CHAPTER III

METHODOLOGY

In any research work, the appropriateness of the methodology to be followed is of chief important. It is a way to solve the research problem systematically. It may be understood as a science of studying how research is done scientifically. In it we study the various steps that are generally adopted by researcher in studying his research problem along with the logic behind them. The researcher has to take numerous decisions about the selection of the research design. In the present research work, following methodological steps have been taken to obtain the empirical evidence in favour or against the problems and hypotheses stated in chapter II.

3.1 RESEARCH DESIGN

Research design is the outline, plan, strategy specifying procedure to be used in seeking an answer to the research question (Christensen, 1985). Here the term plan refers to an outline or programme of research which includes everything researcher do, such as writing the problem, hypothesis, their operational implication and scheme of data. The term outline means analysis of the operation and management of the variables involved in the problem and hypothesis. Strategy refers to the method to
be used to collect and analyses the qualitative and quantitative data. Research design in behavioural sciences attempts to meet two fold purposes namely obtaining scientific solutions to his/her research problems and control unwarranted variation which is accomplished by incorporating one or more control techniques. The “Max-Con-Min” principle is variance controlling principle that makes the research design scientific in true sense. This principle has three segments:

I. Max refers to maximization of systematic variance
II. Con denotes control over extraneous variable
III. Min represents minimization of error variance

Generally four types of error are noticed if proper controls are not exercised. These errors are (1) ‘S’ type errors that are associated with the subjects or respondents chosen for the study; (2) ‘G’ type errors are that associated with treatment groups; (3) ‘R’ type errors that are associated with ‘replicates’ and (4) ‘M’ type errors that are associated with measurement of the variables. If these errors are not kept becomes non-scientific and leads to erroneous conclusions (Helode, 2012).

In the present study a 2 x 2 x 2 factorial design has been employed which means that the design used 3 factors or independent variables, viz., frustration tolerance, family types and emotional intelligence and were to
be varied at two levels to study their main and interaction effects on dependent variable, viz., marital adjustment.

This design enables the researcher to find out the main effects of (1) frustration tolerance, (2) family types and (3) emotional intelligence on the dependent variable, i.e., marital adjustment. Further the interactional effects of frustration tolerance x family types, family types x emotional intelligence, frustration tolerance x emotional intelligence as well as the second order interaction effect i.e. frustration tolerance, family types and emotional intelligence is ascertained.

Therefore a \((2)^3\) factorial design was employed to verify the relationship of marital adjustment with three aforesaid IV or factors.

1. Factor A: Factor A is the frustration tolerance. It has two levels
   
   \[a_1\] High frustration tolerance
   
   \[a_2\] Low frustration tolerance

2. Factor B: Factor B is the family types. It has two levels
   
   \[b_1\] Joint family
   
   \[b_2\] Nuclear family

3. Factor C: Factor C is the emotional intelligence. It has two levels
   
   \[c_1\] High emotional intelligence
   
   \[c_2\] Low emotional intelligence
This design will able to find out the main effect of (1) frustration tolerance, (2) family types and (3) emotional intelligence on dependent variable, i.e. marital adjustment. Besides the main effects, the interaction effect of frustration tolerance x family types, family types x emotional intelligence and emotional intelligence x frustration tolerance as well as the second order interaction effect, i.e. frustration tolerance x family types x emotional intelligence will be ascertained with the help of this design.

In this study the levels of independent variable are fixed. The researcher is concerned with the fixed value of the independent variable. It is termed as fixed effect model. The model assumes that the levels which are incorporated for the research study is the one in which researcher are interested to see its influence.

**FIG 3.1 (a)**

**BLOCK DIAGRAM OF pqr (2X2X2) FACTORIAL DESIGN**

**MARITAL ADJUSTMENT OF FEMALE PARTNERS OF DUAL COUPLE**

<table>
<thead>
<tr>
<th></th>
<th>b1</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a1</td>
<td>c1</td>
<td>c2</td>
</tr>
<tr>
<td></td>
<td>S1</td>
<td>S2</td>
</tr>
<tr>
<td>a2</td>
<td>c1</td>
<td>c2</td>
</tr>
<tr>
<td></td>
<td>S3</td>
<td>S4</td>
</tr>
<tr>
<td></td>
<td>S5</td>
<td>S6</td>
</tr>
<tr>
<td></td>
<td>S7</td>
<td>S8</td>
</tr>
</tbody>
</table>
Marital Adjustment

A: Frustration tolerance

- (a₁). High frustration tolerance
- (a₂). Low frustration tolerance

B: Family types

- (b₁). Joint family
- (b₂). Nuclear family

C: Emotional intelligence

- (c₁). High emotional intelligence
- (c₂). Low emotional intelligence

Group/ Strata/ Treatment combination = 2 x 2 x 2 = 8

p levels of A, where p = 2 (or a₁, a₂ )

q levels of B, where q = 2 (or b₁, b₂ )

r levels of C, where r = 2 (or c₁, c₂ )

Groups/ Strata/ Treatment combination

| a₁ b₁ c₁ | a₁ b₂ c₁ | a₂ b₁ c₁ | a₂ b₂ c₁ |
| a₁ b₁ c₂ | a₁ b₂ c₂ | a₂ b₁ c₂ | a₂ b₂ c₂ |

Total No. of subjects = 320
Fig. No. 3.1 (b)

A SCHEMATIC DIAGRAM OF 2X2X2 FACTORIAL DESIGN

MARITAL ADJUSTMENT OF THE FEMALE PARTNERS OF DUAL CAREER COUPLES

High frustration tolerance

- High emotional intelligence
  - Nuclear family
  - Joint family

- Low emotional intelligence
  - Nuclear family
  - Joint family

Low frustration tolerance

- High emotional intelligence
  - Nuclear family
  - Joint family

- Low emotional intelligence
  - Nuclear family
  - Joint family
3.2 **UNIVERSE AND SAMPLE**

Universe is a set of elements or persons or objects that possess some common characteristics defined by the sampling criteria established by the researcher. To draw a sample from the population and conducting research on it is one of the important requirements of scientific inquiry. A sample is selected for the inclusion in the study which is a part of universe that contains broadly all the characteristics of the universe. It should be the representative sample for drawing conclusion about the whole universe or a part of universe. It therefore has implication for generalization of the result of the study back to the population. Therefore, a good sample which is chosen must be without any element of biasedness. Thus, in the present study stratified random sampling technique, based on the principle of probability was considered to select homogeneous and unbiased sample. In the present study, the sample has been drawn from the population of female teachers of the dual career couples inhabiting in different districts of Chhattisgarh. The age ranges from 35 to 40 years,

A stratified random sampling is that sample plan in which the researcher randomly takes subjects in his sample according to some known or specific characteristics or nature of the population. In this method the universe is divided into various homogeneous subclass or strata according to one or more specific characteristics of the population.
Each stratum consists of the members who are very much alike or homogeneous. In the present study, the female teachers of various schools residing in different districts of Chhattisgarh are split into a number of categories on the basis of three specific characteristics.

**MARITAL ADJUSTMENT OF FEMALE PARTNERS OF DUAL CAREER COUPLE**

1. Frustration tolerance - High vs Low frustration tolerance
2. Family types - Nuclear vs Joint family types
3. Emotional intelligence - High vs Low emotional intelligence

This type of stratification is known as complex stratification. Thus, in this present research work we have 2 x 2 x 2 or 8 strata as mentioned below-

1. High FT - High EI - Nuclear Family Ss
2. High FT - Low EI - Nuclear Family Ss
3. High FT - High EI - Joint Family Ss
4. High FT - Low EI - Joint Family Ss
5. Low FT - High EI - Nuclear Family Ss
6. Low FT - Low EI - Nuclear Family Ss
7. Low FT - High EI - Joint Family Ss
8. Low FT - Low EI - Joint Family Ss
**Abbreviation**

FT  -  Frustration Tolerance  
EI  -  Emotional Intelligence  
Ss  -  Subjects  

A list of female partners of two career couples of all the teachers is prepared and each one is assigned only to one stratum. Thereafter a random sample of the female partners within each stratum is drawn. That is why, this type of sampling is known as stratified random sampling.

In the present research work, it was necessary to exercise control over extraneous variable viz., age, gender, socioeconomic status etc to overcome their expected influence on marital adjustment.

The subjects for the present study were all primary and middle school female teachers. The numbers of teachers were randomly selected and equally distributed in eight groups. The remaining possible factors were left to get under control through the process of randomization. Here stratified random sampling is reckoned suitable and more advantageous over simple random sampling because its each stratum is homogeneous which admits small variations within it. Therefore, a small sample within each stratum is very likely to be the representative of that subclass within the population. Thus, the total sample of the much smaller size would than represent the entire population which reduces the cost of the research
work. Furthermore, the stratification of the population is likely to produce more precision than sample random sampling but requires a more through an detailed knowledge of the population for the stratification to be successful (Mohsin, 1984).

In the present work, each factors to be varied at two levels on the basis of opposites extreme groups technique (Q₁ and Q₃). The subjects were divided into:

- a. High frustration tolerance - Low frustration tolerance
- b. Nuclear family types - Joint family types
- c. High emotional intelligence - Low emotional intelligence

The stratified random sampling technique is incorporated in the present research work. To meet the requirement of 320 sample distributed over the 2 x 2 x 2 cell of factorial design. Finally 320 sample is selected from the various schools of Chhattisgarh state. The particulars of the sample is shown in Table No 3.2 (a).
### Table No. 3.2 (a)
PARTICULARS OF THE SAMPLE
MARITAL ADJUSTMENT OF THE FEMALE PARTNERS OF DUAL CAREER COUPLES

<table>
<thead>
<tr>
<th>GROUPS</th>
<th>High frustration tolerance</th>
<th>Low frustration tolerance</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High EI</td>
<td>Low EI</td>
<td></td>
</tr>
<tr>
<td>Nuclear family type</td>
<td>(S₁) 40</td>
<td>(S₂) 40</td>
<td>160</td>
</tr>
<tr>
<td>Joint family type</td>
<td>(S₃) 40</td>
<td>(S₄) 40</td>
<td>160</td>
</tr>
<tr>
<td>TOTAL</td>
<td>80</td>
<td>80</td>
<td>320</td>
</tr>
</tbody>
</table>

N = 320
3.3 **TOOLS**

Tool plays a very vital role in any research. Through tools the researcher can assess scores to the subject response and by verifying these scores can arrive at conclusion. In the present study various types of tools were used:

**DEPENDENT VARIABLE MEASURE**

**Marital Adjustment Questionnaire (M.A.Q.):** Marital Adjustment Questionnaire Revised (1999) is used to measure dependent variable of the present study. This measure of marital adjustment is constructed and standardized by Kumar and Rohatgi (1985). It consists of 25 ‘yes-no’ type items. The area wise distribution of items is given in table

<table>
<thead>
<tr>
<th>Area</th>
<th>Item No’s</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Sexual</td>
<td>9, 20, 23, 25</td>
<td>4</td>
</tr>
<tr>
<td>2. Social</td>
<td>3, 4, 5, 6, 12, 14, 15, 18, 19</td>
<td>9</td>
</tr>
<tr>
<td>3. Emotional</td>
<td>1, 2, 7, 8, 10, 11, 13, 16, 17, 21, 22, 24</td>
<td>12</td>
</tr>
</tbody>
</table>
Reliability

The split-half reliability, correlating odd-even items, applying the Spearman-Brown formula for the doubling the test length, was found to be 0.49 (N=60) with an index of reliability of 0.70.

The test-retest reliability was also studied, it was found to be 0.71 (N=60) with an index of reliability of 0.84. The retest was given with a time interval of 3 weeks.

The r-values, 0.49 and 0.71 respectively, were found to be significant at 0.01 level, showing that the questionnaire was reliable both in terms of its interval consistency and stability of scores.

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>r-value</th>
<th>Index of reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Split-half</td>
<td>60</td>
<td>0.49</td>
<td>0.70</td>
</tr>
<tr>
<td>Test-retest</td>
<td>60</td>
<td>0.71</td>
<td>0.84</td>
</tr>
</tbody>
</table>

Validity

The face validity of the questionnaire appeared to be fairly high as the items were prepared following intensive interviews of 100 married couples regarding their concept of happy married life.
The content validity was adequately assured as only those items were selected for the initial questionnaire for which there was 100 percent agreement among the judges.

Only items which showed a fairly highly discriminating value following item-analysis were selected for the final questionnaire. The diagnostic meaningfulness of the items at the time of final selection was taken into account.

The questionnaire was also validated against Singh’s Marital adjustment inventory (Singh, 1972). The coefficient correlation between the questionnaire and Singh’s marital adjustment inventory for a group of 20 wives as found to be 0.71 with index of reliability of 0.84.

<table>
<thead>
<tr>
<th>N</th>
<th>r-value</th>
<th>Index of reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>0.71</td>
<td>0.84</td>
</tr>
</tbody>
</table>

In a recent study, Shukla (1994) has noted significant positive correlation between MAa and DAS (Spanier, 1976), and MAa and MAT (Lucke and Wallace, 1959) for single career as well as for dual career couples.
Marital Adjustment score for the husband or the wife

A ‘yes’ response is assigned a score of 1 except for items 4, 10, 19 in which case reverse is applicable. The sum of these values gives the marital adjustment score for the husband or wife. Since the responses contributory to the works towards marital adjustment are given a score, the higher total score, the higher would be the marital adjustment of the husband or wife.

Table no- 3.3 (d)
Showing correlation between MA, DAS and MAI

<table>
<thead>
<tr>
<th></th>
<th>Single Career Couples (N=75)</th>
<th>Dual Career Couples (N=75)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Husband</td>
<td>Wives</td>
</tr>
<tr>
<td>MA &amp; DAS</td>
<td>0.96**</td>
<td>0.95**</td>
</tr>
<tr>
<td>MA &amp; MAI</td>
<td>0.57**</td>
<td>0.77**</td>
</tr>
</tbody>
</table>

* Significant at 0.05 level

** Significant at 0.01 level

Scoring

Marital adjustment score for the husband or the wife

A ‘yes’ response is assigned a score of 1 except for items 4, 10, 19 in which case reverse is applicable. The sum of these values gives the marital adjustment score for the husband or wife. Since the responses contributory to the works towards marital adjustment are given a score, the higher total score, the higher would be the marital adjustment of the husband or wife.
INDEPENDENT VARIABLES MEASURE

1. **Frustration Tolerance**: The frustration tolerance test constructed and standardized by Rai (1988). It is used to assess the frustration tolerance level of the subject. The test has 31 items in all in the form of figure shown in the puzzles. There are two types of puzzle in the test:
   
d. **Insoluble puzzles**

   e. **Soluble puzzles**

   Two sets of data are obtained from this experiment:

   a. Time (in minutes and seconds) devoted by the subject on two insoluble puzzles i.e. puzzle number I and II.

   b. Number of attempts made for solving two insoluble puzzle i.e. puzzle number I and II.

   Time and number of attempts are summed and Mean time and Mean number of attempts are calculated for each subject to know his or her frustration tolerance. Data obtained in this manner may be analyzed by using any test of significance.
Family types

The family type is a demographic variable of the subject, the stratification on this variable will be done through the personal interview. The researcher asks verbally whether subject belong to nuclear or joint family.

Emotional intelligence

Emotional Intelligence Inventory (E.I.I.) developed by Bar on’s (1997). Here the researcher used a Hindi Version of EQI prepared by Mishra (2000) was used to measure the level of E.I. Inventory that of the teachers yielded five significant factors upon factor analysis.

The inventory consists of 21 items. In the five categories ranging from the Always 5, Almost 4, Generally 3, Seldom 2, Never 1. All these items are given a score of encircle items scores for responses. The sum of these values gives the emotional intelligence score for the subjects. The total scores varies from 1-21.
3.4 **PROCEDURE**

To conduct the research work, required permission was taken by the District Education Officer of districts of Chhattisgarh. They were briefed about the purpose of the research and questionnaires used in the study. They were also asked to give their co-operation to fulfil the purpose of the research study. The initial step was to prepare a list which indicates the name of government schools of the district of Chhattisgarh. To carry out the work, researcher approached to District Education Officers of four districts namely Raipur, Bilaspur, Rajnandgaon and Dhamtari. Thereafter the researcher approached to the concerned schools where the permission has been taken from the principals to conduct the research work. They were also briefed about the work and explained about the purpose of research and the sample which is included in the study. Only those teachers were taken into consideration who fulfils the age criterion i.e. those under the age group of 35-40 years. After listing the teachers were randomly selected from different strata as sample that fulfils the characteristics of the present sample.

After explaining the objectives of research work, permission was obtained from the subjects i.e. selected teachers to administer the questionnaire. A rapport was established with subjects. It was assured that the responses of Ss and their identities would be kept in strict confidential
and not disclosed to anywhere. Thus, they are free to give their answer comfortably and honestly, whatever they felt. In this way, subjects were briefed to give their proper co-operation during the testing.

To get the final sample of at least 40 cases in each cell of 8 cells of 2x2x2 factorial design, stratified random sampling was used. From initial population of 1200 female teachers, first of all the frustration tolerance test prepared by Rai (1988) was administered. The printed instructions given on the cover page of the questionnaire were explained to the subjects before the administration, generally subject took 1 hour to complete the test.

The researcher asked the subject about the type of family in which they habilitate. After that the researcher administered the questionnaire of emotional intelligence prepared by Mishra (2000). The scoring of the two tests namely frustration tolerance and emotional intelligence were done according the manual. After that, subjects were classified according to the type of family which they belong, the level of frustration tolerance and emotional intelligence.

After obtaining the responses of all 320 cases on marital adjustment questionnaire, the questionnaire put to scoring as prescribed by the author of the questionnaire as described in the manual. Thus, the scores of the tool obtained by the each subjects on marital adjustment was
completed by computing all scores of 25 items. The maximum scores were 25 and the minimum was 0. Thus, the total scores of each 320 cases were separately computed on marital adjustment.

The obtained data were further analysed and interpreted by using relevant statistical tools as prescribed in the next chapter “Analysis and Interpretation”.