CHAPTER 3
RESEARCH METHODOLOGY

In the previous chapter, we have dealt with the concept and reviewed the studies relating to organizational role stress, organizational effectiveness, and psychological wellbeing of employees. The present chapter aims at describing the design, technical details of the tools used, and administration thereof. The sample size and its characteristics have also been presented. As mentioned earlier, the present study is aimed at examining the relationships of perceived organizational role stress and wellbeing of employee in service proving organization. Here, organizational role stress has been treated as independent variable and mental health and coping strategies as dependent variable. The coping strategies and values are treated as moderator of the relationship between role stress and mental health.

3.1 Methodological Approach

This study was based on the deductive approach; it tested the existing theory by developing the hypothesis, adopting various types of variables of stress and stress management. It will adopt the 'Transactional model of stress'. Researcher collected the primary quantitative data from the field and analyzed to test the hypothesis and confirm the existing theory. The deductive approach is related to the top-down approach.
3.2 Research Design

The research design is the conceptual structure within which research is conducted; it constitutes the blueprint for the collection, measurement, and analysis of data. As such, the design includes an outline of what the researcher will do from writing the hypothesis and its operational implications to the final analysis of data (Kothari, 2004, p. 31).

The study was based on descriptive and explanatory research design. Cross-section data was collected. The nature of data was quantitative.

3.3 Sampling Design

It is not always possible or desirable to enumerate all units of population. In many practical situations, it is not feasible to undertake census both financially and time-wise since a complete enumeration usually requires a great amount of financial resources and is time consuming. Therefore, the usual practice is to examine only a portion of the units of a population selected by a systematic method. Such a collection of a portion of units from a population is known as sample and the procedure is called as sampling (Shrestha, 2010).

Simple random sampling technique was used to select the respondents from the universe.

3.3.1 Universe and Sample Size

The whole population of officer level staffs working under different ministries of the Government of Nepal in Kathmandu district was considered as the universe of this study.
It has already been emphasized that a sample should be adequate in size and also representative of the population under study. There is no fixed opinion about the size of the sample. However, there has always been emphasis given on the fact that the size of the sample should be adequate and also represent the population under study. It has already been argued that validity of the results obtained depends upon the adequate representation of the sample size. Spearman noticed that scanty data and small sample lead to errors in sampling. Larger sample leads to errors in sampling. However, large sample is to be preferred than a small one. Thus the sample should be adequate and representative so that the researchers are able to view his/her conclusions with greater confidence. Sample size is drawn by using the following sampling formula:

Equation 1

$$n_0 = \frac{Z^2pq}{e^2}$$

where:

- $n_0$ is the sample size,
- $Z$ is the desired confidence level
- $p$ is the estimated proportion of an attribute that is present in the population/prevalence/variability and
- $q$ is 1 - $p$.

The relevant research conducted on prevalence of job stress on mental health was not found among the Government officers of Nepal in Kathmandu Valley so that researcher could not get data of variability in the proportion that creates the problem of mental health; therefore, assume $p = .5$ (maximum 50% variability).
Furthermore, we desire $Z^2 = 95\%$ confidence level and $\pm 5\%$ precision or proportion of error.

The resulting sample size is demonstrated in Equation 2.

$$n_o = \frac{Z^2 pq}{e^2} = \frac{(1.96)^2(0.5)(0.5)}{(0.05)^2} = 385$$

Basic sample size = 385

After field study, because of the business of government officers, researcher got only 284 valid responses of questionnaires survey. The responses of 284 respondents are analyzed in chapter four of this thesis.

### 3.3.2 Study Unit

The respondents of this study were: Nepal government employees belonging to class I to III (Joint Secretary, Undersecretary, and Section Officer Level) were randomly selected from various ministries and departments.

### 3.3.3 Sample Selection Criteria

I. The government employees having service experience were selected for the study,

II. The government employees must be permanent in their job,

III. Respondents should be working within the Kathmandu district under different ministries or departments of the Government of Nepal.
3.4 Data Collection Strategies

Data collection is an important aspect of the research study. Inaccurate data collection can adversely impact the results of a study and ultimately lead to invalid results. Data collection strategies for impact evaluation vary along a continuum. At the one end of this continuum are quantitative methods while at the other end are qualitative methods used for the data collection.

This study was based on the quantitative data. The quantitative data collection methods rely on random sampling and structured data collection instruments fit diverse experiences into predetermined response categories. They produce results that are easy to summarize, compare, and generalize. Quantitative research is concerned with testing hypotheses derived from theory and/or being able to estimate the size of a phenomenon of interest. Depending on the research question, participants may be randomly assigned to different treatments.

3.4.1 Sources of Data

There are two main sources of data (information) relevant to the research problem in social research come from the inner world of library and the outside world of living people. We may broadly designate these two main sources simply, the 'paper' and 'people' (Wilkinson, Bhandarkar, & S., 2010).

The sources of data were primary and secondary. Primary data was collected by developing the standard data collection tools to test the hypothesis and secondary data was collected to know the ontology and epistemology of research study by reviewing the previous literatures.
3.4.2 Nature of Data

Both types of qualitative and quantitative data were used in the study. The primary data was in qualitative form and it was later converted into quantitative.

3.4.3 Data Collection Tools

Since the present investigation has proposed to assess the effect of organizational role stress on mental health and effectiveness of his/her coping strategy, six standard and widely used psychological devices and two developed by the researcher himself are employed for the purpose of the assessment of these variables.

The researcher has employed the following tools in the present investigation:


2. Mental Health Inventory by Jagadish and Srivastava (1983)


5. Stress Checklist (Cowte, Bianchi and Kiloh,1968)

6. Stress causing factors rating scales – self-developed

7. Sheet for respondent demographic information – self-developed
3.4.3.1 The Organizational Role Stress Scale

The extent of role stress was measured with the help of "Organizational Role Stress Scale" as defined by Prof. Pareek (1981).

I. Inter Role Distance

It indicates that different roles a person occupies as a member of the organization, society, family etc., make conflicting demands on him/her to be fulfilled. This leads to the feeling of stress. Such inter role conflicts are quite fragmented in modern society when an individual is increasingly occupying multiple roles in various organizations and groups.

Due to the simultaneous occupation of multiple roles, there are likely to be conflicted. Such inter role distance is on the increase. Life has become faster, demands on time, energy and other resources have increased (Agrawal, 2001, p. 149).

II. Role Stagnation

As the individual grows physically, he/she also grows with the role he/she occupies in an organization. Along with this development, his/her role expectations change and they develop a need for a new role. This becomes a problem especially when an individual is occupying a role for a long time. Thus, a disparity is developed between the occupied role and the need role. This is a potential source causing stress to the concerned employee or person.
III. Role Erosion

A role occupant may feel that others are performing certain functions that should have been a part of his/her role. The stress felt due to this feeling is called "Role erosion". Role erosion is likely to be explained in an organization that is redefining its roles and creating new roles. In several organizations, which were redefining their structure, the stress of role erosion was inevitably felt.

IV. Role Overload

When the role occupant feels that there are too many expectations from the significant roles in his role set, he experiences ‘role overload’. The term was popularized and measured by Khan et al (1964) by asking several questions about the feeling of people whether they could possibly finish work given to them during the modified work day and time. According the Rita Agrawal (2001), this type of stress is rapidly on the rise, as more and more work is being demanded for employees. It occurs when a person is pressed for time or feels that s/he is unable to handle total quantum of work expected from her/him.

V. Self-Role Distance

Pareek stated that this is the conflict between the self-concept and the expectations from the role as perceived by the role occupant. If a person occupies a role, which may be subsequently found conflicting with his self-concept, he feels the stress. Rita Agrawal explained that self-role distance indicates the conflict between the self-concept and the expectation from the role. Roles which call for behavior which is not in accordance with the value system of the person result in self-role distance (2001).
VI. Role Isolation

In a role set, the role occupant may feel that certain roles are psychologically near him, while some other roles are at distance. The main criterion of role-role distance is frequency and case of interaction. When linkages are strong, the role-role distance will be low. In the absence of strong linkage, the role-role distance can therefore, be measured in terms of existing linkages. The gap between the desired and the existing linkages will indicate the amount of distance between the two roles.

VII. Role Inadequacy

Role inadequacy refers to two types of feelings: (a) the role occupant does not have adequate resources to perform the role effectively, and (b) he is not fully equipped (lacks internal resources) for effective performance of the role.

VIII. Role Ambiguity

According to Udai Pareek, when the individual is not clear about the various expectations of people have from his/her role, if s/he faces the conflict which may be called role ambiguity. Kahn and Quinn (1970) have suggested that role ambiguity may be in relation to the activities, responsibilities, personal style, and norms.

3.4.3.2 Mental Health Inventory

Mental Health Inventory was developed by Jagdish and Srivastava in 1983. Most of the psychometric devices available to assess mental health tend to measure the negative aspects of mental health. They measure the extent of mental ill health of the individual. Therefore, individual's low scores on the measures of mental health are supposed to indicate his/her good mental health. But, in fact, absence of mental ill
health may not be considered as an indicator of good mental health or psychological well-being. In view of this fact, the authors of this inventory developed a measure of positive aspects of mental health. There are fifty-six (56) items in the inventory to be rated on four-point scale. They cover the following six dimensions of sound mental health or psychological well-being:

1. **Positive self-evaluation**: self-confidence, self-acceptance, self-identity, feeling of worth, realization of one's potentials etc.

2. **Perception of reality**: perception free from need distortion, absence of excessive fantasy, broad outlook on the world etc.

3. **Integration of personality**: balance of psychic forces, the ability to understand etc.

4. **Autonomy**: stable set of internal standard for one's action, self-control in one's action etc.

5. **Group oriented attitude**: ability to get along with others and work with others, ability to find recreation, feeling of safety and security in contact with one's group members.

6. **Environmental mastery**: efficiency in meeting situational requirements, the ability to work and play, the ability to take responsibilities, capacity for adjustment etc.

The index of split half reliability by odd even method (correlated by S.B. formula) was found to be .726 for the scale as a whole, .75, .72, .74, and .79 for its six sub scales respectively.
3.4.3.3 Coping Strategy Scales

This tool developed by Srivastava in 2001 is an instrument for the assessment of various coping strategies. In our day-to-day life, almost every one of us confront with a variety of adverse, noxious or demanding situations that we respond to them in some way or other. Some people actively deal with the situation; some avoid, while others psychologically adapt themselves to the situations.

The present measure of coping strategies comprise 50 items, to be rated on five-point scale, describe varieties of coping behavior that stress on including the following five major categories of coping strategies based on the combinations of ‘operation’ and ‘orientation’ of the coping behavior:

1. Active approach coping (Problem-focused coping)

   a- Behavioral- approach coping strategies (Confronting, planning, taking impulsive decisions, suppressing competing activities, seeking social support, self-control and negotiation)

   b- Cognitive – approach coping strategies (Intellectualization, positive reinterpretation, cognitive reappraisal, seeking social support for emotional reasons)

   c- Cognitive – behavioral approach strategies (Acceptance, realistic, positive attitude, planning, fatalistic)
2. Avoidance coping (Emotion-focused coping)

a- Behavioral- Avoidance coping strategies (Restraint coping, inhibition of action, turning towards religion, escaping, behavioral disengagement, acceptance, withdrawal, feeling helpless)

b- Cognitive avoidance behavioral strategies (rationalization, distancing, cognitive restructuring, resignation).

Reliability of Coping Strategy Scale

Retest reliability: 0.92

Split/half reliability

Approach coping reliability: 0.78

Avoidance coping strategies: 0.69

Validity of Coping Strategy Scale

Content validity of the tool was ascertained by examining the extent of homogeneity (r bis) among the items constituting “approach” (behavioral + cognitive + cognitive – behavioral) and “avoidance” (behavioral + avoidance) coping strategies, bub scales on a sample of 206 randomly selected subjects of different age, sex, and socio-economic status. The obtained homogeneity indices (r bis) for two sub-scales were found (r bis) significant either significant in .01 or .05 level.
3.4.3.4 Individualistic-Collectivistic Scale:

Value is one of the determinants of our personality. Keeping this in mind, the individualistic–collective value scale developed by Mishra (1994) is used for this study. The individualistic values include personal happiness, autonomy, ambition, physical comfort, advancement, achievement, independence, personal benefits, economic gains, and assertiveness. The collectivistic values include welfare of others, obedience, dependency, tolerance of others, true friendship, altruism, modesty, reciprocation, social interaction, and enduring relationships.

3.4.3.5 Stress Checklist:

A convenient measure for assessing stress among individuals was developed by Cowte, Bianchi, and Kiloh. The checklist consists of twenty items. The subjects were asked to answer each statement by saying “yes” or “no”. This questionnaire had been used in several cross-cultural and organizational studies of stress, and found quite useful for young as well as old generation people. So the same tool was selected for the use of present study. The total score range on this measure is to 0 to 20 (Cowte, Bianchi, & Kiloh, 1968).

3.4.3.6 Stress Causing Factors Scale:

Researcher developed this scale with the help of supervisor to find out the causes of stress in the organizational setting. The researcher developed the sample and asked the participants to comment on it. After collecting the information, the scale was redesigned and only organizational factors were included in the test. The subjects were asked to answer each statement in Likert scale with the options 'Never', 'Sometimes', 'Frequently' and Always". 
The reliability test of stress causing factors as the scale showed was 85.3% of Cronbach’s Alpha value which seems to be highly valid to collect the data.

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<tr>
<th>Reliability Statistics</th>
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<td>Cronbach’s Alpha</td>
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<td>.853</td>
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### 3.5 Formation of Data Collection Instruments

For this study, six types of questionnaires were used to collect the primary data. Among them, four were adopted from the established scale and two were self-reported which the researcher had developed by himself with the help of supervisor.

### 3.6 Validity and Reliability of Data Collection Tools

A scale is said to be reliable if it gives the same measurement under similar conditions. It means consistency of the measures. If we measure the same set of object again and again, we get the same result, and the measurement is reliable. Similarly, a scale is said to be valid if it correctly measures what it is expected to be measured. Validity is the strength of conclusion, inferences or propositions (Shrestha, 2010).

The following tools will be used to test the validity and reliability of tools:

**Validity Test**

The established Organizational Role Stress (1981) scales developed by Prof. Pareek, Mental Health Inventory developed by Jagdish and Srivastava (1983), Coping Strategy Scale developed by Shrivastava (2001), and Individual and Collective Values scales developed by Mishra (1994) were used for data collection. Besides, some self-reported questionnaires were developed to collect the demographic information about
the respondents, stress causing factors and symptoms of stress. These questionnaires were updated and finalized consulting supervisor and subject experts to ensure its validity.

The validity was well established by internal consistency method. The score on each item was correlated with the total score on the scale of 500 representatives. All but two coefficients were found to be significant at .001 levels. The rest two were significant at .002 and .008 level respectively. The result proved high internal consistency of the scale. The construct validity of the instrument was ascertained by factor analysis method and it was found to be fairly acceptable by its situational norms.

Reliability Test

The tools were pre-test among the 10% respondents of the total selected sample size to know whether the tools could measure the same thing that the researcher intended to measure. On the basis of comments and suggestion found from the pilot study, final tools were developed to collect the data.

The retest reliability for each type of stress was found to be .45 for self-role distance, .58 for inter role distance, .63 for role stagnation, .65 for role ambiguity, .53 for role overload, .37 for role erosion, .58 for role inadequacy. The overall reliability of the scale was found to be .73.
3.7 Scales of Measurement of Data

Basically, two types of scales of measurement of data were used there: nominal and ordinal scale.

In nominal scale, numerals are assigned to distinguish between objects or attributes that have no quantitative meaning. Assuming 1 or 0 for male or female, yes or no. etc. are some example.

Similarly, in an ordinal scale, numerals are assigned to such attributes that they can be ranked or ordered. For instance, educational status may be ranked as follows:

Illiterate .......................... 0,
Under SLC ........................1,
Intermediate ......................2,
Bachelor ..............................3,
Master or above ..................4,

Though, the numbers assigned do not indicate that 3 are thrice higher than 1 and so on. Similarly, here, the researcher develops the questionnaires in 5 point Likert's scale which will be in order.

3.8 Data Collection Procedure

The data was collected in two phases. In the first phase, pilot study was done among the 10% of total sample size to know the readability and understandability of data collection tools.

In the second phase, final data was collected from the total sample size.
3.9 Data Analysis Plan

First of all, the collected data was manually edited and screened on the basis of quality of response. The questionnaire which had not the responses to all questions or the responses were not clear were excluded in analysis. In the second phase, each option of responses was quantified into numerical values and finally data were entered into SPSS software version 20 to analyze the data. Frequency table, cross-tab, mean, and median were generated to describe the data. Besides that, chi-square, correlation and multiple comparisons, R and $R^2$ ANOVA were computed to analyze the causal relation between the independent and dependent variables. The data was presented in tabular form. Conclusion was drawn on the basis of objective and hypothesis of this study. The analysis also includes the model summary.

3.10 Time Plan

The study is planned to be completed within three years from Feb 2012 to Feb 2016.

3.11 Procedure

The test administered for the collection of data was launched in 2013, and it continued till the beginning of 2014. The data were collected from different ministries and departments of the Government of Nepal. The selected instruments were administered by the researcher himself to the randomly selected respondents individually within the selected premises. Only one organization was taken at a time for the data collection. The selected respondents were asked to carefully read the instructions printed on the cover page of the inventories. Before starting, every direction given on the front page was read loudly before the respondents. Instructions were made clear so that each respondent could understand well. The respondents were
helped whenever they asked for clarity at any point. The respondents were not allowed the consultation among each other while responding inventories. As all the instruments were united, the respondents were encouraged to work as fast as they could. It was ensured that the respondents were ready to cooperate, and a rapport was established accordingly. Their doubts and difficulties were invited and attended before starting each instrument. Personal data sheet was first distributed to the respondents and necessary demographic information were obtained there on, followed by Organizational Role Stress Inventory, Mental Health Inventory, Coping Strategy Scale, Stress Check List, Stress Causing Factors Rating Scale and Individualistic-Collectivistic Values Scale.

The following chapters have explained the findings and discussions of study.