CHAPTER-IV
METHOD AND PROCEDURE
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The present chapter deals with the method employed for the study. It describes the design of the study, composition /detail of the sample, the tools used and mentions the statistical techniques used for data analysis.

In a research process, the research method is of great importance. It describes the plan to be adopted in solving the research problem. It describes the various steps of plan of action to be adopted in solving the problem, such as the manner in which the problems are formulated, the definitions of the terms, the choice of the subjects for investigation, the validation of data gathering tools, the collection, analysis and interpretation of data and the processes of inferences and generalizations. Best (1978) has rightly said that a researcher’s tool is appropriate in a given situation, to accomplish a particular purpose. The selection of method and the specific design within that method appropriate in investigating a research problem depends upon the nature of the problem selected and kind of data necessary for its solution. The method selected should always be appropriate to the problem under investigation, feasible, preplanned and well understood.

4.1 METHOD

The Descriptive Survey Method of research was employed in the present study. It is a method of investigation which studies, describes and interprets what exists at present. It helps to explain the educational phenomenon in terms of relationships that exist, opinions that are held by the respondents, effects that are evident or trends that are developing. This method is primarily concerned with the present, although it often considers past events and influences as they relate to current conditions. It deals with the relationships between variables, the testing of hypotheses, and the development of generalizations, principles, or theories that have universal validity. It is concerned with functional relationships.

In carrying out descriptive research, the researcher does not manipulate the variable, decide who receives the treatment, or arrange for events to happen. In
fact, the events that are observed and described would have happened even though there had been no observation or analysis. It involves events that have already taken place and may be related to the present condition. Through this method pertinent and precise information, regarding the current status of phenomena is obtained, and whenever possible valid general conclusions can be drawn from the facts discovered. This method leads to generalizations beyond the given sample and situation.

The descriptive method includes nature and status of anything, a group of persons, a number of objective set of conditions, a class of events, a system of thought and other kind of phenomena, which ever are highways of study. It involves events of interpretation of meaning or significance of what has been described. This description often combines classification, interpretation and evaluation.

According to Best (1989) a descriptive study describes and interprets “what is”. It is concerned with conditions or relationships that exists, opinions that are held, processes that are going on, effects that are evident, or trends that are developing.

Smith and Glass (1981) state that the fundamental purpose of descriptive survey research is to describe the characteristics or variables in the population by examining the samples.

The present study is non-experimental, because it deals with the relationships among non-manipulated variables. Since the events or conditions have already occurred or exist, the investigator has merely selected the relevant variables for the analysis of their relationships.

4.2 DESIGN OF THE STUDY

The design of the study is the detailed procedure of testing the hypotheses and analyzing the obtained data. It is the detailed plan of investigation. The research design, thus, may be defined as the sequence of those steps taken ahead of time to ensure that the relevant data will be collected in a way that permits the objective analysis of different hypotheses formulated with respect to the research
problem. It helps the researcher in testing the hypotheses by reaching valid and objective conclusions regarding the relationship between independent and dependent variables. The selection of any research design is obviously not based upon the whims of the researcher; rather it is based upon the purpose of investigation, types of variables and the condition in which the research is to be conducted. The purpose of any research design is to provide a maximum amount of information relevant to the problem under investigation at a minimum cost.

The present study was conducted to study the Personal Values of senior secondary school students in relation to School Environment and Home Environment in the three cultural regions of Punjab namely, Doaba, Majha and Malwa. All the three tools employed, namely, Personal Values Questionnaire (PVQ), School Environment Inventory (SEI) and Home Environment Inventory (HEI) were administered on the students studying in Government schools and Private schools.

4.3 SAMPLE

In the present study the researcher has selected a sample of 900 senior secondary school students (300 from each cultural region of Punjab namely, Doaba, Majha and Malwa). To ensure representativeness, Multi-Stage Random Sampling technique was employed. Multi-Stage random sampling is used for a more comprehensive investigation. The researcher may use two, three or four stage sampling. Here in the present study the investigator has used three stage sampling i.e. at each stage (namely district, school and students) the investigator has selected the sample randomly, by listing the units of the population. From the list of districts belonging to Doaba, Majha and Malwa regions of Punjab, three districts one from each cultural region, was selected by employing simple random sampling. (In simple random sampling each and every unit of population has an equal opportunity of being selected in the sample and the selection of one unit is not affected by the selection of other units). After that, the list of various co-educational Government and Private schools belonging to each selected district was taken from the District Education Officer. From this list, ten schools, five
Government and five Private schools were selected randomly from each district. (List of schools has been given in Appendix I). Thirty students (15 males and 15 females) from each school were again selected i.e. 150 students (75 males and 75 females) were selected from each type of school. The pictorial representation and the pie diagram of the sample are given in Figure 4.1 and 4.2 respectively, on the following page.
Figure 4.1: Pictorial representation of the sample

Sample N= 900

Doaba 300

Govt. 150

Male75

Govt. 150

Male75

Female75

Female75

Male75

Male75

Female75

Female75

Male75

Male75

Female75

Female75

Majha 300

Govt. 150

Male75

Govt. 150

Male75

Female75

Female75

Male75

Male75

Female75

Female75

Malwa 300

Govt. 150

Male75

Govt. 150

Male75

Female75

Female75

Male75

Male75

Female75

Female75

Cultural Regions

Type of School

Gender
4.4 TOOLS USED

In almost all the research works the objectives of the study have to be kept in mind while studying the available tools. Before the data is collected, suitable tools have to be found. In the absence of appropriate tool the researcher may also have to devise one of his own. In the present study, the investigator used the following tools:

(1) Personal Values Questionnaire (PVQ) by Dr. Mrs. G.P. Sherry and Late Prof. R.P. Verma (1971)

(2) School Environment Inventory (SEI) by Dr. Karuna Shankar Misra (1984)

(3) Home Environment Inventory (HEI) by Dr. Karuna Shankar Misra (1989)

4.5 DESCRIPTION OF TOOLS

(1) Personal Values Questionnaire (PVQ) by Dr. Mrs. G. P. Sherry and Late Prof. R.P. Verma (1971)

The need of the tool to assess human values in the indigenous cultural milieu has been felt for a long time in this country. The Personal Value Questionnaire (Appendix II) is an attempt in this direction. The varieties of human values are innumerable. It is therefore a fond hope to survey the entire spectrum of values. One criterion for their selection was their frequent mention in the literature.
Another criterion was their relevance to the indigenous social milieu. Under these two considerations ten values namely, Religious value, Social value, Democratic value, Aesthetic value, Economic value, Knowledge value, Hedonistic value, Power value, Family Prestige value and Health value were selected for assessment. The format of PVQ is that of a forced choice type with multiple-choice items. The final draft of PVQ contains 40 questions having 120 (40X3) items. A question consisted of two parts: (i) a stem, and (ii) 3 items. In the item of the question a criterion situation for seeking the value preferences was depicted. The items depicted the values for which the respondent had to express his comparative preferences under the stimulus of the criterion situation. An example of a question is given below:

Q: What kind of job do you like? (Stem) Such a job in which you have:
   (i) opportunity to make a lot of money
   (ii) control over men
   (iii) physical comfort and rest

Each value has equal number of items and there are 12 items for each value. PVQ can be administered individually as well as in a group and should be filled out under the standard instructions.

Scoring of the PVQ: The responses are to be scored as follows:
(1) 2 for a check mark (✓) showing the most preferred value under the stem.
(2) 0 for a cross (x) showing the least preferred value under the stem.
(3) 1 for the blank ( ) or the unmarked item showing the intermediate preference for the value.

Sometimes the respondents leave some questions unanswered. If the number of such questions is 4 or less, each item of the unanswered question should be scored as 1. If the number is more than 4 the questionnaire should be rejected.

In all the cases the scores should be recorded besides the corresponding brackets and total of each value (Ka to Tha) should be written in the cage given at the foot of the page. The correctness of scoring and recording of the totals for the values is checked by summing the total for all of them on each page separately. If
the grand total is 24 the scoring may be correct, provided that the compensating errors have not been committed.

Finally the entries in the cage at the foot of each page should be brought to the bigger cage on the front page of the PVQ. The total of each column should be noted down in the bottom row. These totals denote the scores of the respondent on the corresponding value given at the top of the column. In this questionnaire,

(i) Ka stands for the religious value
(ii) Kha stands for the social value
(iii) Ga stands for the democratic value
(iv) Gha stands for the aesthetic value
(v) Cha stands for the economic value
(vi) Chha stands for the knowledge value
(vii) Ja stands for the hedonistic value
(viii) Jha stands for the power value
(ix) Ta stands for the family prestige value
(x) Tha stands for the health value

Validity: Validity is generally defined as its capacity to measure what it purports to measure. The PVQ is designed to measure the personal values. Hence the evidence of validity of the PVQ lies in the fact that an individual’s score on the value e.g. religious value, as found by means of it, is truly index of his conception of desirability of religious motivation making choices among the available alternative in relevant situations.

The validity of PVQ was obtained by finding out the hierarchy of values of students in two ways. The two hierarchies were correlated and the rank order coefficient of correlation of .64 was found. So, it gives the evidence that PVQ is a fairly valid tool.

Reliability: Reliability of a tool is generally defined as the ratio of true variance to the scores (Guilford). The error variance component of the scores generated by perfectly reliable tool is zero and there is no error of measurement. Hence reliability is one of the most important characteristics of a tool, which denotes how accurately the tool measures whatever it measures.
Two indices of reliability of the PVQ were found out. Firstly its reliability was found by Hoyt’s method using analysis of variance which method is as efficient as Kuder Richardson’s but less cumbersome. Secondly, two test-retest reliabilities were determined one after an interval of 11 month and the other of 2 months. Thus three sets of reliability coefficients for PVQ are available at present and they are presented in the following table.

Table 4.1: Indices of Reliability of PVQ

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Values</th>
<th>Test-Retest Reliabilities</th>
<th>Analysis Variance Reliabilities</th>
<th>Standard Error of Measurements</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Time gap 11 Months</td>
<td>Time gap 3 Months</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Religious value</td>
<td>.52</td>
<td>.82</td>
<td>.64.</td>
</tr>
<tr>
<td>2</td>
<td>Social value</td>
<td>.45</td>
<td>.66</td>
<td>.47</td>
</tr>
<tr>
<td>3</td>
<td>Democratic value</td>
<td>.62</td>
<td>.57</td>
<td>.48</td>
</tr>
<tr>
<td>4</td>
<td>Aesthetic value</td>
<td>.47</td>
<td>.65</td>
<td>.56</td>
</tr>
<tr>
<td>5</td>
<td>Economic value</td>
<td>.67</td>
<td>.70</td>
<td>.70</td>
</tr>
<tr>
<td>6</td>
<td>Knowledge value</td>
<td>.59</td>
<td>.63</td>
<td>.50</td>
</tr>
<tr>
<td>7</td>
<td>Hedonistic value</td>
<td>.61</td>
<td>.54</td>
<td>.63</td>
</tr>
<tr>
<td>8</td>
<td>Power value</td>
<td>.55</td>
<td>.53</td>
<td>.60</td>
</tr>
<tr>
<td>9</td>
<td>Family prestige value</td>
<td>.57</td>
<td>.85</td>
<td>.67</td>
</tr>
<tr>
<td>10</td>
<td>Health value</td>
<td>.53</td>
<td>.64</td>
<td>.52</td>
</tr>
</tbody>
</table>

It is therefore, concluded that the PVQ is a reliable tool to measure complex variables such as values.

(2) School Environment Inventory (SEI) by Dr. Karuna Shankar Misra (1984)

The School Environment Inventory (Appendix III) is an instrument designed to measure the psychosocial climate of schools as perceived by the pupils. It provides a measure of the quality and quantity of the cognitive, emotional and social support that has been available to the students during their school life in terms of teacher-pupil interactions. SEI contains 70 items related to the six dimensions of school environment i.e. concepts intuitively judged relevant to the social psychology of the classroom. The six dimensions are—(A) Creative
Stimulation (CRS), (B) Cognitive Encouragement (COE), (C) Acceptance (ACC), (D) Permissiveness (PER), (E) Rejection (REJ) and (F) Control (CON). Twenty items belong to the (CRS) dimension while each of the remaining five dimensions has ten items belonging to it. The sequence of dimensions as well as the order in which various items appear in the final form was determined through random sampling. The instrument requires the pupils to tell the frequency with which a particular teacher-pupil interaction behaviour is expressed in his or her school i.e. he/she is requested to tell whether a particular teacher behaviour (as mentioned in an item) occurs-‘Always’, ‘Often’, ‘Sometimes’, ‘Rarely’ and ‘Never’. There is no time limit for this tool. School Environment Inventory can be administered in individual or group settings. To start with, students should be made familiar with the purpose of measurement of school environment.

**Scoring the responses to SEI items:** The responses are to be given on the booklet itself. Against each item of the inventory five alternatives are given in the forms of cells indicating the intensity of the responses. The responses are to be scored as follows:

- 4 marks to ‘Always’,
- 3 marks to ‘Often’,
- 2 marks to ‘Sometimes’,
- 1 mark to ‘Rarely’ and
- 0 to ‘Never’ responses.

The particular item belongs to which area is indicated by the alphabets near the serial number.

**Reliability:** The School Environment Inventory was administered to 113 students (54 boys and 59 girls) studying in intermediate classes of five schools situated in the city areas of Agra and Manipuri. The split-half reliabilities (corrected for length) for various dimensions of the school environment i.e. Creative Stimulation, Cognitive Encouragement, Acceptance, Permissiveness, Rejection and Control are .919, .797, .823, .673, .781 and .762 respectively.

**Validity:** School Environment Inventory has been found to possess content validity as measured with the help of views expressed by judges.

**(3) Home Environment Inventory (HEI) by Dr. Karuna Shankar Misra (1989)**

The Home Environment Inventory (Appendix IV) is an instrument designed to measure the psychosocial climate of home as perceived by children. It provides a
measure of the quality and the quantity of the cognitive, emotional and social support that has been available to the child within the home.

HEI contains 100 items related to ten dimensions of home environment. The ten dimensions are: (A) Control, (B) Protectiveness, (C) Punishment, (D) Conformity (E) Social Isolation, (F) Reward, (G) Deprivation of Privileges, (H) Nurturance, (I) Rejection and (J) Permissiveness. Each item has ten items belonging to it.

The instrument requires the pupils to tell the frequency with which a particular parent-child interaction behaviour has been observed by them in their homes i.e. he/she is requested to tell whether a particular parental behaviour (as mentioned in an item) occurs-‘Mostly’, ‘Often’, ‘Sometimes’, ‘Least’ and ‘Never’. There is no time limit for this tool. Home Environment Inventory can be administered in individual or group settings. To start with, the students should be made familiar with the nature and the purpose of measurement of home environment.

**Scoring:** The responses are to be given on the booklet itself. There are five cells against every item of the inventory. Each cell indicates the frequency of occurrence of a particular behaviour. The responses are to be scored as follows:

4 marks to ‘Mostly’, 3 marks to ‘Often’, 2 marks to ‘Sometimes’, 1 mark to ‘Least’ and 0 to ‘Never’ responses.

Then the marks assigned to A, B, C, D, E, F, G, H, I and J dimension-statements on every page are counted and then the dimension scores awarded to the statements given on the five pages are added, so as to get ten dimensions of HEI.

**Reliability:** The Home Environment Inventory was administered to 113 students (54 boys and 59 girls) studying in intermediate classes of five schools. Split-half reliabilities were worked out separately for all the ten dimensions of home environment. The split-half reliabilities (corrected for length) for various dimensions of home environment i.e. Control, Protectiveness, Punishment, Conformity, Social Isolation, Reward, Deprivation of Privileges, Nurturance,
Rejection and Permissiveness are .879, .748, .947, .866, .870, .875, .855, .901, .841 and .726 respectively.

Validity: Home Environment Inventory has been found to possess content validity as measured with the help of views expressed by judges.

4.6 PROCEDURE OF DATA COLLECTION

The investigator herself personally collected the data for the present study. Due permission was taken from the Heads of the concerned institutions, and time was fixed in advance, before the actual tests. The purpose of the research was made clear to the students and all their doubts regarding the filling of the personal data and mode of giving responses, in the Questionnaire and Inventories were removed. The students were motivated to give answers carefully and truthfully. Their cooperation was sought by assuring them, that their results would be kept strictly confidential.

The requirement of the study was to take students from Government schools and Private schools. Thirty students (15 males and 15 females) were taken from each school (i.e. Government and Private). It took 4-6 months for data collection. In order to secure representativeness of the sample every third or sixth name, was taken from the attendance register. Then on these selected students all the three tests were administered. First of all, Personal Values Questionnaire (PVQ) was administered, to the selected group of students and data was collected. Keeping in view the fatigue factor, only one test was administered in one day. The investigator administered the second test School Environment Inventory (SEI), on the next day. The third test Home Environment Inventory (HEI) was administered, the third day, on the same set of selected students and data was collected. In this way, the total data was collected from all the schools (i.e. 5 Government and 5 Private schools from each selected district, belonging to each cultural region of Punjab namely, Doaba, Majha and Malwa). The districts selected for data collection were Hoshiarpur, Amritsar and Ferozepur.
Almost everywhere statistics are basics to all research activities. The role of statistics in research is analyzing its data and drawing conclusions there from. Most research studies result in a large volume of raw data, which must be suitably reduced so that the same can be read easily and can be used for further analysis. In fact there are two major areas of statistics, viz. descriptive statistics and inferential statistics.

(1) Descriptive Statistics measures were used to describe the characteristics of the sample in totality. In the present study, descriptive statistics like mean, median, standard deviation, skewness and kurtosis were used, in order to describe the nature of the sample taken.

(2) Inferential Statistics, drawing conclusions about populations based upon observations of sample is the purpose of inferential analysis. Inferential statistics (sampling statistics) is mainly concerned with the process of generalization. In the present study One-way ANOVA and t-test were employed. The one-way ANOVA was used to study the difference among the means of three cultural regions of Punjab. While the t-test was applied for testing the significance of difference between the means.

(3) Graphic representation of the sample: Graphic representation of data facilitates the understanding of a set of data. A well-drawn diagram makes it usually easier to read and interpret the data. So, graphical representation of data was done, wherever possible and required.