CHAPTER III
METHODOLOGY

In this chapter, the selection of subjects, selection of variables, reliability of the data, reliability of questionnaire, orientation of subjects, administration of questionnaire, collection of the data and statistical techniques employed for analyzing the data have been described.

3.1 SELECTION OF SUBJECTS

300 University level male (100 Weightlifters, 100 Power lifters and 100 Bodybuilders) from North, South, East, West and Central Zones were selected as subject on random and their age was between 18 to 28 years. The All India Intervarsity competition was held at **Sri Sai College of Engineering and Technology**, Bandhani, Pathankot, affiliated to **Punjab Technological University, Punjab** from 1\textsuperscript{st} January to 9\textsuperscript{th} January 2015.

3.2 SELECTION OF VARIABLES

The research scholar reviewed the available scientific literature, journals, periodicals, magazines and research papers keeping in mind the role of selected psychological variables and socio economical factors
their importance, availability of questionnaires and feasibility aspects of their measurements number of variants were selected.

3.3 PILOT STUDY

In order to find out the merit demerits and the suitability of conducting the test, a pilot study was conducted with five subjects from each zone.

3.4 RELIABILITY

The researcher has established the subject reliability, instrumental reliability and tester’s reliability prior to the conduct of the test with suitable methods.

3.5 SUBJECT RELIABILITY

In order to get uniform result from the subjects they were used under the similar condition and same questionnaire was conducted and they were of the same age group 18-28 years.

3.6 INSTRUMENTAL RELIABILITY

As instruments three questionnaires were used to test the selected Psychological variables and socio-economic factors. They are as followers:
1) Standardized questionnaire of Rainer Marten (1997) sports competition anxiety test was used to assess the state anxiety.

2) Standardized questionnaire prepared by Kamlesh (1991) was used to assess the achievement motivation.

3) Standardized questionnaire prepared by Srivastava (1987) was used to assess the socio-economic status.

All the above questionnaire were standardized one and time tested having been used for scores of research studies in the past and in ongoing studies. Hence, were considered reliable.

3.7 TESTERS RELIABILITY

The tester’s competency was assessed with the reliability of the tests. To determine the reliability of the test 300 University level sportsmen 100 each from weightlifting, Power lifting and Bodybuilding from different topography were selected at random basis. All chosen variables were recorded under similar condition by the investigator. The collected data were analyzed with intra class co-relation to find out the tester reliability. The correlation value was more than 0.90 for all the chosen variables.
3.8 CRITERION MEASURES

The following measures were chosen for the hypotheses:

1) To find out the level of Achievement motivation among Weightlifters, Powerlifters and bodybuilders in University level and was measured using standard questionnaire.

2) To find the level of Anxiety between Weightlifters, Powerlifters and bodybuilders in University level and were measured using standard questionnaire.

3) To find out the level of Socio-Economic factor among Weightlifters, Powerlifters and bodybuilders in University level and was measured using standard questionnaire.

3.9 PROCEDURE OF MEASURING DEPENDENT VARIABLE

In this study, 300 University level men player, 100 each in Weightlifting, Power lifting and Bodybuilding game were selected from North, South, East, West and Central Zone in India. The research scholar planned to visit the All India Inter University Championship 2014-15 held at Punjab Technical University, Jallandhar, Punjab to administrate the questionnaire for the collection of data. After identifying the areas, the investigator visited personally for filling up the questionnaire in a
required number means 100 subjects from Weightlifting, Powerlifting and Bodybuilding at different Topography in India, initially, the purpose and relevant instruction were given to each and every subject before completing the questionnaire. The scholar also clarified about the doubt or quarry in regard to the questionnaire etc. The subjects were keenly interested about the area of the study and also discussed about the aspects of Anxiety, Achievement Motivation and Socio-Economic Factors.

The scholar prepared a list of visiting areas on the days of visit along with the copies of questionnaire. After getting the consent from the respondent to act as subject for the study. The investigator was careful about the attempt of all the questions mention in the questionnaire. These informations were used for further presentation and analysis.

3.9.1 Anxiety

Purpose

To assess the state competition Anxiety level among the University level men Weightlifters, Powerlifters and Bodybuilders at different topography.

Tools

Rainer Martens Sports competition anxiety test
Procedure

A survey was made on various standard tests to measure sports completion. Anxiety among the University level Weightlifters, Powerlifters and Bodybuilders at different topography. After discussions with experts and faculty members at Dept. of Physical education, SGSU it was decided to use (SCAT) questionnaire framed by Rainer Marten’s. This test has been widely used for measuring anxiety related to sports situation in most of the advanced countries. The test is reliable and valid. The form A was used for the purpose of the study the purpose of the study was explained to the subjects and their co-operation was requested thorough their coaches and managers.

The SCAT questionnaire was distributed with achievement motivation and socio-economic questionnaire to the Weightlifters, Powerlifters and bodybuilders at different topography. Two hours before starting the actual competition. The researcher at a dictation speed to make the subjects understand about what they exactly had to do with the questionnaire read the direction.

The SCAT has 15 items out of which five were spurious questions, which had been added to questionnaire to diminish response of biasness towards the actual test items. These five questions were not scored out.
The subjects were instructed to re-respond to each item according to how they generally feel in completion sports situation.

Every Statement has three possible responses i.e.

1) Hardly ever
2) Some times
3) Often

The SCAT has got ten test items, which are taken for scoring purpose. These are 2, 3, 5, 6, 8, 9, 11, 12 14 and 15. The remaining test item i.e. spurious item which were not take for scoring were 1, 4, 7 10 an 13. While the subjects were responding to the questionnaire the research was present verifying that they were recording answer sequentially and explained the meaning of the words in case of doubts.

**Scoring**

The investigator evaluated the completed questionnaires. The items 2, 3, 5, 8, 9, 12, 14 and 15 were awarded in such a way that they were scored according to key.

<table>
<thead>
<tr>
<th>Score</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Hardly ever</td>
</tr>
<tr>
<td>2</td>
<td>Sometimes</td>
</tr>
<tr>
<td>3</td>
<td>Often</td>
</tr>
</tbody>
</table>
In the case of questions number 6 and 11 the scoring was done in the following manner

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Hardly ever</td>
</tr>
<tr>
<td>2</td>
<td>Sometimes</td>
</tr>
<tr>
<td>1</td>
<td>often</td>
</tr>
</tbody>
</table>

Spurious questions i.e. 1, 4, 7, 10, 13 were not scored as suggested by Marten’s (1997)

Scores obtained by each subjects on each statement were added up which represented one’s total score of state competition Anxiety test. Higher the score higher the anxiety and lower the score, lower the anxiety. Scores were ranged between 10 to 30.

### 3.9.2 Achievement Motivation

The standard psychological tool devised by Kamlesh consists of 20 incomplete statements, which can be completed by choosing either of the two proposed parts against each statement. The subjects were asked to tick (√) the second part which in their opinion fits in best with the first part. The investigator revalidated the inventory by administering it on 100 men Weightlifters, Powerlifters and bodybuilders from University level.
This inventory was scored with the help of a scoring key a score of two being given for the correct answer and zero for wrong answer. The item, which was left unanswered, was not taken for consideration. The score was added and it was considered as individual score. The range of score is 0 to 40. The larger the score the higher the achievement motivation of the subject.

**Scoring key**

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 betters (a) and (b) denote the correct answers

Correct answers for each statement as indicated above will be awarded “2” marks and incorrect answers for teach statement will be awarded “0” mark.

High score indicates high motivation in their achievements.

**3.9.3 Socio Economic Status**

Srivastava Socio-economic status score was used to collect the information about socio economic status of the University level
Weightlifters, Power lifters and Bodybuilders. The final form of the scale seeks information about the following component variables.

a) Education

b) Occupation

c) Income

d) Cultural Living or Cultural Standard

e) Social Participation

The socio-economic status scale contains the following items with their weight age.

Education within this variable there are eight categories of item which relate to the parental education of the guardian. Scores allotted to each category are given below:

a) Doctorate Degree - 8
b) Post Graduate Degree - 7
c) Graduate Degree - 6
d) Intermediate - 5
e) High School - 4
f) Middle School - 2
g) Primary School - 1
h) Illiterate - 0
Occupation

The item of occupation relates to the Primary education of the parent or head of the family. There are seven categories of item within these variables scores allotted to each category from ‘a’ to ‘g’ are 10, 7, 5, 4, 3, 2, 1 respectively of short description of these categories are given below.

a) The height category consists of high profession as education, medical, legal, high administrative Jobs big factory owners, big farm owner’s etc.

b) This category consist of semi-professional group involving college of post-high school education such as non-gazette officers, high school teachers, commission agents etc.

c) Clerical jobs, elementary school teachers, shop owners etc.

d) Skilled workers such as mechanic, engine driver, car driver etc.

e) Semi skilled workers such as factory workers, laboratory attendants etc.

f) Such occupation, which required neither education nor training such as domestic servants, watchmen etc.

g) Unemployed.
**Income**

There are six categories of income group within these variables:

Income categories with the scores allotted to them are given below:

a) Above Rs. 42,500/= 12
b) Between Rs. 25,000/= and 42,500/= 9
c) Between Rs. 12,500/= and 25,000/= 5
d) Between Rs. 5,001/= and 12,500/= 3
e) Between Rs. 2,501/= and 5,000/= 2
f) Between Rs. 2,500/= 1

**Cultural Living**

Within this variable there are three are three items in item No. 4, 5, 6 on the scale which concern with expenses on newspaper, magazines and expenses in the form of pocket money.

Item No. 4 concerns information regarding purchase of newspapers. There are three categories of such item in this category. Scores allotted for the categories a, b, c or 2, 1, 0 respectively.

Item No.- 5 Concerns the purchase of magazines. There are four categories of sub item. Scores allotted for the categories a, b, c, d are 3, 2, 1,0 respectively.
Item No.-6. Concerns information regarding availability of money for pocket expenses. Score of 2 is allotted for yes. (Category a) answer and zero for ‘no’ (Category b) answer social participation.

This variable consists of two variables of item No. 7 and 8

Item No.-7. Concerns club membership of the parents scores allotted for ‘yes’ (category A) and No. (Category B) are two and zero respectively.

Item No. 8. Concerns question and nature of social participation. Four levels of social participation have been provided with in this item i.e. membership of one organization, holding office in one organization and holding office in more than one organization score of 1, 3, 4, 5 are zero is allotted for non-participation

3.10 COLLECTION OF DATA

The data on the chosen psychological variables were collected by administered standard questionnaire. The administration of the tests and the methods of collecting data are explained below.

The subjects were explained about the meaning and use of particular questionnaire and what was to be done exactly.
Data were collected for the study directly from the university level Weightlifters, Powerlifters and bodybuilders in India during All India Inter University Championship 2014-15 at Punjab Technical University, Jallandhar, Punjab.

3.11 STATISTICAL TECHNIQUES

In this study 5 x 3 factorial design was used to find-out the significant effects of main and interaction effects. To find-out the significant differences among Weightlifters, Powerlifters and bodybuilders two way factorial design was used. The simple test was used to find out overall cell mean significance difference. To find out the paired cell mean difference, the Scheffe’s post hoc test was used.