Chapter-3

Research Methods and Procedures
RESEARCH METHODS & PROCEDURES

In the present chapter, the sample, the design, methods and procedures of the study have been discussed with regard to the following heads-

a. The sample

b. Design and variables involved

c. The tools used

d. The collection of data

e. The statistical technique used

A. THE SAMPLE

In the present study 300 male and 300 female students (High School class) in the age range of 15-16 of ORAI city were included in the sample. The 300 high & 300 low socio-economic status related subjects were selected through stratified random sampling technique.

A schematic break-up of the sample is shown below-

```
  Total 600 students
   \  / \
   300 Male Students  300 Female Students
   /    \            /    \
150 High Socio 150 Low SES 150 High SES 150 Low SES
```

Economics status

B. DESIGN AND VARIABLES INVOLVED

The present study is concern with effect of socio-economic status, pro-social behaviour and type of personality on self-concept.
An ex-post-facto research design was considered suitable for the present study. The present study is an exploratory nature in which the independent variable have already occured and researcher starts with the observations of the dependent variables. The independent variables are studied in respect of their possible relations and effect on dependent variable.

Thus there are two type of variables in the present study-

**Independent Variables**

- Socio-economic status (High & low)
- Sex (male and female)
- Altruism (High and Low)
- Type of Personality (Extraversion and Introversion)

**Dependent Variable**

- Self-concept

C. **The Tools used**

The following tools were used in the present study-

i) Self-concept Scale

  *by Dr. Taresh Bhatia and Dr. (Mrs.) Suman Tripathi*

ii) Extraversion Introversion Inventory (E.I.I.)

  *By Dr. Taresh Bhatia*

iii) Socio-Economic Status Scale

  *By Dr. S.P. Kulshreshtha*
iv) Altruism Scale

By Dr. Taresh Bhatia

A detailed description of the tools used in the present study has been given below-

(i) **Self-concept scale** :

The present scale was developed by the Dr. Taresh Bhatia and resercher for measuring different types of self-concept The self-concept consists of three major components; The perceptual, the conceptual and the attitudinal (Hurlock 1976). The self-Concept takes many forms, the basic, which includes the person's perception of his appearance, abilities, role and status in life, values, beliefs and aspirations, the transitory or the concept a person holds of himself only temporarily before replacing it with another self-concept, the social or mirror image in which the person sees himself as he believes others see him, and the ideal self-concept or the person's perception of the kind of person he would like to be (Hurlock).

**Development of scale**

To make a scientific selection of the areas of self-concept, 12 relevant and meaningful areas of Self-concept were taken. These 12 areas were given to seven experts of psychology, for approval, The total number of areas over which the experts were unanimous were eight and these were retained for the final form of the scale.
The Self-concept Scale has been used for measuring different types of self-concept of an individual. The present scale measures eight important areas of Self-concept. These areas are:

a. Intellectual Ability and Academic Status
b. Self-confidence
c. Health and Physical Appearance
d. Sociability
e. Emotional Stabiluty
f. Mental Health
g. Temperamental Qualities:
   (i) Ascendant (Predominant)
   (ii) Vigorous (Energetic)
   (iii) Placid (Calm)
   (iv) Responsible
   (vi) Persistence
h. Feeling of Superiority.

**Item Analysis :-**

It was decided to write 15-20 items under each of the eight areas. In this way an initial pool of 145 items were ready for the scale. These items were given to five experts for a rating. The items with 100 percent approval were retained and rest were dropped. Thus after the initial
try-out the 35 items were left.

The scale was administered to subjects of the sample of 250 students (male and female) for the purpose of item analysis. The age range of the subjects was 15 to 32 years. Subjects were asked to respond in terms of their agreement or disagreement with the items in a five point continuum namely strongly agree, Agree, Uncertain, Disagree and Strongly disagree. Item analysis was done with the help of the method between two extreme groups. Discriminative values were computed for item-selection. All the items were then arranged in descending order of their 't' values. Out of 110 items, the first 80 items were selected for the final form of the scale. Thus the scale consists of items out of each self-concept area has 10 items. These are presented in the simple statements and provide five alternative response options graded on a five point scale.

Reliability :-

The coefficient of reliability was determined by test-retest method. The test was administered twice with a time interval of 35 days to a sample of 200 subjects. The test-retest reliability coefficient for each area of the scale was found out as follows -
<table>
<thead>
<tr>
<th>Areas</th>
<th>Test-Retest Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Intellectual Ability and Academic Status</td>
<td>.81</td>
</tr>
<tr>
<td>B. Self-Confidence</td>
<td>.84</td>
</tr>
<tr>
<td>C. Health and Physical Appearance</td>
<td>.75</td>
</tr>
<tr>
<td>D. Sociability</td>
<td>.79</td>
</tr>
<tr>
<td>E. Emotional Stability</td>
<td>.78</td>
</tr>
<tr>
<td>F. Mental Health</td>
<td>.82</td>
</tr>
<tr>
<td>G. Temperamental Qualities</td>
<td>.74</td>
</tr>
<tr>
<td>H. Feeling of Superiority</td>
<td>.83</td>
</tr>
<tr>
<td>Total</td>
<td>.83</td>
</tr>
</tbody>
</table>

**Validity:**

The validity of the scale was established with the help of content validity on the basis of internal consistency.

**Administration**

It is a self-administering scale. There is no time limit for answering it. However most of the groups should finish it in about 20 minutes. It should be emphasized that there is no right or wrong answers to the statement.

**Scoring Key:**

It is a five point scale. the scoring of which has been
objectified by assigning Five to one scores respectively for five alternatives of the positive times, rated strongly agree to strongly Disagree. For the negative items the scores assigned to each of alternatives have been reversed. They range from one to five for five alternatives.

The following Tables shows item distribution in the various areas

<table>
<thead>
<tr>
<th>Areas</th>
<th>Total Items</th>
<th>Positive Items</th>
<th>Negative Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Intellectual Ability and Academic Status</td>
<td>10</td>
<td>1,9,65</td>
<td>17,25,33,41,49,57,73</td>
</tr>
<tr>
<td>b. Self-Confidence</td>
<td>10</td>
<td>2,10,18,26,42,50,58,66,74</td>
<td>34</td>
</tr>
<tr>
<td>c. Health and Physical Appearance</td>
<td>10</td>
<td>3,11,19,35</td>
<td>27,43,51,59,67,75</td>
</tr>
<tr>
<td>d. Sociability</td>
<td>10</td>
<td>4,12,28,36,44,52,60,68,76</td>
<td>20</td>
</tr>
<tr>
<td>e. Emotional Stability</td>
<td>10</td>
<td>21</td>
<td>5,13,29,37,45,53,61,69,77</td>
</tr>
<tr>
<td>f. Mental Health</td>
<td>10</td>
<td>6,14,22,30,38,46,54,62,70,78</td>
<td>---</td>
</tr>
<tr>
<td>g. Temperamental Qualities</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(i) Ascendant</td>
<td>02</td>
<td>7,15</td>
<td>---</td>
</tr>
<tr>
<td>(ii) Vigorous</td>
<td>02</td>
<td>23,31</td>
<td>---</td>
</tr>
<tr>
<td>(iii) Placid</td>
<td>02</td>
<td>39,47</td>
<td>---</td>
</tr>
<tr>
<td>(iv) Responsible</td>
<td>02</td>
<td>55,63</td>
<td>---</td>
</tr>
<tr>
<td>(v) Persistence</td>
<td>02</td>
<td>71,79</td>
<td>---</td>
</tr>
<tr>
<td>h. Feeling of Superiority</td>
<td>10</td>
<td>8</td>
<td>16,24,32,40,48,56,64,72,80</td>
</tr>
</tbody>
</table>
ii) Extraversion-Introversion Inventory (E.I.I.)

by Dr. Taresh Bhatia

The preliminary form of the inventory was administered on a sample of 250 students (125 male and 125 female), for the purpose of item-analysis. The age range of the subjects was 16 to 22 years. Subject were asked to respond to item as ‘Yes or No,’ Item-analysis was done with the help of the method between two extreme upper and lower groups, as described by Anastasi (1968). Total 45 items were of good discriminative value, thus 15 items were dropped. The final form of the inventory has 30 items.

Reliability-

The coefficient of reliability was determined by test-retest method. The test was administered twice with a time interval of 30 days to a sample of 100 subjects. The test-retest reliability coefficient was found 0.76. The split half reliability method was computed for estimating the internal consistency and equivalence, which was found 0.82. Thus both these reliabilities are significant which indicate that the inventory is highly consistent and reliable.

Validity-

The Empirical Validity of the inventory was found out by correlating the inventory with some external criterion that is the Neyman-Kohilstedt Disgnostic Test (Indian Adaptation) by Dr. Jai
Prakash. Both the test were adminsitered to sample of 100 subjects. The validity coefficient obtained is 0.85.

*Administration*

It is a self administering inventory. There is no time limit for answering it. However most of groups should finish it in about 10 minutes. It should be emphasized that there is no right or wrong answers to the statement. All items have to be answered either in the positive or in the negative in ‘Yes’ or ‘No’.

*Scoring Key*

Scoring key of the present inventory is given as follows: Give one score for the following responses, otherwise give zero scores.

<table>
<thead>
<tr>
<th>No of Items</th>
<th>Correct responses one score is given</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>No</td>
</tr>
<tr>
<td>2</td>
<td>No</td>
</tr>
<tr>
<td>3</td>
<td>No</td>
</tr>
<tr>
<td>4</td>
<td>Yes</td>
</tr>
<tr>
<td>5</td>
<td>Yes</td>
</tr>
<tr>
<td>6</td>
<td>Yes</td>
</tr>
<tr>
<td>7</td>
<td>Yes</td>
</tr>
<tr>
<td>8</td>
<td>No</td>
</tr>
<tr>
<td>9</td>
<td>Yes</td>
</tr>
<tr>
<td>10</td>
<td>No</td>
</tr>
</tbody>
</table>
Norms:

Total the scores obtained for all the 30 items to get the overall

(117)
scores. The individual may be classified into five categories on the basis of total scores.

iii) **Socio-Economic Status (SESS FORM A), 1980 (Urban)**

by Dr. S.P. Kulshrestha

This scale of Socio-Economic Status for urban population (SESSU) contains 20 items in all. It is a verbal scale. This scale can be administered individually as well as in the groups also. The information may also be collected through simple interviews, observation or by direct questioning. If the subject himself fills the information he is supposed to put a Tick (✓) for the due information. This scale has transparent scoring key for easy and simple scoring.

**Components of Socio-Economic Status Scale:**

The present scale is designed to measure Socio-Economic Status of urban families. It collect information regarding the following component variables:

**Parental and Sibling’s Occupation:**

Parental and sibling’s occupation relates to the primary occupations of the family, which are the main sources of livelihood. This item has been divided into nine categories. They are-

(i) Those occupations where higher education is required e.g. Doctors, Engineers, Professors etc.

(ii) Executive occupations (higher level) e.g. Managers or adminis-
trative officers of the biennial industries etc.

(iii) Those occupations which require at least graduate degree e.g. Teachers of Inter Colleges, medical representative etc.

(iv) Middle level occupations like manager, partner of factory etc.

(v) General occupations or Technical work e.g. teachers of primary/ nursery schools, shopkeepers etc.

(vi) Skilled occupations like craftman, carpenter etc.

(vii) Service worker's occupations e.g. clerk, typist, steno, non-commissioned army officers.

(viii) Semi skilled occupations e.g. machine operator.

(ix) Unskilled occupations e.g. peons, labourer etc.

**Parental and Sibling's General Education:**

This component has got eight categories. They are given below-

(i) Doctoral and post doctoral degree.

(ii) Post-graduate degree.

(iii) Graduatge Degree.

(iv) Intermediate/Higher Secondary.

(v) High School

(vi) Middle School.

(vii) Primary School

(viii) Illiterate

(119)
Parental and Sibling's Technical Education:

The level of the technical education has been divided into seven categories-

(i) Post-graduate Diploma e.g. Guidance Diploma.

(ii) Graduate Diploma or degree (after having at least one graduate degree) eg. B.Ed.

(iii) Diploma after Hr. Secondary or Intermediate.

(iv) Diploma or training after High School

(v) Training/Certificate after Middle.

(vi) General Training Certificate/diploma.

(vii) No Training or Technical degree/diploma.

Economic Indicators:

This component is represented by the Item Nos. 4 to 12. This includes Monthly, income of the family, Bank and Post Office deposits, Debt on the family, Capacity to collect money in emergency. House Ownership, type of houses, freeship in School, types of school in which children are studying or studied, type of servants, Number of Various Household articles in possession e.g., T.V./Radio, Car, Cycle etc.

Cultural Indicators:

This component includes the item No.s 13 to 15 which represent the types of Newspapers/magazines and their frequency, invitations
from Mohallas/City or Societies, membership of various types of clubs and other organizations.

*Psychological Indicators:*

Item Nos. 16 to 20 represent the psychological variables in the scale. These include the types of colony in which the person is living, types of general views/thinking of others about the family, belief in caste, mobility, and the likes and dislikes towards the new practices and innovations.

*Scoring Method:*

The scoring key summarises the informations recorded on the scale. The weightage of each item has been written on the transparent key, which may be used in very convenient manner. Keep the key on the scale and add the scores mentioned above each box on the key of each ticked (√) answer. Do the same for other pages no 3, 4 & 5 add all the scores of all the pages of the scale and find out the grand total. This grand total of all the scores should be taken into consideration for determining the Socio-Economic Status of urban testee Compare the grand total numericals with the norms and assign the category to the person accordingly.

*Reliability of the scale:*

The test-retest reliability of the scale was found to be 0.87.
Validity:

The scale possesses content and construct validity. The validity of the scale was also calculated by comparing the scale with Dr. Kuppuswami's and Pandey's Socio-Economic Status Questionnaires. The coefficient of correlations were found 0.57 and 0.89 respectively.

IV) Altruism Scale

By Dr. Taresh Bhatia & Dr. (Mrs.) Alka Kapoor

A prosocial act is one that benefits another person but has no obvious benefits for the person who carries it out. Other terms, such as helping behaviour, charitable behaviour, altruism and volunteerism are also used to describe the good things that people do to assist others. Because of diffusion of responsibility, the more bystanders present as witnesses to an emergency, the less likely to help to be given. A bystander must go through five crucial steps- He or she must notice the emergency, correctly, interpret what is occurring, assume responsibility for providing help, have the necessary skills and knowledge to help and then actually decide to provide assistance (Baron & Byrne 2000).

Prosocial acts occur that persons in need and attributes the problem to circumstances beyond the victim's control. Exposure to prosocial models in real life and in the media has a positive effect on prosocial acts. Bierhoff, Klein and Kramp (1991) identified the five
key variables of the altruistic personality as follows-

1. **Empathy**- is higher in those who helped in those who did not.
   The most altruistic participants also described themselves as responsible, socialized, conforming, tolerant, self-controlled and wanting to make a good impression.

2. **Belief in a just world**- The helpful people perceive the world as a fair and predictable place in which good behaviour is rewarded and bad behaviour punished.

3. Social responsibility was high among those who offered assistance. They expressed the belief that each person is responsible for doing his or her best to help those in need.

4. Internal locus of control- This is an individual's belief that he or she can choose to behave in ways that maximize good outcomes and minimize bad ones, and helpers tend to be high on this dimension.

5. **Low Egocentrism**- People who failed to help were relatively egocentric and tended to be self-absorbed and competitive.

   However not only these five but the many additional personality characteristics that have been found to influence prosocial behaviour.

**Development of the Scale**

The Altruism scale has been used for measuring altruistic behaviour of an individual. It was decided to write Likert type five
point items. In this way an initial pool of 85 items was ready for the entire scale. The scale was administered to the subjects of a sample of 300 students (male and female) for the purpose of item analysis. The age range of the subject was 15 to 20 years. Employing 27% upper and 27% lower criterion groups item analysis was done. The discriminative value were computed for item selection. All the items were then arranged in descending order of their ‘t’ values. The first 40 items with the largest ‘t’ value for the final scale were selectd.

Reliability:

The coefficient of reliability was determined by test-retest method. The test was administered twice with a time interval of 30 days to a sample of 200 students. The test-retest reliability coefficient was found .85. The split-half reliability was also computed for estimating the internal consistency and equivalence, which was found 0.89. Thus both these reliabilities are significant which indicate that the test is highly consistent and reliable.

Validity :-

The empirical validity of the test was found, out by correlating the test with external criterion that is Altruism Scale. By Dr. S.N. Rai and Dr. Sanwat Singh. Both the test were administered to sample of 150 subjects. The validity coefficient obtained is 0.78.
Administration

It is self administering test. There is no time limit for answering it. However most of groups should finish it in about 12 minutes. It should be emphasized that there is no right or wrong answers to the statement. They are constructed to have differences in individual’s reaction to various situations.

Scoring:-

It is a five point scale, the scoring of which has been objectified by assigning five to one scores respectively for five alternatives of the positive items, rated strongly agree to strongly disagree as following.

\[
\begin{array}{ccccc}
5 & 4 & 3 & 2 & 1 \\
\hline
\text{Strongly Agree} & \text{Agree} & \text{Uncertain} & \text{Disagree} & \text{Strongly Disagree}
\end{array}
\]

For the negative items the scores assigned to each of the alternatives have been reverses. They range from one to five for five alternatives as following.

\[
\begin{array}{ccccc}
1 & 2 & 3 & 4 & 5 \\
\hline
\text{Strongly Agree} & \text{Agree} & \text{Uncertain} & \text{Disagree} & \text{Strongly Disagree}
\end{array}
\]

Item No. 4,5,8,9,10,14,15,21,22,32,33,39 and 40 (Total 13 items with star sign) are the negative items, rest are positive items.

D. THE COLLECTION OF DATA

Administration of psychological tests is a technical process. It need a clear grasp of the process and its various facts. The respondees
need suitable motivation to take up the tests in right earnest and express their real feelings in a frank and straightforward manner.

Thus the subjects of the present study were selected from the prescribed population. The principals of these institutions were approached one by one and the objectives of the present study were explained. All the institutions provided the facilities for collections of data. The selected students were administered all test and requested to answer the questions sincerely and truthfully. They were assured that the responses would be kept confidential.

E. THE STATISTICAL TECHNIQUE USED

The first purpose of the present study was to compare the self-concept of male and female, high & low socio-economic status, high & low altruism and Introvert & Extrovert type personality sub groups. Mean and Standard deviation of each group were calculated. The comparison between different groups were made on the basis of the critical ratio with 0.05 and 0.01 levels of confidence considered significant. Hypothesis from No. 1 to 4 were tested by applying Critical ratio.

Another purpose of the present study was to find out the effect of sex, socio-economic status, altruism (high & low) and type of personality on self-concept of High School Students, for this purpose analysis of variance was calculated.