CONCLUSIONS AND SUGGESTIONS

CHAPTER V

CONCLUSIONS AND SUGGESTIONS

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CONCLUSIONS AND SUGGESTIONS

THE STUDY IN RETROSPECT

Restatement of the problem

The study was an analysis of the extent of Stress experienced by the heads of primary schools in Kerala and its influence on their Professional Efficiency. The problem was stated as "A STUDY ON STRESS AND PROFESSIONAL EFFICIENCY OF THE HEADS OF PRIMARY SCHOOLS IN KERALA"

Variables

i. Dependent variable

The Professional Efficiency of the heads of primary schools was treated as the dependent variable of the study.

ii. Independent variable

Stress experienced by the heads of primary schools was treated as the independent variable of the study.

iii. Basal variables

The following variables were treated as the basal variables of the study based on which sub-samples were selected.

(i) Sex
(ii) Age
(iii) Educational qualifications
(iv) Teaching experience
(v) Marital status
(vi) Locality of the school
(vii) Management category of the school.

Objectives of the study

The following were the objectives of the study:

1. To compare the mean scores of Stress and Professional Efficiency for the selected sub-samples based on sex, age, educational qualifications, teaching experience and marital status of the heads of primary schools in Kerala and the locality and management category of their schools.

2. To study the levels of Stress experienced by the heads of primary schools in Kerala.

3. To compare the percentages of heads of primary schools in Kerala experiencing different levels of Stress for selected sub-samples as mentioned above.

4. To compare the percentages of heads of primary schools in Kerala experiencing different dimensions of Stress for selected sub-samples based on the basal variables of the study.

5. To examine whether any association exists between (a) each of the basal variables and Stress experienced by the heads of primary schools in Kerala, and (b) each of the basal
variables and Professional Efficiency of the heads of primary schools in Kerala.

6. To find out the relationship between Stress and Professional Efficiency of the heads of primary schools in Kerala for the total sample and for the relevant sub-samples.

7. To compare the relationships between Stress and Professional Efficiency of the heads of primary schools in Kerala for the comparable sub-samples.

8. To identify the most effective sub-set of dimensions of Stress which can predict the Professional Efficiency of the heads of primary schools in Kerala.

9. To find out whether the variance co-variance structure of Stress and Professional Efficiency of heads of primary schools can be expressed through linear combinations of the dimensions Stress and Professional Efficiency.

10. To find out whether significant association exists between the set of dimensions of Stress and the set of dimension of Professional Efficiency of the heads of primary schools in Kerala.

Hypotheses of the Study

1. There will be significant difference in mean scores of Stress and Professional Efficiency for the selected sub-samples based on sex, age, educational qualifications, teaching
experience and marital status of the heads of primary schools in Kerala and the locality and management category of their schools.

2. There will be different levels of Stress experienced by the heads of primary schools in Kerala.

3. There will be significant difference in percentages of heads of primary schools in Kerala experiencing different levels of Stress for selected sub-samples as mentioned above.

4. There will be significant difference in percentages of heads of primary schools in Kerala experiencing different dimensions of Stress for selected sub-samples based on the basal variables of the study.

5. There will be significant association between (a) each of the basal variables and Stress experienced by the heads of primary schools in Kerala, and (b) each of the basal variables and Professional Efficiency of the heads primary schools in Kerala.

6. There will be significant relationships between Stress and Professional Efficiency of the heads of primary schools in Kerala for the total sample and for the relevant sub-samples.
7. There will be significant difference in relationships between Stress and Professional Efficiency of the heads primary schools in Kerala for the comparable sub-samples.

8. There will be a most effective subset of dimensions of Stress, which can predict the Professional Efficiency of the heads of primary schools in Kerala.

9. The variance co-variance structure of Stress and Professional Efficiency of the heads of primary schools in Kerala can be expressed through linear combinations of the dimensions of Stress and Professional Efficiency.

10. There will be significance association between the set of dimensions of Stress and the set of dimensions of Professional Efficiency of the heads of primary schools in Kerala.

Procedure

Sample

The present study was conducted on a sample of 275 heads of primary schools in Kerala. Stratified random sampling technique was used for the selection of the sample. The sub-samples were selected on the basis of sex, age, educational qualifications, teaching experience and marital status of the heads of primary schools and the locality and management category of their schools.
Tools

The following tools were used for the collection of the data.

1. Stress Inventory for Headmasters (SIH)

2. Professional Efficiency Rating Scale for Headmasters (PERSH)

The above tools were prepared and standardised by the investigator with the help of his supervising teacher.

Statistical techniques used

Mean, median, mode, standard deviation, skewness and kurtosis of the distribution of the variables were determined. The mean score of both of the variables were compared for the comparable sub-samples.

Percentage analysis was carried out to determine the levels of Stress of heads of schools and to compare the levels of Stress among the sub-samples. The percentage of heads of schools experiencing different dimensions of Stress were computed and compared among comparable sub-samples.

Association between basal variables and the variables of the study was examined using Biserial coefficient of correlation, chi-square test and Pearson’s product moment coefficient of correlation, depending on the nature of the basal variables.

The relationship between the variables of the study for the total sample and for the sub-samples were examined by
Pearson's r. The obtained r's were compared for the comparable sub-samples.

Multiple Linear Regression Analysis was carried out to predict the dependent variable from the sub-set of one or more dimensions of the independent variable. Principal Component Analysis was carried out to study the variance co-variance structure of both of the variables of the study. Canonical Correlation was computed to find out the association between the set of dimensions of Stress and the set of dimensions of Professional Efficiency of the subjects.

Multiple Linear Regression Analysis and the Principal Component Analysis were carried out with the help of computer using MINI-TAB software. Canonical Correlation was found out with the help of computer using 'Statistica' software. All other computations were done by hand.

MAJOR FINDINGS

1. a) The study of group differences of Stress of heads of primary schools among sub-samples

   When the differences in mean Stress of heads of schools were analysed the following results were obtained.

   i. Sex difference

   There exists no significant difference (CR = -0.541) between headmasters and headmistresses in their Stress.
ii. **Age difference**

No significant difference exists in mean Stress of the heads of primary schools belonging to the sub-samples of age below 41 years, 41-50 years and above 50 years.

iii. **Difference based on educational qualifications**

No significant difference exists in mean Stress of heads of schools belonging to sub-samples based on their educational qualifications such as undergraduates, graduates and post-graduates.

iv. **Difference based on teaching experience**

Comparison of mean Stress of heads of schools among sub-samples based on their teaching experience yielded the following results:

a) The heads of schools belonging to the teaching experience group of 21-30 years were experiencing higher Stress (CR= 2.130) than those having teaching experience more than 30 years.

b) No significant difference exists in mean Stress of heads of schools (1) having teaching experience below 21 years and between 21-30 years, and (2) having teaching experience below 21 years and more than 30 years.
v. **Difference based on marital status**

The comparison of mean Stress among married and single heads of schools revealed that their difference is not significant (CR= -0.352).

vi. **Difference based on locality**

It was found that the mean Stress experienced by heads of rural and urban primary schools are almost alike (CR= -0.381).

vii. **Difference based on management category of the school**

It was found that the mean Stress experienced by heads of private and government schools were almost the same (CR= -1.094).

(b) **Study of group differences of Professional Efficiency of the heads of primary schools among sub-samples**

The study of group differences in mean scores of Professional Efficiency of the heads of primary schools among sub-samples based on the basal variables revealed the following:

i. **Sex difference**

There is no significant difference (CR= 0.399) between headmasters and headmistresses in the their mean scores of Professional Efficiency.
ii. **Age difference**

The difference in mean scores of Professional Efficiency of the heads of schools among age groups of below 41 years, 41-50 years and above 50 years are not significant.

iii. **Difference based on educational qualifications**

It was found that there exist no significant difference in mean scores of Professional Efficiency of the heads of schools among under graduates, graduates and postgraduates.

iv. **Difference based on teaching experience**

It was found that the difference in mean Professional Efficiency among heads of schools having teaching experience below 21 years, 21-30 years and above 30 years are not significant.

v. **Difference based on marital status**

The mean Professional Efficiency of married and single heads of primary schools is found to be almost similar (CR = 0.971).

vi. **Difference based on the locality of the schools**

The difference in mean scores of Professional Efficiency of heads in rural and urban primary schools is not significant (CR= 0.225).
vii. **Difference based on management category of the schools**

The analysis showed that there exist no significant difference in mean Professional Efficiency between heads of private and government primary schools.

2. **The study of levels of Stress experienced by the heads of schools**

The study of levels of total Stress experienced by the heads of schools revealed that the heads of primary schools are experiencing Stress in different levels. Out of the total sample 18.82 percent are experiencing High Stress, 65.818 percent are experiencing Moderate Stress and 16 percent are experiencing Low Stress.

It was found that among the sub-samples higher percentage of subjects experiencing High Stress, were those heads, who are single. In the Moderate Stress group highest percentage was obtained for postgraduates. In the Low Stress group the percentage was highest for graduate heads of schools.

3. **Comparison of percentages of heads schools experiencing different levels of total Stress among sub-samples**

The obtained results of comparison of percentages of heads of schools experiencing High, Moderate and Low Stress among sub-samples are presented below.
i. **Sex difference**

It was found that (a) the percentage of male heads of schools experiencing Moderate Stress is significantly higher (CR = 2.01) than that of females, and (b) the different between percentage of male and female heads of schools experiencing High and Low Stress is not significant.

ii. **Age difference**

The study revealed that the difference in percentages of heads of schools experiencing High, Moderate and Low Stress belonging to different groups such as below 41 years, 41-50 years and above 50 years are not significant.

iii. **Difference based on the educational qualifications**

The analysis revealed that (a) the percentage of under graduate heads of schools experiencing Moderate Stress is significantly higher (CR= 2.32) than graduates, (b) the differences in percentages of heads of schools experiencing Moderate Stress between graduates and postgraduates and between undergraduates and postgraduates are not significant, and (c) there exists no significant difference in percentages of heads of schools experiencing High and Low Stress among undergraduates, graduates and post graduates.
iv. **Difference based on teaching experience**

It was found that there exist no significant difference in percentages of heads of schools experiencing High, Moderate and Low Stress among sub-samples based on teaching experiencing such as below 21 years, 21-30 years and above 30 years.

v. **Difference based on the marital status**

The difference in percentages of married and single heads of schools experiencing High, Moderate and Low Stress is not significant.

vi. **Difference based on the locality of the school**

The percentage analysis revealed that the heads of rural and urban primary schools are experiencing almost equal levels of Stress.

vii. **Difference based on the management category of the school**

The result of the comparison of percentages of heads of schools showed that heads of private and government schools are experiencing almost the same levels of Stress.

4. **Comparison of heads of schools experiencing Stress under different dimensions**

The comparison of heads of schools belonging to different sub-samples based on the basal variables, who experience Stress under different dimensions, such as physiological factors,
psychological factors, social and familial factors and occupations factors, revealed the following:

i. **Sex difference**

The study showed that the difference in percentages of headmasters and headmistresses experiencing Stress under different dimensions are not significant.

ii. **Age difference**

No significant difference exists in percentages of heads of schools who experience Stress under different dimensions and having age below 41 years, 41-50 years and above 50 years.

iii. **Difference based on educational qualifications**

No significant difference exists in percentages of heads of schools experiencing Stress under different dimensions among sub-samples of undergraduates, graduates and post graduates.

iv. **Difference based on teaching experiences**

The difference in percentages of heads of schools experiencing Stress under different dimensions is not significant among sub-samples based on teaching experience such as, below 21 years, 21-30 years and above 30 years.

v. **Difference based on marital status**

Married and single heads of schools experience almost same levels of Stress under different dimensions.
vi. **Difference based on locality of the school**

The heads of rural and urban schools are experiencing same levels of Stress under different dimensions.

vii. **Difference based on management category of the school**

No significant difference exists among percentages of heads of private and government schools experiencing different dimensions of Stress.

5. a) **Association between Stress of heads of primary schools and the basal variables**

The analysis of association between Stress of heads of schools and the basal variables such as sex, age, educational qualifications, teaching experience, marital status of the subjects and locality and management category of schools revealed the following:

i. **Sex and Stress**

The obtained biserial co-efficient of correlation \( r_{bis} = -0.043 \) showed that no significant association exists between sex and Stress of the heads of primary schools.

ii. **Age and Stress**

The Pearson's \( r \) obtained between age and Stress of heads of schools revealed that the association between age and Stress of heads of schools is not significant \( r = -0.093 \).
iii. Educational qualifications and Stress

Chi-square test was employed to study the association between educational qualifications and Stress of heads of primary schools. The result showed that the association between educational qualification and Stress of heads of schools is not significant.

iv. Teaching experience and Stress

The value of Pearson's $r$ between teaching experience and Stress of heads of schools showed that no significant association exists between teaching experience and Stress.

v. Marital status and Stress

The biserial co-efficient of correlation ($r_{bis} = 0.044$) revealed that there exists no significant association between marital status and Stress of the heads of schools.

vi. Locality and Stress

The analysis of association by biserial $r$ showed that there exist no significant association between locality of schools and Stress of heads of schools ($r_{bis} = -0.033$).

vii. Management category and Stress

The obtained biserial coefficient of correlation ($r_{bis} = 0.084$) revealed that no significant association exist between management category of schools and Stress of heads of schools.
b) **Association between Professional Efficiency of the heads of schools and the basal variables**

The following results were obtained when the analysis of association was carried out between Professional Efficiency of the heads of schools and the basal variables of the study.

i.  **Sex and Professional Efficiency**

$r_{bis}$ between sex and Professional Efficiency of the heads of schools showed that the association between the variables is not significant ($r_{bis} = 0.03$).

ii. **Age and Professional Efficiency**

The Pearson's $r$ revealed that no significant association exists between age and Professional Efficiency of the heads of schools.

iii. **Educational qualifications and Professional Efficiency**

The result of chi-square test revealed that there is significant (at 0.05 level) association between educational qualifications and Professional Efficiency of the heads of schools in the case of graduates ($\chi^2 = 8.336$). No other $\chi^2$ values were significant.

iv. **Teaching experience and Professional Efficiency**

The obtained coefficient of correlation between teaching experience and Professional Efficiency of the heads of schools
showed that there exist no significant association between them \( r = 0.072 \).

v. **Marital status and Professional Efficiency**

The analysis of association using biserial \(' r'\) showed that the association between marital status and Professional Efficiency of the heads of schools is not significant \( (r_{\text{bis}} = 0.099) \).

vi. **Locality of the school and Professional Efficiency**

No significant association exists between locality of the School and Professional Efficiency of the heads of schools \( (r_{\text{bis}} = 0.021) \).

vii. **Management Category and Professional Efficiency**

The obtained \( r_{\text{bis}} \) \( (r_{\text{bis}} = -0.113) \) revealed that there exists no significant association between management category of the schools and Professional Efficiency of the heads of schools.

6. **Correlation between variables of the study**

The obtained Pearson's product moment co-efficient of correlation between Stress and Professional Efficiency of the heads of Primary schools revealed the following.

(a) Significant negative correlation exists (at 0.01 level) between Stress and Professional Efficiency of heads of primary schools for the following samples:
Whole Sample \( (r = -0.409) \)
Males \( (r = -0.323) \)
Females \( (r = -0.523) \)
Age below 41 years \( (r = -0.683) \)
Age 41-50 years \( (r = -0.349) \)
Age above 50 years \( (r = -0.398) \)
Under graduates \( (r = -0.339) \)
Graduates \( (r = -0.606) \)
Teaching experience below 21 years \( (r = -0.511) \)
Teaching experience 21-30 years \( (r = -0.348) \)
Teaching experience above 30 years \( (r = -0.430) \)
Married \( (r = -0.408) \)
Rural \( (r = -0.418) \)
Urban \( (r = -0.390) \)
Private \( (r = -0.435) \)
Government \( (r = -0.316) \)

(b) Correlation between the variables of the study were not significant for the following sub-samples.

Post graduates \( (r = -0.495) \)
Single \( (r = -0.431) \)

(c) Among the obtained significant correlations substantial negative relationships between the variables of the study were obtained for the following samples:

(i) whole sample (ii) females (iii) age below 41 years (iv) graduates (v) teaching experience below 21 years (vi) teaching
experience above 30 years (vii) married (viii) rural school, and (ix) private schools.

Low negative relationship between the variables of the study were obtained for the following samples: (i) males, (ii) age group of 41-50 years, (iii) age group above 50 years (iv) undergraduates (v) teaching experience group of 21-30 years,(vi) urban schools, and (vii) government schools.

(d) The population value of correlations falls between -0.279 and -0.539 for the whole sample and between -0.053 and -0.912 for sub-samples.

(e) The percentage overlap between variables was found to be ranging from 9.99 to 46.65.

The summary of the correlation analysis is presented in Table 67.
<table>
<thead>
<tr>
<th>SL No.</th>
<th>Sample</th>
<th>N</th>
<th>R</th>
<th>Confidence interval</th>
<th>Percentage overlap</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Lower limit</td>
<td>Upper limit</td>
</tr>
<tr>
<td>1</td>
<td>Whole sample</td>
<td>275</td>
<td>-0.409**</td>
<td>-0.279</td>
<td>-0.539</td>
</tr>
<tr>
<td>2</td>
<td>Males</td>
<td>169</td>
<td>-0.323**</td>
<td>-0.145</td>
<td>-0.501</td>
</tr>
<tr>
<td>3</td>
<td>Females</td>
<td>106</td>
<td>-0.523**</td>
<td>-0.341</td>
<td>-0.705</td>
</tr>
<tr>
<td>4</td>
<td>Age below 41 years</td>
<td>36</td>
<td>-0.683**</td>
<td>-0.454</td>
<td>-0.912</td>
</tr>
<tr>
<td>5</td>
<td>Age 41-50 years</td>
<td>120</td>
<td>-0.349**</td>
<td>-0.142</td>
<td>-0.556</td>
</tr>
<tr>
<td>6</td>
<td>Age above 50 years</td>
<td>119</td>
<td>-0.398**</td>
<td>-0.199</td>
<td>-0.597</td>
</tr>
<tr>
<td>7</td>
<td>Undergraduates</td>
<td>212</td>
<td>-0.339</td>
<td>-0.182</td>
<td>-0.496</td>
</tr>
<tr>
<td>8</td>
<td>Graduates</td>
<td>49</td>
<td>-0.606**</td>
<td>-0.373</td>
<td>-0.839</td>
</tr>
<tr>
<td>9</td>
<td>Post graduates</td>
<td>14</td>
<td>-0.495</td>
<td>-0.100</td>
<td>-0.890</td>
</tr>
<tr>
<td>10</td>
<td>Teaching experience up to 20 years</td>
<td>65</td>
<td>-0.511**</td>
<td>-0.275</td>
<td>-0.747</td>
</tr>
<tr>
<td>11</td>
<td>Teaching experience 21-30 years</td>
<td>156</td>
<td>-0.348**</td>
<td>-0.167</td>
<td>-0.530</td>
</tr>
<tr>
<td>12</td>
<td>Teaching experience 31 &amp; above years</td>
<td>54</td>
<td>-0.430**</td>
<td>-0.144</td>
<td>-0.716</td>
</tr>
<tr>
<td>13</td>
<td>Married</td>
<td>258</td>
<td>-0.408**</td>
<td>-0.274</td>
<td>-0.542</td>
</tr>
<tr>
<td>14</td>
<td>Single</td>
<td>17</td>
<td>-0.431</td>
<td>-0.044</td>
<td>-0.818</td>
</tr>
<tr>
<td>15</td>
<td>Rural</td>
<td>223</td>
<td>-0.418</td>
<td>-0.275</td>
<td>-0.561</td>
</tr>
<tr>
<td>16</td>
<td>Urban</td>
<td>52</td>
<td>-0.390</td>
<td>-0.087</td>
<td>-0.693</td>
</tr>
<tr>
<td>17</td>
<td>Private</td>
<td>197</td>
<td>-0.435</td>
<td>-0.286</td>
<td>-0.584</td>
</tr>
<tr>
<td>18</td>
<td>Government</td>
<td>78</td>
<td>-0.316</td>
<td>-0.053</td>
<td>-0.579</td>
</tr>
</tbody>
</table>

(Note ** indicates significant relationships at 0.01 level)
7. **Comparison of r’s for comparable sub-sample**

The comparison of correlation co-efficients between the variables of the study for the comparable sub-samples revealed the following:

i. **Sex difference**

The negative relationship between Stress and Professional Efficiency of heads of primary schools for females is significantly (at 0.051 level) higher than males.

ii. **Age difference**

a) The negative relationship between the variables of the study is significantly (at 0.05 level) higher for the heads of schools in the age group of below 41 years than those in the age group of 41-50 years.

    b) The negative relationship between the variables of the study is significantly (at 0.051 level) higher for the heads of school in the age group of below 41 years than those in the age group of above 50 years.

    c) There is no significant difference between the r’s of heads of schools in the age group of 41-50 years and more than 50 years.

iii. **Difference based on the educational qualifications**

    a) Critical ratio obtained for difference in r’s between undergraduates and graduate heads of schools is significant (at
0.05 level). Graduates are having higher negative relationship than undergraduates.

(b) The differences in \( r' \) s for the variables of the study between graduates and postgraduates, and between undergraduates and postgraduates are not significant.

iv. Difference based on teaching experience

No significant differences between \( r' \) s were obtained for sub-samples of heads of schools based on their teaching experience.

v. Difference based on marital status

There exists no significant difference (CR = 0.073) in correlation coefficients of Stress and Professional Efficiency between married and single heads of schools.

vi. Difference based on locality of the school

The obtained critical ratio for difference in \( r' \) s for the variables of the study between heads of rural and urban schools is not significant (CR = -0.240).

vii. Difference based on management category of schools

The difference in \( r \) s for variables of the study between heads of private and government schools is not significant (CR = 0.240).
8. **Multiple Linear Regression Analysis**

The result of Multiple Linear Regression Analysis revealed that the sub-set containing dimensions of Stress such as social and familial factors and occupational factors is the best subset for predicting the Professional Efficiency of the heads of primary schools in Kerala. The best prediction formula obtained was

\[ PE = -0.3843 \, S_3 -0.2376 \, S_4 + 41.6947 \]

Where, \( S_3 \) = Stress 3 i.e. Social and familial factors, and \( S_4 \) = Stress 4, i.e. occupational factors.

The relationship obtained (R) between the sub set of the two dimensions and the Professional Efficiency of the heads of schools was 0.4291.

9. **Principal Component Analysis**

The result of the Principal Component Analysis showed that the first Principal Component for Stress of the heads of schools has 69.8 percent of total information contained in the four dimensions of Stress. The obtained linear combination of Principal Component of Stress was

\[ PC_1 = 0.17 \, x_1 + 0.469 \, x_2 + 0.484 \, x_3 + 0.719 \, x_4 \]

The first principal component (PC\(_1\)) of Professional Efficiency of the heads of schools has 67 percent information contained in all its dimensions. The obtained linear combination of the first principal component of Professional Efficiency was

\[ PC_1 = 0.39 \, x_1 + 0.42 \, x_2 + 0.389 \, x_3 + 0.387 \, x_4 + 0.363 \, x_5 + 0.351 \, x_6 + 0.34 \, x_7 \]
10. **Canonical Correlation Analysis**

The obtained Canonical correlation between the two sets of variables of Stress and Professional Efficiency of the heads of primary school was 0.46821 and is significant of 0.01 level.

**DISCUSSION OF RESULTS**

The present study revealed the following:

(i) The mean Stress is almost alike among sub-samples based on sex, age, educational qualification and marital status of the heads of primary schools and locality and management category of their schools. But among sub-samples based on the teaching experience the mean Stress of the heads of schools having teaching experience of 21-30 years was higher than those having teaching experience more than 30 years.

The heads of primary schools were having almost the same mean scores for their Professional Efficiency among sub-samples based on sex, age, educational qualifications, teaching experience and marital status of the heads of schools and the locality and the management category of their schools.

(ii) The heads of primary schools in Kerala are experiencing different levels of Stress such as High, Moderate, and Low. 18.182 percent of the subjects was experiencing High Stress, 65.818 percent of the subjects was experiencing Moderate Stress and 16 percent was experiencing Low Stress.
(iii) The percentages of heads of schools experiencing High, Moderate and Low Stress were almost equal among sub-samples based on age, teaching experience, marital status of the subjects and the locality and management category of their schools. Similarly the percentages of heads of schools experiencing High and Low Stress were almost alike among sub-samples based on their sex and educational qualifications. The percentage of male and undergraduate heads of schools experiencing Moderate Stress were higher than females and graduates respectively. But no significant difference existed in percentages of undergraduate and postgraduate heads of schools experiencing Moderate Stress when compared to graduates and post graduates respectively.

(iv) It was observed that no significant difference existed in percentages of heads of primary schools experiencing different dimensions of Stress among sub-samples based on the basal variables of the study.

(v) No association existed between the variables of the study and the basal variables except in the case of educational and Professional Efficiency. In the case of educational qualifications and Professional Efficiency of the subjects, $\chi^2$ value was significant for graduates.

(vi) Stress and Professional Efficiency of the heads of primary schools are negatively correlated for the total sample and
for almost all of the sub-samples based on the basal variables. But the relationship between Stress and Professional Efficiency was not significant for heads of schools having no spouce and those having post-graduate qualifications.

(vii) Also, the negative relationship between the select variable was higher for headmistresses than headmasters. Similarly the negative relationship between Stress and Professional Efficiency of the heads of schools in the age group of 41-50 years and above 50 years were lower than those having age below 41 years. The negative relationship between the variables of the study was greater for graduates than for under-graduates. The relationship between the variables of the study was almost alike for sub-samples based on the teaching experience and marital status of the subjects and locality and management category of their schools. Similarly the relationship between the variables is almost the same for heads of schools having age 41-50 years and more than 50 years, between graduates and post graduates, and between undergraduates and post graduates.

(viii) It was also found that the dimensions of social and familial factors and occupational factors of the Stress variable are the best sub-set to predict the Professional Efficiency of the heads of primary schools.

(ix) The first principal component of Stress contained 69.8 percent of information in the original four dimensions of Stress.
Similarly the first Principal Component of Professional Efficiency of the heads of schools contained 67 percent of information in its seven variables.

(x) The first canonical correlation between the two sets of variables of Stress and Professional Efficiency of the heads of primary schools, i.e.0.46821 is significant at 0.01 level. This indicates that there exists significant association between the two sets of the variables of the study.

CONCLUSIONS AND INTERPRETATIONS

The following conclusions can be drawn from the discussion of the results.

The Stress experienced by the heads of schools having teaching experience 21-30 years is higher than the Stress experienced by those having teaching experience more than 30 years. This leads to the conclusion that heads of schools having teaching experience of 21-30 years may have less coping skills than those having experience more than 30 years. The increased experience in the field might have helped to develop suitable coping techniques for the latter group. There is no group differences in means Stress and mean Professional Efficiency for the sub-samples based on sex, age, educational qualifications, teaching experience and marital status of the heads of schools and the locality and management category of the schools.
It was found that the percentage of male heads of schools experiencing Moderate Stress is higher than the percentage of females experiencing Moderate Stress. This may be attributed to the inherent lower perseverance capacity of the males than females. It was also found that the percentage of undergraduates having Moderate Stress is higher than graduates. This may be due to the lower educational levels of the undergraduates and the subsequent incapability of the undergraduates to meet the demands of the job. The percentage of heads of schools experiencing High and Low Stress were almost alike among sub-samples based on their sex and educational qualifications.

But it was found that the percentage of heads of schools experiencing High, Moderate, and Low Stress are almost the same for sub-samples based on age, teaching experience and marital status of the subjects and the locality and management category of the schools.

The absence of difference in percentages of subjects experiencing different dimensions of Stress indicates that heads of schools belonging to different sub-samples based on the basal variables of the study are experiencing almost equal Stress under its different dimensions. The above result strengthens this conclusion that the level of Stress and Professional Efficiency are not changing with age, teaching experience, and marital status of the subjects and locality and management category of the schools.
Also, the absence of association between the variables of the study and the basal variables in almost all sub-samples indicates that the Stress and Professional Efficiency of the heads of schools are independent of sex, age, educational qualifications, teaching experiences and marital status of heads of schools and locality and management category of the schools. This result again strengthens the above mentioned results.

It was noticed that Stress and Professional Efficiency of heads of primary schools are negatively correlated for the total sample and most of the sub-samples. This proved that the Stress experienced by the heads of schools is negatively affecting their Professional Efficiency. But the absence of relationship between the variables of the study among post-graduates may be because, the postgraduates being more educated can exhibit better performance in spite of their Stress. Similarly the Stress experienced by the heads of schools who are single was found to be not affecting their Professional Efficiency. This may be because of that they can spare more time for their work than their married counterparts and hence excel in their Profession.

It was found that the negative relationship between Stress and Professional Efficiency among headmistresses is higher than headmasters. This may be attributed to the fact that females are emotionally less stable than males and therefore the Stress is
likely to affect more on the Professional Efficiency of females than males.

Heads of schools having age below 41 years were observed to be having higher relationship between Stress and Professional Efficiency than those having age 41 – 50 years and more than 50 years. This suggests that the older heads of schools are more emotionally stable than youngsters and the younger heads of schools have less capacity to control the effect of Stress on their Professional Efficiency.

The relationship between Stress and Professional Efficiency is observed to be greater among graduates than undergraduates. This may be because of that the graduates are more ambitious due to their higher education than undergraduates. So their Stress will affect their Professional Efficiency more than the undergraduates.

The most effective sub-set of dimensions of Stress which can predict the Professional Efficiency of the heads of primary schools are the social and familial factors and occupational factors. The obtained Prediction formula is

\[
\text{Professional Efficiency} = -0.3843 S_3 - 0.2376 S_4 + 41.6947
\]

(Note: \( S_3 \) = score obtained for social and familial factors, and \( S_4 \) = score obtained for occupational factors)
Professional Efficiency is most affected by social and familial factors and occupational factors. This indicates that the sub-set containing social and familial factors and occupational factors influence the Professional Efficiency than all other possible sub-sets of dimensions of Stress. Job related Stress creating factors will, of course affect the familial and social life of the head of schools and hence as a whole his Professional Efficiency.

The obtained linear combination of the first Principal Component of Stress which contained 69.8 percent of the information is

\[ PC_1 = -0.171 x_1 + 0.469 x_2 + 484 x_3 + 0.719 x_4 \]

The linear combination support the early mentioned result that major contribution to Stress of heads of primary schools in from Stress 3 and 4 i.e. from social and familial factors and occupational factors.

The obtained linear combination for Professional Efficiency which contained 67 percent of the information is

\[ PC_1 = -0.39 x_1 + 0.42 x_2 + 0.389 x_3 + 0.387 x_4 + 0.35 x_6 + 0.34 x_7 \]

This component has 67 percent information contained in the seven dimensions of Professional Efficiency of the heads of primary schools. This proved that the PC_1 of Professional Efficiency is the single representative of all the seven variables of
Professional Efficiency of the heads of primary schools. The linear combination also showed that all of the seven dimensions of Professional Efficiency has almost equal levels of contribution to the total Professional Efficiency of heads of primary schools in Kerala. So in order to increase the total Professional Efficiency of the heads of primary schools, all dimensions - i.e., management of physical and financial resources, organisation of the instructional programme, staff personnel services, student personnel services, school community relationship, headmaster as a teacher, and personal disposition, temperament and job involvement - should be improved.

The first Canonical correlation between the two sets of variables of Stress and Professional Efficiency is significant at 0.01 level. This supports the conclusion obtained from correlation analysis that the Stress of the heads of primary schools is strongly affecting their Professional Efficiency.

TENABILITY OF HYPOTHESES

The tenability of the hypotheses set for the study was examined based on the findings of the study. It showed that most of the hypotheses of the study are substantiated.

1. The first hypothesis which states that ‘there will be significant difference in mean scores of Stress and Professional Efficiency for the selected sub-samples based on sex, age, educational
qualifications, teaching experience and marital status of the heads of primary schools in Kerala and the locality and management category of their schools is partially substantiated.

Significant difference in Stress of heads of schools was observed in certain teaching experience groups only where as no significant difference was observed among the sub-samples in their Professional Efficiency.

2. The second hypotheses which states that ‘there will be different levels of Stress experienced by the heads of primary schools in Kerala’ is fully substantiated.

Heads of primary schools in Kerala experience different levels of Stress such as High, Moderate and Low Stress.

3. The third hypotheses states that ‘there will be significant difference in percentages of heads of primary schools in Kerala experiencing different levels of Stress for selected sub-samples as mentioned above’ . This hypothesis is partially substantiated.

There exists significant difference in percentages of heads of schools only for those experiencing Moderate Stress between sex groups and between certain educational qualifications groups.
4. The fourth hypothesis which states that ‘there will be significant difference in percentages of heads of primary schools in Kerala experiencing different dimensions of Stress for selected sub-samples based on the basal variables of the study’ was rejected.

It was found that the percentage of heads of primary schools experiencing different dimensions of Stress, belonging to different sub-samples based on the basal variables are almost the same.

5. The fifth hypothesis states that ‘there will be significant association between (a) each of the basal variables and Stress experienced by the heads of primary schools in Kerala, and (b) each of the basal variables and Professional Efficiency of the heads of primary schools in Kerala’. This hypotheses is only partially substantiated.

It was observed from the study that no association exists between the variables of the study and the basal variables except in the case of educational qualifications and Professional Efficiency of heads of schools.

6. The sixth hypothesis which states that ‘there will be significant relationship between Stress and Professional Efficiency of the heads of primary schools in Kerala for the
total sample and for relevant sub-samples is substantiated to a great extent.

It was noticed that Stress and Professional Efficiency of the heads of primary schools are negatively correlated for the total sample and for most of the sub-samples. But there exists no relationship between Stress and Professional Efficiency for heads of schools having no spouse and for post-graduates.

7. The seventh hypothesis states that 'there will be significant difference in relationships between Stress and Professional Efficiency of the heads of primary schools in Kerala for the comparable sub-samples'. This hypothesis is partially substantiated.

The negative relationship between the variables of the study is differing only between sex groups and among certain groups based on age and educational qualifications.

8. The eight hypothesis which states that 'there will be a most effective subset of dimensions of Stress which can predict the Professional Efficiency of the heads of primary schools in Kerala' is fully substantiated.

The subset of dimensions of Stress containing 'social and familial factors' and 'occupational factors' is the best subset to predict the Professional Efficiency of the heads of primary schools in Kerala.
9. The nineth hypothesis states that 'the variance-co-variance structure of Stress and Professional Efficiency of the heads of primary schools in Kerala can be expressed through linear combinations of the dimensions of Stress and Professional Efficiency. This hypothesis is fully substantiated.

The linear combination of first principal component has 69.8 percent of information contained in the four dimensions of Stress of heads of schools. Similarly the linear combination of first principal component of Professional Efficiency of the heads of schools has 67 percent information contained in the seven dimensions.

10. The tenth hypothesis which states that 'there will be significant association between the set of dimensions of Stress and the set of dimensions of Professional Efficiency of the heads of primary schools in Kerala' is fully substantiated.

There exists significant association between the set of dimensions of Stress and the set of dimensions of Professional Efficiency of the heads of primary schools in Kerala.

EDUCATIONAL IMPLICATIONS

Based on this study the following suggestions are putting forward which will be helpful for the authorities concerned to improve the present conditions in the primary schools.
1. The study revealed that the heads of primary schools are experiencing Stress and their Stress is negatively correlated with the Professional Efficiency. Since the Professional Efficiency of the heads of schools will affect not only the prospects of his students but also the functioning of the school as a whole. So, steps must be taken to reduce the Stress experienced by the heads of schools.

2. The study showed that the most influencing dimensions of Stress of the heads of schools on their Professional Efficiency is the social and familial factors and occupational factors. So steps should be taken to reduce Stress due to these factors. The work overload of the heads of primary schools must be reduced because, it creates Stress due to occupational factors. Naturally, Stress due to occupational factors will influence a healthy family life as well as social life.

In order to reduce Stress due to occupational factors the heads of schools must be provided with clerical assistants and additional teachers so as to reduce work overload and strengthen their administrative and class supervision work. Better salary rates to the heads of schools and better physical facilities are also recommended. Career stagnation must be reduced by promoting the heads of schools in to supervisory positions of primary
education which will also help to reduce Stress due to occupational factors.

In order to reduce Stress due to social and familial factors activities like social gatherings of family members of the heads of schools, family tours etc. are recommended. Working in social and cultural organisations also help to reduce Stress under this category.

In order to reduce total Stress, Stress due to physiological factors and psychological factors is also to be reduced. Stress due to physiological factors can be reduced by such relaxation exercises as practice of yoga and participation in aquatic and field games. Changes in diet is also recommended. Excessive intake of refined carbohydrates and fatty foods and inadequate consumption of foods having fibre must be changed. Similarly excessive intake of caffeine loaded materials which is a stimulant, known to increase anxiety must be discouraged.

Stress due to psychological factors can be reduced by participating in recreation activities, increasing the sense of confidence and resourcefulness and adopting a positive attitude to the work and tasks of the job.

3. It was revealed from the study that the percentage of undergraduate heads of schools experiencing Moderate Stress is higher than those of the graduates. This may be
attributed to the lower levels of education of the undergraduates. So steps should be taken to promote graduate teachers only, to the post of headmaster.

4. It is also suggested that compulsory inservice training should be given to the heads of schools encompassing all dimensions of educational administration which will be helpful to improve their Professional Efficiency.

5. It was observed from the study that many heads of schools are not satisfied with the academic supervision and administrative work and the support system from the Educational Department. Academic supervision and support system from the educational authorities must be strengthened which will help the heads of schools to relive off their stress to a great extent.

SUGGESTIONS FOR FURTHER RESEARCH

It is felt from the study that further research may be conducted in the following areas.

1. The study can be replicated to find the relationship between Stress and Professional Efficiency among heads of secondary schools in Kerala.

2. Studies can be conducted to find out the influence of Stress of primary, secondary and higher secondary school teachers on their teacher effectiveness.
3. Investigation may be conducted about the influence of independent variables such as job satisfaction, burnout etc. on the Professional Efficiency of the heads of primary and secondary schools.

4. The study can be extended to find out the coping techniques used by different categories of teachers experiencing Stress.

5. Studies can be conducted on student Stress due to parental, social and institutional pressure to attain high achievement, characteristics of curriculum, social environment etc.