CHAPTER IV

METHODOLOGY
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The present study is about psychological and familial correlates of juvenile delinquency in Indian children. It is an association study and the relevant data is collected by using appropriate tools to measure the various variables involved.

4.1 Objectives:

(1) To find out the psychological variables that correlate with juvenile delinquency.

(2) To find out the familial variables that correlate with juvenile delinquency.

(3) To develop a method of identifying potential delinquents.

4.2 Variables:

In the present study the task of the investigator was to measure scientifically the extent to which the following psychological and familial variables are related to juvenile delinquency.
4.2.1 Psychological Variables:

Adjustment:
1. Emotional
2. Social
3. Educational
4. Total

Personality Factors:
5. Factor 'A'
6. Factor 'B'
7. Factor 'C'
8. Factor 'D'
9. Factor 'E'
10. Factor 'F'
11. Factor 'G'
12. Factor 'H'
13. Factor 'I'
14. Factor 'J'
15. Factor 'O'
16. Factor 'Q_{2}''
17. Factor 'Q_{3}''
18. Factor 'Q_{4}''

4.2.2 Familial Variables:

1. Mother's aggression towards subject
2. Father's aggression towards subject
3. Subject's aggression towards Mother
4. Subject's aggression towards Father
5. Mother's aggression towards Father
6. Father's aggression towards Mother
7. Mother's competence
8. Father's competence
9. Mother's affection
10. Father's affection
11. Mother's strictness
12. Father's strictness
13. Mother identification
14. Father identification
15. Mother's indulgence
16. Father's indulgence
17. Mother Denial
18. Father Denial

4.3 Hypotheses:

The following hypotheses were formulated involving the various variables selected for the study.

4.3.1 Adjustment:

(1) Normal juveniles and juvenile delinquents do not differ in emotional adjustment.
(2) Normal juveniles and juvenile delinquents do not differ in social adjustment.

(3) Normal juveniles and juvenile delinquents do not differ in educational adjustment.

(4) Normal juveniles and juvenile delinquents do not differ in total adjustment.

4.3.2 Personality Factors:

(5) Normal juveniles and juvenile delinquents do not differ in Factor 'A' of High School personality questionnaire.

(6) Normal juveniles and juvenile delinquents do not differ in Factor 'B' of High School personality questionnaire.

(7) Normal juveniles and juvenile delinquents do not differ in Factor 'C' of High School personality questionnaire.

(8) Normal juveniles and juvenile delinquents do not differ in Factor 'D' of High School personality questionnaire.

(9) Normal juveniles and juvenile delinquents do not differ in Factor 'E' of High School personality questionnaire.
Normal juveniles and juvenile delinquents do not differ in Factor 'F' of High School personality questionnaire.

Normal juveniles and juvenile delinquents do not differ in Factor 'G' of High School personality questionnaire.

Normal juveniles and juvenile delinquents do not differ in Factor 'H' of High School personality questionnaire.

Normal juveniles and juvenile delinquents do not differ in Factor 'I' of High School personality questionnaire.

Normal juveniles and juvenile delinquents do not differ in Factor 'J' of High School Personality questionnaire.

Normal juveniles and juvenile delinquents do not differ in Factor 'O' of High School personality questionnaire.

Normal juveniles and juvenile delinquents do not differ in Factor 'Q_2' of High School personality questionnaire.

Normal juveniles and juvenile delinquents do not differ in Factor 'Q_3' of High School personality questionnaire.

Normal juveniles and juvenile delinquents do not differ in Factor 'Q_4' of High School personality questionnaire.
4.3.3 Parent-Child Relations:

(19) Normal juveniles and juvenile delinquents do not differ in Mother's aggression towards subject.

(20) Normal juveniles and juvenile delinquents do not differ in Father's aggression towards subject.

(21) Normal juveniles and juvenile delinquents do not differ in subject's aggression towards mother.

(22) Normal juveniles and juvenile delinquents do not differ in subject's aggression towards father.

(23) Normal juveniles and juvenile delinquents do not differ in mother's aggression towards father.

(24) Normal juveniles and juvenile delinquents do not differ in father's aggression towards mother.

(25) Normal juveniles and juvenile delinquents do not differ in mother's competence.

(26) Normal juveniles and juvenile delinquents do not differ in father's competence.

(27) Normal juveniles and juvenile delinquents do not differ in mother's affection.
(28) Normal juveniles and juvenile delinquents do not differ in father's affection.

(29) Normal juveniles and juvenile delinquents do not differ in mother's strictness.

(30) Normal juveniles and juvenile delinquents do not differ in father's strictness.

(31) Normal juveniles and juvenile delinquents do not differ in mother identification.

(32) Normal juveniles and juvenile delinquents do not differ in father identification.

(33) Normal juveniles and juvenile delinquents do not differ in mother's indulgence.

(34) Normal juveniles and juvenile delinquents do not differ in father's indulgence.

(35) Normal juveniles and juvenile delinquents do not differ in Denial (Mother).

(36) Normal juveniles and juvenile delinquents do not differ in Denial (Father).

4.4 Tools:

The selection of tools for a particular study depends upon various considerations such as, objectives of study, the amount of time at the investigator's disposal, availability of suitable tests, personal competence of the
investigator to administer, to score and to interpret the test results etc. Keeping these points in view, the investigator selected the tools for the study.

(1) Personal Bio-Data Form.
(2) Raven's Standard Progressive Matrices.
(3) Adjustment Inventory for School Students.
(4) Indian Adaptation of Junior-Senior High School personality questionnaire.
(5) Indian Adaptation of Parent-Child Relations Test.

These were administered personally to group of respondents; because,

(1) To establish rapport
(2) To explain the purpose of investigation
(3) To explain the meaning of items that may not be clear
(4) The respondents are available
(5) Economy of time and expense
(6) To obtain almost all complete and usable returns.
4.4.1 Description of Tools:

4.4.1.1 Personal Bio-Data Form:

Personal Bio-Data of informants was obtained through a form (as in appendix XV) prepared by investigator.

The Form obtains information pertaining to name of the student, name of the institution, religion, caste, mother tongue, educational failure (if any), ordinal position among siblings, educational level of the father/guardian, educational level of the mother, occupation of the father/guardian, occupation of mother, income of the family etc.

The Forms are distributed by the investigator. The students to be tested are asked to fill in particulars about themselves on the Form. When they do so, supervisor sees that the record forms are filled in correctly and that every item has been attempted. Forms are collected from students as they finish.

4.4.1.2 Raven's Standard Progressive Matrices:

It measures the mental ability of individuals. The test was prepared by J.C. Raven, J.H. Court and J. Raven. It was used because of the following advantages.
(1) The test is easy to administer and instructions are simple.

(2) It does not necessitate any elaborate arrangements to be made for its administration.

(3) It is a non-verbal test and can be used with subjects of all languages and age groups.

(4) Each set (A, B, C, D & E) of the test begins with an easy problem and ends with difficult one.

(5) It is described to be a promising instrument in assessing mental ability.

(6) As the figures in each problem are boldly presented, accurately drawn and pleasing to look at, the test ensures sustained interest and freedom from fatigue.

Raven's Standard Progressive Matrices (A, B, C, D & E) is a test of person's capacity at the time of the test to apprehend meaningless figures presented for his observation, see the relations between them, conceive the nature of the figure completing each system of relations presented, and, by so doing, develop a systematic method of reasoning. The scale consists of sixty problems
divided into five sets of twelve. In each set the first problem is as nearly as possible self evident. The problems which follow become progressively more difficult. The order of the items provides the standard training in the method of working. The five sets provide five opportunities for grasping the method and five progressive assessments of a person's capacity for intellectual activity.

Everyone whatever his age, is given exactly the same series of problems in the same order and is asked to work at his own speed, without interruption, from the beginning to the end of the scale. The test can be given to a group of any size according to the facilities available. The investigator administered the test for twenty five students in a group.

4.4.1.2.1 Administration:

Persons to be tested are seated comfortably at tables with room for books and record forms and sufficiently apart to prevent copying. Space is left so that the investigator can pass easily between students without disturbing them. They faced the investigator.
Record forms are distributed by the investigator. The students to be tested are asked to fill in particulars about themselves on the record form. When this has been done the test books are distributed. They are asked not to open the books until everyone is ready.

The investigator says, 'Open your books to the first page'. He opens a book for the group and says "At the top it says set 'A' and you have column 'A' on your scoring form. This Al, you see what it is. The upper part is a pattern with a bit missing. Each of these bits below (he points to each in turn) is the right shape to fit the space, but they do not all complete the pattern.

Number 1 (he points to the bit and then to the pattern) is quite the wrong pattern. Numbers 2 and 3 are wrong - they fit the space, but they are not the right pattern. What about number 67? It is the right pattern (he illustrates that the pattern is the same as the pattern above) but it does not go all over. Put your finger on the one that is quite right". Investigator notices if this is done correctly. If necessary he gives further explanation and then says "Yes number 4 is the right one. So the answer to Al is 4 - write 4 against number 1 in column A on your scoring form. Do not turn over yet".
The investigator waits for everyone to finish and continues: "On every page in your book there is a pattern with a bit missing. You have to decide each time which of the bits below is the right one to complete the pattern above. When you have found the right bit you write the number of it down on your scoring form against the number of the pattern. They are simple at the beginning and get harder as you go on. There is no catch. If you pay attention to the way the easy ones go you will find the later ones less difficult. Try each in turn, from the beginning right to the end of the book. Work at your own pace. Do not miss any out. Do not turn back. See how many you can get right. You can have as much time as you like. Turn over and do the next one."

When sufficient time has been allowed for everyone to write down the answer to A2, the investigator says: "The right one of course is number 5. See that you have written the figure 5 against number 2 in column A on your form. Do like that by yourselves until you get to the end of the book."

Mistakes occur in filling up the record form. Supervisor should see that each person has entered on his
form his own solutions to the first five problem. Once a person has grasped the nature of the initial problems investigator give no further assistance in the method of reasoning but see that each person records his own choices correctly.

Students frequently omit a problem. Fifteen minutes after the commencement of the test, investigator sees that each person is still recording his choices against the correct numbers on his record form.

After about half an hour students are asked to indicate when they have finished. When they do, supervisor sees that the record form has been filled up correctly and that every problem has been attempted. As students finish, they are asked to give in their books and go out.

4.4.1.2.2 Scoring:

The Record forms are valued according to scoring key as in appendix. The score is converted into percentile points as in appendix.
4.4.1.2.3 Interpretation:

By considering the percentile points, each pupil is grouped, as his score falls between them. Then it is possible to classify a person according to the score he obtains as:

Grade I or "Intellectually superior" - if his score lies at or above the 95th percentile.

Grade II or "Definitely above the average intellectual capacity" - if his score lies at or above the 75th percentile.

Grade II +/"Above average intellectual capacity" - if his score lies at or above the 90th percentile.

Grade III or "Intellectually average" - if his score lies between 25th and 75th percentile.

Grade III +/ "Intellectually average" - if his score is greater than 50th percentile.

Grade III -/ "Intellectually average" - if his score is less than 50th percentile.

Grade IV or "Below average in intellectual capacity" - if his score lies at or below the 25th percentile.
Grade IV - "Definitely below average intellectual capacity" if his score lies at or below the 10th percentile.

Grade V or "Intellectually defective" if his score lies at or below the 5th percentile.

4.4.1.2.4 Reliability:

The Reliability Co-efficients of the total test and of sub-tests by the Test-Retest method with an interval of twenty days are:

Set A - 0.94
Set B - 0.92
Set C - 0.91
Set D - 0.90
Set E - 0.88

4.4.1.3 Adjustment Inventory for School Students:

Emotional, Social Educational and Total adjustment were assessed by Adjustment Inventory for school students. It was standardised by A.K.P. Sinha and R.P. Singh. Considering the usefulness of this standardised test the investigator was prompted to adopt it. While doing so
greater care was taken in preparing the tool in consultation with the experts, particular care was taken while translating from English to Kannada.

The inventory was used because of the following advantages:

(1) It seeks to segregate well adjusted secondary school students from poorly adjusted students in four areas of adjustment.

(2) It requires only the normal reading vocabulary of an average high school child.

(3) It has only sixty questions which were to be answered in 'Yes' or 'No'.

(4) As the questions indicate problems of school students, the students respond with interest.

(5) Only fifteen minutes are required to respond.

4.4.1.3.1 Description of the tool:

The tool contains sixty questions relating to three dimensions representing four variables listed under
psychological adjustment variables in section 4.2.1. The details regarding the items relating to different dimensions are given below:

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Items in the questionnaire</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Emotional adjustment</td>
<td>1, 4, 7, 10, 13, 16, 19, 22, 25, 28, 31, 34, 37, 40, 43, 46, 49, 52, 55, 58.</td>
<td>20 items</td>
</tr>
<tr>
<td>(2) Social adjustment</td>
<td>2, 4, 8, 11, 14, 17, 20, 23, 26, 29, 32, 35, 38, 41, 44, 47, 50, 53, 56, 59.</td>
<td>20 items</td>
</tr>
<tr>
<td>(3) Educational adjustment</td>
<td>3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36, 39, 42, 45, 48, 51, 54, 57, 60.</td>
<td>20 items</td>
</tr>
</tbody>
</table>

4.4.1.3.2 Administration:

Students to be tested are seated comfortably with booklets and answer sheets. Investigator passes out the test booklets and answer sheets. Investigator passes out the test booklets and answer sheets and reads the instructions as follows:

"This is called the Booklet and contains the questions you are to answer. The separate sheet is called
answer sheet. All your answers are to be placed only on the answer sheet in a way I shall explain.

Put your answer sheet beside the booklet and write your name, sex, standard, name of the school etc., on it, as indicated. Do it now (pause now until done). Now follow the instructions on the cover of the booklet, while I read it aloud.

Investigator reads, pausing to remind the examiners to answer the examples. After the instructions are read, he says:

"Do not open the booklet until I tell you. Do you have any questions about these instructions? Raise your hand if you do."

The investigator deals fully with any questions. Then the investigator says:

"Are there any more questions? (if not); Fine, we are ready. Open the booklet and start on number 1. Be sure you mark your answer for question 1, on one of the alphabets beside 1 on the answer sheet. Continue
with one question after another, marking your answer to each question on the answer sheet. Be sure the encircling of the alphabet on the answer sheet always matches the number of the question in the booklet. Give one answer to every question. Don't skip any questions.

It is important just after the testing is started the investigator moves rapidly around the class to make sure that the instructions have been understood.

The main point to make toward the end of the test is "look back over answer sheet and make quite sure before you return it, that you have answered every question". When each student return answer sheet, investigator sees that the answer sheet has been filled up correctly and that every question has been attempted.

4.4.1.3.3 Scoring:

The answer sheets are valued according to scoring key as in appendix VIII.

4.4.1.3.4 Interpretation:

The subjects are classified as in appendix IX. While meaning of the symbols and explanation of the areas is as follows:
4.4.1.3.4.1 Emotional area:

One who got low score tends to be emotionally stable, one who got high score indicates unstable emotions.

4.4.1.3.4.2 Social Area:

One who got low score indicates aggressive behaviour, one who got high score indicates submissive and retiring.

4.4.1.3.4.3 Educational Area:

One who got low score is interested in school programmes. One who got high score is poorly adjusted with his curricular and co-curricular programmes.

4.4.1.3.5 Reliability:

The reliability co-efficients of the sub-tests by Test-Retest method with an interval of twenty days, are:

<table>
<thead>
<tr>
<th>Category</th>
<th>Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional</td>
<td>0.87</td>
</tr>
<tr>
<td>Social</td>
<td>0.85</td>
</tr>
<tr>
<td>Educational</td>
<td>0.89</td>
</tr>
</tbody>
</table>
Indian Adaptation of Junior - Senior High School Personality Questionnaire:

Form-B of Junior - Senior High School Personality Questionnaire consists of one hundred and forty two questions assessing fourteen personality factors - 'A', 'B', 'C', 'D', 'E', 'F', 'G', 'H', 'I', 'J', 'O', 'Q_2', 'Q_3', and 'Q_4'. The original was prepared by R.B. Cattell and Mary D.L. Cattel. It was adopted Indian context by Dr. S.D. Kapoor, S.S. Srivastava, G.N.P. Srivastava and K.K. Mehrotra.

Considering the usefulness of this standardised test the investigator was prompted to adopt the same. While doing so, greater care was taken in preparing the tool in consultation with the experts. Particular care was taken while translating the same from English to Kannada.

The Indian adaptation of Junior - Senior High School personality questionnaire was used because of the following reasons:

(1) It is designed to require only the normal reading vocabulary of an average high school child.
(2) It can be given within a class period.

(3) It can be given to a group.

(4) It measures fourteen distinct dimensions or traits of personality which have been found by psychologists to come near to covering the total personality.

4.4.1.4.1 Description of the tool:

The tool contains 142 questions relating to 14 dimensions representing 14 variables listed under psychological personality variables in section 4.2.1. The details relating to different dimensions are given below:

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Items in the Questionnaires</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Factor A</td>
<td>2, 3, 22, 42, 62, 82, 102, 103, 122, 123</td>
<td>10</td>
</tr>
<tr>
<td>2. Factor B</td>
<td>23, 24, 43, 44, 63, 64, 83, 84, 104, 124</td>
<td>10</td>
</tr>
<tr>
<td>3. Factor C</td>
<td>4, 5, 6, 25, 26, 45, 65, 85, 105, 125</td>
<td>10</td>
</tr>
<tr>
<td>5. Factor E</td>
<td>8, 9, 28, 48, 68, 88, 107, 108, 127, 128</td>
<td>10</td>
</tr>
<tr>
<td>6. Factor F</td>
<td>10, 29, 30, 49, 50, 69, 70, 89, 109, 129</td>
<td>10</td>
</tr>
<tr>
<td>7. Factor G</td>
<td>11, 31, 51, 71, 90, 91, 110, 111, 130, 131</td>
<td>10</td>
</tr>
<tr>
<td>8. Factor H</td>
<td>12, 32, 52, 72, 92, 93, 112, 113, 132, 133</td>
<td>10</td>
</tr>
<tr>
<td>Dimensions</td>
<td>Items in the Questionnaires</td>
<td>Total</td>
</tr>
<tr>
<td>------------</td>
<td>----------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>9. Factor I</td>
<td>13, 33, 34, 53, 54, 73, 74, 94, 114, 134</td>
<td>10</td>
</tr>
<tr>
<td>11. Factor 0</td>
<td>16, 36, 56, 57, 76, 77, 96, 97, 117, 137</td>
<td>10</td>
</tr>
<tr>
<td>12. Factor Q₂</td>
<td>17, 18, 37, 38, 58, 78, 98, 118, 138, 139</td>
<td>10</td>
</tr>
<tr>
<td>13. Factor Q₃</td>
<td>19, 39, 59, 79, 80, 99, 100, 119, 120, 140</td>
<td>10</td>
</tr>
<tr>
<td>14. Factor Q₄</td>
<td>20, 21, 40, 41, 60, 61, 81, 101, 121, 141</td>
<td>10</td>
</tr>
</tbody>
</table>

4.4.1.4.2 Administration:

The test was administered following the instructions given in the manual. Students used given instructions similar to those given for the other tests.

4.4.1.4.3 Scoring:

The answer sheets were valued according to scoring key as in appendix-X1. Scores were converted into Sten Scores as in appendix-XII.

4.4.1.4.4 Interpretation:

4.4.1.4.4.1 Factor A:

One who got low score indicates sizothymia (Reserved, Detached, Critical, Aloof, Stiff) - Critical, stands by his
own ideas, cool, aloof, precise, objective, distrustful, skeptical, rigid, cold, prone to sulk.

One who got high scores indicate Affectothymia (warm-hearted, outgoing, easy going, participating) - good natured, easy going, ready to co-operate, likes to participate, attentive to people, soft-hearted, casual, trustful, adaptable, careless, goes along, warm hearted, laughs readily.

4.4.1.4.4.2 Factor B:

One who got low score indicates low intelligence (crystalized, power measure) (dull) - Low mental capacity, unable to handle abstract problems.

One who got high score indicates high intelligence (crystallized, power measure) (bright) - high general mental capacity, insightful, fast learning, intellectually adaptable.

4.4.1.4.4.3 Factor C:

One who got low score indicates emotional instability or ego weakness (Affected by feelings, emotionally less
stable, easily upset, changeable) - gets emotional when frustrated, changeable in attitudes and interests, easily perturbed, evasive of responsibilities, tending to give up, worrying, gets into fights and problem situations.

One who got high score indicates higher ego strength (emotionally stable, mature faces, reality, calm) - Emotionally mature, stable, constant in interests, calm, does not let emotional needs, obscure realities of a situation, adjusts to facts, unruffled, shows restraint in avoiding difficulties.

4.4.1.4.4.4 Factor D:

One who got low score indicates phlegmatic temperament (undemonstrative, deliberate, inactive, stodgy) - stoical, complacent, deliberate, not easily jealous, self effacing, constant, not restless.

One who got high score indicates excitability (Excitable, impatient, demanding, over active, unrestrained) - demanding, impatient, attention-getting, showing off, excitable, overactive, prone to jealousy, self-assertive, egotistical, distractible, shows many nervous symptoms.
4.4.1.4.4.5 Factor E:

One who got low score indicates submissiveness
(obedient, milk, easily led, docile, accommodating) -
submissive, dependent, considerate, diplomatic, expressive,
conventional, conforming, easily upset by authority,
humble.

One who got high score indicates dominance or
ascendence (assertive, aggressive, competitive, stubborn) -
assertive, self-assured, independent-minded, stern, hostile,
solemn, unconventional, rebellious, headstrong, admiration
demanding.

4.4.1.4.4.6 Factor F:

One who got low score indicates desurgency (sober,
taciturn and serious) - silent, introspective, full of
cares, concerned, reflective, incommunicative, sticks to
inner values, slow, cautious.

One who got high score indicates surgency
(enthusiastic, heedlers, happy-go-lucky) - talkative,
cheerful, happy-go-lucky, frant, expressive, reflects
the group, quick and alert.
4.4.1.4.4.7 Factor G:

One who got low score indicates low superego strength or lack of acceptance of group moral standards (disregards rules, expedient) quitting, fickle, frivolous, self indulgent, slack, indolent, undependable, disregards obligations to people.

One who got high score indicates superego strength or character (conscientious, persistent, moralistic, staid) - persevering, determined, responsible, emotionally disciplined, consistently ordered, conscientious, dominated by sense of duty, concerned about moral standards and rules.

4.4.1.4.4.8 Factor H:

One who got low score indicates threctia (shy, timid, restrained, threat-sensitive) - shy, withdrawn, retiring in face of opposite sex, emotionally cautious, apt to be embittered, restrained, rule-bound, restricted interests, careful, considerate, quick to see dangers.

One who got high score indicates parmia (adventurous, 'thick-skinned', socially bold) - adventurous, likes meeting
people, active, overt interest in opposite sex, responsive, genial, friendly, impulsive, emotional and artistic interests, carefree, does not see danger signals.

4.4.1.4.4.9 Factor I:

One who got low score indicates harria, (tough minded, rejects illusions) - unsentimental, expects little, self reliant, taking responsibility, hard (to point cynicism), few artistic responses (but not lacking in taste) unaffected by fancies, acts on practical, logical evidence, keeps to the point, does not dwell on physical disabilities.

One who got high score indicates premsia (tender minded, sensitive, dependent, over protected) - fidgety, expecting affection and attention, clinging, insecure, seeking help and sympathy, kindly, gentle, indulgent to self and others, artistically fastidious, affected, theatrical, imaginative in inner life and in conversation, acts on sensitive intuition, attention seeking, flighty, hypochondriacal, anxious about self.

4.4.1.4.4.10 Factor J:

One who got low score indicates Zeppia, (zestful, liking group action) - likes to go with the group, likes
attention, sinks personality into group enterprise, vigorous, accepts common standards.

One who got high score indicates coasthenia (circumspect individualism, reflective, internally restrained) - acts individualistically, guarded, wrapped up in self, fastidiously obstructive, neurasthenically fatigued, evaluates coldly.

4.4.1.4.11 Factor 0:

One who got low score indicates untroubled adequacy (self-assured, placid, secure, complacent, serene) self confident, cheerful, resilient, impenitent, placid, expedient, insensitive to people's approval or disapproval, does not care, rudely vigorous, no fears, given to simple action.

One who got high score indicates guilt proneness (apprehensive, self-reproaching, insecure, worrying, troubled) - worrying, anxious, depressed, cries easily, easily touched, overcome by moods, strong sense of obligation, sensitive to people's approval and disapproval, scrupulous, fussy hypochondrical and inadequate, phobic symptoms, lonely, brooding.
4.4.1.4.4.12 Factor $Q_2$:

One who got low score indicates group dependency - socially group dependent, a joiner and sound follower.

One who got high score indicates self-sufficiency - self-sufficient, resourceful prefers own decisions.

4.4.1.4.4.13 Factor $Q_3$:

One who got low score indicates low self-sentiment integration - uncontrolled, lax, follows own urges, careless of social rules.

One who got high score indicates high strength of self sentiment - controlled, exacting will power, socially precise, compulsive, following self-image.

4.4.1.4.4.14 Factor $Q_4$:

One who got low score indicates low ergic tension - relaxed tranquil, torpid, unfrustrated, composed.

One who got high score indicates high ergic tension - tense, frustrated, driven, overwrought, fretful.
4.4.1.4.5 **Reliability:**

The reliability co-efficients of sub-tests by the test - retest method with an interval of twenty days are:

- Set A = 0.85
- Set B = 0.69
- Set C = 0.76
- Set D = 0.89
- Set E = 0.86
- Set F = 0.76
- Set H = 0.80
- Set I = 0.78
- Set J = 0.82
- Set O = 0.86
- Set O₂ = 0.88
- Set O₃ = 0.86
- Set O₄ = 0.82

4.4.1.5 **Indian Adaptation of Clark's Parent-Child Relations Test:**

It measures eighteen areas of parent-child relations. The original was standardised to Indian context by Dr. Govind Tiwari.
Considering the usefulness of this standardised test the investigator was prompted to adopt it. While doing so greater care was taken in preparing the tool in consultation with the experts. Particularly care was taken while translating the same from English to Kannada.

Indian adaptation of Clark's parent-child relation test was used because of the following advantages:

(1) It is designed to require only the normal reading vocabulary of an average high school child.

(2) It can be given within a class period.

(3) It can be given to a group.

(4) It measures almost all the areas of parent-child relations which is standardised in Indian culture.

4.4.1.5.1 Description of the tool:

The tool contains 131 items relating to 18 dimensions representing the 18 variables listed under familial variables in section 4.2.2. The details regarding the items relating to different dimensions are given below:
<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Items in the questionnaire</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Mother's aggression</td>
<td>1, 4, 20, 40, 41, 43, 51, 52, 58, 90, 117.</td>
<td>11</td>
</tr>
<tr>
<td>towards subject</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Father's aggression</td>
<td>2, 3, 19, 39, 42, 44, 49, 50, 57, 91, 118.</td>
<td>11</td>
</tr>
<tr>
<td>towards subject</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Subject's aggression</td>
<td>13, 26, 28, 110</td>
<td>4</td>
</tr>
<tr>
<td>towards Mother</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Subject's aggression</td>
<td>14, 25, 27, 111</td>
<td>4</td>
</tr>
<tr>
<td>towards Father</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Mother's aggression</td>
<td>11, 23, 46, 53, 60, 63, 64, 73, 77, 80, 86, 94, 101, 102.</td>
<td>14</td>
</tr>
<tr>
<td>towards Father</td>
<td></td>
<td></td>
</tr>
<tr>
<td>towards Mother</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Mother's competence</td>
<td>5, 8, 29, 55, 62, 67, 69, 104, 109, 124.</td>
<td>10</td>
</tr>
<tr>
<td>8. Father's competence</td>
<td>6, 7, 30, 56, 61, 68, 70, 103, 108, 123.</td>
<td>10</td>
</tr>
<tr>
<td>9. Mother's affection</td>
<td>10, 38, 65, 72, 115, 119.</td>
<td>6</td>
</tr>
<tr>
<td>10. Father's affection</td>
<td>9, 37, 66, 71, 114, 120.</td>
<td>6</td>
</tr>
<tr>
<td>11. Mother's strictness</td>
<td>16, 18, 21, 31, 34, 125.</td>
<td>6</td>
</tr>
<tr>
<td>12. Father's strictness</td>
<td>15, 17, 22, 32, 33, 126</td>
<td>6</td>
</tr>
<tr>
<td>13. Mother Identification</td>
<td>36, 98, 121.</td>
<td>3</td>
</tr>
<tr>
<td>14. Father Identification</td>
<td>35, 99, 122.</td>
<td>3</td>
</tr>
<tr>
<td>Dimensions</td>
<td>Items in the questionnaire</td>
<td>Total</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>----------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>15. Mother's indulgence</td>
<td>83, 88, 92, 95</td>
<td>4</td>
</tr>
<tr>
<td>16. Father's indulgence</td>
<td>84, 89, 93, 96</td>
<td>4</td>
</tr>
<tr>
<td>17. Denial (Mother)</td>
<td>4, 13, 41, 53, 55, 60, 77, 90, 110</td>
<td>9</td>
</tr>
<tr>
<td>18. Denial (Father)</td>
<td>25, 56, 59, 70, 74, 78, 91, 114, 118</td>
<td>9</td>
</tr>
</tbody>
</table>

**4.4.1.5.2 Administration:**

The test was administered following the instructions given in the manual. Students use given instructions similar to those given for the other tests.

**4.4.1.5.3 Scoring:**

The answer sheets are valued according to scoring key as in appendix XV. Scores are converted into centile scores as in appendix XV.

**4.4.1.5.4 Interpretation:**

High score description of each category is as follows:
4.4.1.5.4.1 Mother's Aggression towards Subject:

Mother was bad tempered, domineering and critical towards the subject and probably caused hurt feelings quite often.

4.4.1.5.4.2 Father's Aggression towards Subject:

Father was bad tempered, domineering and critical towards the subject and probably caused hurt feelings quite often.

4.4.1.5.4.3 Subject's Aggression towards Mother:

Subject was argumentative and verbally hostile towards father and probably disliked him quite frequently.

4.4.1.5.4.4 Subject's Aggression towards Father:

Subject was argumentative and verbally hostile towards father and probably disliked him quite frequently.

4.4.1.5.4.5 Mother's Aggression towards Father:

Mother was domineering, bad tempered and disrespectful towards father and probably criticized him quite a lot.
4.4.1.5.4.6 Father's Aggression towards Mother:

Father was domineering, bad tempered and disrespectful towards mother and probably criticized her quite a lot.

4.4.1.5.4.7 Mother's Competence:

In the eyes of the subject, mother was sociable, intelligent and generally successful in life. Subject sees her as efficient and reasonable.

4.4.1.5.4.8 Father's Competence:

In the opinion of the subject, father was sociable, intelligent and generally successful in life, also the subject sees him as efficient and reasonable.

4.4.1.5.4.9 Mother's Competence:

Mother seems to have been generally attentive and affectionate towards subject. Subject sees her as sympathetic and possibly tender-hearted.

4.4.1.5.4.10 Father's Affection:

Father seems to have been generally attentive and affectionate towards subject sees him as sympathetic and possibly tender-hearted.
4.4.1.5.4.11 Mother's Strictness:

Mother seems to have been controlling and rather strict with the subject and probably used physical punishment a fair amount.

4.4.1.5.4.12 Father's Strictness:

Father seems to have been controlling and rather strict with the subject and probably used physical punishment a fair amount.

4.4.1.5.4.13 Mother Identification:

The subject admired mother, generally had pleasing relations with her and wished to be similar to her.

4.4.1.5.4.14 Father Identification:

The subject admired father, generally had pleasing relations with him and wished to be similar to him.

4.4.1.5.4.15 Mother's Indulgence:

Mother apparently spoiled the subject and showed considerably favouritism towards him/her.
4.4.1.5.4.16 Father's Indulgence:

Father apparently spoiled the subject and showed considerable favouritism towards him/her.

4.4.1.5.4.17 Denial (Mother):

Subject shows defensiveness in describing the relationship with mother and seems to be unwilling to acknowledge mother's unfavourable characteristics.

4.4.1.5.4.18 Denial (Father):

Subject shows defensiveness in describing the relationship with father and seems to be unwilling to acknowledge father's unfavourable characteristics.

4.4.1.5.5 Reliability:

The Reliability of Co-efficients of sub-tests by the Test-Retest Method with an interval of twenty days are:

First Scale = 0.82
Second Scale = 0.89
Third Scale = 0.86
Fourth Scale = 0.78
The information about these variables got by filled personal Bio-data of informants. The information about intelligence got by administering Raven's Standard Progressive Matrices.

4.5.1 Juvenile Delinquents:

The sample of juvenile delinquents is drawn from the high school students of government senior certified schools of Karnataka State - Bangalore, Bellary, Bijapur, Davangere, Gulbarga, Hubli, Mysore, Khanapur and Udupi where juvenile delinquents are available. (Juvenile delinquent as used in the investigation means a boy or girl found guilty by juvenile court). They were admitted to certified schools due to various reasons - neglected, begging and uncontrollable children.

The sample consists of all juvenile delinquents residing in senior certified schools in Karnataka. They were studying in local high schools with special permission from their institutions. Some of them were residents of the certified school for more than five years and some were residents of the certified school for few months. For final analysis the responses of 120 boys and 60 girls alone
could be taken as some of them were absent for one or more days on 84 days, when the tools were administered and a few response sheets were found incomplete.

4.5.2 Juvenile Non-Delinquents:

The sample of juvenile non-delinquent students (120 boys and 60 girls) was got by purposive sampling. The high school teachers are asked to select students of each standard in accordance with the criteria as in appendix. According to the rating of school teachers and to investigator's best knowledge, all of them were normal in their behaviour without any tinge of delinquent behaviour. The investigator had cordial relationship with those students. They were chosen from practice teaching schools of Sri Silla College of Education, Harihar. The schools which were utilised were:

(1) Government Mothi-Veerappa High School, Davangere.

(2) Sangameshwara High School for Girls, Harihar.

(3) Matrusri Rudramba High School, Harihar.

(4) Babasaheb Ambedkar High School, Harihar.
4.6 Data Collection:

The investigator personally visited all the Senior Certified schools of Karnataka State, where juvenile delinquents are available. That was possible with special permission of Directorate of Women and Children Welfare, Bangalore and with co-operation of respective head of certified schools.

The investigator also visited high schools at Davangere and Harihar where normal juveniles are available, with the co-operation of respective heads of the institution.

The investigator administered tests to the total sample of three hundred and sixty high school students. Answer sheets are collected back on the spot. Anyhow, the following precautions are kept in mind while collecting data.

(1) Rapport was established before administering tests.

(2) Test is given to a group of thirty or less than thirty students.
(3) Persons to be tested are seated comfortably and sufficiently apart to prevent copying.

(4) Space is left so that the investigator can pass easily between people without disturbing them.

(5) Investigator discouraged the tendency to change the answer on the answer sheet. However, he made it clear that it is not forbidden to change answer, if on reflection the person feels he wants to do so.

(6) If a mechanical pattern of marking is observed in the answer sheet (that is, all left or all right choices, regular alteration of left and right answers), the answer sheets are not considered for data analysis.

(7) When more than one answer is given to an item then extreme right answer is taken into consideration.

4.7 Data Analysis:

After collecting the required data, descriptive analysis is used to describe the two sub-samples of
juvenile delinquents and juvenile non-delinquents. Differential analysis is used, to find out whether two groups differ in the variables selected for the study. Then intercorrelational analysis is used, to find out the intercorrelations among personality factors and parent-child relations.

Two types of multivariate analysis, factor analysis and discriminant function analysis are done using the data collected. In factor analysis, the factor structures of the personality variables and parent-child relationship variables are studied for the two groups separately and are compared. To find out whether selected variables discriminate the two groups, discriminant function analysis is made. The variables studied are ranked on the basis of contribution to delinquency/non-delinquency.