CHAPTER - III
METHODOLOGY

Since last three decades psychologists are playing and important role in the field of game and sport. The studies revealed that in sport and game psychological factor play critical roles. Success depends upon many psychological factors. In the present study some major psychological concepts are used. But sample used in the study consist of sport persons and non sport persons. Here, the term sport person was used in its limited sense the student of physical education college were treated as sport person it is so because, they are introduced to various sport and game and they have to play a few game and take active part in some sports, as a part of their training.

Since psychological factors employed in the study it is necessary to used sophisticated research methodology. In psychology every parameter has is own significance though there are several research design such as RBD, LSD etc., taking in to consideration the nature of study, its aim and objectives, it was decided to employ factorial design. The systematic methodology began with random sampling technique for selecting the sample and employ well standardized and highly reliable psychological tools for measuring the parameter under study. Also, a number of physical fitness tests were employed for finalizing the physical fitness of the Ss.

Aim of Study

Main aim of the present study is to find out the effects of physical fitness, Gender and sportspersons on six different types of self concepts namely physical, intellectual, social, moral, emotional and aesthetic and adjustment.

Objectives of Study

Main objectives of the study were as follows:

- To search the effect of physical fitness on the development of different kinds of self concept and adjustment.
To examine sex difference with regards different kinds of self concept and adjustment.

To study the effect of sportspersons and Non sportspersons on the development of self concept and adjustment.

**Hypothesis:**

Assuming that the other factors are kept constant, following hypotheses were tested in the study.

- The subjects who are physically better fit have significantly better physical self concept than subjects who are poor physically fit.

- The male subject have significantly better physical self concept than female subjects.

- The sportspersons have significantly better physical self concept than non sportspersons.

- The subjects who are physically better fit have significantly better intellectual self concept than those who are physically poor fit.

- The male subjects as well as female subject do not differ from each other from their intellectual self concept.

- The non sportspersons have significantly better intellectual self concept than sportspersons.

- The physically fit subject have significantly better social self concept than physically poor fit.

- The male subjects have significantly better social self concept than female subjects.
The sportspersons have significantly better social self concept than the non sportspersons.

The subjects with physically fit as well as subjects with physically poor fit do not differ from each other from their moral self concept,

Female subjects have significantly better moral self concept than male subjects.

The sportspersons have significantly better moral self concepts than non sportspersons.

The physically fit subjects develop significantly better emotional self concept than subjects with physically poor fit.

Female subjects develop significantly better emotional self-concept than male subjects.

The sportspersons develop significantly better emotional self concept than non sportspersons.

The physically fit as well as physically poor fit do not differ from each other from their aesthetic self concept.

The female subjects have significantly better aesthetic self-concept than male subjects.

The sportspersons have significantly better aesthetic self concept than non sportspersons.

The physically fit subjects have significantly better adjusted than physically poor fit subjects.

The female Ss have significantly better adjusted than male Ss.
The sportspersons have significantly better adjusted than non sportspersons.

Sample of the study:

Sample was selected from Aurangabad Dist. Total sample of the study, at the initial stage was 400, of which 200 were sportspersons selected from physical education colleges & 200 were non sportsperson selected from academic colleges. However, since a factorial design was used & self frequencies were kept equal, few Ss. were deleted. Finally the effective sample was that 320 Ss. only. The age range of the Ss was 19 to 22 years and the educational status of the Ss was B.A., B.P.Ed. The male female ratio was 1:1.

Tools use for data collection

For the measurement of several factors standardized and reliable scales and tests were used, they were,

- Self concept scale
- Physical fitness Tests
- Adjustment Inventory

Self Concept Scale:

This scale has been developed by Beena Awasthi. It was developed following semantic differential technique originally developed by Osgood, Suci and Tannenbaun. The scale consists of 56 items; they are pairs of adjectives. The adjectives in each pair are exactly opposite to each other, e.g. good - bad; honest - dishonest etc. The task of the S is to read each pair and rate himself on a five point scale provided with the pair of bipolar adjectives. The scale is very much useful in obtaining self concept measures in six different areas. Test retest reliability was 0.84.

Adjustment Inventory:

This adjustment inventory developed by H. S. Asthana. It consisted of 42 items. Each item is associated with two alternatives “Yes” and “No”. The scale gives you an index of adjustment. The reliability coefficient is 0.82 and validity is 0.76.
Physical fitness Tests:

Nine different tests were administered on Ss. Fleishman (1964) suggested ten different tests to measure physical fitness of the sport persons. Of these ten tests only nine tests were used. Soft - Ball Throw Test was not administered.

Extent flexibility:

A horizontal measuring scale 36 inches long, marked off in half inch intervals was drawn on the wall at shoulder height. A line was drawn on the floor at right angles to the wall and opposite the 12 inch mark on the wall scale. The right handed S stood with his left side towards the wall toes touching the line on the floor, with his feet together and at right angles to the floor line. He stood far enough from the wall so that he could just touch the wall with his left fist. Without moving his feet he has to raise his right arm sideways to shoulder level, palm down and fingers extended. From this position he has to twist clock wise as far as possible to touch the wall scale with his right hand. To help fix the feet during this movement, the tester placed a foot alongside the Ss right foot. The farthest point reached on the scale and held for at least two seconds was recorded in inches to the nearest inch. The error modes by the S were corrected during the first two trials, while scores were allotted for the performance in the third trial (see appendix). Two senior teachers acted as judges and allotted the scores for the performance of the S.

For the left handed subjects an alternative scale is used which reads from right to left ( see appendix ). The S has to stand with his right side to the wall and twist anti- clockwise to reach with the left hand.

Dynamic Flexibility:

Here the S has to stand with his back to a wall and far enough from it so that he can bend over without hitting it. His feet should be shoulder width apart. With chalk or tape, the tester marked X on the wall directly behind the middle of the Ss back and another X on the floor between the S's feet. A stop watch was used to time the test.

On the signal "go" the S has to bend and touch the X between his feet with both hands and then rise, twist to the left and touch the X on the wall with both hands.
This counts as one cycle. In subsequent cycles the S alternates the side to which he twists and the tester records the number of cycles completed in 20 seconds. Prior to test, three correct cycles were demonstrated emphasizing speed (see appendix).

Shuttle Run:

Two parallel lines 20 meters apart were marked on a hard surface. An observer stood at one line and the tester with a stop watch at the finish line. The S stood behind the start line with one toe up to the line. On the command, "Go" the S runs to the opposite lines 20 meters away. He has to touch the ground on the far side of it with either foot or return to the start line to repeat the procedure. The distance between the lines is covered five times to complete the 100 meter run. On the last lap S has to exert maximum effort to cross the finish line and complete the distance in the fastest time possible. The time taken to cover the five laps was recorded in seconds and milliseconds.

Hand Grip:

A hand dynamometer was placed in the palm of the Ss preferred hand, so that its edge lies between the first and second joints of the fingers. The S stood and holds his hand down his side away from his body, thumb forward. On the command "Squeeze" he squeezed the dynamometer sharply as hard as he could. Three trials were taken, each separated by one minute of rest. The best of the three readings was recorded in kg.

Leg Lifts:

The S lied flat on his back with his hands clasped behind his neck. A partner held the performer's elbows down against the ground. The S raised his legs, keeping them straight, until they are vertical and then returns them to the ground. This exercise was performed as many times as possible in 30 seconds.

The S started on command "Ready Go" and was told to stop after 30 seconds. The number of leg lifts was counted.

Cable Jump:

The S held a 24 inch length of rope in front of him, with one hand grasping each end. The ends of the rope protrude just outside the closed fists. The rope was not
stretched, it was hanged loose. The S jumped over the rope without releasing the grip on it. The S had to jump over the rope through his arms. The numbers of correct jumps were counted.

**Pull Ups:**

The pull ups were performed from a horizontal metal bar which was approximately 4 cm. in diameter and high enough for the S to hang off the floor with his arms and legs fully extended. The S was demonstrated one correct pull up prior to the test.

The S took an under grasp on the bar. On the starting signal he pulled himself up until he could place his chin over the bar and then lowered to a fully extended position of his arms. This was counted as one pull-up. The exercise was repeated until the maximum is reached. The numbers of pull-ups were counted.

**Balance:**

A wooden rail 4 cm high, 2 cm wide and 60 cm long mounted on a base board was used. The test was described to the S, who has to balance on the rail using his preferred foot, which was to be placed along the rail. He was first given a practice trial with his eyes open, and was told that his score will depend on the length of time from when he says 'Go' until he touches the floor with any part of his body, or removes either hand from his hips.

Along with a practice trial the S was given two trials with eyes closed. The number of seconds the S maintained his balance for each of the two test trials was recorded separately and averaged for a total score.

**600 Meter Run-Walk:**

Here the task of the S was to cover the distance of 600 meters in the shortest possible time. The time was recorded in seconds and milliseconds.
All these nine tests were given weight-ages and on the basis of the scores obtained on all the nine tests they were classified into two groups namely, physically better fit; and physically poor fit. For this classification P 60 and P 40 criteria were used. The Ss who got scores above P 60 were labeled as physically better fit and those who scored less than P 40 were classified as physically poor fit.

**Procedure of Data Collection:**

The data were collected by administering the scales on a small group of Ss at a time. Every time 15 to 20 Ss were invited. Their seating arrangement was made in a classroom. When the Ss took their seats and sat conformably, through informal talk rapport was formed. They were told about the importance of the study. When it was observed that the Ss are eager to take the scales, first copies self concept scales were distributed they were instructed as follows.

“While describing our or other person good or bad characteristic we make use of adjectives for example, I am brave. He is honest. She is beautiful etc. people differ from each other on physical and psychological characteristic. Each individual has good as well as bad characteristic. In this scale there are several pairs of bipolar adjective such as honest – dishonest. ; "Good – Bad etc”

Read each pair of adjectives, think which adjective describes you most and to what extent. Then put a "√" mark at appropriate square provided with each pair of adjective. For example, the pair is

<table>
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<tr>
<th>Strong</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Weak</th>
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</table>

If you feel that you are neither strong nor weak but perfectly normal then put a "√" mark in the THIRD Square.

If you feel that you are little more strong than normal then put a "√" mark in the SECOND Square.
If you feel that you are very much strong then put a "√" mark in the FIRST Square

If you feel that you are little more weak than normal then put a "√" mark in the FORTH Square.

If you feel that you are very much weak than normal then put a "√" mark in the FIFTH Square.

A pair of adjectives was taken as an example, and procedure was demonstrated on the black-board. When the Ss. Followed the instruction they were told that there is no time limit to this scale, but you have to work fast. Take decisions quickly.

Filled copies of self evaluation scale were collected only when it was confirmed that the Ss. replied to each item.

Immediately after completion of Self Evaluation Scale, copies of adjustment test forms were distributed. After giving the proper instruction, followed standardized procedure and asked Ss. to fill the questionnaire as soon as possible. Filled copies of answer sheet were collected. Similar procedure was adopted for collecting data from different groups Ss.

For administering all nine test of physical fitness appropriate instruments, such as meter scale, rod, tape, stop watch etc. was used. These tests were administered on the Ss in the play ground.

Variables under study:

- The following three variables Physical fitness
- Gender
- Sport persons

Were treated as independent variables.
The following variables were treated as dependent variables.

- Physical self concept
- Intellectual self concept
- Social self concept
- Moral self concept
- Emotional self concept
- Aesthetic self concept
- Adjustment:

OPERATIONAL DEFINITION:

Physically Fit: Physically fit people are able to tolerate physical stress to a greater degree, and generally have a stronger heart action than less fit people.

Sport person: Here, the term sport person was use in its limited sense. The students of physical education colleges were treated as sportsperson.

Gender: Means male or female which refers to anatomical and physiological differences between males and females which are based on genetic differences present at conception.

Self concept: Self concept refers to the belief of individual he/she about various behavioral and social characteristics, physical and cognitive abilities, and his/her aspirations and achievements. In present study different self concepts are represents by the scores obtained on the self concept for measuring different self concepts (High score denotes superior self concept, and low score represents poor self concept).

Physical self Concept:

The attitudes and feelings one has towards the image of one's physical characteristics. Positive attitude towards physical characteristics refers to better physical self concept; negative attitude on the other hand refers to poor physical self concept.

Intellectual self concept: The beliefs of individual towards his cognitive and intellectual abilities refer to intellectual self concept.
Social self concept: These are self-descriptive attributes of behavioral characteristics as one thinks they are seen by others. In present study sum of the scores obtained on the pairs of adjectives classified as related to social behavior denotes social self concept.

**Moral self concept:** It refers to attitude and feelings one has towards the rules of behavior to which the members of a culture have become accustomed and which determine the expected behavior pattern of all group members.

**Emotional self concept:** It represents one's perceptions and beliefs towards one's emotional behavior in different situations. Here it is represented by the score obtained by the respondent on the items related to emotional behavior.

**Aesthetic self concept:** It refers to one's beliefs towards his affects to have a sensitive appreciation of the beautiful, especially in arts.

Adjustment: Adjustment is the process by which a living organism maintains a balance between its needs and the circumstances that influence the satisfaction of these needs (Shaffer, 1961)

**Design of the study:**

A balanced 2 x 2 x 2 factorial design was used for analyzing the data.

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<tr>
<td>C2</td>
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**Statistical treatment of data:**

First stage - Mean and standard deviation
Second stage - Three way analysis of variance