha (1967) and Choski (1975) too have shown low negative correlations between measures of n Ach and measures of anxiety.

There are some studies who have failed to find any relationship between anxiety and need achievement. For example, Bendig (1957), using the Taylor MAS, McClelland's projective measure of n Ach, and Edward's personal preference schedule, found that the correlation of anxiety scores with the scores on both the measures of n Ach was not significant. Similarly, Singh and Kaur (1976) have shown that there is zero correlation between n Ach and anxiety.

The bulk of these studies have obtained results which are in congruence with the present findings. The relation between n Ach and anxiety has been a matter of concern for those workers who were responsible for the development of the theory of achievement motivation. To explain the results of one of his early studies Atkinson (1953) postulated a motive to avoid failure (MAF). Later researches by Atkinson, and Litwin (1960), Mahone (1960), O'Connor
(1960), and Atkinson and Feather (1966) led to the conclusion that the two motives are independent and uncorrelated when tested under neutral conditions. If the two variables are normally distributed, n Ach will be higher in subjects having strong motive to achieve success; whereas subjects with medium and low n Ach will have a similar distribution of motive to avoid failure scores.

Rosenbaum (1971) stated that low Need-Achievement children select simple tasks because of their guaranteed success, or select inordinately difficult tasks so that failure can be blamed on the task rather than on the individual. Weiner, et al (1971) postulated that high Need-Achievement children persist when failing because they ascribe failure to lack of effort which they control where by low Need-Achievement children stop working when failed because failure is seen as a function of lack of ability which they view as unchangeable.

Drummond, Smith, Pinette (1975), Reynolds and Gentile (1976) found evidence with college students that externals performed better with mastery learning while internals performed better in a traditional setting. It has been noted that individuals with external locus of control orientation tend to perceive reinforcement as controlled by forces or people outside of themselves. They tend to believe that fate, chance or powerful others exert more control over their lives than they do themselves (Rotter, 1966). These studies are consonant with the present findings.