CHAPTER IV

ANALYSIS OF DATA DISCUSSION & RESULTS

The problem of the study was "A study of Principals' stress-proneness in relation to their personality needs and administrative effectiveness in the colleges affiliated to the Bundelkhand University."

The main objective of the study was to find out if stress-proneness of Principals was related to any of the personality needs and their effectiveness as Principals. To achieve this objective the following hypothesis were formulated:

1. That stress-proneness is a normally distributed phenomenon among College Principals.
2. That the stress-proneness is related to the personality needs of the Principals.
3. That the stress-proneness is related to Principals' administrative effectiveness.

As the variable personality need consists of ten needs, the second hypothesis was sub-divided into ten sub-hypotheses each pertaining to one of the needs. Thus there were actually ten hypotheses to be tested under this one major hypothesis. Each one of these ten hypotheses has been tested separately.

To test these hypotheses, data was collected on the above variables i.e. stress-proneness, needs and effectiveness. Scores obtained on these variables are shown in the master-sheet placed at Appendix C2 and C3, C4 and C5. This master-sheet formed the basis of hypothesis testing and
analysis of data. For this purpose an ex-post facto design was used. The Principals were divided into high stress prone and low stress-prone groups on the basis of scores made by them on the stress prone scale/shown in the first and last columns of the master-sheet respectively. Principals' scores on stress-proneness above the mean (83 and above) have been placed in the high-stress-group and those falling below the mean (81 and below) have been placed in the low stress-prone group.

These groups were then compared on the ten personality needs and the effectiveness scale. For comparing and analysing data quantitative techniques were used. As the number of Principals was small, it was decided that instead of the 't' test, some non-parametric test of statistical analysis should be used. After reviewing some of the non-parametric statistical techniques, $X^2$ was found to be most relevant. The hypothesis so formulated was tested individually by applying the chi-square test. The results of analysis are presented hypothesis wise as follows:

**HYPOTHESIS - I**

This hypothesis was stated as "That the stress-proneness is normally distributed in the sample of college-Principals." In order to test the hypothesis it was converted into null hypothesis as "That the trait stress-proneness is not distributed normally in the sample of college principals." This was then tested by applying the $X^2$ test. A 2x2 chi-square table was prepared as follows:
TABLE 4

**x^2 TEST OF SIGNIFICANCE FOR NORMAL DISTRIBUTION OF STRESS PRONENESS OF PRINCIPALS**

<table>
<thead>
<tr>
<th>Class Interval (stress – Proneness)</th>
<th>40-66</th>
<th>67-93</th>
<th>94-120</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observed frequency</td>
<td>7</td>
<td>15</td>
<td>08</td>
</tr>
<tr>
<td>Expected frequency</td>
<td>4.8</td>
<td>20.4</td>
<td>4.8</td>
</tr>
<tr>
<td>O - E</td>
<td>2.2</td>
<td>5.4</td>
<td>3.2</td>
</tr>
<tr>
<td>(O - E)^2</td>
<td>4.84</td>
<td>29.16</td>
<td>10.24</td>
</tr>
<tr>
<td>(\frac{(O - E)^2}{E})</td>
<td>1.01</td>
<td>1.429</td>
<td>2.13</td>
</tr>
</tbody>
</table>

\[
x^2 = \sum \left[ \frac{(O - E)^2}{E} \right] = 1.01 + 1.429 + 2.13 = 4.569
\]

(not significant at any level as \(x^2\) value for sig. at .05 level is 5.99)

The stress proneness scores of Principals were distributed into three class intervals (i) 40-66 (ii) 67-93 (iii) 94-120. Observed frequencies falling in each class interval were counted and placed in the table. The distribution was tested against the hypothesis of normal distribution. The expected frequencies falling in these class-intervals on the basis of normal distribution are also shown in the table.
The chi-square value thus calculated came to be 4.569 which is not significant at any point as the required Chi-square value for significance for 2 df ought to have been 5.99. Hence the null hypothesis was rejected and it was concluded that the trait stress proneness in college principals is normally distributed. This result is in agreement with our observation that most psychological, social and economic data are found to be normally distributed.

**Hypothesis 2:**

2.1 This hypothesis aimed at finding out if College principals' stress proneness was in any way, related to their personality need-achievement. The hypothesis was stated as "that college principals' stress proneness is related to their need-achievement," For the purpose of testing the hypothesis was converted into null form which was tested by applying the chi-square test.

A 2 x 2 chi-square table was prepared as follows:

**TABLE -5**

<table>
<thead>
<tr>
<th></th>
<th>Low</th>
<th>High</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>High stress prone Principals (HSPs)</td>
<td>(A) 03</td>
<td>(B) 11</td>
<td>(A + B = 14)</td>
</tr>
<tr>
<td>Low stress prone Principals (LSPs)</td>
<td>(C) 10</td>
<td>(D) 03</td>
<td>((C + D) = 13)</td>
</tr>
<tr>
<td>(A + C = 13)</td>
<td>(B + D = 14)</td>
<td>(N = 27)</td>
<td></td>
</tr>
</tbody>
</table>
\[ x^2_c = \frac{N \left| (A \times D - B \times C) - \frac{N}{2} \right|^2}{(A + B) \left( C + D \right) (A + C) \left( B + D \right)} \]

\( X^2 \) for 2 x 2 fold table, corrected for continuity Garret p. 265).

\[
= \frac{27 \left( (3 \times 3 - 11 \times 10) - \frac{27}{2} \right)^2}{14 \times 13 \times 13 \times 14}
\]

\[
= \frac{27 (101 - 13.5)^2}{33124} = \frac{27 \times 87.5^2}{33124} = \frac{206718.75}{33124} = 6.241 \text{ sig. at .01 level.}
\]

The sample of college principals was dichotomised as high stress-prone and low stress-prone college principals. Similarly need-achievement was dichotomised as high and low need achievement levels. Frequencies in each cell were found out from tables C-2 and C-3 and put in the cells of the table as shown.

Then chi-square value was calculated by applying the formula:

\[ x^2 = \frac{N \left| (A \times D - B \times C) - \frac{N}{2} \right|^2}{(A + B) \left( D + C \right) (B + D) \left( A + C \right)} \] (Garrets, p 265)

\( x^2 \) for 2 x 2 fold table, corrected for continuity

The value of \( X^2 \) thus calculated came to be 6.241 which is significant at 0.05 level for which the table value of chi-square is 3.84. It is very close to 0.01 level for which the table value is 6.64.
Hence the null hypothesis "that stress-proneness is not related to need achievement" was rejected and it was concluded that College Principals' stress-proneness is significantly related to their level of need-achievement.

Since the mean need-achievement score of high stress-prone principals is greater than that of low stress-prone principals, (12.29) it may also be concluded that high stress-prone principals are more achievement-oriented. It seems being achievement-oriented is the cause of being stress-prone. However, only future research may reveal more conclusively whether it is true or not.

Need ach. as reflected in the statements contained in the inventory means will to do good work, desire to get success, to write a good book, get fame desire to be a high officer, to be a gentleman, to live a good life, to be a great man, to get social status, recognition and prestige, to be a leader etc. It is concluded on the basis of this hypothesis-testing that n-ach is positively related to Principals' stress-proneness. A high level of n-ach goes with their high level of stress-proneness.

2.2 This hypothesis aimed at finding out if college Principals' stress-proneness was related to their need-exhibition. The hypothesis was stated as "That college principals stress-proneness is related to their need exhibition. This was converted into null form. A 2x2 table was prepared as before and X^2 test applied.
TABLE - 6

**X² TEST OF SIGNIFICANCE BETWEEN HIGH-LOW STRESS PRONE PRINCIPALS ON NEED EXHIBITION**

<table>
<thead>
<tr>
<th></th>
<th>L</th>
<th>H</th>
<th>LSPs</th>
<th>HSPs</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>9</td>
<td>17</td>
<td>16</td>
<td>14</td>
</tr>
</tbody>
</table>

\[
x² = \frac{[N(AD - BC) - N/2]^2}{(A + B)(C + D)(A + C)(B + D)}
\]

\[
= \frac{30[(40 - 72) - 15]^2}{17 \times 13 \times 14 \times 16}
\]

\[
= \frac{30(32 - 15)^2}{49504}
\]

\[
= \frac{30 \times 17^2}{49504}
\]

\[
= \frac{30 \times 289}{49504} = \frac{8670}{49504}
\]

\[
= 0.175 \text{ (not significant)}
\]

The X² value was calculated following a similar procedure. This came out to be 0.175, which is not significant at any level. The table values for 1 df at .05 level and .01 levels of significance are 3.841 and 6.635 respectively. Hence the null hypothesis that "the college principals' stress-proneness is not related to their need exhibition is rejected and it was concluded that College Principals' stress-proneness is significantly related
to their level of need-exhibition. Since the mean need scores of HSPs on n-ach (6.05) are greater than that of LSPs (4.84), it may also be concluded that the HSPs are more prone to exhibit their good qualities (to show himself off, to pretend to be significant and important, to seek attention of others etc.)

2.3 The purpose of this hypothesis was to find whether College Principals' stress-proneness was related to their need autonomy. The hypothesis was stated as "that College Principals stress-proneness is related to their need-autonomy. This was converted into null form. A 2x2 table was prepared and $X^2$ test applied.

**TABLE -7**

**$X^2$ TEST OF SIGNIFICANCE BETWEEN HIGH-LOW STRESS PRONE PRINCIPALS ON NEED AUTONOMY**

<table>
<thead>
<tr>
<th></th>
<th>L</th>
<th>H</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>HSPs</td>
<td>7</td>
<td>10</td>
<td>17</td>
</tr>
<tr>
<td>LSPs</td>
<td>9</td>
<td>4</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>11</td>
<td>30</td>
</tr>
</tbody>
</table>

$$X^2 = \frac{30 \times [(28 - 90) - 15]^2}{17 \times 13 \times 14 \times 16} = \frac{30 \times 2209}{49504} = 66270 \quad \text{(not significant)}$$
The chi-square value came out to be 1.339, which is not significant at any level. The table value for 1 df at .05 and .01 levels are 3.841 and 6.635 respectively. Hence the null hypothesis that "the College Principals' stress-proneness is not related to their need-autonomy is rejected and it was concluded that the College Principals' stress-proneness is significantly related to their level of need-autonomy. Also the means of HSPs on n-out a(10.29) are higher than those of LSPs (9.38), it may also be concluded that HSPs are more autonomous.

2.4 This hypothesis was meant to find out if College Principals' stress-proneness was related to their need-affiliation. This hypothesis was stated as "that College Principals' stress-proneness is related to their need-affiliation. This was converted into null form. A 2x2 table was prepared as before and $X^2$ test applied.

**TABLE- 8**

**$X^2$ TEST OF SIGNIFICANCE BETWEEN HIGH - LOW**

**STRESS-PRONE PRINCIPALS ON NEED AFFILIATION**

<table>
<thead>
<tr>
<th></th>
<th>L</th>
<th>H</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>HSPs</td>
<td>7</td>
<td>7</td>
<td>14</td>
</tr>
<tr>
<td>LSPs</td>
<td>4</td>
<td>6</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>11</td>
<td>13</td>
<td>24</td>
</tr>
</tbody>
</table>

$$X^2 = \frac{.24 \left( \frac{(7 \times 6) - (4 \times 7)}{2} \right)}{14 \times 10 \times 11 \times 13}$$
The chi-square value was calculated following a similar procedure. This came out to be .005, which is not significant at any level. The table value for 1 df at .05 and .01 level of significance are 3.841 and 6.635 respectively. Hence the null hypothesis that the College Principals' stress - proneness is not related to their need - affiliation is rejected and it was concluded that College Principals' stress - proneness is significantly related to their level of need - affiliation. Since the mean need score of HSPs on n-aft (8.88) is higher than that of LSPs (8.53), it may also be concluded that the HSPs are more prone to seek affiliation with others.

2.5 The purpose of this hypothesis was to find out if college Principals' stress-proneness was related to their need - succourance. The hypothesis was stated as "that College Principals" stress - proneness is related to their need succourance. This was converted into null form. A 2x2 table was prepared as before and $X^2$ test applied.
TABLE 7

X² TEST OF SIGNIFICANCE BETWEEN HIGH-LOW STRESS PRONE PRINCIPALS ON NEED EXHIBITION

<table>
<thead>
<tr>
<th></th>
<th>L</th>
<th>H</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>HSPs</td>
<td>8</td>
<td>9</td>
<td>17</td>
</tr>
<tr>
<td>LPSp</td>
<td>8</td>
<td>5</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>14</td>
<td>30</td>
</tr>
</tbody>
</table>

\[
x^2 = \frac{\left[ N (AD - BC) - N/2 \right]^2}{(A + B) (C + D) (A + C) (B + D)}
\]

\[
= \frac{30 \left[ (40 - 72) - 15 \right]^2}{17 \times 13 \times 14 \times 16}
\]

\[
= \frac{30 \times (32 - 15)^2}{49504}
\]

\[
= \frac{30 \times (17)^2}{49504}
\]

\[
= \frac{30 \times 289}{49504} = \frac{8670}{49504}
\]

\[
= 0.175 \text{ (not significant)}
\]

The \( X^2 \) value was calculated following a similar procedure. This came out to be 0.175, which is not significant at any level. The table values for 1 df at .05 level and .01 levels of significance are 3.841 and 6.635 respectively. Hence the null hypothesis that "the college principals' stress- proneness is not related to their need exhibition is rejected and it, was concluded that College Principals' stress - proneness is significantly related to their level of need -
exhibition. Since the mean need scores of HSPs on n-ach (6.05) are greater than that of LSPs (4.84), it may also be concluded that the HSPs are more prone to exhibit their good qualities (to show himself off, to pretend to be significant and important, to seek attention of others etc.)

2.3 The purpose of this hypothesis was to find whether College Principals' stress-proneness was related to their need autonomy. The hypothesis was stated as "that College Principals stress-proneness is related to their need-autonomy. This was converted into null form. A 2x2 table was prepared and $X^2$ test applied.

**TABLE -7**

<table>
<thead>
<tr>
<th></th>
<th>L</th>
<th>H</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSPs</td>
<td>7</td>
<td>10</td>
</tr>
<tr>
<td>LSPs</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>11</td>
</tr>
</tbody>
</table>

$$X^2 = \frac{30 \times [(28 - 90) - 15]^2}{17 \times 13 \times 14 \times 16}$$

$$= \frac{30 \times 2209}{49504}$$

$$= \frac{66270}{49504} = 1.339 \text{ (not significant)}$$
The chi-square value came out to be 1.339, which is not significant at any level. The table value for 1 df is .05 and .01 level are 3.841 and 6.635 respectively. Hence the null hypothesis that "the College Principals' stress - proneness is not related to their need - autonomy is rejected and it was concluded that the College Principals' stress-proneness is significantly related to their level of need - autonomy. Also the means of HSPs on n- ant (10.29) are higher than those of LSPs (9.38), it may also be concluded that HSPs are more autonomous.

2.4 This hypothesis was meant to find out if College Principals' stress - proneness was related to their need - affiliation. This hypothesis was stated as "that College Principals' stress-proneness is related to their need - affiliation. This was converted into null form. A 2x2 table was prepared as before and \( X^2 \) test applied.

**TABLE -8**

\[
X^2 \text{ TEST OF SIGNIFICANCE BETWEEN HIGH - LOW STRESS-PRONE PRINCIPALS ON NEED AFFILIATION}
\]

<table>
<thead>
<tr>
<th></th>
<th>L</th>
<th>H</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>HSPs</td>
<td>7</td>
<td>7</td>
<td>14</td>
</tr>
<tr>
<td>LSPs</td>
<td>4</td>
<td>6</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>11</td>
<td>13</td>
<td>24</td>
</tr>
</tbody>
</table>

\[
X^2 = \frac{24 \left[ (7 \times 6) - (4 \times 7) - \frac{24}{2} \right]}{14 \times 10 \times 11 \times 13}
\]
TABLE -9

\textbf{X}^2 \textbf{ TEST OF SIGNIFICANCE BETWEEN HIGH-LOW
STRESS PRONE PRINCIPALS ON NEED SUCCOURANCE}

\begin{tabular}{|l|c|c|}
\hline
 & L & H \tabularnewline
\hline
HSPs & 5 & 11 & 16 \tabularnewline
\hline
LSPs & 10 & 02 & 12 \tabularnewline
\hline
 & 15 & 13 & 28 \tabularnewline
\hline
\end{tabular}

\[ x^2 = \frac{28 [(10 - 110) - 14]^2}{16 \times 12 \times 13 \times 15} \]

\[ = \frac{28 (100 - 14)^2}{37440} \]

\[ = \frac{28 (7396)}{37440} = \frac{207088}{37440} \]

\[ = 5.531 \quad \text{(Sig. at .05 level)} \]

The chi-square value came out to be 5.531, which is significant at the .05 level. The table value of 1 df at .05 and .01 level are 3.841 and 6.635. Hence the null hypothesis that "the College Principals' stress-proneness is not related to their need for succourance" is accepted and it was concluded that the College Principals' stress-proneness is not significantly related to their level of succourance. Also the means of HSPs on n-succ (11.58) are
higher than those of LSPs (7.23), it may also be concluded that HSPs are more in need of succourance.

2.6 The purpose of this hypothesis was to find out if college Principals' stress-proneness was related to their need-dominance. The hypothesis was stated as "that College Principals' stress-proneness is related to their need-dominance." This was converted into null form. A 2 x 2 table was prepared as before and $X^2$ test applied.

TABLE -10

$X^2$ TEST OF SIGNIFICANCE BETWEEN HIGH-LOW STRESS PRONE PRINCIPALS ON NEED DOMINANCE

<table>
<thead>
<tr>
<th></th>
<th>L</th>
<th>H</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>HSPs</td>
<td>05</td>
<td>10</td>
<td>16</td>
</tr>
<tr>
<td>LSPs</td>
<td>09</td>
<td>03</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>14</td>
<td>13</td>
<td>27</td>
</tr>
</tbody>
</table>

$$x^2 = \frac{27 \left[ (15 - 90) - 13 - 5 \right]^2}{14 \times 13 \times 12 \times 15}$$

$$= \frac{27 (75 - 13.5)}{32760}$$

$$= \frac{27 \times 378225}{32760}$$

$$= 3.117$$
(just significant being slightly less than 3.84 at .05 level)
The Chi-square value came out to be 3.117, which is just significant at the .05 level, being slightly less than 3.84 at .05 level. Hence the null hypothesis that the College Principals' stress-proneness is not significantly related to their level of need-dominance is accepted and it was concluded that the College Principals' stress-proneness is significantly related to their need-dominance. Also the means of HSPs on n-dom. (11.76) is higher than those of LSPs (7.92), it may also be concluded that the HSPs are more prone to dominate.

2.7 The purpose of this hypothesis was to find out if College Principals' stress-proneness was related to their need abasement. The hypothesis was stated as "that the College Principals' stress-proneness is related to their need abasement. This was converted into null form. A 2x2 table was prepared as before and $X^2$ test applied.

<table>
<thead>
<tr>
<th></th>
<th>L</th>
<th>H</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>HSPs</td>
<td>9</td>
<td>6</td>
<td>15</td>
</tr>
<tr>
<td>LSPs</td>
<td>5</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>14</td>
<td>9</td>
<td>23</td>
</tr>
</tbody>
</table>

$$X^2 = \frac{23 \left[(27-30) - 11.5\right]^2}{14 \times 9 \times 8 \times 15}$$

$$= \frac{23 \left(3 - 11.5\right)}{15120}$$
\[
\frac{23 \times 72.25}{15120} = 0.1099 \text{ or } 0.11 \text{ (not significant)}
\]

The chi-square value came out to be 0.1099, which is not significant at any level. Hence the null hypothesis that the College Principals' stress-proneness is not significantly related to their need abasement is rejected and it is concluded that the College Principals' stress-proneness is significantly related to their need abasement. Also the means of HSPs on n-abasement is slightly lower than that of LSPs, it may also be concluded that the HSPs are a bit less prone to n-abasement.

2.8 This hypothesis aimed at finding out if college Principals' stress-proneness is related to their need-nurturance. This hypothesis was stated as "that the College Principals' stress-proneness is related to their n-nurturance. This was converted into null form. A 2x2 table was prepared and \( X^2 \) test applied.

**TABLE -12**

**\( X^2 \) TEST OF SIGNIFICANCE BETWEEN HIGH-LOW STRESS-PRONE PRINCIPALS ON NEED NURTURANCE**

<table>
<thead>
<tr>
<th></th>
<th>L</th>
<th>H</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>HSPs</td>
<td>8</td>
<td>6</td>
<td>14</td>
</tr>
<tr>
<td>LSPs</td>
<td>5</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>13</td>
<td>11</td>
<td>24</td>
</tr>
</tbody>
</table>

\[
X^2 = \frac{24 \left[(140 - 30) - 12 \right]^2}{13 \times 11 \times 10 \times 14}
\]

\[
= \frac{24 (10 - 12)^2}{20020}
\]
\[
\frac{24 \times 4}{20020} = \frac{96}{20020}
\]

= 0.005 (not significant)

The chi-square value came out to be .005, which is not significant at the .05 or .01 level. Hence the null hypothesis that the College Principals' stress-prone-ness is not significantly related to their need-nurturance is rejected and it is concluded that the College- Principals' stress-proneness is significantly related to their need nurturance. Also the means of HSPs on n-nurturance (11.23) is lower than that of LSPs (11.92), it may also be concluded that the HSPs are slightly less prone to n-nurturance.

2.9 The aim of this hypothesis was to find if College Principals' stress-proneness was related to their need-endurance. The hypothesis was stated as "that the college Principals' stress-proneness was related to their need endurance." This was converted into null hypothesis. A 2x2 table was prepared and \(X^2\) test applied.

**TABLE -13**

**X² TEST OF SIGNIFICANCE BETWEEN HIGH-LOW STRESS PRONE PRINCIPALS ON NEED ENDURANCE**

<table>
<thead>
<tr>
<th></th>
<th>L</th>
<th>H</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>HSPs</td>
<td>7</td>
<td>9</td>
<td>16</td>
</tr>
<tr>
<td>LSPs</td>
<td>6</td>
<td>7</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>13</td>
<td>16</td>
<td>29</td>
</tr>
</tbody>
</table>
\[
\frac{29 \times (9.5)^2}{43264} = \frac{2617.25}{43264}
\]

\[= 0.06 \quad \text{(not significant)}\]

The chi-square value came out to be 0.06, which is not significant at the .05 or .01 level. Hence the null hypothesis "that the College Principals' stress-proneness is not significantly related to their need-endurance" was rejected and it was concluded that the College Principals' stress-proneness is significantly related to their need-endurance. Also, the means of HSPs on n-endurance (12.47) is higher than that of LSPs (12.13), it may also be concluded that the HSPs are more prone to n-endurance.

2.10 The aim of this hypothesis was to find if College Principals' stress-proneness was related to their need-aggression. The hypothesis was stated as "that the College Principals' stress-proneness is related to their n-aggression. This was converted into null hypothesis. A 2x2 table was prepared and \(X^2\) test applied.

**TABLE -14**

**X\(^2\) Test of Significance Between High-Low Stress Prone Principals on Need Aggression**

<table>
<thead>
<tr>
<th></th>
<th>L</th>
<th>H</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>HSPs</td>
<td>8</td>
<td>7</td>
<td>15</td>
</tr>
<tr>
<td>LSPs</td>
<td>10</td>
<td>2</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>9</td>
<td>27</td>
</tr>
</tbody>
</table>
\[ X^2 = \frac{27[(10 - 70) - 13.5]^2}{18 \times 9 \times 12 \times 15} = \frac{27(60 - 13.5)^2}{2916} = \frac{27 \times 2162.25}{2916} = \frac{58380.75}{2916} = 20.021 \quad \text{(Sig. at .01 level)} \]

The \( X^2 \) value came out to be 20.021, which is significant at the .01 level. Hence the null hypothesis that the College Principal's stress proneness is not significantly related to their need aggression was rejected and it was concluded that the College Principal's stress proneness was significantly related to their need aggression.

Also the means on n-aggression of HSPs (6.23) was higher than that of the LSPs (5.0). Hence it was concluded that the HSPs are more prone to n-aggression.

**HYPOTHESIS III**

The purpose of this hypothesis was to find if College Principal's stress - proneness was related to their effectiveness. This hypothesis was stated as "that the College Principals' stress - proneness is related to their effectiveness. This was converted into null hypothesis. A 2x2 table was prepared and \( X^2 \) test applied.
FIGURE
MEANS OF HSPs & LSPs ON PERSONALITY NEEDS

---

HSP
LSP

---

ACH  EXH  AUT  AFF  SUC  DOM  NUR  ABA  END  AGG

---

15   14   13   12   11   10   9    8    7    6    5    4    3    2    1

---

6.05  4.8  10.29  12.3  8.5  8.9  11.58  11.76  7.2  7.9  7.41  11.9  11.2  11.9  12.47  6.23  5.00
TABLE -15

X² TEST OF SIGNIFICANCE BETWEEN HIGH-LOW STRESS PRONE PRINCIPALS & ADMINISTRATIVE EFFECTIVENESS.

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>HSPs</td>
<td>12</td>
<td>05</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>LSPs</td>
<td>05</td>
<td>08</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td></td>
<td>17</td>
<td>13</td>
<td>30</td>
<td></td>
</tr>
</tbody>
</table>

\[
X^2 = \frac{30 \left[(196 - 25) - 15\right]^2}{17 \times 13 \times 13 \times 17} \\
= \frac{30 \left(71 - 15\right)^2}{48841} \\
= \frac{30 \left(56\right)^2}{48841} \\
= 1.926 \quad \text{(not significant)}
\]

The chi-square value came out to be 1.926, which is not significant at any level. Hence the null hypothesis "that the College Principals' stress-proneness is not significantly related to effectiveness" was accepted and it was concluded that the College Principals' stress-proneness is not related to their effectiveness. Also the means of HSPs (129.23) is lower than the means of the LSPs (141.61) on the effectiveness scale. Hence it may also be concluded that the HSPs are less effective.
RESULTS:

The conclusions of the study drawn after testing the hypotheses can be summed up as follows:

1. The trait stress-proneness in college principals was found to be normally distributed.

2. High stress-prone principals are found to be more achievement-oriented, more aggressive and more in need succourance. It is only the need achievement, need succourance and need-agression which emergence to be related to Principals' stress proneness. Other seven needs are not found to be related.

3. In case of Principals' administrative effectiveness, too, stress-proneness was not found to be related to their effectiveness.