CHAPTER III

RESEARCH METHODOLOGY

3.1 Introduction

Research is a scientific and systematic search for pertinent information on a specific topic. Infact research is an act of scientific investigation. Research methodology is a way to systematically solve the research problem. This chapter deals with the description of the procedures for carrying out this present investigation.

1. Objectives
2. Hypothesis
3. Research design
4. Universe of the study
5. Sampling technique
6. Concepts and variables
7. Tools used
8. Reliability and validity of the tools
9. Pilot study
10. Pre test
11. Data collection
12. Statistical tools used for analysis
13. Limitations

3.2 Objectives of the Study

The main objectives of the present investigation are:

1. To assess the level of occupational stress, job satisfaction, health status and job security of the respondents.
2. To study the demographic factors influencing occupational stress, job satisfaction, health status and job security of the respondents.
3. To study the relationship between occupational stress, job satisfaction, and health status of the respondents.
4. To suggest suitable measures to overcome the problems.

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3.3 Hypothesis

1. H0: There is no significant difference in the level of occupational stress and age group of the respondents.
2. H0: There is no significant difference in the level of occupational stress and departments of the respondents.
3. H0: There is no significant relationship between occupational stress and experience of the respondents.
4. H0: There is no association between occupational stress and income of the respondents.
5. H0: There is no significant relationship between level of job satisfaction and level of occupational stress of the respondents.
6. H0: There is no significant relationship between level of job satisfaction and level of health status of the respondents.
7. H0: There is no significant relationship between level of occupational stress and health status of the respondents.

3.4 Research Design

Descriptive research design is adopted for the present study. Descriptive study is a fact-finding investigation with adequate interpretation. It focuses on particular aspects or dimensions of the problem studied. It is designed to get the descriptive information and provide information and formulation of more sophisticated studies. Thus, this study describes the occupational stress of the employees and its influencing factors.

3.5 Universe

The universe of the present study is the employees of the Ponni sugars industry in Erode. There are 420 employees working in the selected industry and thus they are the universe of the study.
3.6 Sampling

The researcher adopted simple random sampling technique using lottery method for selecting the sample of the study. The sample size of was confined to 210 workers. The minimum sample size for a population of 420 employees based on Krejcie and Morgan's (1970) sample size determination table was 201. For the present study more than the minimum sample size was taken.

**Sampling Size Determination Formula (Krejcie and Morgan's, 1970)**

\[ s = \frac{X^2 NP (1-P)}{d^2 (N-1)} + X^2 P (1-P) \]

- \( s \) = required sample size.
- \( X^2 \) = the table value of chi-square (1 degree of freedom at desired confidence level (3.841).
- \( N \) = the population size (420).
- \( P \) = the population proportion (assumed to be .50 since this would provide the maximum sample size).
- \( d \) = the degree of accuracy expressed as a proportion (.05).

\[ s = 3.84 \times 420 \times 0.5 \div (0.05)^2 (420-1) + 3.84 \times 0.5 (1-0.5) \]
\[ s = 3.84 \times 420 \times 0.25 \div 0.0025 \times 419 + 3.84 \times 0.25 \]
\[ s = 403.2 \div 1.048 + 0.96 \]
\[ s = 201 \]

3.7 Structure of the Questionnaire

The researcher used self prepared questionnaire as a tool for collecting data. The questionnaire consisted of five sections: 1. Demographic profile, 2. Occupational stress, 3. Job satisfaction, 4. Health status, and 5. Job security. The section 1 consists of 28 questions and section 2 consists of 73 questions and section 3 consists of 20 questions and section 4 consists of 49 questions and section 5 consists of 9 questions.
### 3.8 SCORING PATTERN

The scoring is calculated based on the mean and standard deviation.

#### 1. Occupational stress

<table>
<thead>
<tr>
<th>Category</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>189 and below</td>
</tr>
<tr>
<td>Moderate</td>
<td>190 to 214</td>
</tr>
<tr>
<td>High</td>
<td>215 and above</td>
</tr>
</tbody>
</table>

#### 2. Job Satisfaction

<table>
<thead>
<tr>
<th>Category</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>110 and below</td>
</tr>
<tr>
<td>Moderate</td>
<td>111 to 129</td>
</tr>
<tr>
<td>High</td>
<td>130 and above</td>
</tr>
</tbody>
</table>

#### 3. Health Status

<table>
<thead>
<tr>
<th>Category</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>42 and below</td>
</tr>
<tr>
<td>Moderate</td>
<td>43 to 77</td>
</tr>
<tr>
<td>High</td>
<td>78 and above</td>
</tr>
</tbody>
</table>

#### 4. Job Security

<table>
<thead>
<tr>
<th>Category</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>24 and below</td>
</tr>
<tr>
<td>Moderate</td>
<td>25 to 31</td>
</tr>
<tr>
<td>High</td>
<td>32 and above</td>
</tr>
</tbody>
</table>

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3.9 Reliability

Reliability is the consistency of the measurement, or the degree to which an instrument measures the same way each time it is used under the same condition with the same subjects. In short, it is the repeatability of the measurement. A measure is considered reliable if a person’s score on the same test given twice is similar. In the present study, the scales were subjected to validity and reliability. The researcher adopted Split-half reliability test for finding the reliability of the scales. The items on the scale are divided into two halves and the resulting half scores were correlated in reliability analysis by means of SPSS. The correlation value obtained was 0.75.

3.10 Validity

Validity has been described as ‘the agreement between a test score or measure and the quality it is believed to measure. In other words, it measures the gap between what a test actually measures and what it is intended to measure (Kaplan and Saccuzzo (2001). Face validity is concerned with how a measure or procedure appears. Does it seem like a reasonable way to gain the information the researchers are attempting to obtain? Does it seem well designed? Does it seem as though it will work reliably? In the present study, in order to test the validity of the scale was subjected to face validity. The scales were administered to five experts: three professors each from Bharathiar University, Amritha University and Karpagam university; and two human resource managers from industries and got their expertise on the validity of the items in the scale.

3.11 Pilot Study

The researcher conducted the pilot study to examine the feasibility of doing the present study. The pilot study was conducted during January 2010. For the purpose, the researcher met the managers, educational experts, industry owners and discussed the study. Based on the recommendations and feedbacks, certain decisions were made by the researcher in consultation with the guide and the study was preceded.

3.12 Pre-Test

The researcher conducted a pre-test for the purpose of clarity and modification in the questionnaire. The pre-test was conducted during the month of August 2010. The researcher
conducted interview with 30 workers and based on the responses from the workers, certain modifications were done in the questionnaire.

3.13 Data Collection

The researcher finalized the preliminary works required for the data collection, and the data collection was administrated during January 2011. The researcher used questionnaire for the purpose of data collection. The researcher used questionnaire to the respondents and got the response from them. The data collection was completed by May 2012. The collected data were analyzed later.

3.14 Statistical Techniques used for Analysis

The researcher after collecting the data, the data were edited and coded. The data were then analyzed using various statistical tools like mean, standard deviation, coefficient of correlation, chi-square, t-test, ANOVA and multiple regression analysis.

The mean value was used to indicate the average score for the variables under study. The standard deviation was used to check the deviation of the scores from the mean of the variables under study.

The t-test test was used to find the difference in the dependent variables namely occupational stress, job satisfaction, health status and job security in relation to the independent variables like gender, marital status, etc.

The ANOVA test was used to find the difference in the dependent variables namely occupational stress, job satisfaction, health status and job security in relation to the independent variables like age, educational qualification, etc.

The chi-square test was used to find out the association between the independent variable namely income and dependent variables namely occupational stress, job satisfaction, health status and job security.

The coefficient of correlation test was used to find out the relationship between the independent variables namely experience, income, hours of work, etc. with the dependent variables namely occupational stress, job satisfaction, health status and job security. The
correlation test was also used to find out the relationship between the independent variables namely occupational stress, job satisfaction, health status and job security.

The multiple regression analysis was used to find out the factors namely job satisfaction, health status and job security predicting the occupational stress of the employees. The higher variations caused by the factors are taken as the most predicting factors of occupational stress.

3.15 Limitations
1. The study was limited only to Ponni sugars (chemicals) Limited, Erode due to time and resource constraints.
2. The study focuses on the Occupational stress among employees of Ponni sugars (chemicals) Limited, Erode the findings may not be generalized to other Industries.
3. This study uses only selected variables as influencing factors of Occupational stress among employees of Ponni sugars (chemicals) Limited, Erode. There are numerous other factors which are equally important. Thus, the scope of this study is therefore limited.

3.16 Summary
This chapter explains the methodology adopted for the present study. It states the objective of the study with related hypothesis. Descriptive design was adopted and simple random sampling was used to collect data. The scoring pattern was based on mean and standard deviation. Split half reliability and face validity was used for standardising the schedule. Pilot study and pre-test was done. The statistical tools namely mean, standard deviation, t-test, ANOVA, chi-square, correlation, and multiple regression were used to analyse the data.