CHAPTER - III

METHODOLOGY

Statement of the problem

This study intends to explore the behavioral problems of the borderline and mild mentally-retarded children, and also to investigate the relationship existing between the parental attitudes, home environment and behavior problem in children. The retarded children with behavioral disturbances are in serious conflict with themselves, their families and their community.

This study proposes to explore the behavioral problems in mentally retarded children between the IQ range of 54 to 85 and the age group of 6 to 12 years. Some of the causative factors such as (i) parental attitudes, (ii) home environment, (iii) parent-child relationship with particular reference to M.R child will also be studied.

Very limited research work has been done with respect to family environment and parental attitude associated with behavior problems in M.R., especially in India.

This research thus makes an attempt to explore and observe the relationship between the behavior problem and family environment. More specifically it will investigate behavioral problems such as, Attention Deficit Disorder (ADD), Conduct Disorder (CD), Irritability, Hostility, Stereotypy, Passivity, Disorientation. These disorders will
be intensively and comparatively studied.

The present study would also make a comparison between behavior problems as found in M.R. and normal children and would try to see the differences that exist between these two groups with respect to behavior problems.

The main objectives of the study are as follows:

Objectives

1. To explore general behavioral problems in borderline and mild, mentally retarded children.

2. To compare the behavior problems in mentally retarded children with those in normal children.

3. To investigate possible causative factors of behavior problems related to home environment.

4. To determine the relationship between parent and child as one of the possible causative factor of behavior problem.

5. To find out sex differences on severity of behavior problems in mentally retarded children.

Hypothesis

The hypotheses that follow, from above objectives are as follows
1. There will be many behavior problems in mentally-retarded children.

2. There will be significantly more behavior problem in mentally-retarded children as compared to normal children.
   2(a) Attention-deficit disorder will be significantly more in mentally-retarded than in the normal children.
   2(b) Conduct disorder will be significantly more in the mentally retarded than in the normal children.
   2(c) Irritability will be significantly more in mentally retarded than in normal children.
   2(d) Hostility will be significantly more in mentally retarded than in the normal children.
   2(e) Stereotypy will be significantly more in mentally retarded than in the normal children.
   2(f) Passivity will be significantly more in mentally retarded than in the normal children.
   2(g) Disorientation will be significantly more in mentally retarded than in the normal children.

3. Home environment will be one of the important causative factor of behavior problem in children.
   3(a) There will not be a significant difference between mentally-retarded and normal children on
Relationship dimension.

3(b) There will not be significant difference between mentally-retarded and normal children on personal growth dimension.

3(c) There will not be significant difference between mentally-retarded and normal children on System Maintenance dimension.

4. Parent child relationship will be a significant causative factor of behavior problem in children.

4(a) There will not be significant difference between mentally retarded group and normal group on Rejection / Acceptance dimension.

4(b) There will not be significant difference between mentally retarded group and normal group on carelessness / over protection dimension.

4(c) There will not be significant difference between mentally retarded group and normal group on Negligence / Over indulgence dimension.

4(d) There will not be significant difference between mentally retarded group and normal group on Strong realism / Utopian Expectation dimension.

4(e) There will not be significant difference between mentally retarded group and normal group on Lenient Standards / Severe moralism dimension.
There will not be significant difference between mentally retarded group and normal group on Total freedom / Severe discipline dimension.

4(g) There will not be significant difference between mentally retarded group and normal group on Marital conflict / Marital adjustment dimension.

4(h) There will not be significant difference between mentally retarded group and normal group on Faulty role expectation / realistic role expectation dimension.

5. There will not be any sex differences on severity of behavior problem in mentally-retarded children.

Sample

The subjects included in the study were from the categories of borderline and mild-mental retardation. They were screened by the investigator by giving relevant tests. The subjects were selected as follows:

(a) International classification of diseases (W.H.O. 1978) was followed for selecting the subjects.

(b) The subjects were identified as borderline and mild mentally retarded children using Intelligence test, Seguin Form Board and Vineland social Maturity scale.
(c) The subjects selected were 6 to 12 years of age, living with their parents.

The subjects have an IQ. score on Kamath intelligence scale SFB and SQ. on V.S.M.S. above or below 54 to 85 were dropped out. The subjects not living with parents (for example: staying with aunt or grandparents, remand home, hostels, Ashrams etc.) were also excluded from the study.

Size of the sample

Three tests were administered namely Kamath Intelligence test, SFB and V.S.M.S., to about 300 mentally-retarded children and 50 normal children. Out of which 200 mentally-retarded children whose IQ. were 54-85 and 50 normal children whose IQ score on Kamath's test, SFB and SQ. were 90 and above were selected, taking into consideration the appropriate criteria decided for the selection of the sample. The group of 30 normal children were used as a comparison group.

Earlier it was decided to take 200 mentally-retarded subjects for exploration of behavior problems and out of them 30 were selected for intensive and comparative study. Ultimately, the whole group of 200 subjects were compared with 30 normal subjects.

Tools used for the study

In order to test the hypotheses and fulfill the objectives of the present study the following six tools were
used. Details regarding the development of the tools their content and application are given below:

1. Kamath Intelligence scale for Indian children

2. Seguin Form Board.

3. Vineland social Maturity Scale.

4. Behavior problem Questionnaire (constructed by the investigator)

5. Family environmental scale (Moose and associates).

6. Parent child Relationship scale (Sharma, H. C.).

First three tests were used to identify these subjects as borderline and mild mentally-retarded to be included in the sample.

1. Kamath Intelligence Scale for Indian children

The Kamath Intelligence Scale is an Indian adaptation of the Stanford Binet Scale (1937 version) by Dr. V. V. Kamath. This scale was published in 1940, after that second edition was in 1951, third edition was in 1958 and fourth edition was in 1967. This test is most widely used in India.

Prof. C. Herbert, who worked in India adapted the Binet scale into point scale and not an age scale. He administered this scale on boys aged 5 years. Therefore, Dr. Kamath revised the Binet scale to suit Indian conditions.
The town of Dharwar in the old Bombay presidency was selected for the adaptation-sample. This place was neither advanced like Bombay nor backward like remote villages. The test was first translated into the two languages - Kannada and Marathi.

It was found that some of the sub test and items of the test were not suitable for Indian children. Thus Indian coins were substituted for American coins. The "aesthetic comparison", "missing features" and picture representing Western life were also substituted by pictures of Indian life. The slip-knot was substituted for the bow-knot. The vocabulary tests were made up from the words in Kannada and Marathi dictionaries. Some of the tests that were not timed were carefully timed in this adaptation.

This scale was standardized on 1074 students in the age range of 2 years to 20 years. The norms were developed at several training institutions. It is available in English, Marathi, Kannada and Gujarati.

The mental age of a child as determined by the Binet scale is divided by the child's chronological age. It is multiplied by 100 to obtain the Intelligence Quotient. Thus,

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IQ = \frac{MA}{CA} \times 100
\]
The correlation coefficients of the tests were generally higher than 0.7, thus testifying the validity of the test.

2. Seguin Form Board

Seguin, a French physician was much interested in mentally retarded and was also influenced by Itard's work. Seguin tried to establish criteria for distinguishing between different levels of retardation. Since 1866 his focus of experimentation was on sensory discrimination and motor control leading to the development of a comprehensive programme of sense-training and muscle-training techniques.

In 1848, when Seguin emigrated to America, many of his sense-training and muscle-training techniques were used in institutions for the mentally retarded. By these methods, severely retarded children are given intensive exercise in sensory discrimination and in the development of motor control. Some of the procedures developed for this purpose were eventually incorporated into "performance" or non-verbal tests of intelligence.

The Seguin Form Board Test is one of the earliest performance tests. In this test the individual is required to insert ten various geometrically shaped blocks into their proper slots as quickly as possible. Total time for 3 consecutive trials and the shortest time score are noted for scoring. This test assesses the IQ of children below 11 years of age and also mentally retarded adults. It is
generally suitable for mental ages between 3 to 10 years.

A close comparison of Indian and Western norms of SFB were studied by Ramchandran, et. al., in 1968. The study highlights the similarities rather than the differences in performances of the Indian and Western children. Apparently the Western Children seem to be favored slightly on the speed factor owing to better training facilities in their cultural set-up.

To assess the suitability and applicability of SFB with mentally retarded subjects and to get clear idea about the subjects intellectual functioning and adaptive behavior, Raj, J. B. & Goel, S. K., (1984) carried out testing with other tests, individually and the data was collected at Mysore and Delhi respectively. These tests were


(ii) SFB (Raj, 1971)

(iii) Coloured Progressive Matrices (Raven, 1956)

(iv) Peabody picture vocabulary Test (Dunn, 1959)

(v) Stanford-Binet Test (Kulshreshtha, 1971) and

(vi) Vineland Social Maturity Scale (Malin, 1965).

The Indian norms of Raj, J. B. & Goel, S. K., are reliable and valid showing that SFB test can be used with
equal facility to gauge the mental development of Indian Children. All the correlation coefficients are significant at 0.01 and 0.05 level. These results were obtained using the norms derived by Raj, J. B. (1971) and Goel, S. K. (1984).

3. Vineland Social Maturity Scale

The Vineland Social Maturity Scale was the first scale to measure adaptive behavior which was developed by Doll in 1953 at the training school of Vineland. A comprehensive presentation of the scale was accomplished with the publication of "The Measurement of Social Competence" (Educational Test Bureau, 1953). The form of the scale was similar to the Stanford-Binet intelligence test. Items are grouped in levels of difficulty that correspond to discrete age levels, with only a few items per level. The content is related to specific areas of social adjustment rather than intellectual performance.

The fourth editions of the Scale (Doll, 1965) was designed to assess successive stages of social competence from infancy to adult life. The scale provides a definite outline of detailed performances in respect to which children show a progressive capacity for looking after themselves and for participating in those activities which lead toward ultimate independence as adult. The items of the scale are arranged in order of increasing average difficulty and represent progressive maturation in self-help, self
direction, locomotion, occupation, communication and social relations. This maturation in social independence may be taken as a measure of progressive development in social competence.

The scale is also useful in distinguishing mental retardation with social incompetence and mental retardation without social incompetence. The scale is not a rating scale, it should be scored on the basis of information obtained from someone intimately familiar with the person such as mother, the father a close relative, guardian, attendant or supervisor. This scale is upto 25 years whereas Indian adaptation of this scale by Malin, A. G. (1965) is upto 15 years, as the cultural changes in the upper age level are more drastic compared to occidental norms of Doll, E.

The total score is the sum of score as provided by plus (+) and minus (-) and obtained by adding to the basal score. The total score is then converted into an age score by interpretation according to the year-score values. For this purpose the item numbers may be used to represent total raw scores. Age scores may be converted to ratios or quotients. (SQ.).

4. Behavior Problem Questionnaire

This Questionnaire was specially designed by the
investigator. This was scrutinized by five psychologists from different institutes and hospitals. The questions were modified as per the suggestions given by the experts.

Though there are many behavior problem checklists and scales, most of them were unable to fulfill the requirements of the present study, while in some, the items were not suitable for the M.R. children. Therefore it was essential to design a questionnaire for the purpose of the present study.

Thus on the basis of DSM III and other behavior problem checklists useful and relevant items were selected and the behavior problem questionnaire (BPQ) was designed. A brief description of the various behavior problem checklist that were used as reference to formulate the BPQ is given as follows:

(1). Aberrant Behavior Checklist

This checklist was developed by Michael Aman and Nirbhay Singh (1983). It consists of five subscale viz., (i) Irritability, (ii) Lethargy, (iii) Stereotypy, (iv) Hyperactivity and (v) Excessive speech.

(2). Children's Psychiatric Rating Scale.

This scale was developed by Barbara Fish (1985). It is a comprehensive scale which assesses the broad spectrum of psychopathology within the age of 15 years. The CPRS
contains 63 items and a 7 point scale derived from the Adult Brief Psychiatric Rating Scale.

(3) DSM III criteria for Attention Deficit Disorder and Conduct Disorder. These are the main behavior problems studied by the present study. Items of these two disorders are included in the behavior problem questionnaire.

Attention Deficit disorder covers three areas namely (A) Inattentiveness (B) Impulsivity (C) Hyperactivity while Conduct Disorder covers (A) Socialization with (B) Non Aggression (Passive) (C) Aggression (Active).

In addition, behavior problems such as irritability, hostility, stereotypy, passivity, disorientation were also included with the help of other behavior problem checklists.

This questionnaire consists of eleven categories; each one consists of five items. In all, total of fifty-five items are given in the questionnaire. Each item rated on a three point scale so as to elicit frequency of occurrence of behavior in "Not at all" or "rare", "sometime" and "always" categories as a rating of 1, 2 and 3 respectively. But in index II CDA that is "Socialization" score is in reversed manner, because the items are positive and it was not possible to convert into negative terms. All the scores from each index were summed up and also three indices under one dimension that is Attention Deficit Disorder (ADD) and
second is conduct Disorder (CD) were summed up to give overall score for ADD and CD.

A score of 10 or above in each dimension of ADD and CD is indicative of a behavior problem. For ADD & CD, a total of 30 or above shows behavior problems in that particular category.

Thus following behavior problem were explored

I Attention Deficit Disorder
   A Inattentiveness
   B Impulsivity
   C Hyperactivity

II Conduct Disorder
   A Socialization
   B Non Aggression
   C Aggression

III Irritability

IV Hostility

V Stereotypy

VI Passivity

VII Disorientation

A copy of Questionnaire is given in Appendix 2.

5. Family Environment Scale

This scale was designed and developed by Rudolf H. Moose and Bernice S. Moose U. S. A. in 1986, to measure and identify functions involved in the family environment. It
consists of 90 statements that are to be answered either true or false by parents which help to classify functions into three underlying domains or sets of dimensions namely,

i. The Relationship Dimension

ii. The personal growth dimension

iii. The system maintenance dimension

The Relationship dimension is measured by the cohesion, expressiveness and conflict subscales. These subscale assess the degree of commitment, help and support of family members provide for one another and the extent to which family members are encouraged to act openly and to express their feelings directly. It also measures the amount of openly expressed anger, aggression and conflict among family members.

The personal growth or goal orientation dimension is measured by Independence, Achievement Orientation, Intellectual Cultural Orientation, Active - Recreational Orientation and Moral Religious Emphasis Subscale. These subscale assess the extent to which family members are assertive, self-sufficient and make their own decisions. The extent to which activities (such as school and work) are cast into an achievement oriented or competitive framework. The degree of interest in political, social, intellectual and cultural activities, the extent of participation in social and recreational activities and the degree of
emphasis on ethical and religious issues and values.

The System Maintenance dimension is measured by the organization and control subscale. These subscale assess the degree of importance of clear organization and structure in planning family and responsibilities and the extent to which set rules and procedures are used to run family life.

FES Subscales and Dimension Descriptions

Relationship Dimension

1. Cohesion: the degree of commitment, help and support family members provide for one another.

2. Expressiveness: the extent to which family members are encouraged to act openly and to express their feelings directly.

3. Conflict: the amount of openly expressed anger, aggression and conflict among family members.

Personal Growth Dimension

4. Independence: the extent to which family members are assertive, are self-sufficient, and make their own decisions.

5. Achievement Orientation: the extent to which activities (such as
school and work) are cast into an achievement-oriented or competitive framework.

6. Intellectual-Cultural Orientation:
   the degree of interest in political, social, intellectual and cultural activities.

7. Active-Recreational Orientation:
   the extent of participation in social and recreational activities.

8. Moral-Religious Emphasis:
   the degree of emphasis on ethical and religious issues and values.

System Maintenance Dimension

9. Organization:
   the degree of importance of clear organization and structure in planning family activities and responsibilities.

10. Control:
    the extent to which set rules and procedures are used to run family life.

Thus, the FES comprises ten subscales that measure the social environment of all types of families and also includes additional information on the clinical and
consulting uses of the FES. Therefore, the second edition was used in this study. For the purpose of present study the investigator obtained the translation of this scale in Marathi and Hindi by a professional translator. In order to facilitate scoring and statistical analysis modification was made. The reliability and scoring of this scale is given in the appendices.

A copy is given in Appendix 3.

6. Parent — Child Relationship Scale

This scale was developed by Dr. Harishchandra Sharma and Dr. N. S. Chauhan, Meerut, India. (1979)

The scale through the 'Self Anchoring Technique' makes measurement possible on eleven points for eight dimensions of basic parent child relationship. The technique employed remains simple and pointed in getting to natural responses and the placement of relations. The dichotomous dimensions consist of eight stories in Hindi. The details of dimensions are given below:

1. Rejection V/s. Acceptance
2. Carelessness V/s. Over-protection
3. Negligence V/s. Over indulgence
4. Strong-realism V/s. Utopian expectation
5. Lenient Standards V/s. Severe moralism
6. Total freedom V/s. Severe discipline
7. Marital conflict V/s. Marital adjustment
B. Faulty role expectation V/s. Realistic role expectation

The scores for the eight dichotomous dimensions are usually indicated by the specific numbers of the rungs of the ladder. Every score on a dichotomous dimension needs its placement with reference to the dichotomous ends in views. As such it is highly important to place it on the proper rung, which separates the dichotomous ends of all dimensions at the score of 5.5. The reliability of this scale is given in Appendices.

A copy is given in Appendix 4.

Procedure followed for data collection

The data was collected from the various institute, private special schools as well as special class of Municipal Corporation School of Bombay city, during the approximate period of 1991 to 1993 March.

(i) Preliminary Study

After preparing the schedules for the test/scales and interviews a preliminary study was conducted on 10 respondents from mentally retarded group. The study was defined primarily as an exercise in the application of all test, scales and self prepared Behavior Problem Questionnaire. In most of the subjects the necessary cooperation was given unhesitatingly by the respondents. The preliminary study indicated that all the scales were
relevant and fulfilled the requirements of the study.

(ii) Final Study

It was decided for the present study to take up two groups of children ranging between 6 and 12 years of age —

(i) Borderline and mild retarded children
(ii) Normal children.

The Principal/Directors of schools/institutes were requested to permit and cooperate for the purpose of data collection. The class teachers were informed and requested to give their cooperation. The purpose of the study was explained to them and they were asked to request the parents to be present for the interview. Selection of the subjects for M. R. category done.

The parents of these children were interviewed either in school/institutions or home as per their convenience. Having selected the target, parent were requested and convinced by the investigator to respond to each item of the questionnaire/scales and to provide correct information. Parents were also requested to come again for the next visit if necessary. Minimum 2 sessions were taken with each parent, as there were 3 questionnaire. Collecting information from the parents nearly took an average of 1 1/2 to 2 hours per subject on the first day. The average time spent with each subject during the second session was
approximately 1/2 an hour.

Those parents who could not report to the schools or institution due to some difficulties, problems at job or at home were approached at home in the evenings or as per their convenience were interviewed. Care was taken that parents were alone during the interview session to avoid hesitation and bias in their responses.

The second phase of the data collection was that of interviewing the class teachers of the selected cases. The average time taken with teacher was 10 - 15 minutes per subject.

Thus, after the collection of data, appropriate statistical techniques were used in order to find out the significant difference between the groups. Descriptive statistics, t-test, correlation and chi square were the statistical methods used.