CHAPTER 3
METHODOLOGY
CHAPTER-III
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In this chapter the selection of subjects, selection of variables, selection of data, tester competency and statistical technique used for the analysis of data have been described.

3.1 SELECTION OF SUBJECTS

Four best teams of All India-varsity Handball Tournament held at Punjab University Chandigarh from 1-10-2004 to 4-10-2004 in the year 2004-05. and four best teams of Inter State Handball championship organized by Tata Steel & Jharkhand State Handball Association from 10-12-2004 to 15-12-2004, were selected for the study. The teams which played in semi final and losers final. In all 128 Handball players of eight teams (16 from each team) were the subjects of the present study.

The Subjects from All India Varsity Handball Tournament and Inter State Handball (Senior) Championship were selected because these are the two major competition organized in the country related in the Handball game. It was expected that the top class players from various universities and states of India will participate in the above two championships.

The final standing of the first four teams of both the championships are given in table no. 1.
## TABLE-1
**FINAL STANDING OF FIRST FOUR TEAMS OF ALL INDIA INTER UNIVERSITY HANDBALL TOURNAMENT AND SENIOR INTER STATE HANDBALL CHAMPIONSHIP**

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Name of team</th>
<th>Ranking</th>
<th>Sr. No.</th>
<th>Name of team</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Punjabi University Patiala</td>
<td>1</td>
<td>1</td>
<td>Jharkhand State</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Punjab University Chandigarh</td>
<td>2</td>
<td>2</td>
<td>SSCB</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>Delhi University Delhi</td>
<td>3</td>
<td>3</td>
<td>Chhattisgarh State</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>Chaudhri Devial Uni. Sirsa</td>
<td>4</td>
<td>4</td>
<td>Punjab State</td>
<td>4</td>
</tr>
</tbody>
</table>

Note - Inter Varsity and Inter State Handball championships are played in league cum knock out system.
3.2 SELECTION VARIABLES

The research scholar gleaned through all the scientific literature pertaining to Handball from books, magazines, Journals in the library of LNIPE Gwalior, Pt. Surder Lal Granthalya Pt. R.S.U. Raipur and Internet.

Based on the suggestions Handball coaches, experts and scholars own personal experiences as Handball coach, the following variables were selected for Handball team statistics.

1. Threw on goal attempted.
2. Field goal.
3. Fast breaks.
4. Personal fouls.
5. Technical fouls.
6. Fall shot.
7. Faints.
9. Half time lead.
10. Score per possession.
12. Left handed player used.
13. Interruption.
(14) Blocking and Passes.

(15) Positional play.

The variables were classified into Positive and Negative variables. Those which were considered to be contributing to winning/success also called positive items. Secured were those which were considered detrimental to winning/success were classified as positive variables while variables which were considered detrimental to winning/success were classified as a negative variables.
3.3 COLLECTION OF DATA

According to the variables selected, the data was gathered and the scores were computed for the eight matches (four for All India Varsity and four for Senior Inter State Handball championship). For the collection of data twelve Handball experts were used during each game to secure the desired information. The experts were in pairs, one as an observer and other as a recorder, the duties were so distributed that no single pair was overburdened. The experts were aware of all aspects of the game and were adequately trained in their specific duties.

The score of throw on goal attempted, field goal, fast breaks, fall shots, jump shots, personal fouls and left-handed player used were collected from the spot chart used by the experts and also tallied from the official score book.

The score of throw on goal attempted, technical fouls, score per possession, blocking and Passes, were collected from the spot chart used by the experts.
3.4 **TESTER'S COMPETENCY**

To ensure that the observers and recorders should be well versed in technique of conducting the test. The Investigator had a number of practice season for the testing procedure during local tournaments. Required corrections were done and a follow up measure were applied to ensure the tester's competency.
3.5 **STATISTICAL TECHNIQUE**

To see the relationship of team statistics to the winning and losing performance the individual performance during the game was considered while discussing the positive and negative team statistics.

Further to compare eight teams (Four from all India varsity and four form senior inter state Handball championship) in relation to selected Handball team statistics, percentages of all the statistics is used.