3.0 INTRODUCTION

The previous chapter presented a review of studies related to the objectives of the study. Based on the review, a justification has also been made for the hypotheses formulated in the study.

This chapter presents a clear view about the methodology employed in order to achieve the objectives and to verify the hypotheses of the study. This methodology has been classified according to the objectives of the study given in Chapter I. It include details regarding the hypotheses, the sample, variables in the study, procedure employed for collection of data and analysis of the data. For some of the objectives related to identification of students with conduct disorder, and Intervention of conduct disorder, the methodology included here gives only an overview as separate chapters have been set apart for them which is more explicit. This chapter also includes the details regarding the tools employed in each stage of the study which are classified as those that were developed by the investigator and those developed by other authors. Along with the description of the tools, standardisation procedures followed by the investigator while developing the tools are also discussed.
3.1 HYPOTHESES

The present study verifies the following hypotheses.

1. There is a significant quantitative difference between normal students and students with conduct disorders in grades VII, VIII and IX in
   a. Level of self concept
   b. Level of Scientific attitude
   c. Level of emotional intelligence
   d. Extent of social cognition
   e. Extent of assertion
   f. Number of social skills problem present

2. There is a qualitative difference between normal students and students with conduct disorders in grades VII, VIII and IX in
   a. Level of self concept
   b. Level of Scientific attitude
   c. Level of emotional intelligence
   d. Extent of social cognition
   e. Extent of assertion
   f. Number of social skills problem present

3. The remedial programme developed in the study will be effective in improving the
   a. Level of self concept
   b. Level of Scientific attitude
   c. Extent of social cognition
   d. Extent of assertion
   e. Problem solving skills and to
   f. reduce the number of social skills problems present

The above mentioned hypotheses will be verified in the preceding chapter.
To achieve the objectives, answer the research questions, and verify the hypothesis, there is a need to identify students with conduct disorders from normal school of age range 10-18. It was also necessary to identify a matched group of normal students. The section below includes the details of the population and sampling procedures.

3.2 SAMPLE

The sample varies from objective to objective. To begin with, 20 schools were selected from different parts of Kerala, depending upon the feasibility to administer various tests. As conduct disorder is influenced by factors like age, gender, locale, etc., these considerations were also examined in the selection of samples. Schools selected were mainly higher secondary schools so as to include students from V to XII standard. A few high schools were also selected. However, schools selected for the study are mostly from suburban and rural areas. Also, students from both English medium and Malayalam medium were included in the study.

In Kerala, there are mainly Government, private aided and private unaided schools. The students studying in Government, Private aided and Private unaided schools are exposed to totally different environments which may be affecting their behaviour. Therefore, care was taken to select students from all these schools.

Some of the students who were basically Keralites, but had completed their elementary education from Gulf countries and joined for secondary and higher secondary education in schools of Kerala were excluded from the study as the basis of behaviour is laid in a culture different from culture of Kerala. This will eliminate the influence of cultural factor which is one of the major determinants of conduct
disorders. But students from different subcultures of Kerala were included in the study.

To identify students with conduct disorders about 4874 students from grades V to XII were selected from 8 schools of Trivandrum district, 8 schools of Wayanad district and 4 schools of Kozhikode district.

The first screening for identifying student with conduct disorder was done with the assistance from classroom teachers. As they are interacting with the students many times a day, they are getting more chances to observe the students interaction with peers, teachers and other authorities of school. So they have a better awareness of the students’ behaviour and the behavioural problems. Initially the teachers were asked to refer the students with behavioural problems especially externalised behaviour problems from their corresponding classes. For that the teachers were supplied with student behaviour checklist constructed by Achenbach (1972) and modified by Malavika Kapur (1997). They were oriented thoroughly which enabled them to make proper referral of the students with conduct disorders. Teacher reference were based on the observation conducted during the continuous interactions during curricular and co-curricular activities at school. It was further supported by the discussions with peers and parents, who are more informative about their activities outside school. Of the 4874 students, 1968 were referred by the teachers to have conduct disorders.

The details regarding the distribution of students in different grades of Government, Private aided and Unaided schools and the number preferred in each grade are given below.
Table 3.1: Distribution of schools

<table>
<thead>
<tr>
<th></th>
<th>Government</th>
<th>Aided</th>
<th>Private</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7</td>
<td>7</td>
<td>6</td>
<td>20</td>
</tr>
</tbody>
</table>

One thousand nine hundred and sixty-eight (1968) students referred by the teachers were tested with a set of exclusionary and inclusionary criteria which is given in Table 3.2 of Chapter III. Details are given in Section 4.1 of Chapter IV. Out of 1968 students referred, only 463 students met all the criteria and were identified as students with conduct disorders.

Table 3.2: Percentage of students identified to have conduct disorders

<table>
<thead>
<tr>
<th>Gender</th>
<th>Total number of students</th>
<th>Number of students referred</th>
<th>Number of children with conduct disorders</th>
<th>Percentage of children with conduct disorders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boys</td>
<td>2768</td>
<td>1150</td>
<td>310</td>
<td>11.19</td>
</tr>
<tr>
<td>Girls</td>
<td>2106</td>
<td>818</td>
<td>153</td>
<td>7.2</td>
</tr>
<tr>
<td>Total</td>
<td>4874</td>
<td>1968</td>
<td>463</td>
<td>9.49</td>
</tr>
</tbody>
</table>

For the purpose of assessment and Intervention, based on the feasibility of the investigator, only 262 students with conduct disorders were selected from Wayanad district, out of the total 463 students with conduct disorder already identified. These 262 students were tested with a set of inclusionary criteria given in Table 3.4 of Chapter III. Details are given in Section 8.1 of Chapter VIII. Only 44 students met all the criteria and they were selected for diagnosis and Intervention. They were chosen to administer the remedial intervention programme developed by the investigator. These 44 students served as sample to evaluate the effectiveness of the remedial intervention programme planned in the study.
From a selected sample of three schools, from the list of schools given in Table 3.1 of this chapter, 44 normal students, who were referred to as normal by the teachers were also selected so as to compare them with students with conduct disorders.

3.3 PROCEDURE FOR COLLECTION OF DATA

This section gives an overview of the procedure for collection of data and different techniques of analysis of the data adopted to achieve the various objectives of the study. Procedure of collection of data involves three phases. Phase I includes identification and selection of students with conduct disorders and Phase II involves assessment and comparison of students with conduct disorders and normal students. Phase III involves experimental validation of the intervention programme planned in the study.

3.3.1 Identification and Selection of Students with Conduct Disorders

In Phase I, students with conduct disorder were identified by employing a set of exclusionary and inclusionary criteria. The purpose of those criteria were: (a) to eliminate those who possess any internalised disorders or any other disorders and (b) to include those who exhibit conduct disorders. Table 3.4 gives the set of criteria based on which students with conduct disorder were identified. Various tools and techniques employed to measure each of those criteria are also given. Care was taken by the investigator to include students with only externalised behaviour problems especially conduct disorders.

Before employing any tool, the Investigator met the class teacher to discuss about the class in general. Thus the investigator was able to get the details of students
who had learning disability, who had some type of physical impairments like problems in auditory and visual functioning, those who had problems like Attention Deficit Hyperactivity Disorder (ADHD), oppositional defiant disorder (ODD) and those with low intellectual functioning. This helped the investigator to get background knowledge about each class.

Table 3.3: List of inclusionary and exclusionary criteria for identifying students with conduct disorders

<table>
<thead>
<tr>
<th>Sl.No.</th>
<th>Variables</th>
<th>Tools/Techniques</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Enrolled in school</td>
<td>School records</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>At or above 10 years of age</td>
<td>School records</td>
<td></td>
</tr>
</tbody>
</table>
| 3     | With normal visual and auditory functioning  | 1. Teacher’s opinion  
2. Self report                                                        | Ramaa, Ashok and Balachandra (1997) |
| 4     | Normal intellectual functioning              | Schedule for assessment of behaviour in students                                  | Ramaa, Ashok and Balachandra (1997) |
| 5     | Exhibits conduct problems at least from two years or more persistently | 1. Teacher’s opinion  
2. Student behaviour checklist  
| 6     | With learning disability                    | 1. Teacher’s opinion  
2. Schedule for assessment of behavioural problems in students | Ramaa, Ashok and Balachandra (1997) |
| 7     | With internalised disorders                  | 1. Teacher’s opinion  
2. Schedule for assessment of behaviour problems in students | Ramaa, Ashok and Balachandra (1997) |
| 8     | With associated disorders like ADHD, ODD, etc. | 1. Teacher’s opinion  
2. Schedule for assessment of behaviour problems in students | Ramaa, Ashok and Balachandra (1997) |
| 9     | Coming from subculture that seem delinquency acceptable | 1. School records  
2. Self report                                                             |                                   |
| 10    | Caught as a juvenile delinquent by legal authorities | 1. Teacher’s opinion  
2. School records  
3. Discussion with head                                                 |                                   |
Criteria number 1-5 indicate the inclusionary criteria and criteria number 6-10 indicate the exclusionary criteria.

By employing the above mentioned criteria, students with conduct disorders were identified from the sample described in section 3.2. Various steps followed to meet each criterion are discussed in Section 4.1 of Chapter IV.

3.3.2 Diagnosis and Assessment of Students with Conduct Disorders

After identifying students with conduct disorders the investigator attempted to diagnose the specific areas of conduct problems in students with conduct disorders. For that, based on the feasibility of the investigator, out of the total 463 students with conduct disorders, 262 students with conduct disorders were selected from Wayanad district. These 262 students were tested using the inclusionary criteria given in the Table 3.3 of this chapter. Special care was taken by the investigator to include students with conduct disorder who is not influenced by family or cultural factors as Intervention is not meant for family or society.

To collect the information regarding the students to be included in the diagnostic stage, the investigator sought the help of teachers who have given a preliminary view about the family and cultural background of students. It was followed by the informal discussion with students, which confirmed the information given by teachers. So out of 262 students, only 44 students were included in the diagnostic stage and the remaining students were eliminated who are influenced by family and cultural factors.
After selecting the students with conduct disorders for diagnostic stage, they were classified into three groups based on the ICD-10 classification of Mental and Behavioural Disorders by World Health Organisation, Geneva (1982). The criteria given in ICD-10 were used for the classification in the present study. Thus during diagnosis, the three categories among students with conduct disorders were found out. They are students with conduct disorders confined to family context, students with unsocialised conduct disorder, and students with socialized conduct disorder. This categorization is done for a better comparison with normal students, and to include strategies in the intervention programme that would benefit these categories among students with conduct disorders. Detailed description of the comparison with respect to different skills was given in Section 6.2 of Chapter VI.

Table 3.4: Variables and techniques employed for selecting students with conduct disorder for diagnosis

<table>
<thead>
<tr>
<th>Sl.No.</th>
<th>Variables</th>
<th>Techniques</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Students staying along with parents</td>
<td>Self report</td>
</tr>
<tr>
<td>2</td>
<td>Students with both parents</td>
<td>Self report</td>
</tr>
<tr>
<td>3</td>
<td>Student from middle socio-economic status family</td>
<td>School records, Unstructured interview</td>
</tr>
<tr>
<td>4</td>
<td>Has congenial family atmosphere</td>
<td>Teacher’s opinion, self report</td>
</tr>
<tr>
<td>5</td>
<td>Has not attended any counseling sessions</td>
<td>Self report, Teacher’s opinion, Discussion with parents</td>
</tr>
<tr>
<td>6</td>
<td>Between 12-14 years</td>
<td>School records</td>
</tr>
</tbody>
</table>

By employing these criteria of inclusion mentioned above students were selected for diagnosis from the students with conduct disorder already identified.
Various steps followed to meet each criterion are discussed in section 8.1 of Chapter VIII.

After selecting students for the diagnostic stage, a set of tools and techniques were administered to them, so as to identify the specific skills lacked by students with conduct disorders. Table 3.6 will provide the tools and techniques employed during the diagnostic stage. They also brought out which specific aspect of the behaviour is affected in a particular student with conduct disorders. This knowledge was essential to plan and prepare an effective intervention programme.

Specific instructions were given to the students before administering each test so that they were aware of what they had to do. Clarifications were made in between so as to facilitate understanding.

Table 3.5: Tests and tools employed during the diagnostic stage

<table>
<thead>
<tr>
<th>Sl.No.</th>
<th>Variable/Skill</th>
<th>Tools/Techniques</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Self concept</td>
<td>Lipsett’s Self Concept Scale</td>
<td>Lipsett (1952) adapted to Malayalam by Sanil Somakumar</td>
</tr>
<tr>
<td>3</td>
<td>Emotional intelligence</td>
<td>Emotional intelligence scale</td>
<td>K.D. Broota</td>
</tr>
<tr>
<td>4</td>
<td>Social skills problems</td>
<td>Social skill problem checklist administered to teachers</td>
<td>Investigator</td>
</tr>
<tr>
<td>5</td>
<td>Social cognitive skills</td>
<td>Selection of alternative response test</td>
<td>Investigator</td>
</tr>
<tr>
<td>6</td>
<td>Assertive skills</td>
<td>Assertive Skill Assessment Questionnaire</td>
<td>Investigator</td>
</tr>
<tr>
<td>7</td>
<td>Problem solving skill</td>
<td>Informal assessment (Problems in daily life situation were given to find solutions)</td>
<td>Investigator</td>
</tr>
</tbody>
</table>
3.3.3 Identification of Normal Students

To compare students with conduct disorders and normal students, a matched group of normal students were required. For that initially teacher reference were taken into consideration. Students referred to as normal studying in the same grades and schools of students with conduct disorders, select for diagnostic purpose were considered. The number of normal students referred was 50. All the 50 students selected as per teacher reference were tested with both exclusionary and inclusionary criteria given in Table 4.3 of Chapter IV. Only 44 students met the criteria and hence selected for the study. The details regarding the identification of normal students is discussed in Section 4.2 of Chapter IV.

3.3.4 Comparison of Normal Students and Students with Conduct Disorders

To compare the normal students and students with conduct disorder, 44 students with conduct disorder and an equal number of normal students were selected and administered a series of tests.

1. Lipsett’s Self Concept Scale, adapted to Malayalam by Sanil Somakumar (2001).
3. Emotional Intelligence Scale by K.D. Broota.
4. Social Skills Problem Checklist prepared by the Investigator.
5. Selection of Alternative Response Test prepared by the Investigator.
6. Assertive Skill Assessment Questionnaire prepared by the Investigator.
8. Emotional Percentages Chart/Intense Emotional Indicator by the Investigator.
Explanation of the tools mentioned above will be given in Section 3.4. Analysis of the comparison between normal students and students with conduct disorder will be discussed separately in Chapter V.

3.3.4.1 Analysis of data related to the students with conduct disorder and normal students on specific areas of conduct disorder

Analysis of data had two objectives. They are as follows:

1. Compare the two groups in terms of the specific skills lacked by them.

2. Compare the groups and identify the number of students who have exhibited problem of different types.

3.3.4.2 Selection of Students with Conduct Disorders for Remedial Intervention Programme

All the students with conduct disorders who were selected for the diagnostic stage are selected for the intervention programme also.

3.3.4.3 Development of the Intervention Programme for Students with Conduct Disorders

The main purpose of this study was to develop an intervention programme for the students with conduct disorder. This phase involved two stages.

1. Preparation of the intervention programme

2. Testing the efficacy of the intervention programme

3.3.4.3.1 Preparation of the intervention programme

To meet the objective number 6 of the study an intervention programme was developed for students with different types of conduct problems, by considering each aspect of the problem. It was developed based on the well established principles of
social, moral and emotional development and the skills related to it. The programme also took into consideration the general principles to teach students with conduct disorder, suggested, practiced and tested by various researchers and practitioners. The programme aimed at developing those skills which is generally lacking in a student with conduct disorder. The main principles, purpose, features, strategies, adopted during each part of the intervention and the outline of the procedure of administration of the programme are given in Chapter VI.

3.3.4.3.2 Evaluation of the intervention programme in developing different skills among students with conduct disorder

In order to check the effectiveness of the intervention programme all the 44 students, with conduct disorder, identified during the second phase were chosen for the implementation. The intervention programme was conducted in two sessions a day one in the morning and the other in the evening either outside the school or in the school, during leisure periods. The programme extended to four months. Both group oriented and individual oriented sessions were carried out, according to the convenience of the students.

3.3.4.3.3 Design of the experiment

Students with conduct disorder differ greatly from one another as to the nature of the disorder, the areas affected and the intensity of the disorder. Hence a control group was avoided and a single group pre-test and post-test design was considered feasible for the study.

The design of the experiment is represented as follows.
Pre-test

Assessment of self concept, social skills problems, scientific attitude, social cognitive skills, assertive skills, emotional intelligence problem solving skills was done. Particular areas of conduct problems and inability to control emotions were also assessed.

Treatment

Administration of intervention programme.

Post-test

Assessment of self concept, social skills problems, scientific attitude, social cognitive skills, assertive skills, emotional intelligence problem solving skills was done. Particular areas of conduct problems and inability to control emotions were also assessed.

3.3.4.3.4 Analysis of the data at the stage of experimental validation

In order to test the significance of the pre-test and post-test performance of the experimental group, the data was analysed quantitatively using t-test.

3.4 DESCRIPTION OF THE TOOLS EMPLOYED

Most tools that measure emotional and behavioural status involve the indirect measurement of emotional status or the direct measurement of behaviour. Measurement of an individual’s emotional state usually requires a great deal of inference and objectivity on the part of the examiner. On the other hand, standardised measure of classroom behaviour involves direct observation documented by some type of rating scales.
The tools used at various stages of data collection have been listed in the Tables 3.2, 3.3 and 3.4. They include both tools of direct measurement and tools of indirect measurement, which is clearly mentioned. In this section, the tools have been categorised under two headings and an explanation of the tools is also given in this section.

3.4.1 Tools Used at the Identification Phase

This section is devoted to describe the tools used at the identification stage of the study.

3.4.1.1 Tools used by other authors

a. Student Behaviour Checklist (CBCL) (Kapur, 1997)

This test was designed to assess behaviour problems of students in a variety of areas of age group 2-16 years. This checklist which is to be administered either to teachers or parents to rate the behavioural problems of students was constructed by Achenbach (1991). The various factors given in the checklist can be classified under two major scales as internalising characterised by withdrawn, somatic complaints, anxious depressed, etc. and externalising characterised by delinquent behaviour, aggressive behaviour, etc.

This student behaviour checklist was modified by Malavika Kapur in 1997 based on the Indian Context Modified version of CBCL was used in the present study. Thus in the modified version, the CBCL items were grouped under ten subscales as schizoid/anxious, depressed, uncommunicative, obsessive-compulsive, somatic complaints, social withdrawal, acts too young, aggressive, delinquent and other problems that do not fall in the other categories like sex problems, physical problems,
eating disorders, etc. The Table 3.6 will give the number of items under each subscale.

Table 3.6: Number of items under each subscale of Student Behaviour Checklist

<table>
<thead>
<tr>
<th>Sl.No.</th>
<th>Subscale in CBCL</th>
<th>Number of items</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Schizoid/Anxious</td>
<td>8</td>
</tr>
<tr>
<td>2</td>
<td>Depressed</td>
<td>17</td>
</tr>
<tr>
<td>3</td>
<td>Uncommunicative</td>
<td>8</td>
</tr>
<tr>
<td>4</td>
<td>Obsessive-Compulsive</td>
<td>16</td>
</tr>
<tr>
<td>5</td>
<td>Somatic complaints</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>Social withdrawal</td>
<td>8</td>
</tr>
<tr>
<td>7</td>
<td>Acts too young</td>
<td>10</td>
</tr>
<tr>
<td>8</td>
<td>Aggressive</td>
<td>22</td>
</tr>
<tr>
<td>9</td>
<td>Delinquent</td>
<td>12</td>
</tr>
<tr>
<td>10</td>
<td>Other problems</td>
<td>25</td>
</tr>
</tbody>
</table>

Among the scales, the Investigator concentrated only on the externalising behaviours aggressive and delinquent which are the major contributors of conduct disorder.

Before administering this checklist for the identification of students with conduct disorder, a proper orientation was given to the teachers about conduct disorder and the symptoms associated with it. Special care was taken while mentioning that a student should be considered as a student with conduct disorder,
only if he/she is exhibiting three or more of the symptoms in the past 12 months with at least one criterion present in past 6 months, in a repetitive and persistent pattern. This is done so as to avoid the errors committed by the teachers due to ignorance while referring students with conduct disorders. If a student exhibits a symptom under a subscale it is given a score of 1. Thus total score under each subscale will indicate the total number of symptoms of each behaviour problem. Since the present study is concentrated on externalising problems the symptoms of aggressiveness and delinquency were taken into consideration. If more than three symptoms is present under aggressiveness and delinquent each the student is considered under the head of conduct disorder. Thus out of 4874 students, 1968 was referred by teachers as exhibiting conduct disorder.

b. Schedule for assessment of behavioural problems in students (Ramaa, Ashok and Balachandra, 1997)

After the initial identification of students with conduct disorders using Student Behaviour Checklist, it was rechecked by using this schedule. This tool is helpful in collecting information from teachers and parents regarding various emotional and behavioural problems exhibiting by students. It has two sections. Section A is helpful in collecting general background information of the student like age, sex, socio-economic status of the family and marital status of parents. Section B consists of a checklist which gives the option to answer either Yes or No. It covers a wide range of problems like mental retardation, attention deficit hyperactivity disorder, learning disabilities, conduct disorder, depression, hyperactivity, obsessive-compulsive disorder, phobic disorder, autism and psychosis. As the tool includes
different subsections it was used in different stages of the study. The preliminary administration was done for identification of students with conduct problems. It was also administered to identify students exhibiting internalised disorders, associated disorders and learning disability who were eliminated from the study retaining only students exhibiting conduct disorder. The table 3.7 will show the number of items under each subsection of schedule for assessment of behaviour problems in students.

Table 3.7: Number of items under each subsections of schedule for assessment of behaviour problems in students

<table>
<thead>
<tr>
<th>Sl.No.</th>
<th>Subsections</th>
<th>Number of items</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mental retardation</td>
<td>7</td>
</tr>
<tr>
<td>2</td>
<td>Attention Deficit Disorder (Hyperactivity)</td>
<td>12</td>
</tr>
<tr>
<td>3</td>
<td>Learning disabilities</td>
<td>12</td>
</tr>
<tr>
<td>4</td>
<td>Conduct disorders</td>
<td>9</td>
</tr>
<tr>
<td>5</td>
<td>Depression</td>
<td>12</td>
</tr>
<tr>
<td>6</td>
<td>Hyperactivity</td>
<td>8</td>
</tr>
<tr>
<td>7</td>
<td>Obsessive-Compulsive disorder</td>
<td>8</td>
</tr>
<tr>
<td>8</td>
<td>Phobic disorder</td>
<td>6</td>
</tr>
<tr>
<td>9</td>
<td>Autism</td>
<td>11</td>
</tr>
<tr>
<td>10</td>
<td>Psychosis</td>
<td>10</td>
</tr>
</tbody>
</table>

Before administering the test, proper instructions were given to the teachers regarding different symptoms that come under each problem, so that they will not be confused. More emphasis was given to symptoms of conduct disorders as the teacher had to refer the students with conduct disorder of his/her class for the present study.
Each symptom is given a score of 1 if it is present in a particular child. As nine symptoms are specifically mentioned under conduct disorder, the maximum score of a student with conduct disorder is 9 in this schedule. A student who exhibits three or more symptoms among nine symptoms is considered to be a student with conduct disorders.


This test was developed by Raven (1965). It is designed to provide a reliable estimate of a person’s capacity to think clearly when left undisturbed. It is made up of five sets or series of diagrammatic puzzles exhibiting serial change simultaneously. Each puzzle has a part missing, which the person taking the test has to find among the six options provided. Only one option is perfectly correct, even though some others will be partially correct. Select the perfectly correct option.

This list was meant to assess the intellectual functioning of the students referred to have conduct disorders. It consists of 60 problems, divided into 5 sets, A, B, C, D, E each includes 12 problems. In each set the first problem is as nearly as possible self evident. The problems which follow, build on the argument of those that have gone before and become progressively more difficult. Thus it is evident that this test is meant to assess the chief cognitive processes. The test calls for recognition of abstract relationships, but the amount which the person has to hold in mind at once is strictly limited. He must recognise relationships as he scans the patterns horizontally and vertically, but need not scan them both at once.

This test was administered individually for 40 minutes. After establishing a rapport with the student’s, instructions were given regarding the test. After giving the
instructions, the booklet and answer sheet were distributed for recording responses. Care was taken to mention that try each one in turn from the beginning to the end of the booklet and does not miss any item. If you pay attention to the initial ones, the later ones will be less difficult. Students were allowed to work quietly at their own speed. It was made sure that, those who attended the test understood what they have to do, and hence clarifications related to test were made in between.

In the case of standard progressive matrices, score is the number of items answered correctly. Maximum score for each set is 12 as there are 12 problems. Therefore the maximum total score is 60 as there are five sets.

The test gives the following classifications of persons based on the performance on this test.

Intellectually superior: If the subject’s score lie at or above the 95\textsuperscript{th} percentile for his age group.

Above average intellectual capacity: If the score lies between the 25\textsuperscript{th} and the 75\textsuperscript{th} percentile.

Below average intellectual capacity: If the score lies below the 25\textsuperscript{th} percentile.

The said classification was followed by retaining those students whose score lay above 25\textsuperscript{th} percentile for the study.

3.4.2 Tools Used in the Diagnostic Stage

The detailed description of the tools used during the diagnostic stage of study mentioned under Section 3.3.4 is as follows.
3.4.2.1 Tools constructed by other authors

a. Lipsett’s Self Concept Scale, adapted to Malayalam by Sanil Somakumar (2002)

The tool adopted by the investigator for assessing the self concept was Lipsett’s Self Concept Scale (1958). It consists of 22 trait descriptive adjectives. Each adjective is prefaced by “I am . . .” and is followed by a five point rating scale. Nineteen were considered as positive or socially desirable attributes while three were considered negative – lazy, jealous and bashful. H.M. Singh and S. Singh adapted the Lipsett’s self concept scale in 1981. This is adapted to Malayalam language by Sanil Somakumar (2002). The rating category in this scale is given as Never – 1, Sometimes – 2, Often – 3, Most often – 4 and Always – 5.

A score of 5 was received on an item if the subject checks the first category always and a score of 1 if the last category is checked except in the case of three negative adjectives which are scored in reverse fashion. A score on the General Self Concept Scale will be obtained for each subject by summing the ratings ascribed to him on each item. Maximum score can go upto 110. More score indicates high positive self concept and low score indicates poor self concept. By seeing the total score, it is able to indicate the level of self concept of a student. Table 3.8 shows the range for each level of self concept.
Table 3.8: Levels of Self Concept and Corresponding Range

<table>
<thead>
<tr>
<th>Range</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Above 85</td>
<td>High self concept</td>
</tr>
<tr>
<td>Between 76-84</td>
<td>Moderate self concept</td>
</tr>
<tr>
<td>Below 75</td>
<td>Poor self concept</td>
</tr>
</tbody>
</table>

**Administration Procedure**

The Malayalam version of the test was administered to all 44 students of two groups, one group of students with conduct disorder and the other group constituting normal students. The investigator requested the students to read the statements carefully and to put a tick mark against each adjective in the column which they feel appropriate. This test required a time of 30 minutes. In order to facilitate the understanding of the students, the instructions, test items and responses were read out by the investigator and clarification were made in between when they felt difficulty in understanding the meaning of the trait descriptive adjectives, mentioned in the tool.

**b. Scientific Attitude Scale (Manjula P. Rao, 1995)**

The scientific attitude scale developed and used by Manjula P. Rao (1995) was modified according to the nature of the present study. The Likert’s Method of Summating Ratings (1932) was used. This method consists of a considerable number of favourable or unfavourable statements regarding scientific attitude. It consists of two parts: part I and part II. Part I consists of 22 statements both positive and negative which has a continuum of five point scale which ranges from “Strongly agree” to “Strongly disagree”. For positive statements, a numerical value of 5 is given to
strongly agree, 4 for agree, 3 for undecided, 2 for disagree and 1 for strongly disagree. The numerical index will be reversed in the case of negative statements, which range from 1 to 5, as one passes from strongly agree to strongly disagree. The student’s score will be sum of the individual measures. Maximum score that a student can get is 110 in part I.

Part II consists of eight statements with four choices. The student had to select and encircle his/her choice. Among the four choices, only one is perfectly right, which will be the right opinion of a person with scientific attitude. All other wrong answers will be given zero. The student score will be sum of the individual measures. Therefore the maximum score a student get in part II is 40. So the total score for part I and part II is 150. A high score indicates high scientific attitude. The Likert method eliminates the sorting by judges and it requires less time to prepare.

This scale was meant to assess the scientific attitude of students with conduct disorder, as it was seen from studies that students exhibiting emotional and behaviour problems lacks belief in cause and effect relationship, lacks truthfulness, lacks ability to solve problems and hence subjective. They give more importance to external locus of control and believe that factors outside their control, i.e. external factors determine their fates (Chapman and Boersma, 1979; Peral, Bnjan and Donabue, 1980). So they have belief in superstitions. Therefore this scientific attitude scale is good enough to assess the belief in superstitions, objectivity, truthfulness, openmindedness and ability to solve problems which overall gives the measure of scientific attitude of a person.
Administration Procedure

The students were given the Malayalam version of the Scientific Attitude Scale. They were asked to read the instructions carefully before writing the test. The students were instructed to put a tick mark against each statement in the appropriate column from strongly agree to strongly disagree. Doubts of the students were clarified by the investigator in time. In order to facilitate understanding of students, the instructions and test items were read out by the investigator. The test was meant for 45 minutes.

3.4.2.2 Tools Prepared by the Investigator

The remaining tools used in the diagnostic stage were prepared by the investigator. Before preparing each tool, much reference was done so as to identify the components and subcomponents of each aspect. Based on the subcomponents, items were prepared, which was given to experts for getting suggestions. After getting suggestions the items were modified and preliminary tryout were conducted. The sample of the preliminary tryout include both students with conduct disorders and normal students. After the test, item analysis was done and the items that clearly differentiated these two groups were only retained and the remaining were eliminated. The final drafts of tools were prepared with vivid instructions on each one of them.

One of the tool was administered to teachers and the remaining four were administered to the students when they showed interest to attempt it. Thus external sources of variation like boredom, fatigue, etc. were minimised to the extent possible. This helped in improving the stability aspect. Each test was administered after giving a preplanned instruction. This is in addition to the precise and clear instructions
mentioned on the tools given to students and to teachers. The approach of the investigator while administering the tools was congenial and motivating. Instructions were given loudly with appropriate voice modulation and stress at significant points. Special care was taken not to cover the face, not to turn towards the side of the blackboard or rush through with instructions.

Before administering the checklist to teachers, a proper orientation was given in the corresponding chamber. They were also made to sit in the classrooms where tests were administered so as to observe the student behaviours. The details regarding the development, administration and scoring of tools is discussed in this section.

3.4.2.2.1 Social Skills Problem Checklist

This test was developed to assess the social skills problems exhibited by students with conduct disorder. It was developed by keeping in mind the social skill problems classification given by Gresham (1981) who extended Bandura’s distinction which included skill deficits, performance deficits and self control deficits. It consists of 25 items, five items under five sections each. The five sections includes presentation of the student, interaction difficulties, conversation skills, social discomfort and unpopularity.

The first section ‘Presentation’ includes five items that clearly indicates the appearance and sounds of a person. These are the preliminary aspects of a person, noticed by others. Sometimes first impressions can bring into play many preconceived ideas and colour the whole of subsequent interactions. They may in turn give rise to further problems also. This is the case of students with conduct disorder. Sometimes they are deficient in self presentation skills and hence cannot get along with their
peers. This will further affect their interactions in social situations. So the investigator was interested to find out the self present skills lacking in a student with conduct disorders and hence included in the tool.

Second section deals with the basic interaction difficulties of a person. Eye contact, facial expression, gestures and bodily distance are all involved in even the most basic social contact. In the course of the growth of the student and according to cultural patterns, they learn to adopt the appropriate use of these modalities. They become a form of implicit body language to which other people respond. The correct use of these modalities is necessary not only in order to make and maintain normal social contact, but also to convey any emotional tones accurately which cannot be communicated verbally. These interaction skills are seen deficient in students with conduct disorders. So their social interaction is not smooth and hence gives rise to conflict and problems with peer, teachers and parents. This shows the lack of proper social training. Since the interaction difficulties are one of the major parts of social skills problems, it is included as a separate section in the tool.

Conversation skills are mentioned in the third section, which is the chief medium of social interaction. This is one of the major forms of gaining information and coordinating actions. A student whose conversation is boring or offensive will have difficulty in making friends. Sometimes this happens in the case of students with conduct disorders. Poor conversational skills can create social dissatisfaction and distance which pushes the student towards more unusual forms of achieving attention and satisfaction. Lying is also included in this section, as it is a part of conversation and has a negative impact on the listener like other behaviours in the group. Also it is
an antisocial behavioural characteristics of students with conduct disorders as mentioned in DSM-IV criteria.

Students with conduct disorders are uncomfortable in social settings. This observation made the investigator to include the fourth section ‘Social discomfort’. The difficulties mentioned under this section suggest that the student’s social relationships are not satisfactory or that he is uncomfortable in social settings. This uncomfortability may further reduce social acceptability by making others feel ill at ease. Similarly constant inept attempts to make friends may indicate that the student is lonely and socially unskilled which is evident in a student with conduct disorders.

Unpopularity is the most general and pervasive indicator of a student’s difficulty within a small social group. If the unpopularity is relatively widespread it may indicate, deficient social skills. Because of this relationship, unpopularity is included as one of the major sections under social skills problem checklist for students with conduct disorder. Unpopularity may lead to social isolation and victimisation. As a result of constant rejection by others, a student may become hostile and willing to do anything including law breaking to gain acceptance and attention, thus leading to conduct disorder.

Thus keeping in mind these components, an initial draft was prepared by the investigator which consisted of 25 items including majority of the social skills problems. These items along with the operational definition of social skill problems were given to a small group of knowledgeable professionals in this field for purposes of establishing face validity. All the items were retained, since they were judged to be adequate to measure the construct of students with conduct disorders.
Administration Procedure

This tool was meant to assess the appearance and overt behaviours of students. Hence it was administered individually to teachers of students with conduct disorder, who are included for remedial treatment. Before administering the tool, proper orientation was given to the teachers regarding social skills problems exhibiting by students in classrooms. The teachers were asked to go through various social skills problems mentioned and to put a tick mark against the one they feel that their student possesses. Doubts were clarified in between to facilitate more understanding.

Table 3.9: Distribution of teachers

<table>
<thead>
<tr>
<th>Grades</th>
<th>VII</th>
<th>VIII</th>
<th>IX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of teachers</td>
<td>9</td>
<td>11</td>
<td>7</td>
</tr>
</tbody>
</table>

Scoring

Altogether there are 25 items in the social skills problems checklist, categorised under five sections. Each item/problem is given a score of 1, if is exhibited by the student. The individual scores are added to get the total score. Thus the number of social skills problems will be equal to the score that a student receives in the checklist. Maximum score that a student can get in this checklist is 25. A high score in the checklist indicates more social skills problems. The table below indicates the range and corresponding level of social skills problems.
<table>
<thead>
<tr>
<th>Range</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Above 20</td>
<td>Has high social skill problems</td>
</tr>
<tr>
<td>Between 15 to 20</td>
<td>Has moderate social skill problems</td>
</tr>
<tr>
<td>Below 15</td>
<td>Has less social skills problems</td>
</tr>
</tbody>
</table>

### 3.4.2.2.2 Selecting the best alternative test

This test was meant to assess the social cognitive skills of a person. According to Erickson, social cognition is the way that people reason about themselves and others in social situations using their cognitive processes. This test indicates how a student is able to comprehend and deal with social and interpersonal events in life. By understanding the nature of particular situations, the student has to apply his cognitive ability to decide how one can deal with some dilemmas or problematic situations in social life.

Keeping in mind the characteristic behaviours manifested by students with conduct disorders in different social situations and by a thorough survey of situations and by a thorough survey of literature, the investigator prepared an initial draft of 13 items where each item describes a particular situation involving behaviours related to students with conduct disorders like lying, fighting, truancy, cheating, etc. Each item is followed by three responses: a positive response, a neutral response, and a negative response. After preparing the items, it was given to experts in the area for establishing face validity. After the discussions with experts, certain modifications were made and 10 items were retained along with the same weightage assigned for various possible responses since they are judged to be adequate to measure the skill. Then a
preliminary tryout was conducted on a group of 20 students including normal students and students with conduct disorder. The test was administered individually. While administering the test, the items included in the test were read by the student and they have to select the response preferred by them. A weightage of +1 was given to positive response, 0 to neutral response and -1 to negative response, thus the maximum score a student can get from the test is 10.

Item analysis was done. For that a scored sheets of the twenty students were arranged in the descending order of scores. Among the twenty scored sheets, top 27% and bottom 27% sheets are retained and the remaining are removed. Each item was analysed based on the positive response and both discrimination and difficulty indices were calculated. All the items had discriminative index of almost 0.4 and difficulty index between 66 and 82 and they were pooled together. This indicates that all the ten items of this test is able to differentiate between students with conduct disorders and normal students. Thus the final draft is prepared with ten items, where each item describes different social situations or interpersonal events. The situations described in the items is related to ten different behaviours exhibited by students with conduct disorder, like lying, using drugs, stealing outside home, stealing from home, arguing and threatening others, cheating, aggression, truancy, destroying others property and running away from home along with bad friends. The performance on this test of students with conduct disorders and normal students were compared and it was found that there was significant difference between the means (t = 8.023, df = 18, significant at 0.01 level). This established empirical/criterion validity. The final draft was
administered to both 44 students selected for remedial treatment and 44 normal students.

Table 3.10: Distribution of students

<table>
<thead>
<tr>
<th>Grades</th>
<th>VII</th>
<th>VIII</th>
<th>IX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of students</td>
<td>18</td>
<td>15</td>
<td>11</td>
</tr>
<tr>
<td>(Students with conduct disorders)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Normal</td>
<td>18</td>
<td>15</td>
<td>11</td>
</tr>
</tbody>
</table>

Administration Procedure

The test required approximately about 30 minutes. The English version of the tool was translated to Malayalam and was given to the students along with the score sheet. After establishing a rapport with the students, proper instructions were given to them. They were instructed to finish the test in time. Students were asked to read out the situations carefully and select and put a tick mark against the response, which they feel appropriate. In order to facilitate the understanding of the students, the instructions, test items and responses were read out by the Investigator and clarification of doubts were made in between.

Scoring

Among the three responses, one is a socially acceptable (positive) response and other two are socially unacceptable. Arbitrarily the score was given. The most unacceptable response is given a score of −1, neutral as 0 and socially acceptable or positive response is given a score of +1. Total score in the test will be obtained by adding the individual score of each item. Thus the maximum score that a student can
achieve is +10 and the minimum score is –10. If the score is below 5, the student is identified as performed low in the test.

3.4.2.2.3 Assertive Skill Assessment Questionnaire

A student with conduct disorder is unable to behave assertively. Either he/she is aggressive or sometimes even passive depending upon the nature of the situation. They even forget the surroundings and behave in an undesirable manner. This is because they lack assertive skills.

To assess the extent of use of assertive behaviour in problematic situations by a student with conduct disorders, a questionnaire was prepared by the investigator. The initial draft of questionnaire included 18 items. Each item is a statement that describes a situation taken from daily life. Different situations from home and school were included, as the student spent most of his time at home and school. At school a student has to interact with both teachers and peers in a number of occasions. Similarly at home, he/she has to interact with the parent’s and siblings. Every social interaction will not be smooth. Some of them may lead to problems due to disparity in the ideas, beliefs, thoughts and views of the persons involved in the interactions. Individuals with assertive skills deal effectively with persons in such situations. But a person who exhibits deficits in skill is unable to be assertive, as they have no control over their aggressive behaviour. Aggression is considered by them as pathways for deliverance of their negative emotions. Thus the 20 items included in the questionnaire were opportunities provided for the students to decide how to respond to a situation involving contradiction of ideas.
Each item is a tempting situation or an emotion arousing situation. It starts with what do you do if ... and then the statements are given. Majority of the situations mentioned in statements are related to friends, some related to teachers and some of them related to home involving parents and siblings. The student is free to give any type of response that first comes to the mind.

Mainly three types of responses were provided, assertive response, passive response and aggressive response. The prepared items were given to experts along with the components of assertive skills and its operational definition to check face validity for getting further suggestions. After discussion with experts 18 items were retained based on their judgement and remaining two were discarded as they were not able to measure the assertive skills properly.

Then the preliminary tryout is conducted on 25 subjects who represented almost proportionately both students with conduct disorders and normal students from different grades included in the study. The test was administered individually. Students have to read the items carefully and select the response they prefer. Clarification were done in between. A weightage of +1 was given to assertive response, 0 to neutral response and -1 to aggressive response. The maximum score a student can get from the test is 15.

After the preliminary tryout, item analysis was done. For that top 27% and bottom 27% scored sheets from the scored sheets arranged in the descending order of scores were taken. Each item was analysed based on assertive response and both discrimination and difficulty indices were calculated. Items which had discriminative index of at least 0.2 were pooled together. Three items were discarded since the
discriminative index was less than 0.2 and hence 15 items were retained in the final draft.

The performance on this test of students with conduct disorders and normal students were compared and it was found out that there was significant difference between the means (t = 6.021, df = 23, significant at 0.01 level). This established empirical/criterion validity. The final draft was administered to both students with conduct disorders and normal students.

**Administrative Procedure**

After establishing the rapport with the students, the investigator has given specific instructions and explained what to do. Each student was given the questionnaire. They were instructed to read the questions carefully. To make them understand each situation, the investigator read out each statement, explained briefly and clarified the doubts in between. For each questions, three responses are given, aggressive, assertive and passive. Students are free to select any one of the response, according to their preference. The students made an attempt to complete the whole work within 45 minutes.

**Scoring**

Assertive skills assessment questionnaire consists of items with three responses. One is an aggressive response, other two assertive and passive respectively. If the aggressive response is selected, a score of -1 is assigned, for passive response it is 0 and for assertive response, it is +1. Thus the maximum score a student receives in this assessment is +15 and the minimum is -15. Those who score above +9 is considered to be the one who approximately used assertive behaviour in
different problem situations. Scores less than that +9 indicate the inability to use assertive behaviour in problematic situations.

3.4.2.2.4 Assessment of Problem Solving Skill

According to Spivach, Platt and Shure (1976) students with behaviour disorders have greater problem solving deficits than do their normal age peers. Problem solving involving cognitive like problem identification, specification of alternative solution and evaluation of consequences. As students with conduct disorder often show cognitive deficits and distortions, they are unable to perceive and interpret behaviours of others in a right manner. This will result in aggression and antisocial behaviour at home, school and community. Thus it is essential for the investigator also to assess the problem solving ability of students with conduct disorders.

Unlike other skills problem solving skill of students with conduct disorder was assessed through an informal method. Informal method to assess problem solving skill was used to assist the planning of effective interventions.

A paper-pencil problem solving assessment was used. Here ten situations faced by students at various parts of life were presented. The students were asked to analyse the situations given and to identify a solution for each one, which they consider as appropriate. The scope of assessment of this test is restricted to components skills such as social cognitive, social problem solving and decision making.

The problems selected for this test were according to the age and maturity level of students selected for intervention. Ten problem situations were arranged in an
order of difficulty in terms of easy access to identify the problem, understanding the
context of the problem, easiness in defining the problem and generating potential
solutions to it. Problematic situations presented in this test were specific problems
faced by students who are at risk to become conduct disordered. So the items were
mainly for checking construct validity and linguistic errors. After that it was

Ten items were given to experts tried out on a small sample of students studying in VIII and IX. Out of the thirteen items, eight were selected on the basis of easy access to identify the problem understanding the context, easiness in defining and generating potential solutions to the problems. Remaining two were discarded as they were above the standard of the students.

Final tryout was done on the 44 students who were selected for intervention, based on the assumption that the problematic situations presented were of similar situations faced by them at different times.

**Administrative Procedure**

Before administering the test, the investigator discussed with the students regarding various situations in their life where they have to face crisis or conflicts. Discussion was followed by orientation regarding the test. Students were told in the beginning that no response is right or wrong.

While administering the test, the investigator read out each situation and the students were asked to listen attentively. After a pause, time was given to write a solution, which they find more appropriate. For each item, one minute was given for noting the responses. Altogether the testing required a time of 30 minutes. Doubts were clarified in between to enhance understanding.
3.4.2.2.5 Emotional Intelligence Test

Emotional intelligence is the ability to process emotional information particularly as it involves perception, assimilation, understanding and managing emotions (Mayer and Cobb, 2000), i.e. it is the ability to monitor one’s own and others feelings and emotions, to discriminate among them and to use this to guide one’s thinking and action. Students with conduct disorders are unable to manage their emotions during social situations and hence become aggressive. This may be due to their inability to seek social cues while making sense of a person’s behaviour and hence response will be in a violent and hostile fashion (Dodge and Newman, 1981). To help them to get rid of this problems, strategies related to cognitive-emotional intervention should be taught properly. Keeping all these aspects in mind, the investigator planned to conduct an emotional intelligence test.

The emotional intelligence test constructed by K.D. Broota was used in the present study. It is a self administered test to assess emotional intelligence. Twenty statements are given, each followed by five possible responses namely always, usually, sometimes, rarely and never. The subjects are meant to read each statement carefully and choose the one which seems to be the most appropriate response among the five possible responses for a particular situation.

Administration Procedure

After establishing a rapport with the students they were asked to read the instruction properly. It was further explained by the investigator. After the instructions are clarified, they were asked to go through the different statements given in the test. After reading the statements carefully they had to put a tick mark against
the response which seems to be appropriate for them. Doubts were clarified in between so as to facilitate understanding. The test was meant for 30 minutes.

**Scoring**

Both positive and negative statements were included in the test. For positive statements, the rating category is always – 4, usually – 3, sometimes -2, rarely – 1 and never – 0. For negative response the reverse order is followed. Thus the maximum score can go upto 80. High score indicates high emotional intelligence. Based on the scores, the students can be classified into different levels of emotional intelligence.

The range and level of emotional intelligence is given in the table below.

<table>
<thead>
<tr>
<th>Level of Emotional Intelligence</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Emotional Intelligence</td>
<td>60-80</td>
</tr>
<tr>
<td>Medium Emotional Intelligence</td>
<td>40-59</td>
</tr>
<tr>
<td>Average Emotional Intelligence</td>
<td>20-39</td>
</tr>
<tr>
<td>Poor Emotional Intelligence</td>
<td>&lt; 20</td>
</tr>
</tbody>
</table>

**3.5 CONCLUSION**

Both formal and informal assessments were used for identification and diagnosis of conduct disorders. Formal assessments were conducted using either standardised tools constructed by other authors or tools constructed by the investigator which were standardised before using. In some cases, like assessing problem solving and self control, informal assessment techniques were conducted as it provides a comprehensive picture of problems faced by students with conduct disorders more specifically which in turn will assist with planning of effective intervention.