Chapter - III

Methodology
Chapter - 3

METHODOLOGY

The procedure adopted for the selection of subjects, selection of variables, collection of the data and the statistical techniques employed for analyzing the data have been described in this chapter. This study was designed to compare the aggression, sports competition Anxiety, sports achievement motivation, personality traits and self concept between Kabaddi and Kho-Kho University Women players.

Selection of Subjects

To achieve the purpose of the study the investigator had selected randomly sixty Kabaddi and sixty Kho-Kho University women players, who have participated in south-west zone inter-university tournament as subjects. The age of the subjects chosen for this study were ranging from 18- 25 years.

Selection of Variables

Out of myriads of psychological variables associated with outstanding athletic performance, it is really a Herculean task to identify the most crucial ones. The cultural milieu in which a player is born and brought up is a great influencing factor which moulds not only his psyche but also his personality make up. No doubt numerous psychological variables have crystallized as very critical to athletic performance through research studies.
Simon listed at least eighteen psychological factors which he thinks are highly related to athletic performance. Cratty and Cratty gives prominence to such psychological factors as aggression, anxiety- its control and management, concentration, mental practice, coach-athlete, interaction, motivation and personality. Therefore, based on literary evidence, correspondence with psychological experts and discussion with prominent physical educationists in this field and availability of instruments, it was decided to select the following variables.

1. Aggression.

2. Sports Competition Anxiety.

3. Sports Achievement Motivation

4. Personality Traits

5. Self-Concept.

Reasons for selecting the questionnaire

1. Several subjects may be tested simultaneously.

2. Testing is simple with limited questions.

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3. This has high objectivity and reliability.

4. It is economic and easy to understand.

5. It is arranged in logical order.

6. It gives only objective answers that can be easily and completely summarized and evaluated.

Validity of the Questionnaire

Validity is of four types like content validity, predict validity, concurrent validity and construct validity. Content validity which is also known as “Face Validity” or “Validity by Assumption” is concerned with the content of the technique. To determine content validity, the investigation must examine the technique to see what it involves. He must have some idea of those areas which the technique should cover and must examine it to see if the items in it contain adequately cover or represent the various aspects of the subject or topic which is to be assessed.

Orientation of Subjects

The purpose of the study was explained by the investigator to subjects and made to understand that it was not an individual assessment. Subjects’ reliability was ensuring by assuring the subjects that their responses would be kept confidential and used only for research purposes. Emphasis was made to get their
frank response in the best of their own interest. This naturally had a salutary effect on them with the result that their bias is responding to the questions or statements contained in questionnaires. The subjects were requested to express themselves freely and frankly as per the instructions contained in each questionnaire by encircle either ‘Yes’ or ‘No’ to aggression questionnaire and personality inventory, Hardly ever or sometime or often for sports competition anxiety, and ‘Strongly agree’, Agree, undecided, disagree, strongly disagree to self concept questionnaire and a or b statement in sports achievement motivation questionnaire.

The subjects were constantly motivated throughout the period of this investigation to ensure their willing cooperation.

**Reliability of Data**

The reliability of data was established by the instrument reliability, tester’s competency and reliability of tests.

**Collection of Data**

The data pertaining to the selected psychological variables of this study, aggression, sports competition anxiety, sports achievement motivation, personality traits and self-concept were measured by using questionnaires. The questionnaires were administered to the subjects in the tournament by taking prior permission from the managers and coaches accompanied the teams. They were requested to direct their players to serve as subjects for the study. Subjects selected for this
study were contacted personally and their sincere co-operation in this regard was solicited. Necessary instructions were given to the subjects before administering each test. The purpose of the study was clearly explained to them to allow each subject to acquire deeper insight into their psychological functioning. By getting these instructions subject then able to attain an optimal level of performance. Confidentiality of responses was guaranteed so that the subjects would not camouflage their real feelings. The subjects were asked to respond as quickly as possible without looming over any question(s)/statements, once the instructions were understood clearly. None of the subjects encountered any serious problems in understanding the questions/statements which were invariably in English.

**Procedure**

The aggression, sports competition anxiety, sports achievement motivation, personality traits and self-concept questionnaires were administered in two sessions.

1. The aggression, sports competition anxiety test (SCAT) and self-concept questionnaires were administered in one session.

2. The sports achievement motivation and personality traits inventory were administered in another session.

3. Necessary instructions were given to the subjects before answering the questionnaires.
4. After making sure that subjects understood the instructions before distributing the questionnaires to them. The questionnaires were collected back after it was duly completed.

5. Precautions were taken before collecting back the questionnaires that no question/statement was left unanswered.

6. Sufficient time was given to answer the questionnaires and instructed them not to take too much of time.

Aggression

The aggression questionnaire developed by Anand Kumar and Prema Shankar was being administered to each subject to know the aggression of Kabaddi and Kho-Kho University women players.

Administration of questionnaire

Aggression questionnaire was administered before the match.

Scoring

The aggression questionnaire consists of 25 statements in which 13 items are keyed "YES" and rests of 12 are keyed "NO". the statement which are "YES" are 1,4,5,6,9,12,14,16,18,21,22,24,25 and the statement which are keyed "NO" are 2,3,7,8,10,11,13,15,17,19,20 and 23.
Sports Competition Anxiety Questionnaire (SCAT)

Sports competition anxiety questionnaire prepared by Rainer Martens has been widely used for measuring anxiety related to sports situation.

The sports competition anxiety test is most popular sport specific anxiety test whose purpose, as claimed by the authors was to assess individual differences in competitive trait anxiety or the tendency to propose competition situation on threatening and to respond to these situations with elevated state anxiety.

Administration of questionnaire

The sports competition anxiety test (SCAT) questionnaire was administered before the match to the Kabaddi and Kho-Kho university women players through personal contact by the scholar herself at the time of inter university competition. Each subject was asked to answer all the 15 statements of the test and instructed to express his choice most honestly. The method of answering was explained to them.

The SCAT has five spurious questions out of fifteen questions which had been added to questionnaire to diminish response of biasness towards the actual test statements. These five questions were not scored out. The subjects were instructed to respond to each item according to the feeling generally they have in sports competition situation.
Scoring

1. The questionnaire had 15 items. For each statement in the questionnaire, one out of three responses is possible.

   a. Hardly ever
   
   b. Sometime
   
   c. Often.

2. The ten items were 2, 3, 5, 6, 8, 9, 11, 12, 14 and 15. The spurious question 1, 4, 7, 10, and 13 were not scored as suggested by Rainer Martens.

Score for Statement, 2, 3, 5, 8, 9, 12, 14 and 15.

   a. Hardly Ever  -   1
   
   b. Sometime  -   2
   
   c. Often  -   3

1. Statement 6 and 11 were scored as follows:-

   a. Often  -   1
   
   b. Some times  -  2
   
   c. Hardly ever  -  3
Scores obtained by each subject on each statement were added up which represented individual’s total score of sports competition anxiety test. There are three levels of sports competition anxiety as per the author of the SCAT.

1. Low level of anxiety
2. Average
3. High level of anxiety

The rating scale of sports competition anxiety is given below:

1. Less than 17 - Low level of anxiety
2. 17 – 24 - Average level of anxiety
3. More than 24 - High level of anxiety

**Personality traits**

The Eysenck personality inventory is designed to measure the two pervasive and relatively independent dimensions of neuroticism-stability and extraversion-introversion as identified by Eysenck. Neuroticism refers to general emotional instability and individual’s predisposition to neurotic breakdown under stress, while extroversion refers to the un-inhibitive, outgoing, impulsive and sociable inclinations of a person. This instrument is a modified version of Maudsely personality inventory.
Eysenck\(^4\) personality inventory consists of two parallel forms and each item of the inventory is easily understandable. Each of the two dimensions is measured by means of 24 questions to which the subject answers "yes" or "No". A response distortion or lie scale is also included to identify false responses. The retest reliability of EPI was reported to be 0.85 whereas evidence is available of its validity as a descriptive instrument of the behavior manifestation of personality.

There are 57 questions in all in the form A of the EPI where each factor E or N are measured by a set of 24 questions whereas, 9 questions account for the presence or absence of a lie. In the sequence of items, dimensions E or N are shown alternatively whereas, every sixth item is a "lie".

Scoring was done with the help of prescribed keys and after counting the total number of "E" or "N" separately, it was evident as to what extent a factor was present. The number of "L" was also counted so as to decide whether the total score was to be considered for statistical analysis or not. Hence response forms showing more than 5 lies haven discarded and the score of such subjects have not been included in the statistical treatment of the data. The total score in each case on E and N factors would not exceed 24, the minimum being zero.

**Scoring**

Check through your answers to Form A and place an E by the side of any answers which match those given in the E score table below. If your answer does

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not match that in the table write nothing. For example, if you have answered YES to question 1, place an E beside your answer. If, however, you answered NO, write nothing and move on to score the next question.

**E Score Table for Form A**

<table>
<thead>
<tr>
<th>Question</th>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Yes</td>
<td>29 No</td>
</tr>
<tr>
<td>3 Yes</td>
<td>32 No</td>
</tr>
<tr>
<td>5 No</td>
<td>34 No</td>
</tr>
<tr>
<td>8 Yes</td>
<td>37 No</td>
</tr>
<tr>
<td>10 Yes</td>
<td>39 Yes</td>
</tr>
<tr>
<td>13 Yes</td>
<td>41 No</td>
</tr>
<tr>
<td>15 No</td>
<td>44 Yes</td>
</tr>
<tr>
<td>17 Yes</td>
<td>46 Yes</td>
</tr>
<tr>
<td>20 No</td>
<td>49 Yes</td>
</tr>
<tr>
<td>22 Yes</td>
<td>51 No</td>
</tr>
<tr>
<td>25 Yes</td>
<td>53 Yes</td>
</tr>
<tr>
<td>27 Yes</td>
<td>56 Yes</td>
</tr>
</tbody>
</table>
Count up the number of E's that you have and this gives you your E scale score for Form A of the E.P.I.

Now score the N scale in the same way but this time put an N next to any question which matches those in the N score table below:

**N Score Table for Form A**

<table>
<thead>
<tr>
<th>Question</th>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Yes</td>
<td>31 Yes</td>
</tr>
<tr>
<td>4 Yes</td>
<td>33 Yes</td>
</tr>
<tr>
<td>7 Yes</td>
<td>35 Yes</td>
</tr>
<tr>
<td>9 Yes</td>
<td>38 Yes</td>
</tr>
<tr>
<td>11 Yes</td>
<td>40 Yes</td>
</tr>
<tr>
<td>14 Yes</td>
<td>43 Yes</td>
</tr>
<tr>
<td>16 Yes</td>
<td>45 Yes</td>
</tr>
<tr>
<td>19 Yes</td>
<td>47 Yes</td>
</tr>
<tr>
<td>21 Yes</td>
<td>50 Yes</td>
</tr>
<tr>
<td>23 Yes</td>
<td>52 Yes</td>
</tr>
<tr>
<td>26 Yes</td>
<td>55 Yes</td>
</tr>
<tr>
<td>28 Yes</td>
<td>57 Yes</td>
</tr>
</tbody>
</table>
Again, count the number of N’s you have and this gives you your N scale score for Form A of the E.P.I.

**Lie Scale**

**Question**

6 Yes
12 No
18 No
24 Yes
30 No
36 Yes
42 No
48 No
54 No

**Self-Concept**

Self-concept questionnaire formulated by Dr. Mukta Rani Rastogi has been used for measuring self-concept.
Administration of questionnaire

This questionnaire was administered before the match at inter university tournament.

Scoring

The questionnaire consists of twenty statements which included both positive and negative statements with Likert scale of five responses. The scale was scored with the help of the scoring key. A separate scoring method was followed for the positive and negative statements.

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Responses</th>
<th>Scores for Positive Statements</th>
<th>Scores for Negative Statements</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Strongly Agree</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Agree</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>Undecided</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>Disagree</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>Strongly disagree</td>
<td>1</td>
<td>5</td>
</tr>
</tbody>
</table>
Self-concept scale consists of both positive and negative statements. The following are the numbers of the statement that are positive and negative.

**Positive** - 1,3,4,11,12,17,18,19.

**Negative** - 2,5,6,7,8,9,10,13,14,15,16,20.

The score obtained for both positive and negative statements was added and each was converted to individual scores. The total scores reference the individuals' self-concept level. The high scores showed higher self-concept level.

**Sports Achievement Motivation**

Achievement motivation as related to sports is the degree to which a player is willing to approach a competition situation (Watson⁵). Cratty ⁶ vouches that “the measurement of achievement needs in athletic activities is still in infancy” and that athletic endeavors are motivated by seeking stress and overcoming it, achievement for excellence, status, the need to belong, tangible rewards, achieving masculinity and character building.” The sports achievement motivation test is a self-evaluation questionnaire of twenty statements, response value of which extends from 0 to 40 in total. Each statement carries a maximum score of two and the minimum zero. When the subject ticked the high pole part, she was given two points and when she ticked the low pole, she earned zero.

The treatment of the data obtained from the administration SAMT to the subjects was done in the light of the instructions contained in the test manual while in drawing the profiles(s) raw score on the test was considered as the reference point viz-a-viz classification norms; in drawing and comparing the group profile(s).

Sports achievement motivation questionnaire formulated by Dr. M.L. Kamalesh\(^7\) was used to test the sports achievement motivation level.

**Administration of questionnaire**

This questionnaire was administered after the match at inter university tournament.

**Scoring**

There are twenty questions in the questionnaire. The scoring was done by using the following answer keys suggested by the author. Answer keys: 1-a, 2-b, 3-a, 4-a, 5-b, 6-b, 7-b, 8-b, 9-a, 10-a, 11-a, 12-a, 13-a, 14-b, 15-b, 16-a, 17-a, 18-a, 19-b, 20-a. In the above the number 1 to 20 denotes the statements and the letters 'a' and 'b' denotes the correct answers. Correct answer for each statement as indicated above will be awarded "2" marks and incorrect answers for each statement will be awarded "0" mark.

High score indicates high motivation in their achievements.

<table>
<thead>
<tr>
<th>Level</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>0-24</td>
</tr>
<tr>
<td>Moderate</td>
<td>24-30</td>
</tr>
<tr>
<td>High</td>
<td>30 above</td>
</tr>
</tbody>
</table>

**Statistical Techniques used for Analysis of Data**

To compare the data of selected psychological variables between inter university Kabaddi and Kho-Kho University women players was tested with ‘t’ test, one way analysis of variance and least significant difference post hoc test was used wherever ‘F’ ratio found significant by using Statistical Package for Social Science (SPSS).