Chapter – III

PROCEDURE

In this chapter selection of subjects, selection of variables, criterion measures, selection and description of the tools/questionnaires, administration of questionnaires, collection of data and statistical technique employed for analyzing the data have been described.

Selection of Subjects

For the purpose of the study, 450 female tribals (150 sports achievers, 150 non achievers & 150 non participants) were randomly selected as the subjects for the study. The subjects were selected from different institutions of Jharkhand state. The age level of the subjects ranged from 18 to 25 years.

Selection of Variables

In the present study, care was taken to pin point the variables for Socio-psychological aspects which were not only relevant but also closely related to the purpose of this study. Therefore, based on literary evidence, correspondence with the experts and scholar’s own understanding as well as keeping the feasibility aspect in mind besides importance of socio-
psychological aspects, the following variables were selected for the purpose of this study:

1. Personality (Extraversion / Neuroticism)
2. Aggression
3. Self esteem
4. Achievement motivation
5. Self confidence
6. Social adjustment
7. Locus of control
8. Self concept

**Criterion Measures**

The criterion measures adopted for the study were as follows:

**To Assess Socio-Psychological Variables:**

1. Personality (Extraversion / Neuroticism) was assessed by the total scores in Maudsley Personality Inventory (MPI) written by H. J. Eysenck.

2. Aggression was assessed by the total scores in Sports Aggression Inventory constructed and standardized by Prof. Anand Kumar Shrivastava & Prem Shankar Shukla.
3. Self-esteem was assessed by the total scores in Canadian Self Esteem Inventory (CSEI) developed by Dr. Ambika Prasad Pandey.

4. Achievement motivation was assessed by the total scores in Sports Achievement Motivation Test (SAMT) developed by Dr. M.L. Kamlesh.

5. Self-confidence was assessed by the total scores in Agnihotri’s Self Confidence Inventory (ASCI) developed by Dr. Rekha Agnihotry.

6. Social adjustment was assessed by the total scores in Deva’s Social Adjustment Inventory (SAI) constructed by Dr. R.C. Deva.

7. Locus of control was assessed by the total scores in Rotter’s Locus of Control Scale prepared by Dr. Anand Kumar and Dr. S. N. Srivastava.

8. Self concept was assessed by the total scores in Self Concept Scale developed by Dr. Mukta Rani Rastogi.

Selection and Description of the Tools/Questionnaires

The tools/questionnaires used in this study for the collection of the data were selected because they were found to be most reliable and have been widely used in the profession of physical education and sports throughout the world. The reliability and validity quotients as given in the manuals of the respective tests are as under:
<table>
<thead>
<tr>
<th>S.No.</th>
<th>Variables</th>
<th>Test</th>
<th>Reliability</th>
<th>Validity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Personality</td>
<td>Maudsley Personality Inventory (MPI)</td>
<td>.83 and .81</td>
<td>Construct</td>
</tr>
<tr>
<td>2.</td>
<td>Sport Aggression</td>
<td>Sport Aggression Inventory</td>
<td>.87 to .90</td>
<td>Content, (Concurrent .84)</td>
</tr>
<tr>
<td>3.</td>
<td>Self-Esteem</td>
<td>Canadian Self Esteem Inventory (CSEI)</td>
<td>.78</td>
<td>Face &amp; Concurrent</td>
</tr>
<tr>
<td>4.</td>
<td>Achievement Motivation</td>
<td>Sports Achievement Motivation Test (SAMT)</td>
<td>.70</td>
<td>Face</td>
</tr>
<tr>
<td>5.</td>
<td>Self-Confidence</td>
<td>Agnihotri’s Self Confidence Inventory (ASCI)</td>
<td>.88</td>
<td>Obtained (.82)</td>
</tr>
<tr>
<td>6.</td>
<td>Social Adjustment</td>
<td>Deva’s Social Adjustment Inventory (SAI)</td>
<td>.91</td>
<td>Satisfactory (.81 and .79)</td>
</tr>
<tr>
<td>7.</td>
<td>Locus of Control</td>
<td>Rotter’s Locus of Control Scale</td>
<td>.85</td>
<td>Good Discriminant</td>
</tr>
<tr>
<td>8.</td>
<td>Self Concept</td>
<td>Self Concept Scale</td>
<td>.87</td>
<td>Content</td>
</tr>
</tbody>
</table>
The descriptions of the tools/questionnaires are as follow:

**Personality:**

Personality (Extraversion / Neuroticism) was assessed by Maudsley Personality Inventory (MPI) written by H. J. Eysenck.

The Maudsley personality inventory (M.P.I.) was designed to give a rough and ready measure of two important personality dimensions: Neuroticism or emotionality, and Extroversion. Each of these two traits is measured by means of 24 questions, carefully selected after lengthy item analysis and factor analysis. It must suffice here to say that Neuroticism refers to the general emotional stability of a person, his emotional over responsiveness, and his stability to neurotic breakdown under stress. Extraversion, as opposed to introversion refers to the out-going, uninhibited, sociable proclivities of a person.

A review of literature by Eysenck (1960) has disclosed strong support for a view which recognizes the existence of two very clearly marked and outstanding important dimensions; these have been called, respectively Extraversion - Introversion and neuroticism emotional stability - instability. Eysenck (1956) claims further that this is the only inventory in existence which has included only questions, all of which formed part of one single
factor analysis; there are reasons for beating with considerable cautious clam
for inventories built up once more piece meal fashion.

There are 48 questions in all in the Form – A of the MPI, 24 questions
pertains to E (Extraversion) factor and 24 to N (Neuroticism) factor. The
responses given by the subjects were scored in accordance with the
prescribed key to determine whether the E or N was present or absent.
Scoring was done with prescribed key which clearly showed, after counting
the total number of E or N separately, as to what quantitative level was a
factor present. The total score, in each case, on E and N factors would not
exceed 48, minimum being zero.

The manual of the inventory tells us that the mean score of the normal
population on E factor is 28.08 and on N factor it is 23.29. If the mean score
on E factor, of this population goes above this, the sample on average, may
be considered to be more extrovert, similarly if the mean score on N factor
goes above this, the sample may be considered to be more neurotic. Eysenck
(1963) considers neuroticism to be significantly closer to introversion.

Scoring:

A translucent scoring key is available, for each of the two scales. The
instructions to use this key are given on the key itself. Score page-1 first,
then the second page, and add the scores. Make sure the key and the
questionnaire which is being scored are properly aligned; the numbers in front of the questions on the inventory should correspond with the numbers of the key\(^1\).

**Aggression:**

Aggression was assessed by Sports Aggression Inventory constructed and standardized by Prof. Anand Kumar Shrivastava & Prem Shankar Shukla.

Sports Aggression inventory consists of 25 questions, in which 13 items are keyed ‘yes” that are 1, 4, 5, 6, 9, 12, 14, 16, 18, 21, 22, 24, & 25 and the statements which are keyed “No” that are 2, 3, 7, 8, 10, 11, 13, 15, 17, 19, 20 & 23.

Score of 12-13 is considered as average on aggression and those scores higher than 12-13 will be considered as high on aggression and those scores lower than 12-13 will be considered as low on aggression.

**Scoring:**

For each item score was either “1” or zero. The maximum score may be 25 and minimum score may be “0”\(^2\).

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\(^1\) H. J. Eysenck, “Manual for Maudsley Personality Inventory (MPI)” (India, 1993), p-1-6.

Self Esteem:

To obtain the scores of Self-Esteem the research scholar used the Canadian Self Esteem Inventory (CSEI) developed by Dr. Ambika Prasad Pandey.

Canadian Self Esteem Inventory (CSEI) contains 40 items and the following four subscales:

(i) General Self-esteem

Items = 2,3,6,8,11,13,18,20,23,25,26,28,30,32,37, and 39.

(ii) Social Self-esteem

Items = 1,5,7,10,16,21,31,35.

(iii) Personal Self-esteem

Items = 12, 15,17,22,27,34,36,40.

(iv) Lie Scales

Items = 4, 9,14,19,24,29,33,38.

The author has given the following classification criteria:

<table>
<thead>
<tr>
<th>Range of raw score</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>9 - 16</td>
<td>Low level of Self-esteem</td>
</tr>
<tr>
<td>17 - 27</td>
<td>Average level of Self-esteem</td>
</tr>
<tr>
<td>28-32</td>
<td>High level of Self-esteem</td>
</tr>
</tbody>
</table>
On the basis of above explanation suggested in the test, subjects scoring between 9-16 could be characterized ‘low level of self-esteem’, those scoring between 17-27 as ‘average level of self-esteem’ and those scoring between 28-32 could be characterized ‘high level of self-esteem’.

**Scoring:**

Scores for the CSEI for adults (Hindi version) are derived by totaling the number of items checked excluding item which indicates the amount of self-esteem. Thus each item has a maximum score of “1” and minimum of “0” and the total possible score on the scale is 32 and the highest lie score is 8.

**Achievement Motivation:**

Achievement motivation was assessed by Sports Achievement Motivation Test (SAMT) developed by Dr. M.L. Kamlesh.

Achievement motivation is an athlete’s pre-disposition to approach or avoid a competitive situation. Achievement tests attempt to measure what an individual has learned – his or her present level of performance. Sports achievement tests are particularly helpful in determining individual or group status in sports settings. Achievement test scores are used in placing, advancing or retaining students at particular grade levels. They are used in

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diagnosing strength and as a basis for awarding prizes, scholarship or degrees.

The sports achievement motivation test is a self evaluation questionnaire of twenty statements responses value of which extend from 0-40 in total. Each statement carries a maximum score of two and minimum zero. When the subjects ticked the high pole part, he/she was given two points and when touched to low pole, he/she earned zero.

After constructing further studies by using SAMT the author has given the following classification criteria based on percent and points.

<table>
<thead>
<tr>
<th>Raw/ mean score</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 24</td>
<td>Low</td>
</tr>
<tr>
<td>24 -30</td>
<td>Moderate</td>
</tr>
<tr>
<td>Above-30</td>
<td>High</td>
</tr>
</tbody>
</table>

**Scoring:**

The SAMT carrying a test retest reliability as 0.70, in a test of twenty statements the response value of which range between 0 – 40. The validity SAMT with the actual performance of the athletes had been worked out to be 0.55 which is marked. On the basis of percentile point norms suggested in the said test, subjects scoring below 24 could be characterized 'low in
sports achievement motivation’, those scoring below 30 but above 24 as moderate and those scoring above 30 as highly motivated⁴.

**Self Confidence:**

Self confidence was assessed by Agnihotri’s Self Confidence Inventory (ASCI) developed by Dr. Rekha Agnihotry.

Agnihotri’s Self Confidence Inventory (ASCI) consists of 56 questions which includes items for the assessment of self confidence.

The author has given the following classification criteria:

<table>
<thead>
<tr>
<th>Raw score</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 and below</td>
<td>Very high Self-confidence</td>
</tr>
<tr>
<td>8-19</td>
<td>High Self-confidence</td>
</tr>
<tr>
<td>20-32</td>
<td>Average Self-confidence</td>
</tr>
<tr>
<td>33-44</td>
<td>Low Self-confidence</td>
</tr>
<tr>
<td>45 and above</td>
<td>Very low Self-confidence</td>
</tr>
</tbody>
</table>

**Scoring:**

The inventory can be scored by hand. A score of one is awarded for a response indicative of lack of Self-Confidence, i.e. for making cross (X) to wrong’ response to item nos. 2,7,23,31,40,41,43,44,45,53,54,55 and for making cross (X) to right’ response to the rest of the items. Thus each item

has a maximum score of “1” and minimum of “0” and response value of which extend from 0 – 56. Hence the lower the score, the higher would be the level of Self-Confidence and vice-versa\(^5\).

**Social Adjustment:**

Social adjustment was assessed by Deva’s Social Adjustment Inventory (SAI) constructed by Dr. R.C. Deva.

Deva’s Social Adjustment Inventory (SAI) consists of 100 questions which includes items for the assessment of emotional as well as social adjustment.

There are also 15 filler items. These items have been designed to yield a “Test Dishonesty” score. If this score exceeds twenty, the responses to other items cannot be relied upon. It is recommended that response of such a person may be rejected.

Higher the score, the higher would be the level of social adjustment and vice-versa.

**Scoring:**

There are 3 scoring stencils. Each stencil has a pattern of holes which reveal the responses. Adjacent to each hole in the key is a number indicating

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the weight to be given to it, if a response appears through the hole. The following procedure may be adopted for scoring the responses.

1. The responses be examined for any item which has been marked both for ‘Yes’ and ‘No’ and a red line be drawn horizontally through such responses. Such double marked responses will not get any credit.

2. Stencil No. 1 be superimposed on the relevant pages of the booklet so that arrow head on scoring touches the corresponding arrow head on the test booklet. The stencil is adjusted so that the responses are clearly visible through its holes. The ‘Test Dishonesty’ score is obtained by adding the weights of the responses visible through stencil of the test booklet. If this score exceeds 20, the responses may be rejected.

3. Stencil No. 2 be superimposed as directed above. The ‘Emotional Adjustment’ score is obtained by adding the weights of the responses visible through this stencil. This score is also entered in the relevant space on title page of this test booklet.

4. Stencil No. 3 be superimposed as directed above. ‘Social Maturity’ score can be obtained by adding the weight of the responses visible through this stencil. This score also is entered in the relevant space.
5. The total ‘Social Adjustment’ score is obtained by simply adding the
‘Emotional adjustment’ and ‘Social maturity’ scores. This may also be
entered in the space provided⁶.

**Locus of Control:**

Locus of control was assessed by Rotter’s Locus of Control Scale
prepared by Dr. Anand Kumar and Dr. Satyendar Nath Srivastav.

The scale had 29 items and each item had two parts, that is, A and B.
The subject had to tick either A and B according to his or her choice. There
were six filler items, namely, 1, 8, 14, 19, 24, and 27 which were not scored.
For the item numbers 2, 6, 7, 9, 16, 17, 18, 20, 21, 23, 25, and 29 one point
was given to those subjects who tick “A” part. For item numbers 3, 4, 5, 10,
11, 12, 13, 15, 22, 26, and 28 one point was given to those subjects who tick
“B” part.

**Scoring:**

This scale is a forced choice instrument which consists of 29 pairs of
statements, 23 of which are scored. There are 6 filler items, namely 1, 8, 14,
19, 24, 27 which are not scored.

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⁶ R.C. Deva, “**Manual for Deva’s Social Adjustment Inventory (SAI)**” (National Psychological Co.
High score indicates external locus of control on internal – external dimension of the scale. In scoring, only external alternatives are enclosed. The maximum possible score on Rotter’s Locus of Control Scale is 23 and minimum being 0\(^7\).

**Self Concept:**

Self concept was assessed by Self Concept Scale developed by Dr. Mukta Rani Rastogi.

Self Concept Scale has fifty one statements. Below each statement are given five responses, (Strongly agree, Agree, Undecided, Disagree and Strongly Disagree). The subject has to read each statement carefully and respond to it by marking a tick on any of the five responses given.

Example: -- I feel shy before others.

(✓)

Strongly agree Agree Undecided Disagree strongly disagree

Here the individual agrees with the statement and therefore has marked responses agree. There is no right or wrong response.

High score indicates high level of self concept and low score indicates low level of self concept.

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Scoring:

The respondent is provided with the five response alternatives to give his response and therefore a score of five to one for responses (strongly Agree, Agree, Undecided, Disagree and strongly disagree) and negative items are scored one to five for the same response alternatives.

Administration of Questionnaires

The subjects were consulted personally and their sincere cooperation was solicited. The research scholar herself visited the different institutions of Jharkhand state and had collected data on the selected socio-psychological variables of sports achievers, non achievers, and non participants female tribals. The consent of the coaches and the willingness of the players were considered before the administration of questionnaires. As far as the sports achievers are concerned, before the administration of the tests the scholar personally met the principal/director of the respective institutions of sports achievers and took permission to collect the data from their respective students. Respondents were called to a common place in groups when they were not busy and had enough time to spare for testing. Necessary instructions were given to the subjects before the administration of tests which include the purpose of the study and the procedure for answering the

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questionnaires. The research scholar motivated the student respondents by promising to send a separate abstract of the conclusions of her study to each subject. The confidentiality of responses was guaranteed so that the subject would not camouflage their real feelings and they were urged to feel free and reply every question frankly and sincerely.

After making sure that subjects understood the general instructions, the questionnaires were distributed to the subjects. All the eight questionnaires were administered to all subjects under the direct supervision of the investigator. The questionnaires were administered in accordance with the instructions laid down in the manuals. While administering questionnaire, subjects were assembled in the hall at 10.00 a.m. on each day of testing continuously for two days in their respective institutions. A total of 28 institutions were chosen and the list is appended at table no.2. These tests were administered one after the other separately, after a gap of 15-20 minutes in between the tests. The subjects were asked to read each statement of the questionnaire carefully. In case of doubts, they were clarified by the investigator and were asked to reply the question as per direction in the questionnaire. The approximate time taken to complete each questionnaire was about 30 minutes. However, no time limit was given for the various tests and the subjects were asked to response to each statement truthfully as soon
as possible. The questionnaires were taken back after duly completed. Thorough screening was done to check that no question was left unanswered. The scoring was done for each variable according to the instructions given in the respective manual. The selection of subjects from the different institutions with regard to sports achievers, non achievers and non participants are presented in the table no.2.

**Table No. 2**

Details of Subjects from the Different Institutions with regard to Sports Achievers, Non Achievers and Non Participants

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Institutions</th>
<th>No. of Subjects</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>JRD Tata Sports Complex Jamshedpur</td>
<td>20</td>
</tr>
<tr>
<td>2.</td>
<td>Regal Ground Jamshedpur</td>
<td>20</td>
</tr>
<tr>
<td>3.</td>
<td>Kinen Stadium Jamshedpur</td>
<td>25</td>
</tr>
<tr>
<td>4.</td>
<td>Telco Stadium Jamshedpur</td>
<td>25</td>
</tr>
<tr>
<td>5.</td>
<td>Karim C.P College Jamshedpur</td>
<td>20</td>
</tr>
<tr>
<td>6.</td>
<td>Worker’s College Jamshedpur</td>
<td>10</td>
</tr>
<tr>
<td>7.</td>
<td>Women’s College Jamshedpur</td>
<td>15</td>
</tr>
<tr>
<td>8.</td>
<td>Inter kmmpm College Jamshedpur</td>
<td>15</td>
</tr>
<tr>
<td>9.</td>
<td>Nehru Stadium (Bariyatu Ranchi )</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>Name</td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>-------------------------------------------</td>
<td>---</td>
</tr>
<tr>
<td>10.</td>
<td>Birsa Munda Ground (Bariyatu Ranchi)</td>
<td>15</td>
</tr>
<tr>
<td>11.</td>
<td>Moradabadi Stadium (Bariyatu Ranchi)</td>
<td>15</td>
</tr>
<tr>
<td>12.</td>
<td>St. Jeviours College Ranchi</td>
<td>10</td>
</tr>
<tr>
<td>13.</td>
<td>Bosten College Ranchi</td>
<td>10</td>
</tr>
<tr>
<td>14.</td>
<td>Women’s college Ranchi</td>
<td>10</td>
</tr>
<tr>
<td>15.</td>
<td>Nirmala College Ranchi</td>
<td>15</td>
</tr>
<tr>
<td>16.</td>
<td>Railway Stadium Dhanbad</td>
<td>15</td>
</tr>
<tr>
<td>17.</td>
<td>I.S.M.Ground Dhanbad</td>
<td>10</td>
</tr>
<tr>
<td>18.</td>
<td>DACC Dhanbad</td>
<td>15</td>
</tr>
<tr>
<td>19.</td>
<td>SS Scelentry Dhanbad</td>
<td>20</td>
</tr>
<tr>
<td>20.</td>
<td>Laxmi Narayan College Dhanbad</td>
<td>10</td>
</tr>
<tr>
<td>21.</td>
<td>P.K.Rai College Dhanbad</td>
<td>15</td>
</tr>
<tr>
<td>22.</td>
<td>ACC Maithon</td>
<td>10</td>
</tr>
<tr>
<td>23.</td>
<td>BSK College Maithon</td>
<td>15</td>
</tr>
<tr>
<td>24.</td>
<td>Mahuda Stadium Bokaro</td>
<td>25</td>
</tr>
<tr>
<td>25.</td>
<td>Kumar Mangalam Stadium Bokaro</td>
<td>25</td>
</tr>
<tr>
<td>26.</td>
<td>Mahila College Chaiwasa</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Tata College Chaiwasa</td>
<td>15</td>
</tr>
<tr>
<td>---</td>
<td>------------------------</td>
<td>----</td>
</tr>
<tr>
<td>27</td>
<td></td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>Marwari College Chaiwasa</td>
<td>15</td>
</tr>
</tbody>
</table>

**Collection of Data**

With the help of the questionnaires related to Socio-psychological variables necessary data were collected. Data were collected with regard to various socio-psychological variables from 450 female tribals in two consecutive days at their respective institutions. The tests were conducted on 150 female tribals who were sports achievers, 150 female tribals those who were non achievers and on 150 female tribals those who were non participants. On the first day the tests in order to assess, personality, sports aggression, self-esteem and achievement motivation, on the second day to assess self confidence, social adjustment, locus of control and self concept were administered to 450 female tribals, who were sports achievers, non achievers and non participants in 28 institutions for 56 days (approximately 8 weeks). Raw Data with regard to various socio-psychological variables from 450 female tribals belonging to sports achievers (150), non sports achievers (150) and non participants (150) have been presented in appendix A, B and C respectively.
**Statistical Technique**

The data was analyzed by applying Descriptive Statistic i.e. Mean, Standard Deviation, Standard Error and range & Analysis of Variance (ANOVA) in order to assess and compare the socio psychological variables of sports achievers, non achievers, and non participants female tribals. The level of significance was set at 0.05. The data was analyzed by SPSS version 15.