CHAPTER THREE

METHODOLOGY

The present study dealt with three different aspects of assessments in psychology 1., The personality traits i.e., frustration potential, field dependence/indigestion, locus of control, 2., intelligence and 3., the retention itself. The intent of the author is to reveal the causal relationship between the personality variables and retention performance. Besides these measurements a study of the effect of induced frustration on retention performance also envisaged. However, before starting the assessment of the variables, the first step is to decide about the sample from which information regarding personality and retention will be gathered. Thus, in the present chapter, elaboration will be made on the part of the Sample, Instruments of the study and the Experimental Design with special reference to the procedure of inducing the frustration.

1. THE SAMPLE

A researcher has always a special concern regarding the sample for the study which is the vital aspect of any research. The essence of sampling is appropriate representation of population to which one desires to make generalizations.

A large group of 2000 male students studying in XI standard was studied initially for their frustration potential. These students constituted the primary sample for the present investigation. Out of these 2000 students, 1400 subjects of average frustration potential were selected excluding the students with high or low frustration potential. Out of these 1400 Students, 960 subjects were selected with average intelligence (I-Q-90-110) who were further administered Hidden Figure Test and a total of 480 subjects were selected for further testing. Based on the criterion of $Q_1-Q_3$ statistics, 240 subjects out of they 480 were field-dependents and 240 were field-independents. Lastly, these 480 subjects were administered Locus of Control scale to select 240 subjects for the final sample again on the basis of $Q_1-Q_3$ statistics. In this way the final sample was comprised of 240 subjects. Out of these 240 subjects 60 subjects were field-dependent internals, 60 subjects were field-dependent externals, 60 subjects were field-independent internals and 60 subjects were field-independent externals.
A brief account of sub-samples is given in Table 6.

**TABLE # 6: Sub-Groupings Of The Final Sample**

<table>
<thead>
<tr>
<th>Personality Group</th>
<th>Field-Dependence</th>
<th>Field-Independence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal Locus Of Control</td>
<td>N = 60</td>
<td>N = 60</td>
</tr>
<tr>
<td>External Locus Of Control</td>
<td>N = 60</td>
<td>N = 60</td>
</tr>
</tbody>
</table>

2. **INSTRUMENTS OF THE STUDY**

It has already been stated earlier that the present study dealt with three different aspects of assessment in psychology- 1) personality, 2) intelligence and 3) retention performance. The instruments used for the purpose are described below in some detail.

**MEASUREMENT OF PERSONALITY**

The present study dealt with three dimensions of personality- frustration potential, field dependence/independence and locus of control for which three different tests were used.

1) **Measurement Of Frustration Potential**

The frustration test by Chauhan and Tiwari (1978) was used to assess the degree of frustration in the subjects. There are 40 items in this test, each having six alternatives—'Very much', 'much', 'general', 'less', 'much less', and 'not at all'. The subject is required to tick mark one of the alternatives most applicable to him/her. A score of 5 is given to the response 'Very much' and 0 (Zero) to 'not at all' and 4 to 1 to other intermediary responses. The test gives scores in respect of four modes of frustration (e.g., Regression, Fixation, Resignation and Aggression) as well as total or global frustration. There are ten items to represent each mode of frustration.

2) **Measurement Of Intelligence**

In the present study, culture fair intelligence test by Cattell was used
to measure the intelligence of subjects. The C.F. tests are one of the most highly valid intelligence test in existence and of special efficiency in relation to their brief length. There is a good evidence of a high degree of independence of its scores from particular cultured skills for children and adults over the whole ability range. Cattell developed three scales suitable for different age groups. Scale 1 operates over four through eight years, Scale 2 over eight through fourteen years including average non-college adults, and Scale 3 operates over fourteen years and through the superior adult level. Moreover, the reliability and validity of these tests are very high.

Keeping these advantages of the C.F. Scales over other intelligence tests, Cattell's Scale 3 was selected for the present study to measure the intelligence of subjects studying in class XI. There are 50 items in Scale 3 representing four distinct type of tests. The details are summarized in Table 7.

**TABLE # 7: Items And Time Allotted To Each Subject In C. F. Intelligence Scale 3.**

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Subjects</th>
<th>Number Of Items</th>
<th>Time Allotted in minutes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Test 1: Series</td>
<td>13</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>Test 2: Classification</td>
<td>14</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>Test 3: Matrices</td>
<td>13</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>Test 4: Conditions (Topology)</td>
<td>10</td>
<td>2.5</td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL</strong></td>
<td><strong>50</strong></td>
<td><strong>12.5</strong></td>
</tr>
</tbody>
</table>

The Hindi version of scale 3 (Form-A) is prepared by (Mrs.) S.Rao.

3) Measurement Of Field Dependence/Independence.

Witkin et al.(1954) developed Hidden Figure Test (HFT) to measure the magnitude of field dependence/independence in a group situation. In the present investigation HFT (Hindi Research Form) standardized by Palnitkar and Helode (1986) was used. The test consisted of two parts and each part includes 16 hidden figures in increasing order of difficulty. The split half reliability of the HFT, (Hindi Research Form), as determined by Rulon's formula (Guilford) turned
out to be .93.

There is time limit of 10 minutes each to complete both the parts. One mark was given to each correct identification of the hidden figure. The total number of the correct identification of hidden figures on both the parts of the test constituted a total score earned by the testee on HFT. Higher the score on the scale indicated greater field independence.

4) Measurement Of Locus Of Control.

Helode (1985) has prepared a Hindi version of Pandey's (1978) 20 item Indian adaptation of Rotter's (1966) I.E.C.R. Scale which meant to evaluate belief regarding internal versus external control of reinforcement. It consists of 20 paired statements. One item in each pair is keyed for internal control and the other for external control. The split half reliability co-efficient of this Hindi I.E.C.R with S-B correction is .80. The test is fairly valid as the distribution of the internality scores of the bank employees studied by Shukla and Helode (1986) yielded a normal distribution. One mark is given to each statement containing external orientation. Thus, higher scores on the scale indicate externality of control.

5) Measurement Of Retention.

An unseen passage of 50 words was used for retention test. For the purpose five unseen passages were selected from various literature books and magazines which were not in the curricular course of the class XI. These unseen passages were given to ten school teachers for the judgment of best appropriate passage for the student of class XI and the passage which was judged by the majority as the most appropriate was selected in the present investigation for the purpose of testing the retention of the subjects. The passage was from Hindi literature and read as follows:

3. EXPERIMENTAL DESIGN OF THE STUDY

An outline of the plan for the present investigation is given in Table 8. The main features of the experimental design may be summarized in this way: The total of 240 subjects would be drawn from four groups i.e., field-dependent internals, field-dependent externals, field-independent internals and field-independent...
externals. Each group comprises of 60 subjects which would further be divided into two sub-groups i.e., control and experimental (frustrated) group.

In control condition the subjects would be given the passage for retention test and retention would be tested after the interpolated task of five minutes. During this interpolated task the subjects would be busy in making chain with the help of 'U' clips. The subjects of the control condition would not be disturbed any way during the activity of interpolated task. While the subjects of experimental condition would be frustrated by the experimenter during this interpolated activity of making a chain with the help of 'U' clips. To frustrate or to induce frustration experimentally, the subjects of the experimental group would be misinformed about their performance on the interpolated task. The performance of these subjects would be proved quite poorer as compared to other subjects by falsifying their scores on the interpolated task along with negative remarks which would induce frustration within the subject because of inability to perform upto the expectation level on a very simple task.

**TABLE # 8: An Outline Of The Design Of The Present Study.**

<table>
<thead>
<tr>
<th>Condition</th>
<th>Organismic Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Field-Dependence</td>
</tr>
<tr>
<td>Internal Locus Of Control</td>
<td>External Locus Of Control</td>
</tr>
</tbody>
</table>

Control  

Experimental  
(Frustration)

* There would be 30 males of XI class in each cell.

*Remarks about conditions:*

*Control*- The subjects of control condition would be tested for retention after an interpolated task without inducing frustration.
The subjects of experimental condition would be tested for retention after inducing frustration experimentally by negative remarks during the interpolated activity.

The subjects would learn the passage for 10 minutes and would recall the learned passage in writing after the retention interval of five minutes during which interpolated activity would continue. The total number of words rightly recalled and their sequence in order would be the criteria for retention test. A score of 2 would be assigned to the rightly recalled word in correct sequence of the passage and a score of 1 would be assigned to the rightly recalled word which would be not in sequence of the passage 0 would be assigned to the wrongly recalled word. In this way the maximum score on retention test would be 100 and the minimum would be 0.

4) PROCEDURE.

Data were collected in five steps. In the first step, a frustration test was administered on 2000 male students of XI standard with a view to control the sex and age factor. On the basis of scores on frustration test, a total of 1400 subjects were selected who were of average frustration potential excluding the high and low frustration potential subjects with a view to have control on this vital aspect. Further to control the intelligence which could also be an intervening variable, these 1400 selected subjects of average frustration potential were administered an intelligence test and only those 960 average intelligent subjects were selected whose I.Q. was measured between 90-110. These 960 subjects were further administered a Hidden Figure Test and on the basis of Q₁-Q₃ statistics 480 subjects were selected out of which 240 subjects were scoring above the Q₃ (independents) in the distribution and 240 were below the Q₁ (dependents) in the distribution.

These selected 240 field-dependents and 240 field-independents were further administered a locus of control scale and again on the basis of Q₁-Q₃ statistics, 60 internals and 60 externals, were selected who were field-dependents and similarly 60 internals and 60 externals were selected who were field-independents.

In this way the final sample of the study comprised of 240 subjects who were finally tested for their retention after learning a passage of 50 words for 10 minutes and working on a interpolated task for 5 minutes. Half of the
subjects from each of the four sub-groups were tested under control condition and another half of each of the four sub-groups were tested under experimental condition. Frustration was not induced in the subjects of control group while working on interpolated task. While frustration was induced experimentally in the subjects of experimental group during their activity on interpolated task.

The response measure was scores on the retention test. Only one subject was tested at a time for his retention.