CHAPTER - 4

RESEARCH METHODOLOGY
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Considering the basic purpose of this particular study, and the various assumptions formulated out of the major concepts a concrete, logical and objective methodology was adopted.

The basic intention of this study is to seek the authenticity of the various formulated relationships between person's occupation and his 'self'. The study was conducted within the frame of a suitable research design and administration procedure on selected group of people pursuing the four different occupations.

Research design involves such general activities as identifying the problem, review of literature, formulation of hypothesis, procedure for testing hypothesis, measurement, data collection, analysis of data, interpreting results and drawing conclusions. Thus research design consists of all general and specific activities of research.

The objective is to test the relationship indicated in the hypothesis in such a manner that researcher will be able to either accept or reject the hypothesis. To accomplish this there should be enough scope to impose over the situation, which is done in four ways:

(i) Through the method of randomization.
(ii) Holding condition or factors constant.
(iii) Building certain factors as independent variables.
(iv) By using suitable statistical methods.

A research design includes the following components:

(A) Research method
(B) Variables
(C) Sampling design
(D) Choice of research tools
(E) Choice of statistical techniques
1. RESEARCH METHOD

Considering the various requirements of the present investigation, ex-post-facto research method was adopted being the most suitable method while considering the sample and variables to be studied.

Research method involves the systematic procedure starting from the initial identification of the problems to the final conclusion. Suitability of research methodology requires two important conditions:

(i) Internal validity (control) and
(ii) External validity (Sampling)

Internal validity is the condition that permits 'blaming' the interdependent information variable for the findings or being certain that the observation was produced by the information variable. External validity is a condition permitting the generalization or inferences from the findings to the population from which the sample was drawn.

1:a Ex-Post-Facto Research Method:

Ex-post-facto research is often referred as casual comparative research. This method attempts to deduce or discover How and why a particular phenomenon occurs.

Kerlinger (1964), defines ex-post-facto research method as the research in which the independent variable or variables have already occurred and in which researcher starts with the observation of dependent variable or variables. Then the researcher studies the independent variable in retrospect for their possible effects on the dependent variable or variables.

It is a systematic, empirical inquiry in which the scientist does not have direct control on independent variables because their manifestation have already occurred or because they are inherently not manipulative.

The ex-post-facto method may not always be considered different from other designs. It is different in the treatment, induced by selection rather than manipulations. For this reason, it is not always possible to assume a
simple causative relation between independent and dependent variables. If the relationship fails to be obtained, then it is likely that no causative relationship holds. If the predicated relationships are obtained, this does not necessarily mean that the variables studied are casually related.

**Types Of Ex-Post-Facto Methods:**

There are two types of this method:

(a) **Correlational design**: This design involves the collection of two or more sets of data from a group of subjects with the attempt to determine the subsequent relationship between those sets of data. Correlations between all measures are obtained to determine the relationship.

(b) **Criterion Group Design**: In the criterion group approach, the researcher while seeking causative relationship amongst the variables by formulating some hypothesis, often begins by contrasting the characteristics of a state with the characteristics of its opposite state. In this an attempt is made to determine what characteristics are associated with criterion group and have presumably preceded and thereby caused the criterion behaviour.

2. **The Variables:**

The study:

The study tries to analyse and interpret job involvement self esteem stress and health of the four different professional groups: Teachers, Doctors, Engineers and Nurses in terms of nature of job, gender, income and tenure. The problem of the present study is "An Empirical study of Job Involvement, Self esteem, Stress and Health in Relation to Different Professionals". The variate structure of the study is as follows:
(i) Independent Variables:

The variable or variables whose effect is sought, is called independent variable. Nature of Job, Gender, Income, and Tenure are the independent variables of the present study.

The relevant details are given below:

a) Nature of job : Four professions

b) Gender : Male and Female

c) Income

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<th>Medium</th>
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<td>Rs. 20,000 and above</td>
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d) Tenure

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<td>15 years and above</td>
<td>8 to 15 years</td>
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(ii) Dependent Variables:

Any measured behavioural variable of interest in a psychological investigation is called dependent variable. And it is the effect of independent variable. In the present study Job involvement, Self esteem, Stress and Health are the dependent variables.

(iii) Control Variables:

Extraneous variance refers to change in dependent measures during the study that are not accountable by independent variables or their possible interactions, rather due to some other relevant variables, which is other than needed in the study. Extraneous variance is an unwanted variance so its control or minimization is essential in any study.
It has been tried to control certain extraneous variables in the study.

Age : 20 years to 55 years.
Income and Nature of Employment : All professionals were employed in various Govt. organisations with a fixed salary format.

3. SAMPLING DESIGN

In order to study Job Involvement, Self esteem, stress and health with respect to various professionals sample was chosen with care, keeping in mind the basic purpose and design of the research work.

In social science it is not possible to collect data from every respondent frequently available or by some arbitrary method. Sampling is a technique of selection of individuals from the population in such a way that every individual has the equal chance to be taken into the sample. Bad sample violates the data at the source and no amount of subsequent statistical findings will improve its quality.

Method of Sampling :

In the present investigation sample was chosen from the four professional groups: Teachers, Doctors, Engineers and Nurses. Sample was taken from the population by adopting 'Accidental Sampling Technique'.

Accidental Sampling :

The term incidental or accidental is applied to those samples that are taken because they are most frequently available. This is the most frequently used technique of sampling in behavioural sciences. It is the most economical method that reduces the time, money and energy.
4. DESCRIPTION OF THE SAMPLE

In order to study Job Involvement, Self esteem, Stress and Health with respect to various professions, accidental sampling techniques were applied. The sample comprises of different professions viz. Doctors, Teachers, Engineers and Nurses, making the strength of total 400 subjects. Out of the total sample, 200 subjects were male and 200 female. In order to match the group design each gender sample of 200 was further divided into sample of 50 each with respect to the four professions. Out of the 200 male sample there were 50 doctors, 50 teachers, 50 engineers and 50 nurses. Similarly in the female section too, there were 50 subjects belonging to each of the respective professions were chosen as sample.

When the mean age and mean length of service was taken into consideration, amongst the teachers group, the female group had mean age of 42 years and 12 was the mean length of service, whereas the male group had 45 years and 11 years as their mean age and mean length of service respectively.

In the Doctors sample, the male sample had mean age of 41 years as compared to their counterpart females, having 43 years. When length of service was taken into account again male had 10 years as average tenure had as compared to the female sample with an average length of service as 12 years.

The female group of Engineers was found to be having an average age as 40 years with 12 years as their length of service, whereas the male engineers had 41 years as their mean age and 13 years as their mean length of service.

Amongst the Nurses group of subject the female section was having 38 years of mean age and 9 years of length of service, at an average when the male nurses were taken into account, the mean age was 42 years and mean length of service was found to be coming as 10 years.
The selection of sample was of prime importance so as to make it more comprehensive and representative of the population, corresponding to its properties. While choosing the sample across the four different professions viz. Doctor, Teacher, Engineers and Nurses it was strictly accounted that all sub subjects were employed (salaried class) in one or other government institution or setups, in order to nullify the variability in their salary. The length of service was also taken into consideration to make sample more comprehensive. The subject with at least 3 years of tenure and not more than 27 years of tenure were taken as subjects. This was done deliberately to control the experience, age and income factors, which would have otherwise effected the results with a greater impact. Subjects were selected from Kanpur and Dehradun. Subjects were from Tehri Dam Project Uttaranchal, Kanpur State Electricity Board, Govt. hospitals and schools of Dehradun and Kanpur. Personnels of Medical and Engineering core of Indian Army situated at Dehradun and Kanpur were also taken as sample.

5. RESEARCH TOOLS

(a) Personal Data schedule was used to get relevant information like age, sex, length of service, occupation, salary, etc.

(b) Job Involvement Scale by Kanungo (1982).

(c) Life-event scale: Social readjustment Rating Scale (SRRS) by Holmes and Rahe (1967).

(d) Self esteem Inventory by Dr. G.P. Thakur and Dr. M.S. Prasad (1977).

(e) Medico-Psychological Questionnaire by Dr. J. Bharat Raj (1986).
DESCRIPTION OF THE TOOLS:

5:a  **Job Involvement Scale:**

This scale is based on Kanungo's (1982) study. Kanungo (1982) designed a scale of Job Involvement in an attempt to develop scale items that reflected individuals cognitive state of psychological identification with a specific job.

The questionnaire items reflect cognitive involvement of the individual towards his job. These items were thoroughly judged and compiled by ten graduate students after an extensive research of the existing measures of involvement and alienation in both the psychological and sociological literature. Much of the item content of the scale is based on Lodhal and Kejner (1965) measure for Job Involvement.

(i) **Reliability and Validity:** The internal consistency coefficient of the Job Involvement scale was found to be 0.87. The test-retest reliability based on the data from eighty three respondents was found to be 0.85.

The convergent and discriminate validity of the Job Involvement measure was tested by comparing the median values of the off diagonal correlation's among scale items. This showed a satisfactory discriminate and convergent validity.

Item analysis of the Job Involvement scale revealed a high inter item correlation, ranging from 0.74 to 0.79. The mean for the item ranged from 2.18 to 4.03. The SD for the items lies between 1.35 to 1.48. The items total correlation lies between 0.59 to 0.74.

(ii) **Scoring:** The subjects were asked to respond on a five point scale response format ranging from "strongly disagree" (given a score of 1) to "strongly agree" (given a score of 5). The responses of the subject were linearly summed to create a scale score. The maximum and the minimum scores of the scale would be 45 and 9 respectively. With
mean as 27, higher score indicates a higher amount of involvement with job.

5:b Self Esteem Inventory:

This is a self esteem measure prepared by M.S. Prasad and G.P. Thakur (1977). This is an inventory of Self esteem that takes into account personally perceived self and socially perceived self. The self-evaluation of the individual is heavily dependent upon the way in which the person views himself, and the way in which he thinks others view him. This questionnaire attempts to measure these two aspects of 'self' by adopting suitable statistical procedures.

Initially 65 item written in univocal sentences were framed on the basis of literature on the subject and consulting teachers of psychology and other discipline. Ten sets of statements were prepared and submitted to judges separately for critical assessment and opinion. Finally 30 items were selected for final on which six or more judges had agreed. With a view to assessing personally – perceived self and socially perceived self, two identical sets were made with different instructions.

400 undergraduate male and female students of Bihar University constituted the sample with mean age of 17-32 years.

(i) Reliability: The two sets of the inventory were administered on a sample of 400 students. Split-half reliability coefficients were calculated for both the sets that came out to be 0.82 and 0.78 for personally perceived self and socially perceived self respectively. The test retest reliability co-efficient came out to be 0.69 and 0.66 for personally perceived self and socially perceived self respectively.

(ii) Scoring: Of the thirty items, seventeen are socially desirable and thirteen are socially undesirable. The desirable item would get 7 score if answered completely true and 1, if answered completely false. Other intermediate answers would get scores accordingly. The undesirable item would be scored in the opposite manner i.e. 1 score
if answered completely true, and 7 if completely false. Every individual who takes the complete inventory, will have two linearly summed scores, one for the personally perceived self and other for socially perceived self.

There are three possibilities – a) personally – perceived score may be higher than socially - perceived score indicating 'positive self – esteem' b) personally – perceived score may be lower than the socially – perceived score indicating 'negative self esteem'. c) there may not be difference between the two, indicating 'balanced self esteem'.

5:c Life Events Scale:

Social readjustment rating scale by Holmes and Rahe (1967). This scale has been studied in a large number of clinical studies and found to be a most useful tool in measuring and quantifying the life changes. Holmes and Rahe (1967) developed this scale by selecting the life events on the basis of their clinical experience involving more than 5000 patients.

There are 43 items- some indicating the life styles of the individuals. The items also refer to ordinary and extraordinary social and interactional transactions of life.

The scale was standardized on 394 Americans. The sample was composed of 55% of females, and rest males. Irrespective of gender, 48% of the respondents were over 30 years of age. The scale was administered on the sample by arbitrarily providing a readjustment value of 500 units to marriage as a life event demanding readjustment. The subjects were asked to rate the life events as to their relative degree of necessary readjustment as compared to marriage. The mean score arranged in rank order derived the final magnitude of the event. The standardization of the scale and its applications has shown high consensus between the discrete groups regarding sex, age, ethics origin, marital status etc.

(i) Reliability: The Pearson product moment correlation for the three scores of scale ranged from positive to negative correlation scores.
The total weightage scores ranged between $r=0.19$ to $r=0.88$, but four of the six coefficients fall within the range of $r=0.55$ to $r=0.65$. These data suggest that the scale is moderately reliable instrument, especially when the negative and total score are considered.

Ham (1983) classified the items of life event scale of Holmes and Rahe (1967) into five different groups.

(a) Health
(b) Work
(c) Financial
(d) Home and family
(e) Personal and social

(ii) **Scoring:** Scoring of the life event scale was done on a five point Likert type scale. The responses were ranging from "will not affect me at all" to "will affect me severely". The score were given as 1 to the former response and a score 5 to the later response. The other intermediate answers would get scores accordingly. The item scores are linearly summed to create a sub-scale score, or a total score. The minimum score can be 43 and maximum score could be 215, with mean score as 129. Higher score indicates high amount of stress perceived by the individual.

5:d **Medico-Psychological Questionnaire:**

This is the test that helps in the identification of neurotic cases in the general population. It provides for making a differential diagnosis within the sub-categories of neurosis namely:

a) Hysteria
b) Neurasthenia
c) Anxiety Neurosis
d) Reactive Depression
e) Obsession Compulsion
The questionnaire consists of 50 items carefully selected from earlier instruments for measuring neurosis like the rating scales from P.B. Cattell (1965) 'A guide to mental testing'; Maudsley Medical Questionnaire (1953) etc. Item were also chosen from sources like Coleman (1982) 'Abnormal Psychology and Modern Life'; Kolb & Noyes (1968) 'Modern clinical psychiatry'.

(i) **Reliability**: The reliability of MPQ has been obtained by the test-retest reliability method on 25 college students. The correlation score obtained was +0.71, value being significant at .05 level and .01 level of probability.

(ii) **Scoring**: Each item is to be answered by subject encircling Yes / No categories. The number of 'yes' answers were counted and the total was multiplied by 2. The total number of doubtful (?) answers are counted and multiplied by 1. The total score of the test is the sum of the above two. According to the above criterion the subjects who obtain a score of 46 or more will be considered as 'neurotic'. An individual who obtains a score falling between the limits of 12-45 is considered 'normal' and who obtains a score of 16 or less will be considered as 'emotionally stable' and well balanced.

6. **STATISTICAL TREATMENT OF THE DATA**

After having collected data with the help of the four research tools, the scoring of the four questionnaires was completed to obtain raw scores. Descriptive statistics was employed to organize, summarize, interpret and communicate the quantitative data into some meaningful information.

The following statistical techniques were used to analyze the data.

a. Mean
b. Standard Deviation
c. Correlation Coefficient
d. 't' test
e. Chi Square
f. 'F'-ratio (Analysis of Variance)
g. Contingency Coefficient

7. PROCEDURE OF DATA COLLECTION

As per aim and the objective of the study the present research had a sample of 400 persons selected with the help of accidental sampling technique. All the selected personnel belonged to four different professions Teachers, Doctors, Engineers and Nurses, working as a salaried class in one or the other government organizations.

All the subjects were explained in detail about the basic purpose of this study and reasons for conducting these tests on them. Most of subjects were not familiar and accustomed to such psychological tests. They were made to understand the importance of such tests in studying the various aspects of human behaviour. They were made to realize the importance of taking up tests in right spirit and conduction. The subjects were encouraged and motivated to cooperate with the researcher. They were assured that information collected from them will not be utilized for any other purpose except for the research purpose and will be kept secret. In this way necessary psychological rapport was established to gather the data.

As per availability of time and convenience of the subjects, questionnaire sets containing personal data schedule, Job Involvement scale, Self esteem, life event scale and medical psychological inventory were given to the subjects for completion. They were also requested to read instructions given for each test carefully and then proceed to work on (respond) questionnaire set, without leaving any item of the questionnaire set unanswered. They were told that there is no time limit, but they should try to finish at the earliest. Subjects were requested not to ponder too much on test items, rather answer in terms of the first thought that comes to their mind after reading a particular statement.

Subjects' high motivation, sincerity and extreme willingness to cooperate was highly appreciated and acknowledged.