CHAPTER-3

METHODOLOGY AND TOOLS OF ENQUIRY
METHODOLOGY AND TOOLS OF ENQUIRY

3.1 INTRODUCTION

3.2 DESIGN OF THE STUDY
  3.2.1 PURPOSE OF THE STUDY
  3.2.2 VARIABLES
  3.2.3 HYPOTHESES
  3.2.4 SAMPLE
  3.2.5 RESEARCH METHODS & PSYCHOLOGICAL INSTRUMENTS
  3.2.6 DATA COLLECTION

3.3 OPERATIONAL DEFINITIONS OF THE TERMS
  3.3.1 DESTITUTE OR INSTITUTIONALIZED GIRLS
  3.3.2 INTELLIGENCE
  3.3.3 SELF CONCEPT
  3.3.4 NEUROTICISM
  3.3.5 ADJUSTMENT
  3.3.6 SECURITY
  3.3.7 FIELD DEPENDENCE/INDEPENDENCE
  3.3.8 ACHIEVEMENT MOTIVATION

3.4 DESCRIPTION OF THE INSTRUMENT USED
  3.4.1 RAVAN'S STANDARD PROGRESSIVE MATRICES TEST
  3.4.2 SELF CONCEPT SCALE
  3.4.3 NEUROTICISM SCALE QUESTIONNAIRE (NSQ)
  3.4.4 PALSANÉS ADJUSTMENT INVENTORY
  3.4.5 SECURITY-INSECURITY INVENTORY
  3.4.6 EMBEDDED FIGURE TEST (E.F.T.)
  3.4.7 ACHIEVEMENT MOTIVATION TEST

3.5 DATA ANALYSIS.
3.1 INTRODUCTION

Personality is the product of interaction between heredity and environment. Heredity of an individual is sealed at the time of conception and cannot be subjected to any modification. Environment can be varied types and is likely to be changed. It is to a far extent responsible for individual differences (Helen Bee, 1981). Actually environmental forces start functioning before birth in the form of prenatal environment. The environment after birth is readily observable and plays a decisive role even in case of impaired children (Bronfenbrenner, 1975).

Initially the child is in contact with the mother, and later on with the members of the family. This familial environment is crucial in shaping the personality of the developing child. Experiences during this period leaves behind the indelible impressions on the child. Attachment between the mother and the child, provides the latter a deep sense of security (Main, 1973). Such children are more capable of solving their own problems (Londerville and Main, 1981). Love and affectionate treatment received in early age gives a child a sense of security, self-confidence and faith in himself and in others (Margaret A Ribble, 1951). Likewise the style of control is closely related to the development of the self-regard of the child (Savage Ronald, 1979). Nutritional aspects at early age also shows a lasting effect on physical as well as mental growth of the child (Helen Bee, 1981).
Children by and large are brought up in the family setup. But there are a few unfortunates who are deprived of affection. These children are reared in destitute homes or orphanages. Their development takes place in social institutions managed by the Government or Philanthrophic agencies.

Now it would be better to understand the design of the present study, the operational terms used, and the tools employed. We shall discuss them one-by one.

3.2 DESIGN OF THE STUDY

Under this caption we have to consider the purpose of the study, variables, hypotheses, sample, tools and the methods of data collection. They are given as under.

3.2.1 PURPOSE OF THE STUDY

As per provisions of the Children's Act, different certified schools, fit person institutions and state homes have been established for destitute girls. In these institutions they are provided with the basic needs as well instructions are imparted to them for education and vocation. Many of them join regular educational institutions or vocational training centres. But their home as such is the institution established by the Government or the social agency. They are institutionalized destitute girls different from other girls who live with their parents. Thus there are two settings for bringing up the girl is namely, familial and institutional.
The focus of the present study was to see the developmental differences between the institutionalized and non-institutionalized girls.

3.2.2 VARIABLES

In this study the setting for bringing up the girls is the independent variable. We are considering two settings, namely, familial and institutional. The ensuing developmental and personality differences as a result of difference in setting are the dependent variables. In order to know the differences, the girls from two settings were studied. The other basic variables under study were age at admission in the institution, education, vocation, socio-economic status of the parents, discipline in the family or institution, interpersonal relations with staff and inmates as well as with parents and siblings, etc..

3.2.3 HYPOTHESES

Hypotheses is a proposition which can be put to a test to determine its validity (Goode and Hatt, 1952). It may prove to be correct or incorrect but every research needs some hypothesis. They are always in declarative sentence form, and they relate, either generally or specifically, to variables (Kerlinger, 1973).

In the present study we had taken number of variables; and hypotheses were formulated in relation to the variables. These null hypotheses are given as under.

(i) There is no significant difference in selfconcept of institutionalized and non-institutionalized girls.
(ii) There is no significant difference in neurotic tendencies of institutionalized and non-institutionalized girls.

(iii) There is no significant difference between institutionalized and non-institutionalized girls so far as their intellectual capacity is concerned.

(iv) There is no significant difference between institutionalized and non-institutionalized girls on a dimension of security—insecurity.

(v) Institutionalized and non-institutionalized girls do not differ in their social and health adjustment.

(vi) There is no significant difference in achievement motivation of institutionalized and non-institutionalized girls.

(vii) The institutionalized and non-institutionalized girls do not differ as far as field dependency is concerned.

(viii) There is no difference in stroke-pattern of institutionalized and non-institutionalized girls.

3.2.4 **SAMPLE**

There are about 10 institutions in Maharashtra where destitute girls are looked after. The total population of destitute girls of age between 16 to 25 is 400. The total number of girls studied in this research was 105. There were destitute homes located at Bombay, Aurangabad and Sangli. The area-wise distribution of these girls is shown in table III.1.
TABLE III-1

Area-wise distribution of institutionalized and non-institutionalized girls.

<table>
<thead>
<tr>
<th>Group</th>
<th>Area</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Bombay</td>
<td>Aurangabad</td>
</tr>
<tr>
<td>Institutionalized</td>
<td>44</td>
<td>39</td>
</tr>
<tr>
<td></td>
<td>(41.9%)</td>
<td>(37.1%)</td>
</tr>
<tr>
<td>Non-institutionalized</td>
<td>44</td>
<td>39</td>
</tr>
<tr>
<td></td>
<td>(41.9%)</td>
<td>(37.1%)</td>
</tr>
</tbody>
</table>

The group of destitute girls was known as the experimental group. The other non-institutionalized group was known as control group and was matched with the experimental group on variables like sex, age, socio-economic status, geographical area etc..

The destitute girls were studied from more than one institution from the same area. The institutionwise break-up of the destitute girls is shown in table III-2.
TABLE III-2

Institution-wise break-up of the destitute girls

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Name of the Institution</th>
<th>Location</th>
<th>Type</th>
<th>No.</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>State Home</td>
<td>Aurangabad</td>
<td>Govt.</td>
<td>27</td>
<td>25.7</td>
</tr>
<tr>
<td>2.</td>
<td>Vidyadeep Mission orphanage</td>
<td>Aurangabad</td>
<td>Voluntary</td>
<td>12</td>
<td>11.4</td>
</tr>
<tr>
<td>3.</td>
<td>Byramjee Jeejeebhoy Home for children</td>
<td>Bombay</td>
<td>Voluntary</td>
<td>4</td>
<td>3.8</td>
</tr>
<tr>
<td>4.</td>
<td>Shradhanand Mahilashram</td>
<td>Bombay</td>
<td>Voluntary</td>
<td>40</td>
<td>38.1</td>
</tr>
<tr>
<td>5.</td>
<td>Balikashram</td>
<td>Sangli</td>
<td>Voluntary</td>
<td>22</td>
<td>21.0</td>
</tr>
</tbody>
</table>

The maximum number of girls were from Bombay followed by Aurangabad and Sangli.

The age-wise distribution of the girls included in both the groups is shown in table III.3.

contd.....
TABLE III-3

Age-wise distribution of institutionalized and non-institutionalized girls

<table>
<thead>
<tr>
<th>Age group years</th>
<th>Institutionalized destitute girls</th>
<th>Non-institutionalized girls</th>
</tr>
</thead>
<tbody>
<tr>
<td>16-18</td>
<td>45 (42.9 %)</td>
<td>44 (41.9 %)</td>
</tr>
<tr>
<td>19-21</td>
<td>53 (50.57%)</td>
<td>53 (50.57%)</td>
</tr>
<tr>
<td>22-24</td>
<td>7 (6.7%)</td>
<td>8 (7.6%)</td>
</tr>
<tr>
<td>24 +</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>105 (100 %)</td>
<td>105 (100 %)</td>
</tr>
</tbody>
</table>

It seems that more than half of the girls from both the groups are of age between 19 to 24 years.

It was found that most of the girls from non-institutionalized group were studying either in Junior or Senior College. However, the girls from the institutionalized group had hardly reached the level of college education. The education-wise distribution of girls is given in table III-4.
TABLE III.4

Education-wise distribution of institutionalized and non-institutionalized girls.

<table>
<thead>
<tr>
<th>Group</th>
<th>Primary</th>
<th>Higher</th>
<th>Junior</th>
<th>Senior</th>
<th>Technical</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Institutionalized</td>
<td>4</td>
<td>96</td>
<td>2</td>
<td>-</td>
<td>3</td>
<td>105</td>
</tr>
<tr>
<td></td>
<td>(3.8%)</td>
<td>(91.4%)</td>
<td>(1.9%)</td>
<td>-</td>
<td>(2.9%)</td>
<td>100%</td>
</tr>
<tr>
<td>Non-institutionalized</td>
<td>-</td>
<td>-</td>
<td>42</td>
<td>63</td>
<td>-</td>
<td>105</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(40%)</td>
<td>(60%)</td>
<td></td>
<td>100%</td>
</tr>
</tbody>
</table>

It was found that of the total 105 destitute girls, 89 of them were taking education. The remaining 16 girls had undertaken some job or service either in the institution, where they were residing or outside of it.

The destitute girls residing in institutions were totally deprived of family experiences and were economically dependent. Many of them even did not know about their parents. On the contrary, the non-institutionalized girls had family experiences and could tell about the occupation and income of their parents. Occupation-wise distribution of the parents of non-institutionalized girls is shown in table III.5.
TABLE III.5

Occupation-wise distribution of parents of non-institutionalized girls.

<table>
<thead>
<tr>
<th>Service</th>
<th>Retired</th>
<th>Self-business</th>
<th>Farmer</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>62</td>
<td>11</td>
<td>27</td>
<td>5</td>
<td>105</td>
</tr>
<tr>
<td>(59.0%)</td>
<td>(10.5%)</td>
<td>(25.7%)</td>
<td>(4.8%)</td>
<td>(100.0%)</td>
</tr>
</tbody>
</table>

Table III.5 indicates that most of the non-institutionalized girls were from middle class families. The income of these parents is shown in table III.6

TABLE III.6

Income-wise distribution of parents of non-institutionalized girls.

<table>
<thead>
<tr>
<th>INCOME (Per Month)</th>
<th>Upto Rs. 500/-</th>
<th>Rs. 500/- to 1000/-</th>
<th>Rs. 1000/- to 1500/-</th>
<th>Rs. 1500/- and above</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>13</td>
<td>28</td>
<td>34</td>
<td>30</td>
<td>105</td>
</tr>
<tr>
<td></td>
<td>(12.4%)</td>
<td>(26.7%)</td>
<td>(32.4%)</td>
<td>(28.6%)</td>
<td>(100.0%)</td>
</tr>
</tbody>
</table>

It seems that 59.1% percent of the parents were from lower middle income group.
Destitute girls were asked as to how they joined the institution. It was found that 69 (65.7%) girls were brought to various institutions through police or other social workers. Many of them were illegitimate. 26 (24.8%) girls had single parent who kept their daughters in destitute homes. The remaining 10 (9.5%) girls joined destitute homes when they lost their both parents.

3.2.5 RESEARCH METHODS AND PSYCHOLOGICAL INSTRUMENTS

For collecting the data following methods and psychological tools were employed. They are as under:

(i) Interview.
(ii) Questionnaire Schedule.
(iii) Raven's standard progressive matrices test.
(iv) Self concept scale.
(v) Neuroticism scale questionnaire (NSQ).
(vi) Palsane's adjustment inventory.
(vii) Security - insecurity inventory.
(viii) Embedded Figure Test.
(ix) Achievement motivation test.

3.2.6 DATA COLLECTION

The destitute girls who were interviewed and to whom questionnaire and psychological tools were administered were from correctional institutions. The girls of the control group were living in families with their parents. Each of the girls from both the groups was approached individually. Before starting actual data collection,
efforts were made to establish good rapport with the respondents, especially with the destitute girls. Periodical visits were made to correctional institutions and sweets, cloths and old magazines were distributed to destitute girls in order to develop good relations with them. To know the facilities available to destitutes, and the treatment given to them by the institutional staff, researcher had stayed in these institutions for a couple of days. It helped to develop insight into the problem and to inculcate confidence in the respondents.

3.3 OPERATIONAL DEFINITIONS OF THE TERMS

Some of the terms have been used repeatedly in the present work. It would be better to understand the operational definition of each term to facilitate the understanding of the findings. The important terms are given as under:

3.3.1 DESTITUTE OR INSTITUTIONALIZED GIRLS

The girls who had no parents or who were not knowing about their parents, or had a single, neglecting parent and who were inducted to institution either by parent as a result of poverty or by the court, were known as destitute or institutionalized girls.

3.3.2 INTELLIGENCE

It is an ability, that is a condition or a complex of conditions for specific performances or achievements (H.J. Eysenck, 1972). Ideas on the essential 'inner' nature of this ability are even more divided. In this research an attempt is made to measure the mental ability and not the I.Q.
3.3.3 SELF CONCEPT

Self is an important element in the experience of the individual. The term 'self concept' is an abbreviated way of saying attitudes toward and conceptions about one's self. Sometimes the self is thought of as an image, the impression it makes on others, and the impression it makes on ourselves, as perceived in terms of the impression we think it makes on others (Lindgren, 1973). In this sense self is referred to as self-image. Strictly speaking, however, self-image refers more to the impression aspects of the self, whereas self-concept includes the idea of impression but also such other aspects as attitudes, values, motives, goals, expectations, and the like. In the present work the term self-concept has been considered.

3.3.4 NEUROTICISM

It is neurotic tendency, emotionality or emotional lability. This general factor corresponds largely to R.B. cattell's second-order inventory factor, namely, anxiety, and it relates to intensity and control of emotional responses. It is closely bound up with ANS function, especially with the duration of adrenergic (sympathetic) excitation, and is partly inherited. It is a second factor after extraversion in Eysenck's personality model (H.J. Eysenck, 1972).

3.3.5 ADJUSTMENT

Life is a continuous process of adjustment, in which we strive to meet our own needs and maintain harmonious relations with our environment. When an individual deals with his problems effectively, he
is said to be well adjusted (Coleman, 1972). Such an individual adapts successfully to both the inner and outer demands being made upon it. When his problems prove too much for him - as shown by anxiety, inefficiency, unhappiness, or more serious symptoms - he is said to be maladjusted.

3.3.6 SECURITY

The need for security develops with and closely relates to the need for adequacy. When an individual fails to meet his biological or psychological needs, he becomes unpleasant. He always strives to gratify his needs. Security means maintenance of conditions necessary to need gratification (Coleman, 1972). Individual becomes insecure when his needs are not gratified. Feelings of insecurity may lead to restriction of activities, to fearfulness and apprehension, and to failure to participate fully in one's world (Coleman, 1976).

3.3.7 FIELD DEPENDENCE INDEPENDENCE

Witkin and his colleagues have found that the personality characteristics of the individual influence his cognitive field. Some individuals are more dependent on the external environment and are called as field dependents. While others adjust to the environment in relation to themselves and are known as field-independents. These two types differ from each other at least on three important personality dimensions. First, the field independent individual possesses the ability to cope actively with his environment. The field dependent individual is passive. He accepts authority, seeks support for decisions and fails to show analytic
attitude toward his perceptual world. Second, field-independent individual has a reasonable mastery over his own motivational and emotional process. Field-dependent individual, on the other hand, lacks of awareness of his inner life, shows a fear of his own impulses and has poor control over his feelings and impulses. Third, the field independent individual is analytical minded and has high self-esteem. Field dependent individual reveals low self-esteem (Chaplin, J.P. and Krawiec, T.S. 1968).

3.3.8 ACHIEVEMENT MOTIVATION

Mc Clelland and his associates have developed a theory of motivation on the assumption, that motives arise from changes in emotional states. And achievement motive develops out of the expectations based on various experiences the individual has had with the common problems of life, from learning to walk to learning a life's trade or profession. Achievement motivation is a desire to overcome challenges, advance, and grow and is identified on the basis of the individual's expectation of success.

3.4 DESCRIPTION OF INSTRUMENTS USED

The conventional techniques of data collection are the interview and the questionnaire. Interview is a powerful means of obtaining verbal (and written) information. Institutionalized destitute girls were interviewed periodically to establish the rapport as well to know the living conditions in the institution. Administrative staff, including superintendent and the workers, was also interviewed to understand the objectives and functioning of the institution.
Questionnaire is a device for securing answers to questions by using a form, which the respondent fills by himself (Goode and Hath, 1952). It is useful for collecting the data about the basic variables and about those variables, we intend to study but cannot be directly measured by a standardized inventory. It included fixed choice as well as open ended questions. Identifying data like family history, childhood experiences, interaction with the staff, socio-economic status of parents, age, education, etc. could be known through questionnaire. It also included the minor psychological tools like semantic differential (to measure their attitudes towards parents, school, institution/home and society), self anchoring scale (to study the level of happiness in past, present and future) and strokograms (to understand the interpersonal relations). It was also attempted to know about their hobbies, future plans as well about hygienic conditions and recreational facilities in the institution.

Besides interview and questionnaire, some standardized psychological tools were used to probe into personality aspects of the respondents. These psychological tools are given as under.

3.4.1 RAVEN'S STANDARD PROGRESSIVE MATRICES TEST

This test was constructed by J.C. Raven for comparing people with respect to their immediate capacities for observation and clear thinking. The scale consists of 60 problems divided into five sets, – each of 12 problems, e.g. A, B, C, D and E. The complexity of the problems gradually increases. As per norms, higher the score the better is the intellectual capacity. It gives five grades, namely, I, II, III, IV
and V. Grade I is intellectually superior. It means the score lies at or above the 95 percentile for people of his age. Grade V means 'intellectually defective' when the score lies at or below 5th percentile of his age. It is a test for measuring person's capacity at the time of testing to apprehend meaningless figures presented for his observation.

The scale has test retest reliability varying with range from 0.83 to 0.93.

3.4.2 **SELF CONCEPT SCALE**

This scale has been constructed by Mukta Rani Rastogi and published in 1979. It has been standardized on Indian sample. The test contains 50 statements, each having five alternatives, e.g. strongly agree, agree, uncertain, disagree and strongly disagree. Each item, having positiveness or negativeness, is scored positively or negatively. The scale studies 10 constructs of self concept; such as Health Appropriateness (HA), Abilities (A), Worthiness (W), Present past and future (PPF), Beliefs and convictions (BC), Feeling of shame and guilt (FS), Sociability (SO) and Emotional maturity (E).

The reliability of the original Hindi version by split-half method following Spearman formula was found to be 0.87. Content validity was also found out. The scale provided an information about item discriminity and homogeneity of items.
For the present study original scale was translated into Marathi language. The test retest reliability of marathi version was found to be 0.78.

3.4.3 NEUROTICISM SCALE QUESTIONNAIRE (NSQ)

The scale has been constructed by Ivon Scheir and Raymond cattel and was published by the Institute for personality and ability testing in 1951. It is useful for measuring non-stressful neurotic trends among normal and abnormal adults. It contains 40 statements having three alternatives - yes, no and uncertain. It measures four components, namely, tenderness (I), depression (F), submissiveness (E), and anxiety (An). As per norm given in the scale, higher the score higher is the level of neuroticism.

Reliabilities for these four subscores are +.55(I), +.75(F), .47(E) and +.70(An); and that of total scale is +.67. The reliability was worked out by split-half by random split and values are corrected by Spearman-Brown formula. Two types of validities, namely, concept and concrete validities have been reported. The concept and construct validities for these subscales range between +.69 to .84. Concrete validity is the correlation of the test with life experience and categories, Level of statistical confidence of this correlation is beyond .0005 level.

For the present purpose the test was translated into Marathi. The test retest reliability of the Marathi version was found to be 0.82.
3.4.4 PALSANE'S ADJUSTMENT INVENTORY

This test has been constructed by Prof. M.N. Palsane and published by Anand Agencies in 1977. It measures adjustment in five different areas of life, namely, home and family, personal and emotional, social, educational and health. In the present study only two areas, namely, social and health have been studied. For social adjustment there are 54 statements; and for health, 36 statements. For each statement there are two alternatives - true (T) or false (F). These statements enquire about various aspects of social and health adjustment.

The test is in Marathi version. The reliabilities of social and health subscales are respectively .85 and .79. Content validity has been ensured by reference to other scale of adjustment as well as to the concept of adjustment in different areas chosen for assessment. The norm of adjustment is higher the score, poorer is the adjustment level. There are five grades - A,B,C,D and E. Grade A indicates excellent adjustment; B, good; C, average; D, unsatisfactory, and E, very unsatisfactory.

3.4.5 SECURITY INSECURITY INVENTORY

This test was constructed by Dr. Govind Tiwari and published by Agra Psychological Research Cell in 1975. It is clinically screening device for measuring the personality and knowing the mental health. It contains 70 statements with three alternatives, namely, yes, no and uncertain. The reliability by split-half method, after applying Spearman-Brown formula, was found to be 0.67. The test retest
reliability was .73 (N = 49). The validity was ensured by evaluation of selected items by 10 judges. The face validity of the inventory is fairly high. External validity was calculated by using Maslow's security - Insecurity Inventory. Hindi and English correlation was found to be .67. The inventory has also been validated against teachers ratings and coefficient of correlation was found to be .78. As per norms given in the test, higher the score lower is the level of security.

The original Hindi version has been translated into Marathi and the test-retest reliability of the Marathi version was found to be .80.

3.4.6 **EMBEDDED FIGURE TEST (EFT)**

The original test was developed by Witkin, Prof. C.G. Pande developed the same test to suit the local conditions. It is useful for measuring cognitive style, that is, field-dependence-independence. The figures were selected from the figures used by Gottschallatt for studying the role of past experiences in perception. Coloured-complex figures were used to achieve the appropriate difficulty level. The test consists of 8 simple figures (A,B,C,D,E,F and G) and 24 complex figures. For each simple figure there are several complex figures and subject's task is to locate the simple figure in a given complex figure. The performance is scored in terms of time taken to locate the simple figure hidden in the complex one.

The reliability of the test was found to be .87 for men and .74 for women in American sample. In Indian sample it was .76 for men and .81 for women.
3.4.7 ACHIEVEMENT MOTIVATION TEST

This test was constructed by Prof. Prayag Mehta and was published by Manasayan in 1978. The test consists of a set of six TAT type pictures, developed for Indian schools and based on 'n Ach' theory. There are six pictures depicting six different situations. As per the norm, positive scores are given for success, and negative scores for failure. The higher the score better is the 'n Ach'.

The test-retest reliability ranges between + .56 to .73.

3.5 DATA ANALYSIS

Scoring of all the responses given to psychological tests was done as per direction and norms given in the respective tests. Likewise, scoring of all the responses to items in the questionnaire was done by developing operational norms. Data was analysed with statistical measures like mean, standard deviation, significance of means, analysis of variance and regression analysis. Data was analysed with the help of a computer to have accurate and unbiased results.

*****