3.1 Method adopted for the study
3.2 Population
3.3 Sample selected for the study
3.4 Variables of the study
3.5 Data for the study
3.6 Tools and techniques used for the study
3.7 Procedure for data collection
3.8 Scoring and consolidation of data
3.9 Statistical techniques used
3.10 Summary
This chapter deals with the plan and procedure followed in carrying out the investigation. The delineation of the objectives of the study and the defining of the hypotheses to be tested helped the investigator to spell out the details of the methodology of the study. A pre-planned and well designed methodology will provide the researcher a scientific and feasible plan for solving the problems under analysis. The method adopted, the tools and techniques used for gathering data, the selection of the sample, the procedure of data collection and the outlines of the statistical techniques employed in the analysis of data are described under appropriate heads as presented below:

3.1 METHOD ADOPTED FOR THE STUDY

Research methods refer to the procedure and techniques the investigator used in performing research operations. The method selected should always be appropriate to the nature of the problem under investigation and kind of data that the problem demands. The purpose of the present investigation is to study the role played by the family in the education of tribal students in Kerala.

To provide valid answers to the specific research questions raised in the study, it was decided that descriptive method should be adopted for the study since “it is concerned with conditions or relationships that exist, opinions that are held, processes that are going on, effects that are evident, or trends that are developing” (Best & Kahn, 2006). From the different approaches that may be employed in descriptive research, normative survey was selected for collecting data relevant for
the study, considering the objectives of the study and the nature of data required for their realization. This method is one of the most commonly used methods to solve the educational problems.

3.2 POPULATION

A population is any complete set of people, event or things which has one or more characteristics in common that are of interest to the researcher (Haslam & McGarty, 2003). The population is defined in keeping with the objectives of the study. The present study is targeted to draw inferences to the tribal children who are doing their secondary education (Std. VIII to X) in the schools of Kerala and their parents (both father and mother), and as such they form the population of the study.

3.3 SAMPLE SELECTED FOR THE STUDY

A sample is a subset of the population under study (Wiersma, 1991). A small, but carefully chosen sample reflects the characteristics of the population from which it is drawn. Efficiency of any study is decided by the representativeness of the sample on which the study is conducted. A representative sample, according to Mouly (1970) would be a miniature or replica of the population, at least with respect to the characteristics under investigation. Sampling is the process of selecting a number of individuals for a study in such a way that the individuals represent the larger group from which they were selected. The sample for the study was selected from the population in such a way as to yield generalizable results from the study. This required three basic decisions to be taken regarding the sample. They are:
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a) Techniques of sampling
b) Basal variables to be represented in the sample; and
c) Size of the sample

3.3.1 Techniques of Sampling

The *stratified random sampling*, according to *Cozby (2001)*, has the advantage of a built-in assurance that the sample will accurately reflect the numerical composition of the various sub-groups. As such, *‘stratified random sampling technique’* was followed in the study so as to coincide the sample with the population about which information was sought. Stratified sampling is a modified form of random sampling. It is defined as, *‘a technique designed to ensure representativeness and to avoid bias’* (*Garret, 1981*). As such, factors like revenue districts, tribal groups, school types, mode of student residence, gender, grade levels of students etc. were taken into consideration while deciding sampling strata.

3.3.2 Basal Variables to be Represented in the Sample

The aim of the present study has necessitated to consider some basal variables such as gender of parents, gender of students, education of the parents, number of learning children in the family, type of jobs parents undertaken, reported income of the parents, type of hosteling of students etc. for realising the objectives of the study. A preliminary investigation was made by the researcher in the sampling districts and convinced himself that a random sampling of reasonable size will ensure the adequate representation of the basal variables considered.
3.3.3 Size of the Sample

As an initial step of sampling, the list of panchayats having thickly populated tribal colonies, coming under the jurisdiction of the three revenue districts (Idukki, Palakkad, and Wayanad) identified for the study was obtained from the district offices of the Department of Scheduled Tribe Development in the respective district headquarters. These three districts were selected because 62.25% of the tribal people in Kerala lives in these districts, in addition to the fact that the districts represents almost 92% of all the tribal groups in Kerala (Swamy, 2010). The major tribal groups in Kerala and their arewise localization were studied based on the collected information and the sampling areas were so stratified as to include all the major tribal groups of the districts in the sampling. Information regarding tribal schools in the demarked tribal areas were collected from the offices of the respective Deputy Directors of Education. Permission from the relevant District Tribal Development Officers and the Deputy Directors of Education were sought for the purpose of data collection from the samples. The tribal students and their parents were reached through the Model Residential Schools and Ashram Schools meant exclusively for tribal students; and further through the normal Government and Aided Secondary Schools in tribal dominant areas.

On the basis of the above considerations, an initial break up of a tentative sample was worked out. On the assumption that a sample of about 400 tribal students and their 800 parents (400 fathers and 400 mothers) will be available for analysis, it was decided to get a larger basal sample of around 500 students and their parents. The completion of all the selected schools yielded a sample slightly less than the tentative size fixed. The actual size of the basal sample was 478 students and their parents. The data pertaining to all those subjects, however, could not be used in the final analysis. This was due to the fact: (a) some of the tribal children had none or only one of their parents was available due to multiple
reasons such as death, separation, incapacitation by physical illness, mental illness or drug addiction, (b) screening out of duplicated student data where more than one childern of the same parents were included in the sample (96 such cases were reported in the present study), (c) some respondents were not present for all the test sessions, (d) the responses of some respondents were found incomplete, (e) some respondents were found marking more than one response for some test items. When all such cases were excluded, only data pertaining to 315 students and their 630 parents (315 fathers and 315 mothers) were found useful for analysis. The break-up of the final sample based on relevant socio-demographic factors considered in the study are given below in Table 3.1.

Table 3.1: Breakup of the final Sample of Tribal Students used in the Study

<table>
<thead>
<tr>
<th>District</th>
<th>Gender</th>
<th>Grade Level</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Std. VIII</td>
<td>Std. IX</td>
</tr>
<tr>
<td>Idukki</td>
<td>Boys</td>
<td>19</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td>Girls</td>
<td>14</td>
<td>21</td>
</tr>
<tr>
<td>Palakkad</td>
<td>Boys</td>
<td>19</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td>Girls</td>
<td>14</td>
<td>20</td>
</tr>
<tr>
<td>Wayanad</td>
<td>Boys</td>
<td>16</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>Girls</td>
<td>21</td>
<td>11</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>103</td>
<td>105</td>
</tr>
</tbody>
</table>

3.4 VARIABLES OF THE STUDY

The study has been designed with Academic Achievement of tribal student as dependent variable and their parents’ attitude toward education, parent
involvement, and child rearing practice, parent-child relationship and parenting skill as independent variables. A brief description of each of these variables is given below:

3.4.1 Academic Achievement

Academic achievement is the level of actual accomplishment or proficiency a learner has achieved in an academic area, as opposed to his/her potential. It generally indicates the learning outcomes of pupil. Webster (1984) defines achievement as ‘the quality and quantity of a student's work’. According to Crow & Crow (1969), academic achievement is the extent to which a learner is profiting from instructions in a given area of learning i.e., achievement is reflected by the extent to which skill or knowledge has been imparted to him. Good (1973) has defined, academic achievement as knowledge, attitude or skill developed in the school subject usually designed by test scores or by marks assigned by teacher or by both. To put it in the words of Steinberger (1993), achievement encompasses student ability and performance; it is multidimensional; it is intricately related to human growth and cognitive, emotional, social, and physical development; it reflects the whole child; it is not related to a single instance, but occurs across time and levels, through a student’s life in public school and on into post secondary years and working life. Academic achievement as a variable in the present study has been taken as the degree or the level of success attained by a student in some specific school tasks especially scholastic performance. It is the extent to which a student has achieved the educational goals.

3.4.2 Attitude toward Education

Attitude is a tendency to accept or reject particular group of individuals, sets of ideals or social institutions. It is a sort of readiness to respond in a
predetermined manner to particular stimuli. They are emotionally toned ideas, directed towards or against something. According to Bourne & Russo (1998), attitude is a relatively stable and enduring learned evaluation (favorable or unfavorable) of something, including a particular person, behaviour, belief, object or idea. Thurstone & Clave (1929) define attitude as: the sum total of man’s inclinations and feeling, prejudice and bias, preconceived, notions, ideas, fears, threats and convictions about any specific topic. The composite term ‘attitude toward education’ refers to one’s mental position or emotional feelings about education and its components. This term is synonymous with ‘educational attitudes’ which has been used to describe various dimensions of one’s pro- or anti-school sentiments, their personal educational aspirations, and their expectations of their educational career. In the present study the term ‘attitude toward education’ has been used to refer to tribal parents’ general orientation towards school and the importance that they attach to education for their children’s lives or careers.

3.4.3 Parent Involvement

Parental involvement is the level of participation that a parent has in their child’s education and school. According to Hill et al (2004), parent involvement is parents’ interactions with schools and with their children to promote academic success. The No Child is Left Behind Act (2001) defines parental involvement as: ‘the involvement of parents in regular, two-way, and meaningful communication involving student academic learning and other school activities’. Walker et al (2005) defines parental involvement as parents’ behaviour in helping their children with their education entail the ability to implement a variety of strategies to ensure the educational success of their children. Parent involvement takes many forms, including: (a) two-way communication between parents and schools, (b)
supporting parents as children’s primary educators and integral to their learning, (c) encouraging parents to participate in volunteer work, (d) sharing responsibility for decision making about children’s education, health, and well-being, (e) collaborating with community organizations that reflect schools’ aspirations for all children. Parent involvement as an independent variable in the present study have been taken as the dedication of resources by tribal parents for the benefit of the child, and the total number of activities in which the parents can participate, so as to contribute either directly or indirectly towards the education of their children.

3.4.4 Child Rearing Practices

Child rearing is the biggest and most important business parents are engaged in, all over the world. In the simplest sense, child rearing is the process of bringing up a child by giving the care, love, and guidance by a parent. Child rearing practice is a form of socialization process whereby a new member is trained and nurtured in such a way that s/he learns the ways of life of his/her people in order to become a useful member of the society and this provides opportunity for the survival of the society. Child rearing practices include all the interactions between parents and their children such as the parent's expressions of attitudes, values, interests and behaviors as well as their care taking and training behaviors. According to Zimba & Otaala (1995), child rearing practices are considered to be activities that a caregiver or parent does to promote the care, optimal development, as well as the protection of young children. Bouchard, (1994) and Jenni & O’Connor (2005) consider child rearing practice as: ‘transmission of the tradition, believes, culture and cognitive actions from parents to the offspring’s’. Child rearing includes much more than providing the basic necessities for growth. The growing children should be provided opportunities for realization of his potentialities with love and affection in addition to inculcating culturally appropriate social behaviours. In the present study child rearing practice
has been taken as the process of promoting and supporting the physical, emotional, social, and intellectual development of a child by giving care, love and guidance by the parents.

3.4.5 Parent Child Relationship

Parents are children’s first and foremost teachers. The parent child relationship refers to the bond that the parent forms with his/her child. According to Wilson & Krapp (2005), parent-child relationship consists of a combination of behaviors, feelings, and expectations that are unique to a particular parent and a particular child. Anderson et al. (2010) define parent-child relationship as the connecting and binding qualities of parent and child in relation to each other. These qualities include closeness, influence, attachment, and investment. Hinde (1979) posits that the parent-child relationship is the primary context that creates distinctive dynamics within parent-child interactions. Russo & Owens (1982) considers parent-child relationship as a form of communication between a parent and a child; the combined reciprocal action of a parent and a child that has an effect on each other. Parent-child relationship is an extremely important element in the personality formation and especially the socialization of a child from infancy to childhood and adolescence. The relationship involves the full extent of a child's development. In the context of present study, the concept ‘parent-child relationship’ has been taken as the physical, emotional, social, and cultural bond between a parent and his/her child as evident from their intimacy, influence, attachment, commitment and responsibility.

3.4.6 Parenting Skill

Parenting is the process of upbringing and educating a child right from its formtion by meeting its physical, mental, emotional, social and cultural needs. It is
the act of making oneself a cornerstone upon which his/her child can build a foundation for a better life. The ability of a parent or caregiver to upbring a child by meeting its diverse needs to a self-reliant adult is called as *parenting skill*. Good parenting skills help children become healthy, productive and successful adults. According to **Martin (2000)**, parenting is the process of promoting and supporting the physical, emotional, social and intellectual development of a child from infancy to adulthood. **Morrison (1978)** defined parenting as ‘the process of developing and utilising the knowledge and skills appropriate to planning for, creating, giving birth to, rearing and/or providing care for offspring’. The competency of a parent (natural or legal) or a caregiver to use the methods, techniques etc. required in the rearing of a child is termed as parenting skill. The terms ‘parenting skill’, as used throughout this study, means the competency and readiness of a parent or parent substitute to perform the role of a parent in care-giving, nurturance, and protection of the child.

### 3.5 DATA FOR THE STUDY

The present study made use of two types of data, viz., primary data and secondary data. The information pertained to tribal parents’ attitude toward education, parent involvement, child rearing practice, parent-child relationship, and parenting skill, collected by the investigator with the help of standardized tools, constitute the primary data used for the study. The average marks (grade points converted to numerical scores and then to percentage) scored by the students in two statewide terminal examinations, measured and maintained by the school authorities by administering the achievement tests developed by the State Council for Educational Research and Development (Govt. of Kerala), constituted the secondary data utilized for the purpose of estimating the academic achievement of the subjects.
3.6 TOOLS AND TECHNIQUES USED FOR THE STUDY

The selection and utilization of suitable tool(s) is of vital role for the success of any research (Allen, 1995). A suitable tool contributes much to the validity of the findings of any research. The investigator decided to utilize secondary data available in the schools as scores of academic achievement of the subjects. To make the data a more reliable measure of the achievement of the students, average scores in two state wide terminal examinations conducted by the government agencies were taken for the purpose. The data pertained to the independent variables viz, tribal parents’ attitude toward education, parent involvement, child rearing practice, parent-child relationship, and parenting skill, were measured by the help of standardized tools. The following standardized tools were used for measuring various variables involved in the study:

1) Scale for Attitude towards Education

2) Parent Involvement in Children's Education Scale: P-Version

3) Parent Involvement in Children's Education Scale: C-Version

4) Child Rearing Practice Scale

5) Parent Child Relationship Scale for Parents (Arjunan & Nambeesan, 2009)

6) Parent Child Relationship Scale for Children (Arjunan & Nambeesan, 2009)

7) Parenting Skill Assessment Scale for Children (Arjunan & Nambeesan, 2009)

8) Parenting Skill Assessment Scale for Parents (Arjunan & Nambeesan, 2009)

Of the various tools used for the present investigation, the first four instruments viz., Scale for Attitude towards Education, Parent Involvement in Children's Education Scale: P-Version, Parent Involvement in Children's Education
3.6.1 Scale for Attitude towards Education (SATE)

The tool developed to measure the attitude of tribal parents towards education has been named as Scale for Attitude towards Education (SATE) which provides an objective measure of an individual’s educational attitude. It is a five-point \((from\ strongly\ agree\ to\ strongly\ disagree)\) Likert-type scale developed following the conventional procedure laid down by Edwards (1957). A careful analysis of the literature and consultation with experts were also undertaken prior to the construction of the tool. The draft scale had 60 items and after item analysis certain items were deleted and the final scale had 40 items. The SATE was found to have an external validity of 0.69 and a split-half reliability of 0.78. The final scale and its English translation are given as Appendix-A and Appendix-B respectively. The details regarding the development of the attitude scale are provided in the Manual of Instructions (vide Appendix-C).

3.6.2 Parent Involvement in Children's Education Scale (PICES): P-Version

The Parent Involvement in Children’s Education Scale (PICES): P-Version (Parents’ Version) is a standardized instrument intended to measure the participation of fathers and mothers in the education of their children studying in secondary school classes. It is a four-point \((from\ always\ to\ never)\) Likert-type scale consisting of 35 items each of which describe some specific involvement behaviour across seven selected dimensions of parent involvement \(viz.,\) link with school, learning facility at home, learning support at home, co-scholastic support,
learning collaboration, learning motivation, and home supervision in learning. These seven dimensions were identified in line with the general categories of partnerships that exist between schools and families given in the Partnerships Framework, developed by Epstein et al (1997). The standardization of the scale started with 60 draft items which was later reduced to 50 and finally to 35 after item analysis. The scale was found to have an external validity of 0.57, and the test-retest reliability (four weeks interval) of 0.74. The final instrument in Malayalam and its English translation are given as Appendix-D and Appendix-E respectively. The details regarding the development of the scale are provided in the Manual of Instructions (vide Appendix-F).

3.6.3 Parent Involvement in Children's Education Scale (PICES): C-Version

The Parent Involvement in Children’s Education Scale (PICES): C-Version (Children’s Version) is the complementary part of the P-Version of the instrument intended to measure the involvement of parents in the education of children. The C-Version measures the same dimensions of parent involvement from children’s perspective. Provision has been made in the tool to ascertain the involvement of both the parents (father and mother) simultaneously but separately by using the same instrument. The same items as in the final P-Version of the instrument are used in the C-Version of the scale, but have worded them in children’s viewpoint. The C-Version of the scale is developed in line with the development of its P-Version, but standardized separately. The validity of the C-Version of the scale is inherently guaranteed as the items are one and the same, measuring the same aspects from the angle of two complementary groups. The external validity of the tool was ensured by estimating the coefficient of correlation obtained between the two sets of scores generated when the P-Version and C-Versions were administrated on a sample of 120 parents (60 fathers and 60 mothers) and their 120
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children. The obtained coefficient of correlation is 0.64 indicating a high degree of validity of the C-Version of PICES. The test-retest reliability of the scale (four weeks interval) was estimated to be 0.79. The C-Version of the instrument in Malayalam and its English translation are given in Appendix-G and Appendix-H respectively. The details regarding the standardization of the instrument have been given in the Manual of Instructions for PICES (vide Appendix-F), which is common for both the versions.

3.6.4 Child Rearing Practice Scale (CRPS)

The Child Rearing Practice Scale (CRPS) is a tool intended to quantify the extent of contribution made by the parents in upbringing a child by giving the care, love, and guidance. It is a 3-point (always, rarely and never) Likert-type scale consisting of 30 items covering six central dimensions of child rearing practices proposed by Barry et al (1957). The dimensions of the variable covered in the scale are: (a) Obedience training, (b) Responsibility training, (c) Nurturance training, (d) Achievement training, (e) Self-reliance training, and (f) General independence training. The scale is prepared in line with the Parenting Scale by Arnold, et al (1993). Starting with an initial number of 60 statements, after expert suggestions and item analysis, a total number of 30 items (five items each in a domain) were selected for the final scale. The scale is found to have an external validity coefficient of 0.54, established by correlating the CRPS scores (N = 84) with the score on five selected items of the Child Rearing Inventory (Brestan et al, 2003). The reliability of the final scale was assessed by the test-retest method (4 weeks interval) by administering the final scale twice on a representative sample of 60 adult persons (30 male and 30 female) who have at least one child studying in the secondary school classes in Kerala. The reliability coefficient estimated is 0.76, indicating that the Child Rearing Practice Scale is highly reliable. The final
instrument in Malayalam and its English translation are given as Appendix-I and Appendix-J respectively. The details regarding the development of the scale are provided in the Manual of Instructions (vide Appendix-K).

3.6.5 Parent Child Relationship Scale for Parents (PCRS-P)

The Parent Child Relationship Scale for Parents (PCRS-P) developed by Arjunan & Nambeesan (2009) is a standardized instrument designed to generate quantitative measure of parent child relationship in Kerala context. The tool measure the variable ‘parent-child relationship’ from the perspective of parents, both father and mother. The scale consists of 30 items distributed over ten dimensions of parenting viz., protecting, symbolic punishment, rejecting, object punishment, demanding, indifferent, symbolic reward, loving, object reward and neglecting to be scored for father and mother separately. It is a Likert-type scale where the respondent marks the frequency of a behaviour in five-points, viz., ‘always, often, sometimes, rarely, and ‘never’. Scoring is done with the scoring key available with the test manual. The scale exists in two complementary forms - one for the parents and other for the children. In order to get the exact measure of the parent-child relationship between a child and his/her parents, four sets of scores need to be considered. They are: (a) score of the child assessment of his/her relationship with father, (b) score of the child assessment of his/her relationship with mother, (c) score of the father assessment of his relationship with the child, and (d) score of the mother assessment of her relationship with the child. The average of the four sets of scores is taken as parent child relationship score in the study. The scale has an external validity coefficient of 0.69, estimated by correlating the scores of the test with that of another established test (Rao, 1989). The test-retest reliability (one month interval) of the scale was found as 0.82 for a sample of 200 parents (100 fathers and 100 mothers). The final instrument in
Malayalam and its English translation are given as Appendix-L and Appendix-M respectively.

3.6.6 Parent Child Relationship Scale for Children (PCRS-C)

The Parent Child Relationship Scale for Children (PCRS-C) is the complementary part of The Parent Child Relationship Scale for Parents (PCRS-P) developed by Arjunan & Nambeesan (2009) and is meant for measuring parent-child relationship from children’s perspective. The number of items as well as the number of dimensions of parenting covered in the scale are same as those in the PCRS-P. The children’s scale retains all the items of the scale for parents, with a difference of items worded from children’s point of view. While taking the test, the subject makes responses separately for his/her father and mother. The average of the scores for father and mother is taken as the score for child’s assessment of parent-child relationship. The PCRS-C has been standardized in the same manner the PCRS-P has standardized. The scale has an external validity coefficient 0.64 and test-retest reliability coefficient of 0.77 for a sample of 100 secondary school students. The final instrument in Malayalam and its English translation are given as Appendix-N and Appendix-O respectively.

3.6.7 Parenting Skill Assessment Scale for Parents (PSAS-P)

The Parenting Skill Assessment Scale for Parents (PSAS-P) is a standardized scale developed by Arjunan & Nambeesan (2009) as a part of the research work undertaken by them. The tool consists of 30 items distributed over 6 domains of parenting behavior, viz., (a) communication with child, (b) involvement, (c) child management and supervision, (d) parent-child activities, (e) nurturing, and (f) enriched environment, identified by Reed et al (2009). The scale
provides a quantifiable measure of the parenting skill as perceived by the parents of child. The Parenting Skill Assessment Scale has two complimentary versions – one for parents and the other for children. The PSAS-P, meant for parents (both father and mother) or parent substitutes of secondary school children. It is a Likert-type scale where the each of the six domains comprises five statements, and the respondent marks his/her response to each item in a three point scale – always, sometimes, and never. The tool is accompanied by a scoring key in the test manual and the total score obtained by a parent is indicative of his parenting skill. The PSAS-P is intended to use in alliance with its children’s version, i.e., the Parenting Skill Assessment Scale for Children (PSAS-C). The parenting skill score for a child is the average of four sets of scores generated by the two versions of the Parenting Skill Assessment Scales. The PSAS-P was reported have an external validity coefficient of 0.61 and test-retest reliability coefficient of 0.73. The final instrument in Malayalam and its English translation are given as Appendix-P and Appendix-Q respectively.

3.6.8 Parenting Skill Assessment Scale for Children (PSAS-C)

The Parenting Skill Assessment Scale for Children (PSAS-C), developed by Arjunan & Nambeesan (2009), is the complementary part of the Parenting Skill Assessment Scale for Parents (PSAS-P). It is intended to measure the parenting skill as perceived by the children. The number of items in the scale and the parenting domains they cover are exactly the same as those in the PSAS-P. The items, however, are worded from children’s perspective. The responses are recorded and scored in the same manner as in PSAS-P. The respondent assesses the parenting skill of his/her father and mother simultaneously in the same response pane of the tool. However, they are scored separately and the scores are added with the scores of father and the score of mother and the average of these
four sets of scores are taken as the score of parenting skill. The PSAS-C is also standardized in the same manner as PSAS-P, by estimating its external validity coefficient (0.63) and test-retest (*one moth interval*) reliability coefficient (0.69). The final instrument in Malayalam and its English translation are given as Appendix-R and Appendix-S respectively.

### 3.7 PROCEDURE FOR DATA COLLECTION

After finalizing the sample and the tools to be used for data collection, planning was done for the administration of the tests. Since the study utilized two different samples of different nature and groupings, different procedures were adopted for collecting information from the samples. A brief summary of the procedures adopted for collecting data from different samples are given below:

#### 3.7.1 Collection of Data from Tribal Students

The study utilised two types of samples – the tribal students and their parents, both father and mother. As a first step, it was decided to gather information from the students first and then from their parents. The investigator sought permission of the school authorities for collecting data for the study from their students. The aim and scope of the study and the kind of information to be collected from the students were explained to the school authorities for ensuring better transparency and cooperation. Then the investigator himself administered the tools on the sample under standardized conditions. Prior to the distribution of the tools, the investigator studied the test manual of the selected tools carefully and acquitted himself with the testing procedures and possible eventualities. Due care was taken to maintain uniformity in the administration procedure of the tools in all the schools selected for data collection. Administration of each instrument was
preceded by clear and precise instructions regarding the mode of entering the responses in the answer sheets, the time limit as well as the other details to be filled up in the answer sheets.

The following steps were invariably followed in administering the tests:

1. Self-introduction by the investigator, establishing rapport with children, followed by a brief explanation of the aim and nature of his mission.

2. Ensuring reasonable physical facilities in the examination hall.

3. Distribution of the test booklets to the subjects together with printed general instruction to be followed by the students.

4. Explaining the general directions in the test booklets.

5. Making the students familiar with the response pane, mode of entering the responses etc.

6. Clearing doubts of subjects regarding the instructions to be followed, strict adherence to the time limits, method of dealing with eventualities etc.

7. Collecting the booklets and answer sheets in the same order of distribution

8. Giving 45 minute interval between consecutive testing.

Prior to administration of the tests, the students were informed that the tools should not be seen as a test for their knowledge or any other achievement; rather it should be seen as an attempt to share with their concerns. It was also guaranteed to them that the test results would be used only for research purposes and never for grading, promotion or recommending them for some scholarship. This helped to minimize their anxiety and ensuring active co-operation throughout the testing period. The tools were administered on the sample on the same day in two sittings.
of about 45 minutes sessions with a gap of 45 minutes. A General Data Sheet for Students was invariably attached with all the tools so as to collect the background information of the respondents necessary for the study. The General Data Sheet in Malayalam, used to procure basal information from the tribal students, and its English translation are given in Appendix-T and Appendix-U respectively. The secondary data related to the school achievement of the students were secured from official records with the help of respective class teachers.

3.7.2 Collection of Data from Tribal Parents

Collecting information from the tribal parents was the most tiresome activity of the entire research work. This is because of multiple reasons such as: (a) inaccessibility of the people due to their remote forest inhabitation, (b) illiteracy and ignorance of most of the parents, (c) scattered tribal settlements in majority of the areas, (d) difficulty in communicating with the parents in their mother tongue, (e) their hesitation to be subjected for testing (f) their inability to read and understand Malayalam, (g) their fear of uncertain after-effect of providing information to outsiders, (h) unavailability of either of the parent in the habitat during testing session, (i) difficulty in bringing all the parents or atleast some of them under a roof for the purpose of data collection, and so on. Some of the above difficulties were overcame with the support of an educated member from tribal community who assisted the investigator throughout the data collection phase of the study. Since the study require data from parents of those children who were sampled from the schools, no other parents are covered in the study. Wherever only one parent was available for testing, no effort was taken to collect data from such parents and the information already collected from their children were also excluded from the study. Wherever more than one child of the same parent was sampled from the schools, one set of student data was also excluded randomly for
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avoiding duplication of information. All the procedures and formalities of direct individual administration of psychological tests were observed to the level possible while administering the tools upon the parent sample. The items were administered orally by interpreter under the strict supervision of the researcher. The responses of the subject was right away marked by the investigator in the response pane of the test material. The interpreter who assisted the investigator extended his whole hearted cooperation and support in making the data collection a successful venture throughout the 52 days of data collection. The general information required for the study was collected in the same manner by administering a General Data Sheet for Parents, prepared for the purpose of the study. The General Data Sheet in Malayalam, used to gather basic information from the parents, and its English translation are given in Appendix-V and Appendix-W respectively.

3.8 SCORING AND CONSOLIDATION OF DATA

The answer sheets of all the respondents were scrutinized for its completeness and perfection, before scoring. Out of 478 sets of response sheets from the students, 42 sets were found incomplete or defective in some way or the other and were subsequently discarded from the pool, reducing the effective sample size of tribal student to 436. The data pertaining to all these subjects and their parents, however, could not be used in the final analysis. This was due to the facts: (a) the investigator could not locate both the parents of some of the student respondents, (b) some of the tribal children had none or only one of their parents available due to multiple reasons such as death, separation, incapacitation by physical illness, mental illness or drug addiction, (c) screening out of duplicated student data where more than one childern of the same parents were included in the sample (96 such cases were reported in the present study), (d) some parents were not present through out the test sessions, (e) a small percentage of the tribal parents
explicitly expressed their disapproval to the investigator, (f) where any of the parent could not furnish full information, the data pertained to his/her spouse was also discarded. When all such cases were excluded from the study, a completed set of data pertained to only 315 pairs of parents (315 fathers and 315 mothers) were available for analysis. Though completed set of information from 436 tribal students were available, their number was reduced to 315 by discarding the filled up tools of those students whose parents failed to give useful and complete information during the testing.

The responses of the tools were scored as per the scoring scheme laid down for each tool. The scoring was done manually by the investigator with the aid of the scoring keys. The data pertaining to the sample of 945 (315 students + 315 fathers + 315 mothers) subjects were consolidated with the help of a computer software (MS Excel), keeping in view the important classifications to be obtained. The scores for different tests were entered into a master tabulation sheet (Excel sheet) in a personal computer, after assigning an identification number to each student (a serial number) to facilitate back reference. From the master tabulation sheet they were grouped into different categories and subjected to statistical analysis as per the need.

3.9 STATISTICAL TECHNIQUES USED

The specific objectives and the hypotheses of the study indicated the statistical techniques to be used for analyzing the data. The data obtained through the tools were statistically analyzed by Statistical Package for Social Science (SPSS) version 16.0 for Windows. The major statistical techniques used for data analysis are the following:
1. Computations of descriptive statistical indices like Mean, Median, Skewness, SE, M, M Pop, Standard Deviation etc.

2. Two-tailed test of significance for differences between means

3. \( \chi^2 \) (Chi-square) Test

4. Analysis of Variance (ANOVA)

5. Pearson’s Product-Moment Coefficient of Correlation (r-value), and \( r_{\text{POP}} \)

6. Two-tailed test of significance for differences between coefficients of correlations

3.10 SUMMARY

Descriptive research following normative survey method was adopted for the present study. A random sample of 315 tribal secondary school students and their 630 parents selected from Idukki, Palakkad and Wayanad districts of Kerala constituted the sample for the study. Standardized tools were administered to collect data which are analyzed with the help of SPSS to find answers to the research questions.