CHAPTER III

METHOD AND PROCEDURE

To carry out any research investigation, it is necessary to adopt a systematic method and procedure. By methodology of any research we mean the selection of the representative sample out of general population, applying appropriate research tools and techniques, collecting relevant data and analysis and interpretation of the same for scientific investigation of the problem.

3.1 DESIGN OF THE STUDY

Descriptive survey method of research and the techniques of comparative and correlational analysis were employed for the study. The study was a survey since it was a systematic attempt to investigate the psychosocial problems, family environment and academic achievement of the adolescent children of working and non-working mothers. It was further aimed at finding out the relationship among these variables. The design of the present study involved comparison between the adolescent children of the working and non-working mothers on all the variables under study i.e., psychosocial problems, family environment and academic achievement. Significance of differences between the means of the two groups on these variables was also computed. It was also correlational involving the finding out of relationships between various areas of psychosocial problems, family environment and academic achievement. Inter-variable correlations amongst the two independent variables were also worked out. Comparison on various areas of psychosocial problems, family environment and academic achievement of adolescent children of working mothers and non-working mothers, boys and girls, boys of working and non-working mothers and girls of working and non-working mothers were made to examine whether they were the same or different.
3.2 SAMPLE OF THE STUDY

In every research project, it is not only difficult, but also impossible to include the whole population. Thus the research worker tries her best to select such a sample which is truly representative of the whole population.

The present study was conducted on a sample of 415 adolescents selected from the Govt. and Private senior secondary schools of U.T., Chandigarh, within the age group of 14 - 17 years. The names of the schools selected for the present study are given in Table 3.1. Stratified random sampling technique was used for the selection of the sample. The subgroups that comprised the sample were adolescent children of working and non-working mothers, boys and girls and they were derived from all the four directions i.e., East, West, North and South of Chandigarh.

Split Up Of The Sample

The sample of 415 students on the bases of working and non-working mothers and boys and girls, in that order, is described as under

Description of the sample

(i) On the basis of mothers - Working or Non-working

<table>
<thead>
<tr>
<th>Mothers</th>
<th>Number of students</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Working</td>
<td>121</td>
</tr>
<tr>
<td>(2) Non-working</td>
<td>294</td>
</tr>
</tbody>
</table>

(ii) On the basis of sex

<table>
<thead>
<tr>
<th>Sex</th>
<th>Number of students</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Boys</td>
<td>201</td>
</tr>
<tr>
<td>(2) Girls</td>
<td>214</td>
</tr>
</tbody>
</table>
(iii) On the basis of working and non-working mothers and sex

<table>
<thead>
<tr>
<th>ACWM</th>
<th>Number of students</th>
<th>ACNWM</th>
<th>Number of students</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1)</td>
<td>Boys</td>
<td>51</td>
<td>(1) Boys</td>
</tr>
<tr>
<td>(2)</td>
<td>Girls</td>
<td>70</td>
<td>(2) Girls</td>
</tr>
</tbody>
</table>

**TABLE 3.1**

School-Wise Distribution Of The Sample

<table>
<thead>
<tr>
<th>S.N.</th>
<th>Name of the school</th>
<th>Number of student</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>DAV model school, sector 15, (North)</td>
<td>57</td>
</tr>
<tr>
<td>2</td>
<td>DAV senior secondary school, sector 8, (East)</td>
<td>47</td>
</tr>
<tr>
<td>3</td>
<td>Moti Ram Arya public school, sector 27, (South)</td>
<td>35</td>
</tr>
<tr>
<td>4</td>
<td>Shri Guru Harkishan model school, sector 38, (West)</td>
<td>39</td>
</tr>
<tr>
<td>5</td>
<td>Govt. model senior sec. school, sector 15 (North)</td>
<td>51</td>
</tr>
<tr>
<td>6</td>
<td>Govt. model senior sec. school, sector 18 (East)</td>
<td>54</td>
</tr>
<tr>
<td>7</td>
<td>Govt. model senior sec. school, sector 33 (South)</td>
<td>66</td>
</tr>
<tr>
<td>8</td>
<td>Govt. model senior sec. school, sector 37 (West)</td>
<td>66</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>415</td>
</tr>
</tbody>
</table>

The sample was restricted to the students of +1 stage of the Senior Secondary schools of Chandigarh. The total sample consisted of 415 students and it included both, the adolescent children of working
and non-working mothers and boys and girls as has already been mentioned.

3.3 TOOLS EMPLOYED

According to Best (1959), like the tools in the carpenter’s chest, researcher’s tools are appropriate in a given situation to accomplish a particular purpose.

The following tools have been employed to describe and quantify the data.

3.3.1 Mooney Problem Checklist (College Form, 1950)

Designed by Mooney and Gordon (1950), the checklist is not a test. It is self-administering, untimed checklist that helps students to express their personal problems. There are three forms of checklist – designed for junior high school students, the high school and the college level students. The items are so organized in these three forms that they can be used appropriately with different groups of students and also help the counselors to identify problems faced by students in various problematic areas.

The college form, which is also known as ‘C’ form used in the present investigation, is comprised of 330 items which are divided into eleven areas. Each area thereby tests 30 problems. These areas are:

- Health and Physical Development (HPD)
- Finances, Living Conditions and Employment (FLE)
- Social Recreational Activities (SRA)
- Social Psychological Relations (SPR)
- Personal Psychological Relations (PPR)
- Courtship, Sex and Marriage (CSM)
- Home and Family (HF)
Morals and Religion (MR)
Adjustment to College Work (ACW)
The Future: Vocational and Educational (FVE)
Curriculum and Teaching Procedure (CTP)

The words 'Temple/Gurudwara' and Holy Hindu 'Granth/Guru Granth Sahib' were substituted for words like 'Church' and 'Bible' given in the problem statements of the area Morals and Religion (MR).

Validity

The checklists are not built as tests but they are designed to predict the definite patterns of behavior. The process of validation would be simply that of determining the extent to which the predicted behavior patterns correspond with the actual behavior as judged by other criteria. The validity of checklist and their usefulness can be evaluated in terms of assumptions on which they are built and the purposes for which they are intended. The assumptions on which the present checklist was devised were:

1. The great majority of students would be responsive to the items.
2. They would accept the task with a constructive attitude.
3. They would find that the checklist will give a fairly complete picture of their personal problems with which they are concerned.
4. School administrators, teachers, and counselors would find the results usable. Research workers would find the checklist useful in various lines of inquiry.

Reliability

Reliability of MPCL has been determined in two ways i.e.,
(1) On the basis of the frequency with which each of the items were marked.

(2) On the basis of the rank order of the eleven problem areas arranged by the size of the mean number of problems checked in the area on its first and second administrations.

The correlation coefficient of .97 for the former and ranging from .90 to .98 for the latter was obtained.

**Scoring**

For the scoring of the checklist, the circled items in each of the areas are to be counted first and the number has to be entered in the relevant box. Then the items, which are only underlined, are to be counted and added to the number circled and the sum is to be entered in the box marked ‘total’. This constitutes area-wise total of the problems checked. Lastly, the total of all the counts for all the areas is to be recorded at the bottom on the front cover and this is the total number of problems checked.

**3.3.2 Family Environment Scale (FES)**

Family Environment Scale (FES) developed by Moos and Moos (1986) measures the social environmental characteristics of all types of families. It has three forms:

- The Real Form (Form R) measures people’s perception of their conjugal or nuclear family environments;
- The Ideal Form (Form I) measures people’s conception of ideal family environments; and
- The Expectations Form (Form E) measures people’s expectations about family settings.
Forms I and E of the Scale are parallel to Form R and to create ideal and expectations forms, the form R items and instructions have been reworded

(1) (for Form I) to allow family members to answer them in terms of the type of family environment they would ideally like and

(2) (for Form E) to enable the individuals to answer them in terms of what they expect a family climate to be like.

The FES comprises of ten sub-scales that assess three underlying domains or-sets of dimensions:

- The Relationship dimensions are measured by Cohesion, Expressiveness and Conflict sub – scales.
- The Personal Growth dimensions are measured by Independence, Achievement orientation, Intellectual cultural orientation, Active recreational orientation and Moral religious emphasis.
- The system maintenance dimensions are measured by the Organization and Control sub-scales.

The test items are printed in a re-usable booklet designed to be used with a separate answer-sheet.

Validity

The scale has constructed validity and the evidence for the validity of the sub-scales of FES is quite comprehensive. The criteria for item selection were empirical such as inter-item correlations, item sub-scale correlations and inter-consistency analysis.

In addition, the construct validity of the FES sub-scales was supported by several measures, firstly, on the basis of significant relationships existing between sub-scales (Spiegel and Wissler, 1983).
and secondly, on comparing the sub-scales of FES with other scales such as Bowerman and Behr identification Scale (Russel, 1980); Locke - Wallace Marital Adjustment Scale (Warings, et. al. 1981); Family Routine Inventory (Jensen and his colleagues, 1983); Timberlawn Family Assessment Guide (Kosten, Novak and Kleber, 1984) and Spanier Dyadic Adjustment Scale (Abbot and Broady, 1985). All these comparisons give the evidence of high validity of the scale and its sub-scales.

Reliability

The reliability co-efficient for the ten sub-scales was found to be varying from a low of .68 for Independence to a high of .86 for Cohesion when test retest method was used on 47 family members in nine families with a time interval of 8 weeks.

Brief Description Of The Sub-Scales

Cohesion (C)

The Cohesion sub-scale measures the degree of commitment, help and support family members provide for one another, for example: the way they support one another, the amount of energy they put into what they do at home and how much feeling of togetherness there is in the family.

Expressiveness (Ex)

The Expressiveness sub-scale taps the extent to which family members are encouraged to act openly and to express their feelings directly, for example: how openly family members talk around home, how freely they discuss their personal problems and how often they just pick up and go if they feel like doing something on the spur of the moment.
Conflict (Con)

The Conflict sub-scale measures the amount of openly expressed anger, aggression and conflict among family members, for example: the frequency of fights, whether they sometimes get so angry that they throw things and how often they criticize each other.

Independence (Ind)

The Independence sub-scale measures the extent to which family members are assertive, are self-sufficient and make their own decisions, for example: how strongly family members are encouraged to be independent, how much they think things out for themselves and how freely they come and go in the family.

Achievement Orientation (AO)

The Achievement orientation sub-scale taps the extent to which activities, such as school and work are cast into an achievement oriented or competitive framework, for example: how important they feel it is to do their best and to get ahead and how much they believe in competition and "may the best man win".

Intellectual - Cultural Orientation (ICO)

The Intellectual-Cultural sub-scale assesses the degree of interest in political, social, intellectual and cultural activities, for example: how often family members talk about political or social problems, how often they go to the library and how much they like music, art and literature.
Active Recreational Orientation (ARO)

The Active Recreational Orientation sub-scale taps the extent of participation in social and recreational activities, for example: how often friends come over for dinner or to visit, how often family members go out and how often they go to movies, sports events, camping and so on.

Moral-Religious emphasis (MRE)

The Moral-Religious sub-scale measures the degree of emphasis on ethical and religious issues and values, for example: how frequently family members attend temple / gurudwara; how strict their ideas are about what is right and wrong and how much they believe there are some things that must be taken on faith.

Organization (Org)

The Organization sub-scale measures the importance of clear organization and structure in planning family activities and responsibilities, for example: how carefully activities are planned, how neat and orderly family members are and how clearly each member's duties are defined.

Control (Ctl)

The Control sub-scale assesses the extent to which set rules and procedures are used to run family life, for example: how much one family member makes the decisions, how set the ways of doing things are at home and how much emphasis is on following rules in the family.
Scoring

For scoring the sub-scales, the scorer has to simply count the number of Xs showing through the template in each column and enter the total in the raw score (R/S) box at the bottom.

3.3.3 Battery of Achievement Tests

Designed by Anand (1971), the Battery consists of tests for standards VIII, IX and X in the subjects of General Mathematics, General Science and Social Studies so as to secure achievement indices based on a uniform instrument.

It was intended simply to measure pupil’s current achievement more reliably than it could have been done by the school marks. A much wider range of subject matter content, therefore, was tested and items varying from easy to difficult were included so as to ensure discrimination among pupils.

The battery of achievement tests in General Mathematics, General Science and Social Studies represented by Part A, Part B and Part C, respectively were prepared for standards VIII, IX and X. There were 90 items on the battery for standards VIII, IX and X each, the total number being 270. The time limit for General Mathematics was set at 40 minutes and 30 minutes each for the other two parts. Thus there was a 1 hour, 40 minutes test for each standard.

Battery of Achievement Tests Administration

The BAT was administered to groups of 30-40 pupils at a time under fairly comparable physical conditions. The time limit was 40 minutes for General Mathematics (Part A) and 30 minutes each for General Science and Social Studies (Part B and C) for each standard.
For the present study the tests for standard X have been used as the investigator wanted to assess the Academic achievement of class XI, students.

**Scoring**

The answer sheets for pupils for the Battery of Achievement Tests were scored by means of perforated scoring key. The number of right answers, wrong answers and the omitted ones were noted down separately for the sub-test General Mathematics, General Science and Social Studies for Class X. The corrected scores of every individual on each sub-test were calculated by applying the formula $S = R - W/ N-1$. The sum of corrected scores of the entire sub-tests yielded an individual's academic achievement index.

**3.4 DATA COLLECTION**

The data were collected with the help of above-mentioned tools by the investigator herself. All the tools for the study i.e., Mooney Problem Checklist (MPCL), Family Environment Scale (FES) and Battery of Achievement tests (BAT) were administered to the students. For the administration of the tools, the students were informed in advance. They were assured that their responses would be used for research purposes alone and will not be passed on to anyone else. Furthermore, they were asked to give exact and true information.

Before the actual administration of the tools, standardized instructions from the manual of the tools employed were given to the students. Students were made to understand difficulty, if any, of the items one by one by the investigator herself. After the collection of the data the scoring was done.
3.5 STATISTICAL TECHNIQUES EMPLOYED

The raw scores obtained with the help of the above mentioned tools were tabulated and treated statistically to analyze the results and interpret them meaningfully and scientifically. The following techniques were used for the analysis of the data.

(A) Descriptive Statistics

In order to understand the pattern of scores of different variables Means and Standard Deviations of the total sample, Adolescent Children of Working Mothers, Adolescent Children of Non Working Mothers, Boys and Girls groups were computed separately.

(B) Bivariate Correlational Analysis

Inter-variable correlations between all the 24 variables were computed to determine the relationships for the groups as under:

(i) Total Sample of 415 cases;
(ii) Group I - Adolescent children of working mothers (N = 121);
(iii) Group II - Adolescent children of Non-working mothers (N = 294)

(C) Differential Statistics

(i) ‘t’ ratios for the significance of differences between the mean scores of the respondent groups i.e., Adolescent children of working mothers (ACWM) Vs Adolescent children of non-working mothers (ACNWM) and Boys Vs Girls were computed.
(ii) ‘t’ ratios for the groups Boys of working mothers (BWM) Vs. Boys of Non-working mothers (BNWM) and Girls of working mothers (GWM) Vs. Girls of Non-working mothers (GNWM) were also computed.
3.6 PROCESSING OF DATA

The raw data were statistically treated and processed on a Pentium III based PC.