CHAPTER 3

RESEARCH METHODOLOGY

3.1 INTRODUCTION

The research framework is detailed in this Chapter. In the previous Chapter, the relevant literature was reviewed and the research gap in the study is identified. This chapter provides details on the various thoughts relating to the methodology of the study basically providing the structure to obtain answers to the research questions and objectives detailed in the first Chapter. The statistical tools deployed for analyzing the data as outlined in this Chapter. The quantitative measurement structure is used in this study for representing the determinants of occupational stress in public sector banks. The results of the study can be utilized to understand the various determinants causing occupational stress and how to improve employee’s performance and job satisfaction by adopting certain coping strategies.

3.2 RESEARCH OBJECTIVES

The research objectives of the study reviewed in Chapter 1 are reproduced below for ready reference. The relevant literature was reviewed and the research gap has been identified and the model was developed with the following objectives and hypotheses to examine the impact of stress and coping strategies to improve employee performance and job satisfaction in public sector banks.
1. To analyze the socioeconomic profile of the respondents and its association with variables of stress.

2. To examine the major factors causing stress among middle level employees in selected public sector banks.

3. To examine job difficulty and the role conflict

4. To find out the impact of stress coping strategies in an employee’s performance

5. To identify the role of stress coping strategies promoting employee job satisfaction

6. To formulate a model of stress coping strategies to enhance job satisfaction and employee’s performance.

3.3 CONCEPTUAL MODEL

The conceptual model used in the study to answer the above stated objectives and the hypotheses depicting the relationships are formulated on the basis of the conceptual model. As shown in Figure 3.1, there are several determinants or elements of the occupational stress, including personality characteristics, constraints of change, role overload, role conflict, under-participation, role stagnation and mid life crisis, feeling of inequity, job difficulty and capability mismatch, role authority, role ambiguity, group stress and environmental factors that influence stress.
The conceptual framework leading to the development of this study is based upon the Conceptual Model which assumes as proved by the use of appropriate statistical tests like the chi – square. The probability value is greater than 5% level of significance, revealing the acceptance of the null hypothesis, which implies that the model is a good fit. The Adjusted Goodness of Fit Index and GFI Goodness of Fit should be close to one or one indicates the model as a good fit. In this model, it’s nearing one so it indicates that the model is a good fit.
3.4 HYPOTHESES

The following Null Hypotheses are framed for analysis:

1. There is no significant relationship between the factors causing stress among middle level employees in public sector banks.

2. There is no significant relationship between demographic characteristics and stress variables.

3. There is no significant relationship between personality characteristics and job stress.

4. There is no significant association between job difficulty and role conflict.

5. There is no significant association between effective stress coping strategies and employee job satisfaction.

6. There is no relationship between effective stress coping strategies and employee performance.

3.5 DEFINITION OF VARIABLES

The definitions of the variables used in the study are given below:

3.5.1 Variables

3.5.1.1 Independent Variable

The variable that the researcher expects will explain in the independent variables. The independent variables of the present study are Gender, Age, Marital status, Qualification, Designation and Income.
3.5.1.2 Dependent Variable

The dependent variables of the present study are Personality Characteristics, Constraints of Change, Group Stressors, Role overload, Role Conflict, Role Ambiguity, Under-Participation, Inadequacy of Role Authority, Job Difficulty, Feeling of Inequity, Environment Factors in Stress, Role Stagnation and Mid Life Crisis, Job Requirement Capability Mismatch, Performance Appraisal, Job Satisfaction and Stress coping strategies.

3.5.2 Definition of the Terms

Public sector banks

In India, Public Sector Banks are banks where a bulk amount of stake (i.e. More than 50%) is held by government. There are 27 Public Sector Banks in India [21 nationalized banks + 6 State bank groups (SBI + 5 associate banks)]. In this study this term denotes the employees of top three Public Sector Banks (leading to market capitalization) namely, Bank of Baroda (BOB), Punjab National Bank (PNB) and State Bank of India (SBI), and the banks are selected from four major districts namely Chennai, Coimbatore, Madurai and Tiruchirappalli in Tamil Nadu and comprises of Manager, Assistant Manager, Training Officer, Cashier and Clerical staff.

Occupational stress

Occupational stress is stress related to work. Occupational stress often stems from unexpected responsibilities and strains that do not align with a person's skill, expectations, knowledge, inhibiting one's ability to manage. Occupational stress can increase when an employee does not feel supported by manager or coworkers, but feel as if they have very little control over work processes (WHO 1986)
Personality characteristics

Personality is defined as a set of individual attributes that are affected by the development of an individual: skills, values, attitudes, personal memories, habits and social relationships by Smith (2004). The term personality characteristics refer to continuing personal traits that are exposed in a particular pattern of behaviour in a various situations (Ricardo Buettne (2016)).

Stress coping strategy

The coping mechanisms are commonly termed coping strategies or coping skills. The word coping generally refers to adaptive coping strategies. Coping strategies are the strategies which reduce stress in an individual. The effectiveness of the coping effort depends on: the circumstances, the type of stress and the individual. Coping responses are partially controlled by habitual personality characteristics and also partly by the social environment, particularly the nature of the stressful environment by Connor-Smith and Jennifer (2010)

Performance

The performance of an employee is defined as the activity of making a person to do his/her duties and responsibilities satisfactorily. Performance-enhancement are substances that are used for improving any activity to improve the performance of a human.

Job satisfaction

The thought of job satisfaction has been developed in many ways by many different practitioners and researchers. It is the level of satisfaction a person feels with his or her employment. Job satisfaction is defined as a
positive emotional condition resulting from the appraisal of individual job or job experiences Locke (1976).

**Table 3.2 Operational Definitions of the Constructs Deployed in the Study**

<table>
<thead>
<tr>
<th>S.No</th>
<th>Factors</th>
<th>Operational definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Personality Characteristics</td>
<td>Personal traits that are exposed in a particular pattern of behaviour in different situation</td>
</tr>
<tr>
<td>2</td>
<td>Constraints of Change</td>
<td>Restricted to proceed or process through which something becomes different.</td>
</tr>
<tr>
<td>3</td>
<td>Group Stressors</td>
<td>They are caused by group dynamics and managerial behaviours. Absence of group cohesiveness, support from the superior and group conflict</td>
</tr>
<tr>
<td>4</td>
<td>Role overload</td>
<td>The condition of having too many tasks to perform</td>
</tr>
<tr>
<td>5</td>
<td>Role Conflict</td>
<td>Work and non work roles interacting with one another</td>
</tr>
<tr>
<td>6</td>
<td>Role Ambiguity</td>
<td>It refers to a stressful situation where the incumbent is not clear about the requirement of his/her job.</td>
</tr>
<tr>
<td>7</td>
<td>Under-Participation</td>
<td>Participation without any interest, activeness and sense of ownership</td>
</tr>
<tr>
<td>8</td>
<td>Inadequacy of Role Authority</td>
<td>It represents a situation of stress where the incumbent perceives that he/she was not provided with the required authority to discharge his/her responsibility.</td>
</tr>
<tr>
<td>9</td>
<td>Job Difficulty</td>
<td>The difficulty of a task which is hard to deal.</td>
</tr>
<tr>
<td>10</td>
<td>Feeling of Inequity</td>
<td>It is experienced when the incumbent feels that the compensation for his/her energetic input provided to him is not fair or justified.</td>
</tr>
<tr>
<td>11</td>
<td>Environmental Factors In Stress</td>
<td>Pressure on the environment caused by human activities or by natural events.</td>
</tr>
<tr>
<td>12</td>
<td>Role Stagnation and Mid Life Crisis</td>
<td>Role stagnation is the feeling of being stuck in the same role and A midlife crisis is a transition of identity and self-confidence that can occur in middle aged individuals.</td>
</tr>
<tr>
<td>13</td>
<td>Job Requirement - Capability Mismatch</td>
<td>It reflects a situation of stress where the incumbent feels his/her abilities significantly differ from the requirements of the job.</td>
</tr>
</tbody>
</table>
3.6 DATA CAPTURING

This section sketches the specification of information needed to address the objectives of the research listed in Chapter 1. Data to be collected from the employees in public sector banks are divided into two sections – data regarding the demographic profiles of the respondents and data regarding the factors influencing the various determinants of variables relating to the impact of occupational Stress on Stress coping strategies, Employee performance and Job Satisfaction.

3.7 QUESTIONNAIRE DESIGN

The study was carried out mainly to understand and to influence the various factors on occupational stress among the employees in Public Sector Banks. An extensive review of relevant literature was carried out to identify the scales for the measurement of the determinants as well as employee experience towards occupational stress. Primary data were collected using a structured questionnaire. A face-to-face self-administered questionnaire was adopted from Aswathapa (1990) to develop the research instrument for the present study. The survey questionnaire consists of two Sections. Section-I consists of questions connected with socioeconomic and demographic profile of the respondent. Section- II consists of the Factors causing Occupational Stress and coping strategy for employee performance and job satisfaction. All items are measured in 5-point Likert scale having the score value ‘-1-’ for strongly disagree, ‘-2-’ for disagreeing, ‘-3-’ for neutral, ‘-4-’ for agreeing and ‘-5-’ to strongly agree has been adopted. The questionnaire is attached in Appendix 1.
3.7.1 Content Validity of the Questionnaire

The structured questionnaire was verified for the content validity before administering it for data collection. Experts among the banking professionals have been chosen to verify the content validity of the questionnaire. A total of eight experts from three top banks have been drawn from the above areas to confirm the contents of the questionnaire. Based on their feedback, the statements in the questionnaire have been simplified for better clarity. The questionnaire has 116 statements which deal with the different factors causing occupational stress and coping strategy for employee performance and job satisfaction.

3.7.2 Pilot Study

Prior to checking the content validity and reliability of the questionnaire, a pilot study was conducted. A pilot study was carried out among 38 samples with the help of semi-structured questionnaire framed by the researcher in finding out the appropriateness of the instrument. Based on the feedback from the respondents, some questions were eliminated and some others were added and the structured questionnaire was prepared.

3.7.3 Result of the Pilot Study

The factors, however, were subjected to reliability test and the items that constituted sufficient coverage of the factors under study were finalized and decided upon by the researcher through a pilot study. The outcome of the pilot study revealed the instrument used in this study as having sufficient value to gather authentic responses from the respondents and the procedures adopted to frame a questionnaire are practicable. The conclusion, therefore, is that the instrument used in this research would obtain the necessary data required from the respondents.
3.7.4 Reliability of the Instrument

The term Cronbach's alpha is the most common form of internal uniformity and coefficient of reliability. The value of Alpha is zero when the real score is not measured and error component takes place and when the Alpha value equals 1.0 when all factors measure only the true value and there is no error component occurring in the research.

Table 3.3 Reliability Statistics

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Factors</th>
<th>Cronbach's Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Personality Characteristics</td>
<td>0.859</td>
</tr>
<tr>
<td>2</td>
<td>Constraints of Change</td>
<td>0.562</td>
</tr>
<tr>
<td>3</td>
<td>Group Stressors</td>
<td>0.706</td>
</tr>
<tr>
<td>4</td>
<td>Role overload</td>
<td>0.825</td>
</tr>
<tr>
<td>5</td>
<td>Role Conflict</td>
<td>0.551</td>
</tr>
<tr>
<td>6</td>
<td>Role Ambiguity</td>
<td>0.777</td>
</tr>
<tr>
<td>7</td>
<td>Under-Participation</td>
<td>0.689</td>
</tr>
<tr>
<td>8</td>
<td>Inadequacy of Role Authority</td>
<td>0.810</td>
</tr>
<tr>
<td>9</td>
<td>Job Difficulty</td>
<td>0.761</td>
</tr>
<tr>
<td>10</td>
<td>Feeling of Inequity</td>
<td>0.651</td>
</tr>
<tr>
<td>11</td>
<td>Environmental Factors In Stress</td>
<td>0.584</td>
</tr>
<tr>
<td>12</td>
<td>Role Stagnation and Mid Life Crisis</td>
<td>0.795</td>
</tr>
<tr>
<td>13</td>
<td>Job Requirement Capability Mismatch</td>
<td>0.913</td>
</tr>
<tr>
<td></td>
<td><strong>Overall Job Stress Factor</strong></td>
<td><strong>0.865</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Employee performance Factor</strong></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Enhances Performance</td>
<td>0.609</td>
</tr>
<tr>
<td>15</td>
<td>Job Satisfaction</td>
<td>0.936</td>
</tr>
<tr>
<td>16</td>
<td>Stress coping strategies</td>
<td>0.976</td>
</tr>
<tr>
<td></td>
<td><strong>Overall Employee performance Factor</strong></td>
<td><strong>0.957</strong></td>
</tr>
</tbody>
</table>

**Interpretation:** Cronbach's alpha in this study can be interpreted as the percentage of variance and the observed scale explains the hypothetical true
scale composed of all possible items in the population or else it can be interpreted as the correlation and the observed scale with all other possible scales measure the same thing with the use of the same number of items in a factor.

**Cutoff criteria:** By convention, a lenient cutoff value 0.60 is common to all exploratory research; alpha should have the least value of 0.70 or higher in order to retain an item in an adequate scale; and many researchers require a cutoff value as 0.80 for a good scale.

### 3.8 RESEARCH DESIGN

The research design chosen for the study is descriptive. In this study, Primary data were collected with the help of a structured questionnaire which is administrated to the 1315 middle level employees with designations of Manager, Assistant Manager, Training Officer, Cashier and Clerk of top three public sector banks leading to market capitalization namely State Bank of India, Punjab National Bank and Bank of Baroda among the four districts namely Chennai, Coimbatore, Madurai and Tiruchirappalli.

#### 3.8.1 Population of the Study

The population chosen for the study consists of top three public sector banks leading with a market capitalization from four major districts namely Chennai, Coimbatore, Madurai and Tiruchirappalli in Tamil Nadu. Among the cities, Chennai is the most popular city in the state, followed by Coimbatore, Madurai and Tiruchirappalli respectively as per the 2015 census. Details of the Population of the three topmost banks leading to market capitalization are mentioned below in the Table 3.4. Since the population is infinite, the sample is selected by using the sample size formula.
Table 3.4 Population and Selected Sample

<table>
<thead>
<tr>
<th>Name of the Bank</th>
<th>No. of Branches</th>
<th>No. of Employees</th>
<th>Sample selected</th>
</tr>
</thead>
<tbody>
<tr>
<td>SBI</td>
<td>141</td>
<td>2345</td>
<td>460</td>
</tr>
<tr>
<td>PNB</td>
<td>127</td>
<td>2235</td>
<td>435</td>
</tr>
<tr>
<td>BOB</td>
<td>138</td>
<td>2174</td>
<td>420</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>406</strong></td>
<td><strong>6754</strong></td>
<td><strong>1315</strong></td>
</tr>
</tbody>
</table>

**Sampling Frame**

The sample size formula for the finite population is given as:

\[
New\ SS = \frac{SS}{1 + \left(\frac{SS - 1}{Pop}\right)}
\]

Here,

SS = Sample size
Z = given z value
p = Percentage of population
C = Confidence level
Pop = Population

3.8.2 Sampling Size and Technique

A multistage sampling technique was adopted for selection of the samples. Multistage sampling refers to sampling plans where the response is obtained using smaller and smaller sampling units at each stage. Sample size for the study is 1315 respondents, selected from 460 respondents from State
Bank of India, 435 respondents from Punjab National Bank and 420 respondents from Bank of Baroda and used for analysis after avoiding bias and non responsive questionnaires.

3.9 DATA COLLECTION

The research is descriptive in nature. Primary data are collected with the help of a structured questionnaire which is administrated among the middle level employees of top three public sector banks in Tamilnadu namely 1) State Bank of India 2) Punjab National Bank 3) Bank of Baroda. Data were collected from the respective bank branches from four main cities, namely Chennai, Coimbatore, Madurai and Tiruchirappalli. A multistage sampling technique was adopted for selecting the samples, where the four top level districts in Tamilnadu are selected at the first stage, then three top level bank was selected and finally the sample respondents were the middle level employees. Around 475 questionnaires were distributed to each bank. About 460, 435 and 420 responses were received from State Bank of India, Punjab National Bank and Bank of Baroda respectively, and used for analysis after deletion of biased and non responsive questionnaires.

3.10 SELECTION OF DATA ANALYSIS TOOLS

In this research, statistical tools like multiple regressions and Reliability test have been used. Collected data have been organized, classified and analyzed using appropriate statistical tools like Structural Equation Modeling Using AMOS Package and Mean Score, percentage analysis, Chi-Square, ANOVA, Post Hoc Test, Exploratory Factor Analysis, Multiple Regression, Correlation using Statistical Package for Social Sciences (SPSS).
a) **Percentage analysis**

Percentage analysis has been used for analyzing the frequency distribution of the sample respondents against the demographic factors such as Gender, Age (in yrs) and marital status, Qualification, Designation and Income of the respondents. The percentage analysis has been done for analyzing the frequency distribution of the respondents on the basis of factors causing occupational stress. The distribution of the respondents according to the chosen public sector banks is also shown by the percentage analysis. The results of the descriptive analysis are detailed in Chapter 4.

b) **Chi-square**

Chi-Square test is for analyzing non-parametric tests and as such no rigid assumptions are necessary in respect of the type of universe. The chi-square test in the present study has been used for examining the relationship among quality perception of the respondents and their personal profile.

c) **ANOVA**

This test is used when the number of groups to be compared increases. The analysis of variance procedure literally divides up the variance in a set of data into different components. Initially, the total variance is divided up into variance within the group and variance between the groups. By comparing these variances, it is possible to assess the differences between the groups. If all groups were similar, the mean value for each group would be similar so and so would the variance about this mean. The respondents in the study are grouped and distributed into top three public sector banks based on the market capitalization (State bank of India, Punjab National Bank and Bank of Borada). The variance between groups would be much the same as the variance within groups and in this case, the F ratio, acquired by dividing
between group variance by within group variance, would be close to 1. A large size F ratio, implying more variation between groups than within them, this would indicate that the group’s scores differ from each other.

d) Post-Hoc Test

As a follow up of ANOVA, and based on the significance of F statistic, the Post Hoc test was carried out to check for any variation among the group means. One such widely used post hoc test is Duncan Multiple Range Test. The probability of the false refusal of the null hypothesis when there is equality among the population means is minimized by DMRT. The results of DMRT in comparing the group variances for the groups based on type of service provider, the duration of the subscription are detailed in Chapter 4.

e) Exploratory Factor Analysis

It is a statistical method used for revealing the underlying structure of a large set of variables. It is a technique used for identifying the underlying relationships between measured variables and serves to investigate a set of latent constructs and fundamental sequence of measured variables. The process assumes that the entire measured variable may be associated with the entire factor.

f) Testing of Hypotheses

The sample is grouped on the basis of gender (male/female), marital status (single/ married), Qualification, designation and income. The assumption is that there is no difference among the groups towards the evaluation of the variables measured in the study due to differences in the demographic profile of the respondents. Testing of hypotheses is deployed to
check the presence of any difference among the respondents in their perception of assessment of the occupational stress belonging to uneven groups, its significance and the applicability of the findings to a larger population.

**g) Multiple Regression Technique**

It is a statistical technique used for estimating the relationship among the variables in a research. These tools include many methods for representing and analyzing several variables, when the relationship between a dependent and independent variables is the matter for focused attention. The main purpose of regression analysis used to assist one to understand how the symbolic value of the dependent variable changes when there is a variance in any one of the independent variables and the other independent variables are held fixed. Usually, regression analysis estimates the conditional hope of the dependent variable when independent variables are given by the average value of the dependent variable and the independent variables are fixed. Occasionally, the focus is on a continual or some other location and parameters of the distribution of the dependent variable are given to the independent variables. In further studies, the estimated target is a function of the independent variables called the function of regression. Regression analysis, shows the interest to describe the difference in the dependent variable around the function of regression, which can be described by a probability distribution. The tool Regression analysis is mainly used for predicting and forecast, but it causes a substantial overlap in the field of machine learning. Generally, the regression analysis is used to understand independent variables among the related dependent variables and explore the forms of the relationships in a variable. In restricted conditions, regression analysis can be used for assuming causal relationships between the independent and dependent variables.
h) Correlation

In this study, Correlation is used for describing the linear relationship between two continuous variables. Generally, correlation tends to be used when there is no identified response variable and it measures the strength and direction of the linear relationship between two or more variables.

i) Structural Equation Modeling

It is a statistical method used for testing and estimating the causal relations by using a combination of qualitative causal assumption and statistical data. Structural equation modeling allows both exploratory and confirmatory modeling for testing and development of the theory. Confirmatory modeling is usually initiated with a hypothesis which is represented in a causal model. A theoretical concept used in this model should be operationalized to allow for testing the relationships between the concepts in the model which is tested against the obtained data in order to determine how well the model fits into the data. In this model, the causal assumptions are embedded often to have false implications which can be tested against the data. With an initial theory, inductive use of Structural equation models is possible through identification of an equivalent model and using data to estimate the values of free parameters. Generally, at the initial stage, the hypothesis requires adjustment in model verification. Structural equation models are used purely for exploration; this is usually known as the background of exploratory factor analysis as like psychometric design.

Structural equation models are modelled which has the ability to construct latent variables which are not measured directly, but different measured variables are estimated in the model, each of which is predicted to 'tap into' the latent variables. This technique allows the researcher to clearly
capture the unreliability of measurement in the model, where the theory allows the Structural equation models to estimate accurately the relations between latent variables.

3.11 SUMMARY

The conceptual model of the study has been developed on the basis of the research problems, objectives and the hypotheses. A Questionnaire has been developed to assess the different factors consisting of independent and dependent variables. Instrument for validity and reliability is tested; primary data have been collected using the survey method among the employees in public sector banks in four major districts of Tamilnadu. Suitable statistical techniques have been deployed to test relationships among the variables and the set of hypotheses. The next Chapter gives the result of the data analysis.