Chapter III

PROCEDURE

In this chapter the procedure adopted for the selection of subjects, selection of variables, criterion measures, reliability of data, collection of data and statistical techniques used for analysing the data have been described.

Selection of Subjects

Six hundred and sixty two college sports participants - four hundred and fifteen inter-collegiate level and two hundred and forty seven inter-university level were selected as subjects for this study. The inter-collegiate sports participants during the year 1990-91 were selected at random from out of a total population of two thousand six hundred and forty two in order to get the true sample representing different sections of the society. The inter-university participants who represented the university either during the academic year 1990-91 or during the year 1991-92 or both the years were all included in the sample. The subjects selected represented their respective colleges in Athletics, Badminton, Ball Badminton, Basketball, Cricket, Football, Gymnastics, Handball, Hockey, Kabaddi, Kho-kho, Table Tennis, Tennis, Volleyball and Weight Lifting and Best Physique. The Table 1 indicates the details pertaining to the selection of the subjects.
### TABLE 1

**LIST OF SPORTS AND NUMBER OF SUBJECTS AT COLLEGE AND UNIVERSITY LEVELS**

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Name of Sport</th>
<th>Inter-Collegiate</th>
<th>Inter-University</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Athletics</td>
<td>40</td>
<td>21</td>
<td>61</td>
</tr>
<tr>
<td>2.</td>
<td>Badminton</td>
<td>20</td>
<td>10</td>
<td>30</td>
</tr>
<tr>
<td>3.</td>
<td>Ball Badminton</td>
<td>20</td>
<td>12</td>
<td>32</td>
</tr>
<tr>
<td>4.</td>
<td>Basketball</td>
<td>30</td>
<td>17</td>
<td>47</td>
</tr>
<tr>
<td>5.</td>
<td>Cricket</td>
<td>40</td>
<td>28</td>
<td>68</td>
</tr>
<tr>
<td>6.</td>
<td>Football</td>
<td>40</td>
<td>27</td>
<td>67</td>
</tr>
<tr>
<td>7.</td>
<td>Gymnastics</td>
<td>8</td>
<td>6</td>
<td>14</td>
</tr>
<tr>
<td>8.</td>
<td>Handball</td>
<td>30</td>
<td>20</td>
<td>50</td>
</tr>
<tr>
<td>9.</td>
<td>Hockey</td>
<td>40</td>
<td>23</td>
<td>63</td>
</tr>
<tr>
<td>10.</td>
<td>Kabaddi</td>
<td>30</td>
<td>23</td>
<td>53</td>
</tr>
<tr>
<td>11.</td>
<td>Kho-kho</td>
<td>30</td>
<td>20</td>
<td>50</td>
</tr>
<tr>
<td>12.</td>
<td>Table Tennis</td>
<td>12</td>
<td>5</td>
<td>17</td>
</tr>
<tr>
<td>13.</td>
<td>Tennis</td>
<td>20</td>
<td>6</td>
<td>26</td>
</tr>
<tr>
<td>14.</td>
<td>Volleyball</td>
<td>40</td>
<td>18</td>
<td>58</td>
</tr>
<tr>
<td>15.</td>
<td>Weight Lifting and Best Physique</td>
<td>15</td>
<td>11</td>
<td>26</td>
</tr>
</tbody>
</table>

**TOTAL** 415 247 662
Selection of Variables

For the selection of variables to be employed in this study, the following procedures were adopted.

1. Study of Literature
2. Discussion with Experts.

It was observed that there were number of psychological and sociological variables which contributed to the sports participation and to reach the higher level of sports performance. The socio-economic status of the sports participants seemed to have influence not only on the possession of motives, interests and attitudes but also on the strength of their possession. The pattern of interrelationships of these variables also might vary among different socio-economic status groups. Motives and interests and attitudes were selected for this study as they were supposed to be basic and important variables present in every individual in varying degrees but are also important for achievement. Factors of administrative feasibility, availability of questionnaires, suitability of the subjects and the time that could be devoted for the tests as well as to keep the entire study unitary and integrated were also considered while finally selecting the variables.

Criterion Measures

The criterion measures chosen for testing the hypotheses were:
Motives

Motives were assessed by the Personal Motives Inventory developed by Institute of Athletic Motivation and used by Almarif.¹

The score of motives was the composite of all thirteen items of the questionnaire.

Interests and Attitudes

Interests and attitudes were assessed by Sonstroem Physical Examination and Attraction Scale² (PEAS) prepared according to the Indian conditions.

The score of interests and attitudes was the composite of all one hundred items in the questionnaire.

Reliability of Data

The reliability of data was ensured by establishing the instrument reliability and reliability of tests.

Instrument Reliability and Reliability of Tests

The questions used for the collection of data were designed and standardised in U.S.A. To make the questionnaires feasible

¹Almarif, Dissertation Abstracts International, p. 1682-A.

²Barrow and McGee, A Practical Approach to Measurement in Physical Education, pp. 419-422.
according to Indian Conditions, the scholar took the opinions of four experts in Physical Education on their advise some of the statements in PEAS Scale to measure interests and attitudes were slightly changed to make them suitable to Indian conditions. The changed statements are shown in Table 2.

**TABLE 2**

**CHANGES IN STATEMENTS IN PEAS SCALE**

<table>
<thead>
<tr>
<th>S.No. of the Statement</th>
<th>Original Statement</th>
<th>Changed Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>I generally prefer talking with friends to playing a family table game such as monopoly.</td>
<td>I generally prefer talking with friends to playing recreational games.</td>
</tr>
<tr>
<td>19</td>
<td>I just don't have the coordination necessary to look like a graceful skier.</td>
<td>I just don't have the coordination necessary to look like a graceful athlete.</td>
</tr>
<tr>
<td>28</td>
<td>I love to go to jazz or rock concerts.</td>
<td>I love to go to dance programmes.</td>
</tr>
<tr>
<td>30</td>
<td>I enjoy the physical well being one gets after a day's tramp in the woods.</td>
<td>I enjoy the physical well being one gets after a day's physical activity.</td>
</tr>
<tr>
<td>34</td>
<td>I would rather play poker than softball.</td>
<td>I would rather play cards than cricket.</td>
</tr>
<tr>
<td>52</td>
<td>I would enjoy belonging to a white water canoe club.</td>
<td>I would enjoy belonging to a good cricket club.</td>
</tr>
<tr>
<td>60</td>
<td>With a fair amount of practice I could maintain a high bowling average.</td>
<td>With a fair amount practice I could maintain a high scoring average in Basketball.</td>
</tr>
<tr>
<td>64</td>
<td>With practice I could become a very good golfer.</td>
<td>With practice I would become a very good cricketer.</td>
</tr>
</tbody>
</table>
Similarly two additions were made in the personal motives inventory. They were as follows:

J  I selected my sport because I enjoy winning having prestige and status.

K  I selected my sport because it eliminates fear of failure and develops self-confidence.

Further, to determine the reliability of the questionnaire, the performances of twenty subjects, selected at random were recorded twice under identical conditions on the Personal Motives Inventory and the PEAS scale. A Product Moment Correlation was computed between the two measures of each variable. The reliability coefficients are shown in Table 3.

TABLE 3

RELIABILITY COEFFICIENTS OF TEST AND RETEST SCORES

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Name of the Questionnaire</th>
<th>Coefficient of Reliability 'r'</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Personal Motives Inventory Questionnaire.</td>
<td>0.91</td>
</tr>
<tr>
<td>2.</td>
<td>Physical Education and Attraction Scale.</td>
<td>0.89</td>
</tr>
</tbody>
</table>

It is evident from the table that test - retest reliability values achieved high correlation.
Research Design

For the purpose of comparing the sports participants in selected variables with respect to socio-economic status, the students were classified into Upper Strata (US), Upper Middle Strata (UMS), Lower Middle Strata (LMS) and Upper Lower Strata (ULS) socio-economic groups. The categories of socio-economic status were based on the data collected on occupational status of father/guardian, type of home living in, possession of specific household materials by administering the Socio-Economic Scale Questionnaire prepared by Kapoor and Kocher. The scores obtained in various questions of the questionnaire, were added to get a total score, and thus according to the norms appended to the manual of questionnaire four groups of socio-economic status were formed as mentioned above. The groups were then compared on selected variables and interrelationships of the variables were found with respect to each group of socio-economic status.

Pilot Study

The scholar undertook a Pilot Study with one hundred subjects - fifty inter-collegiate participants and fifty inter-university participants. The purpose of Pilot Study was to ensure feasibility

of data and technique employed with respect to selection of
subjects and administration of questionnaire, classification of
socio-economic status and statistical techniques for analysis of
data. The subjects were selected at random so that they were
the true representatives of the whole population and belonged
to different socio-economic groups. Out of one hundred, ten per-
cent belonged to upper strata, fourteen per cent belonged to
upper middle strata, forty one per cent belonged to lower middle
strata and thirty five per cent belonged to upper lower strata.
No one came under category of lower lower strata. One way
analysis of variance was used separately to compare the significant
difference of motives and interests and attitudes among the sports
participants belonging to the four groups of the socio-economic
status. To find the interrelationships between motives and interests
and attitudes, product moment method of coefficient of correlation
was used. The following results were drawn on analysis.

1. There was significant difference of motives among
the four groups. On further analysis with Scheffe's Test for
comparing the difference between paired means, significant
differences were found between two pairs of groups - (a) upper
strata and lower middle strata and (b) upper strata and upper
lower strata.
2. Significant differences of interests and attitudes were found among the sports participants belonging to four socio-economic status groups. On further analysis by Scheffe's test, significant differences were found between:

(a) Upper Strata and Lower Middle Strata
(b) Upper Strata and Upper Lower Strata.

3. There were significant relationships between motives and interests and attitudes of all the four socio-economic status groups.

**Collection of Data**

All the tests involved in the present study being based on self-report questionnaire, they were administered in a classroom by the investigator himself. The subjects were called in different groups. The number of subjects in each group was approximately twenty five. The purpose of the study was explained to them and preliminary instructions were given. Assurance was given to them that their responses would be kept confidential and would be used only for the purpose of the study. All the questionnaires were given simultaneously. The subjects were asked to read each statement of the questionnaires. The doubts were clarified and questions related to the questionnaire and study were answered. The approximate time taken to complete the
the questionnaires was about two hours for each group. The procedure for collecting the data was as follows:

**Motives**

The investigator asked the subjects to take out the personal motives questionnaire by showing a copy of it to them. He explained with suitable examples, the procedure for rating the statements comprising the scale. The statements pertained to the ways the subjects felt about various motives. Against each statement there were six numbers one to six and they were in the diminishing order of agreement with the statement. The subjects were asked to rate the statement and put the appropriate number in the blank given against each statement. Before rating, each statement was made to read carefully, it was explained by the investigator in their native language, Telugu. They were told that they did not have to please anyone by their answers and they were just to show how they felt about the statements.

The scoring was done according to the instructions and the composite score of all would be the total score. The maximum score that was possible was 65.

A specimen copy of the questionnaire is presented in Appendix - F.
Interests and Attitudes

After completing the personal motives questionnaire, they were asked to take out another questionnaire after showing a copy of it by the investigator. It was Sonstroem Physical Estimation and Attraction Scale (PEAS) intended to investigate the interests and attitudes. They were told that it consists of one hundred statements and they had to simply indicate whether the statements were 'True' (T) or 'False' (F) in the brackets given against each statement. Then they were asked to read carefully each statement. After reading, the investigator explained in their native language, Telugu. Then they were asked to indicate 'T' or 'F' in the brackets given against each statement.

The scoring was done according to the key provided. A total score of 89 was possible.

A specimen copy of the questionnaire is presented in Appendix - G.

Statistical Analysis of Data

To find out the significant differences among the four socio-economic status groups of motives, interests and attitudes, one way analysis of variance was employed. Further Scheffe's test was employed to compare the significant differences between paired means of the four groups.
To determine the significance of the value of F, the level of significance chosen was 0.05.

To find out the significant relationship between the motives, interests and attitudes of sports participants belonging to each of the socio-economic groups separately, Product Moment Method of Computing Correlation was employed.

To determine the significance of 'r' the level of significance chosen was 0.05.