CHAPTER - 2

METHODOLOGY AND DESIGN

Outline

I The Study
II The Design
III The Sample
IV The Tools
I. THE STUDY:

The present study is a complex of a bi-variate factorial design. The rationale behind such a design being to study the intravariate interactions between laryngo-pharyngeal cancer and age. The study is constituted of a single experiment on learned helplessness.

II. THE DESIGN:

A Randomized-Group design has been adopted for the study. The elements are selected at random. The extraneous variables have been controlled through the layout of the factorial experiment having a 2x2 constitution. The subject-related extraneous variables (of personality, aptitude, needs, intelligence etc.), the situational extraneous variables (elements related to mid and low-socioeconomic status), the religion variance and the effects of caste and regional distribution have been controlled by randomization. The extraneous variable of sex and age have been controlled by elimination: by taking only male elements randomly from the age group of (35-45) and (55-65) years.

Description of manipulation of the independent variables i.e. laryngo-pharyngeal cancer and age, is as follows:
i. Laryngo-pharyngeal cancer has two levels: normals who are free from the disease, and the patients.

II. Age also has two levels: (35-45) years age group, and (55-65) years age group.

The average age of the four groups being: Laryngo-pharyngeal cancer young group = 39.6
Normal younger group = 39.6
Laryngo-pharyngeal cancer older group = 60
Normal older group = 60

The dependent variable of the study i.e. Learned Helplessness is assumed to be related to the patients and smokers atypically. The paradigm of research for study is as under:

<table>
<thead>
<tr>
<th>Experimental</th>
<th>Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laryngo-pharyngeal cancer patients</td>
<td>Normals</td>
</tr>
<tr>
<td>35-45 years</td>
<td></td>
</tr>
<tr>
<td>55-65 years</td>
<td></td>
</tr>
</tbody>
</table>

The four groups of the design are uniquely exposed to the variables of laryngo-pharyngeal cancer and age.
III. THE SAMPLE:

The essential components of this study are the people who are suffering from laryngo-pharyngeal cancer and those who are free of it. The patients of cancer were taken for Government Medical College and Hospital, Rohtak and the normal subjects were freely drawn from the general population of the Rohtak city. The total number of elements for final sample is 80, with 20 elements in each cell of the '2x2' paradigm. The distribution of elements may be stated as below :

<table>
<thead>
<tr>
<th>Laryngo-pharyngeal cancer patients</th>
<th>Normal</th>
</tr>
</thead>
<tbody>
<tr>
<td>35-45 years</td>
<td>20</td>
</tr>
<tr>
<td>55-65 years</td>
<td>20</td>
</tr>
<tr>
<td>40</td>
<td>40</td>
</tr>
</tbody>
</table>

The paradigm an account of providing sufficient and equal number of observations for each treatment of the study can be assumed to present a representative sample (Edwards, 1971).

IV. THE TOOLS:

(a) For Data Collection-A psychological test was
administered on each subject of the sample for the purpose of data collection, the details being:

**Learned Helplessness Scale:**

**Profile:**

<table>
<thead>
<tr>
<th>Tool</th>
<th>LH-Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Author</td>
<td>Upinder Dhar, Sarvdeep Kohli' and Santosh Dhar.</td>
</tr>
<tr>
<td>Nature</td>
<td>Verbal</td>
</tr>
<tr>
<td>Structure</td>
<td>15 items, 3 point scale</td>
</tr>
<tr>
<td>Duration</td>
<td>No time limit (Generally about 10 minutes)</td>
</tr>
<tr>
<td>Reliability</td>
<td>Test-retest = .77. Split half = .46</td>
</tr>
<tr>
<td>Validity</td>
<td>Content validity .88 (on the basis of reliability Index).</td>
</tr>
<tr>
<td>Available at</td>
<td>Haryana Council of Psychological Research, Vijay Nagar, Bhiwani-124021.</td>
</tr>
</tbody>
</table>

**ii. Description:**

The scale is self-administering and has no time limit. The subject is asked to interpret the items for himself. Securing co-operation of the subject is important.
which may be facilitated by stressing the confidential nature of the scale. It is not desirable to tell the subjects the exact purpose for which the tool is used. If the subject is of 'inquiring nature', "vague answers like", it measures the personality, "it assesses the reaction of the individuals varying situations" etc. should be made unwarranted expectations of apprehensions should not be raised in the mind of the subjects. This scale yields the measure of learned helplessness.

iii. Administration:

1. The instructions printed on the test booklet are sufficient to take care of the questions that are asked.
2. After establishing a favourable rapport, the experimenter reads out the instructions to the subjects.
3. The subjects 'tick mark' their choice.
4. There is no right or wrong answer to the statements or items.

iv. Scoring:

i. Scoring is done manually.

ii. No 'scoring key' or 'stencil' is required.

iii. Each item is checked as 'right', 'wrong' or 'uncertain'.

iv. 'Right', 'uncertain' and 'wrong' are awarded the score of 3, 2 and 1 respectively.

v. The sum of scores on all the 15 items is the LH-score.
ANAGRAM TASK

A set of 20 anagrams was also used as measure of learned helplessness. The subjects were instructed as follows:

You will be asked to solve some anagrams which are words with the letters scrambled. The problem for you is to unscramble the letters, so that they form a meaningful word. There could be a pattern or principle by which to solve the anagram but that is upto you to figure out.

All the 20 anagrams were soluble and had the same letter sequence of 3-4-2-5-1. The anagrams could be solved individually; but the easiest method was to learn the letter-sequence. In case the subject give a non-sense word, the experimeter replied, "that is not the word, please try again". Trials to criterion for anagram solution was angrams in less than 15 seconds each. Reaching this criterion meant that subject recognised the principle of fixed letter-sequence (Hiroto and Seligman, 1975). The patients were expected to differ in the number of trials to criterion for anagram solution on account of the variant pattern of reactions in terms of learned helplessness.

(b) For Data Analysis

(i) The 'F' test
(ii) The 't' test.