The Method of Investigation
CHAPTER III

THE METHOD OF INVESTIGATION

The aim of the present investigation is to study stress in relation to social desirability, coping strategies and job satisfaction among school teachers. In order to study the influence of these variables on stress, a path design was chosen as most appropriate (Blau of Duncan, 1967).

PATH ANALYSIS

Path analysis aims at determining the direct and indirect effect among a number of variables. It is an analytical statistical technique that enables us to give a quantitative interpretation to the interrelationships within a known or an assumed causal system that exists in some specific population (Duncan, 1966).

Path design is normally represented graphically by the presence of arrows denoting the direction of variables association and the strength of that association through the standardised regression coefficient (Path coefficient). Thus the path design specifies the causal path travelled by the dependent variable. The path model usually referred to as the basic model was developed by the present investigator as here under.
The model was developed showing the relation between the key variables namely stress, social desirability, coping strategies and job satisfaction and stress.

From the basic model, the following individual designs were identified and presented.


   ![Diagram](image)

   Job Satisfaction \(\rightarrow\) Stress

2. Coping strategies and stress - a direct path relation

   ![Diagram](image)

   Coping Strategies \(\rightarrow\) Stress

3. Social desirability and stress - a direct path relation

   ![Diagram](image)

   Social desirability \(\rightarrow\) Stress

4. Coping strategies, job satisfaction and stress - an indirect path relation

   ![Diagram](image)

   Coping Strategies \(\rightarrow\) Job Satisfaction \(\rightarrow\) Stress
5. Social desirability, Job satisfaction and stress - an indirect path relation

\[ \text{Social desirability} \to \text{Job Satisfaction} \to \text{Stress} \]

6. Coping strategies and Job satisfaction - a direct path relation

\[ \text{Coping strategies} \to \text{Job Satisfaction} \]

7. Social desirability and Job satisfaction - a direct path relation

\[ \text{Social Desirability} \to \text{Job Satisfaction} \]

8. Coping strategies and social desirability - a reciprocal relation

\[ \text{Social desirability} \leftrightarrow \text{Coping strategies} \]

HYPOTHESES WITH REFERENCE TO PATH RELATIONSHIPS

As the path model in the present study involves a number of variables, a multivariate hypothesis was formulated. Further it was split into several subhypotheses relating two or three variables at a time. This will help in better understanding of the exact path or direction of relationships in accordance with the usual format of the path model.
Hypotheses with Reference to Path Relationships

1. Stress will be related to social desirability, coping strategies and job satisfaction among school teachers.

2. Social desirability will have an influence on stress among school teachers.

3. Coping strategies will have an influence on the stress among school teachers.

4. Job satisfaction will have an influence on stress among school teachers.

5. Coping strategies will be indirectly related to stress through job satisfaction.

6. Social desirability will be indirectly related to stress through job satisfaction.

Hypotheses Relating to Residual Direct Relationship

7. Coping strategies will be related to job satisfaction.

8. Social desirability will be related to job satisfaction.

9. Coping strategies will be reciprocally related to social desirability.

HYPOTHESES RELATED TO VARIANCE

The following null hypotheses were framed in order to study the influence of variables namely types of schools, sex, qualification, the subjects taught, teaching experience, and position held by the teachers. The results of earlier studies in this area have been contradictory and hence, the formulation of null hypotheses.

10. There will not be any significant difference in stress among school teachers teaching in government, aided, private and corporation schools.
10a. There will be no significant difference in stress arising from individual dimensions in the stress scale namely arising from pupils' unsatisfactory behaviour, unsatisfactory working conditions and poor school ethos.

11. There will be no significant difference in the stress of teachers teaching in boys' school, girls' school and co-education schools.

12. There will be no significant difference in stress between male and female teachers.

13. The qualifications of teachers will have no influence of their stress.

14. There will be no significant difference in the stress among different subject teachers.

15. Teaching experience will not have any significant influence on the stress among school teachers.

16. The position held by the teacher in the school namely primary teacher, secondary teacher and higher secondary teacher will not have any influence on their stress.

Methods of Investigation

This deals with the explanation of the variables chosen for the study, description of the sample, tools used, procedure adopted in the collection and processing of data.

Variables

The variables in the present study are primarily stress, social desirability, coping strategies and job satisfaction. Stress is the dependent variables, coping strategies and social desirability are considered as independent variables.
Job satisfaction is an independent variable with respect to stress, but acts as a dependent variable with respect to coping strategies and social desirability.

The other independent variables whose influence on stress are studied are types of schools, sex, the qualification of teachers, the subjects taught, teaching experience and position held by the teachers.

DESCRIPTION OF THE VARIABLES

Types of schools

Different types of schools may be classified based on the managing bodies like government, Aided, corporation and private. Government schools are managed by Government, Corporation Schools are managed by Corporation. Aided Schools receive full grant-in-aid from the Government with private managing bodies. Private school are managed by private authorities and they do not receive grant from the Government. In addition to that, schools are classified in the present study as boys, schools, girls schools and co-education schools. This classification is considered to be important in order to find out whether teaching techniques, rules and regulations and the teaching environment may differ in these schools and whether that may have an influence on stress among teachers.

The type of school environment may bring satisfaction or dissatisfaction and tensions in the minds of teachers. How far the teachers are satisfied with their school, its discipline like time - table, co-curricular activities, methods of
teaching, students discipline their relationship with Headmasters/Headmistress, and with their colleagues. The pressure created by the schools, depends upon the demands in the school, the head of the institution and the cooperation among teachers. If this is true, the stressors experienced by teachers working in different type of schools may also be different. Similarly, differences may prevail on the basis of whether the learners are only boys, only girls or the mixed group. Hence, type of school in terms of management and in terms of classification of learners as boys, girls or co-education students has been considered as one of the variables in the present study.

Sex

From birth, an individual is expected to confirm to the sex role patterns of behavior prescribed by the culture. Sex is an important determinant in taking up the responsibility and viewing the things. This in turn, has a strong influences on oneself and on others. The individuals' mental attitude, influence every sphere of the emotional, personal, intellectual and social developments. Hence, sex has been taken as one of the variables in the present study in order to find out its influence on stress among teachers.

Qualification

Educational qualification has an important role in the life style of the individual. The teachers might desire to acquire higher qualification and might aspire for better service conditions. The atmosphere in the schools may or may
not be congenial for this. That might cause stress among teachers. In the school, there are secondary grade teachers, graduate and post graduate teachers. It was aimed to study the difference in stress among teachers classified in the above manner. Hence, inclusion of this variable. It has been found that in the sample chosen, all the teachers were only graduates and post graduates. The observation made in the sample selected is that at the primary level also, teachers have qualified themselves to the graduate level.

Subjects Taught

The demands on the teachers may be different for different subjects. Science teachers have to demonstrate experiments, help students to proceed with experiments, maintain laboratory in addition to the pressure due to teaching and other school activities which are common for both arts and science teachers. This additional pressure felt may bring about a difference in the teacher's role and hence might have an influence on stress. Hence, the subject taught by the teachers has been considered as one of the variables in the present study.

Teaching experience

The teachers strongly desire to achieve self-sufficiency, independent capability and strong hold in their work. Emotional instability, lack of experience and maturity prove as obstacles to achieve their goal. There may be more demands on the experienced teachers in terms of school work.
Differences might exist in the way in which work is distributed among teachers with different experiences.

The more experienced individuals are expected to bear a greater burden of the school work. Heavy work load, responsibility are shattered in the shoulders of the experienced individuals. The younger members may treat them as a separate group and there may exist the generation gap. Problems might arise in their interpersonal relationship also. Hence, the number of years of teaching experience has been chosen as a variable in the present study. The teachers have been grouped into four categories, on the basis of number of years of experience namely 0-4 years, 5-10, 11-19 and 20 years and above. Teachers who have not completed one year will be in the 0-4 years group.

Position held in School

Designation plays a role in everyone's life. It is the alter ego which boosts one's personality. Every individual is proud of his designation and keeps in touch only with those individuals of the same category. The teacher's designations are P.G. asst, B.Ed. asst, Language Teachers and Secondary Grade Teachers. This may lead to adjustment problems and conflicting situations leading to stress.

The responsibility and work load like organising co-curricular activities, conducting special classes, bringing up good result, correction work, moulding the character of pupils may be different depending upon whether they deal with children at the primary level, pre-adolescent or adolescent
group. This may cause strain and stress differently on the individuals. Hence, the variable, namely position held in school is considered in this study.

DESCRIPTION OF SAMPLE

In the present study, a sample of 310 teachers is selected from 35 schools in Madras. List of number of schools in different areas in the city classified according to government, aided, corporation and private was made. From each area a school in each type was selected. While choosing in this manner, care was taken to select Boys schools, Girls schools and co-education schools. Thus, thirty five schools were selected.

The following table shows the distribution of the sample of schools.

TABLE 1 DISTRIBUTION OF THE SAMPLE, SCHOOL WISE

<table>
<thead>
<tr>
<th>Government</th>
<th>Aided</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boys</td>
<td>Girls</td>
<td>Co-education</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Corporation</td>
<td>Private</td>
<td></td>
</tr>
<tr>
<td>Boys</td>
<td>Girls</td>
<td>Co-education</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>

The sample consisted of male and female teachers teaching different subjects in the selected schools. They are classified as arts and science teachers.

The following table shows the distribution of the sample of teachers.
TABLE 2  DISTRIBUTION OF THE SAMPLE OF TEACHERS BASED ON SEX AND SUBJECT

<table>
<thead>
<tr>
<th></th>
<th>Science</th>
<th></th>
<th>Arts</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>G</td>
<td>A</td>
<td>P</td>
<td>C</td>
</tr>
<tr>
<td>Male</td>
<td>13</td>
<td>12</td>
<td>17</td>
<td>13</td>
</tr>
<tr>
<td>Female</td>
<td>23</td>
<td>25</td>
<td>28</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td>36</td>
<td>37</td>
<td>45</td>
<td>34</td>
</tr>
<tr>
<td></td>
<td>152</td>
<td>158</td>
<td>310</td>
<td></td>
</tr>
</tbody>
</table>

G - Government  A - Aided  
P - Private       C - Corporation  

Tools used

Keeping in view of the objective of the study, tools were selected to measure the variables such as stress, social desirability, coping strategies and Job satisfaction among school teachers. Standardised tools were available for each variable and hence were used.

Tools used

2. Social Desirability scale by Marlowe - Crowne (1960).
STRESS SOURCE SCALE

Development of the Scale

The teacher stress source scale developed by Santhappan S. (1987) was selected for the present study.

Description of the scale

The scale consisted of 65 well structured items. There were 23 items under pupils' unsatisfactory behavior, 26 items under unsatisfactory working conditions and 16 items under poor school ethos. Each item had to be rated on a five point rating scale consisting of no stress, mild stress, moderate stress, much stress and extreme stress. (Section II Appendix A).

Administration Procedure

Instructions were given to the respondents before answering the questionnaire:

"The purpose of this scale is to discover to what extent the items listed below are sources of stress to teachers. In your role as a teacher please indicate the extent to which the following items are sources of stress to you.

1. Please put a tick mark under the column against items.
2. Please respond to all the sources of stress listed".

The responses of the teachers were collected and scored as per the scoring key.
Scoring

A score of '4' points were given to the responses in the scale namely extreme stress, '3' to much stress, '2' to moderate stress, '1' to mild stress and '0' to no stress. The maximum score possible is 260 and minimum is '0'.

Validity

The content validity was established by Santhappan S. (1987). The items gathered by him from the opinion of teachers. The gathered items were coded according to their occurrence of frequency. The pooled items were subjected to jury opinion; and on the basis of their suggestion, some items were rewarded and some were eliminated. The content validity of the tool was thus ensured.

In order to find out the validity of the scale, at the end of the scale one question was given as, "In general, how stressful you feel as a teacher" and it was to be rated on the same five point scale. (Section III, Appendix). The ratings of 50 teachers on this was correlated with their total stress scores and correlation coefficient using the product moment correlation was found to be 0.68 significant at 0.01 level. Thus the validity of the scale was established.

Reliability

Reliability also was established in the present study by split half method. Reliability coefficient is found to be .91.
SOCIAL DESIRABILITY SCALE

Development of the scale

The social Desirability scale developed by Marlowe - Crowne is simple and easily comprehensible. So, the investigator thought it best to suit the teacher sample and thus, selected the same for the study.

An item has to meet the criterion of cultural approval and required to have minimal pathological or abnormal implications, if responded to in either the socially desirable or undesirable direction for inclusion in the scale.

Description of the scale

The Marlowe - Crowne social Desirability Scale (1960) was designed to measure social desirability response and thus it has been regarded as a measure of the need for approval. The 33 items which were developed by Sujaritha M. (1991) was used for the study in which 18 keyed true and 15 false. This 33 item questionnaire is composed of 2 types of items of non-pathological content items high in social desirability but low in probability of occurrence, and items high in probability of occurrence but low in social desirability. Thus, high scores in the Marlowe Crowne social desirability scale represent unrealistically positive self-appraisal in response to personality test items (Section IV, Appendix A).

The scale consists of 18 culturally acceptable but improbable statements keyed in the true direction and 15 socially undesirable but probable statements keyed in the
false direction. The extent to which an individual checks these statements in the socially desirable direction yields a measure of his tendency to depict himself as "improbably favorable" (Crowne and Marlowe, 1965). Socially undesirable response on the scale do not imply maladjustment. Approval dependents are characterised as subjects who receive high scores on this scale, they engage in 'avoidant self-protective' behavior in anticipation of social rejection and threat to self-esteem (Crowne - Marlowe, 1964).

Administration Procedure

Instructions were given to the respondents before they start answering the questionnaire:

"Listed below are a number of statements concerning attitudes and traits. Read each item and decide whether the statement is true or false as it pertains to you personally. Indicate your answer either 'true' or 'false' by writing it in the space provided against each item". The responses of the teachers were collected and scored as per the scoring key.

Scoring

When the subject gives socially desirable response, he gets a score of '1' each for an item. Scoring key is given in Appendix B. The maximum score possible is '33' and minimum is '0'. 
Reliability and Validity

Reliability for this scale was established by test-retest method. The scale was administered to 50 teachers on two occasions, with an interval of 3 to 4 weeks. The reliability coefficient was found to be 0.98 which is significant at .01 level.

In this context it was thought appropriate to consider the index of reliability as a validity measure by computing the square root of the reliability (Garratt, 1971). Accordingly, it was 0.98. Which is highly significant.

COPING STRATEGIES SCALE

Development of the scale

The coping strategies scale developed by Beech, Burns and Sheffield (1982) was selected for the study.

Description of the scale

The investigator administered the coping strategy questionnaire developed by Beech, Burns and Sheffield (1982). The scale contains 22 items to be responded as 'yes' or 'no' (Section V, Appendix A).

Administration procedure

Instructions were given to the respondents before they start answering the questionnaire.

"The purpose of this scale is to discover to which level the coping strategies are possessed by the individuals. In
your role as a teacher, please indicate your coping level by a 'tick' mark under the corresponding column against each item."

Scoring

A score of '1' point was given to the responses in the scale as 'yes' and '0' to 'no' response. The maximum score possible is '22' and minimum is '0'.

RELIABILITY AND VALIDITY

Test retest method was used by the investigator to find out the reliability of this tool. The scale was administered to 50 teachers on two occasions with an interval of 3 or 4 weeks. The reliability co-efficient was found to be 0.94 which is significant at .01 level.

In this context it was thought appropriate to consider the index of reliability as a validity measure by computing the square root of the reliability (Garrette, 1971). Accordingly, it was 0.96 which is highly significant.

JOB SATISFACTION QUESTIONNAIRE
Development of the Questionnaire

Job satisfaction/dissatisfaction questionnaire selected for the study was developed by Holdaway (1978) and subsequently modified by the Australian council of Educational research (Ainley, 1981; and Galloway et al, 1982). It was further modified by Santhappan S. (1987). The investigator
selected the questionnaire developed by Santhappan for the present study as it would be suitable for Indian conditions.

Description of the tool

The Job satisfaction questionnaire contains 30 items to be responded in 5 dimensions as very satisfied, fairly satisfied, neither satisfied nor dis-satisfied, fairly dis-satisfied, and very dis-satisfied (Section VI, Appendix).

Administration procedure

Instructions were given to the respondents before they start answering the questionnaire:

"Thirty satisfaction items of the teaching job are listed below - Please indicate the extent to which you feel you are satisfied with each item. The response of each item is required on a five point scale - please indicate your satisfaction level by a 'tick' mark under the corresponding column against each item".

Scoring

A Score of '4' points were given to the responses in the scale namely very satisfied, '3' to fairly satisfied, '2' to neither satisfied nor dis-satisfied, '1' to fairly dis-satisfied and '0' to very dis-satisfied. The maximum score possible is '120' and minimum score '0'.
Validity

Factorial validity has been established for this tool. Item intercorrelations were analysed using a principal component analysis followed by a varimax rotation by Santhappan S. (1987). It derived five factor solution. Items with a loading of 0.4 or greater on varimax rotation of a factor were selected for inclusion in sub scales.

Reliability

The split half method was used by Santhappan S. (1987) to find out reliability of the tool. The computed value was 0.89. As this value is high, it may be said that the scale possess a fair degree of reliability.

Data collection

The selected tools in the form of a booklet were administered to a sample of 310 school teachers. After getting the previous permission from the Heads of the institutions, the investigator met the teachers in person and distributed the questionnaire booklet for the study.

After briefly explaining the requirement from the teachers the purpose of the study was orally explained and the teachers were assured that their responses and personal information will be kept confidential. The investigator took care to ascertain that all the items were answered as per the instructions. The different particulars regarding the teachers were to be filled in a sheet provided (Section I, Appendix). As per the request from most of the teachers, the booklet was
collected after giving them sufficient time. Their responses for each tool were scored as per the key. They were treated with appropriate statistics and analysed.

Analysis of Data

In the present study, the path relationship of stress in relation to social desirability, coping strategies and job satisfaction were computed. Analysis of variance was used to find out the differences among government, aided, private and corporation school teachers, boys, girls and co-education schools, the teachers with varying years of teaching experience and the position held by the teachers in experiencing stress.

Critical ratios were computed when F value was found significant.

The use of statistical Analyses with hypotheses are presented in the following chapter.
A teacher is like a candle which lights others in consuming itself.

Giovanni Ruffini