METHOD
AND
PROCEDURE
CHAPTER – III

METHOD AND PROCEDURE

This chapter describes the methodology and procedures adopted for the study. Precisely it includes selection of the subjects, selection of test items, procedure for administrating the test items, collection of data and technique employed for analysis of data.

The present study was a comprehensive study in which soccer players from the colleges and universities of the three states namely, Punjab, Haryana and Delhi were taken as the subjects for the study. The age of the subjects ranges from 18 to 25 years. They were investigated with regard to the three selected variables, i.e., emotional intelligence, self-confidence and mental skills.

Design of the study

This study involved a survey conducted on soccer players of colleges and universities of Punjab, Haryana and Delhi. The age group of the players of the study ranges from 18 to 25 years. The players were assessed on three psychological variables, i.e., emotional intelligence, self-confidence, and mental skills and their relationship with the performance of soccer players.

The soccer skill test has been applied on the players of three states, namely, Punjab, Haryana, and Delhi to assess the soccer skill level of the players based on which the players would be classified into two groups, i.e, high performance and low performance group. For this classification, firstly all the components of soccer skills were added to get a composite score of each player under the study and then the mean of all the composite scores was calculated. The players having their composite scores 5% above the mean score fall under high performance group whereas the players having their composite score 5% less than the mean score fall under low performance group.

In the present study means, SD, t-test and One Way ANOVA were employed to compare the players of colleges and universities on the psychological variables and soccer skills. Where the F ratio was found significant, Student Newman Keul’s post hoc test was applied to find out the direction of differences among the various groups of soccer players. The result was examined at 0.05 and 0.01 level of significance. Pearson correlation test was administered to see the relationships between the psychological variables and soccer skills of the players of colleges and universities of the above mentioned states. The result was examined at 0.05 and 0.01 level of significance.
Figure 2 Design of the study.

Sample of the study
N= 287

Delhi (N=95)  Punjab (N=96)  Haryana (N=96)

College (N=47)  University (N=48)  College (N=48)  University (N=48)  College (N=48)  University (N=48)

Delhi

Colleges (N=47)  University (N=48)

Soccer skill test
(low performance)
(High performance)

Psychological test
(Emotional intelligence)
(Self- confidence)
(Mental skills)

Soccer skill test
(low performance)
(High performance)

Psychological test
(Emotional intelligence)
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(Mental skills)

Statistical Technique
SD, ANOVA & t-test
Sample

To carry the study, 287 soccer players in the age group of 18-25 years from three different states of northern region of India, i.e, Punjab, Haryana and Delhi were selected using purposive systematic sampling technique. The subjects belong to the different colleges and universities of above mention three states. An equal number of players were selected from each state. Players of all the colleges and universities of these states were assessed on three psychological variables namely, emotional intelligence, mental skills and self-confidence and on soccer skills. On the basis of their soccer performance, the subjects were sub categorized into the groups of high and low performance both at college and university levels. The break up of sample is given below:

![Sample of the study diagram]

Figure 3 Sample of the study
Selection of the variables

The following psychological variables had been selected for the study

1. Emotional intelligence
2. Self-confidence
3. Mental skills
   Soccer skills variables used for the study are:
   1. Passing for accuracy (air)
   2. Passing for accuracy (ground)
   3. Kicking for accuracy
   4. Juggling type 1
   5. Juggling type 2
   6. Dribbling

Selection of the tests

The following tests were used to collect data.

1. To assess emotional intelligence of the students emotional intelligence scale constructed by Hyde, Dethe and Dhar (2001) was used.
2. To assess self-confidence of the soccer players, Agnihotry’s Self-confidence Inventory (1987) was used.
3. To assess the mental skills of the students, Hardy and Nelson’s Mental skill questionnaire (1996) was used.
4. To assess the performance of soccer, Van Rossum Soccer Skill test (1968) was administered.

Narration of the test items

Emotional Intelligence Scale (EIS)

Objective

The EIS have been developed to assess the emotional intelligence of the adults.
Tools

E1S was used, which is presented in appendix A. This questionnaire consists of 106 items. This questionnaire measures the emotional intelligence level of athletes.

Item analysis

The scale was administered on 200 executives and the scores obtained were subjected to factor analysis and ten factors were identified. These are self-awareness, empathy, self-motivation, emotional stability, managing relation, integrity, self development, value orientation, commitment and altruistic behavior.

A. Self-awareness is being aware of one self and is measured by items 6, 12, 18, 29.
B. Empathy is feeling and understanding the other person and is measured by items 9, 10, 15, 20, and 25.
C. Self-motivation is being motivated internally and is measured by items 2, 4, 7, 8, 31 and 34.
D. Emotional stability is measured by items 14, 19, 26 and 28.
E. Managing relation is measured by items 1, 5, 11 and 17.
F. Integrity is measured by 16, 37 and 32.
G. Self development is measured by items 30 and 33.
H. Value orientation is measured by items 21 and 22.
I. Commitment is measured by items 23 and 24.
J. Altruistic behavior is measured by items 3 and 13.

Reliability

The reliability of the scale was determined by calculating reliability coefficient on a sample of 200 subjects. The split half reliability coefficient was found to be 0.88

Validity

In order to find out the validity from the coefficient of reliability (Garrett, 1981), the reliability index was calculated, which indicated high validity on account of being 0.93.
Norms of the scale

The users of this scale are advised to develop their own norms based on their own samples. Individual with high score can be considered to have high level of emotional intelligence and are likely to be high performers.

Instructions for administration and scoring

1) The instructions printed on the response sheet are sufficient to take care of the questions that are asked.
2) No time limit should be given for completing the scale. However, most respondents should complete it in about 10 minutes.
3) Before administering the scale, it is advisable to emphasize orally that response should be checked as quickly as possible and since cooperation is sought for the same. The response should be kept confidential.
4) It should also be emphasized that there is no right or wrong answer to the statements. The statements are designed to understand the differences in individual reactions to various situations. The scale is meant to know the difference between individuals and not meant to rank them as good or bad.
5) It should be duly emphasized that all statements have to be responded to and no statement should be left unanswered.
6) It is not desirable to tell the subjects the exact purpose for which the scale is being used.
7) Through the scale is self-administering, it has been found useful to read out the instructions printed on the response sheet to the subjects.
8) Manual scoring is done conveniently, hence no scoring key is provided.
9) Each item or the statement should be scored 5 for strongly agree, 4 for agree, 3 for neutral, 2 for disagree and 1 for strongly disagree.

Agnihotri’s Self-confidence Inventory (ASCI)

Objectives

The ASCI has been designed in Hindi to assess the level of self-confidence among adolescents and adult.
Tool

ASCI were used, which is presented in appendix B. This questionnaire consists of 56 items. This questionnaire measures the confidence level of athletes.

Reliability

The reliability of the scale was determined by calculating reliability coefficient on a sample of 382 subjects. The split half reliability coefficient was found to be 0.91.

Validity

The validity coefficient obtained is .82 which is significant beyond .01 level.

Instruction for administration

1. The inventory is self-administering in nature. In group administration, the instruction given in the test-booklet may be read aloud by the examiner in order to facilitate starting at a time.

2. There is no fixed time-limit. Ordinarily an individual takes 20 minutes to complete the inventory.

Scoring

The inventory can be scored by hand. A score of one is awarded for a response indicative of lack of self-confidence, i.e., for making cross(X) to (कैसे) response to item nos. 2,7,23,31,40,41,43,44,45,53,54,55, and for making (X) to response to rest of the items. Hence, the lower the score, the higher would be the level of self-confidence and vice-versa.

Hardy and Nelson’s Mental Skill Questionnaire

Objectives

The objective is to identify, general mental strength and weakness of the soccer players.
Tool

Hardy and Nelson’s Mental Skill Questionnaire was used, which is presented in appendix C. This questionnaire measures six important aspects of mental side of sport performance. These aspects include imagery ability, mental preparation, self-confidence, anxiety and worry management, concentration ability and relaxation ability.

Procedure

The mental skill questionnaire consists of a number of statements about experiences associated with competitive sport. Each subject was given a questionnaire and a pen. The subject was asked to read each statement very carefully and then circle the appropriate number to indicate the extent to which one agrees with the statement. The rating was based on six point rating scale from strongly disagree to strongly agree. The subjects were asked to answer honestly to each question in relation to their own sporting experience.

Scoring

The encircled responses to each of the test items are added to get a score. The lower score represents weaker whereas the higher score represents stronger level of mental ability. (Hardy and Nelson, 1996)

Reliability

The reliability of the scale was determined by calculating reliability coefficient on a sample of 277 subjects. The split half reliability coefficient was found to be 0.86

Validity

The reliability was calculated, which indicated high validity on account of being 0.89.

Van Rossum soccer skills test

This skill test comprises of six different aspects of soccer

1) Passing for accuracy [air]
The test, which was designed by Crew (1968), was used. Four circles with respective radii of 4, 8, 12 and 16 feet are marked on a suitable flat surface. The center of the target is 20 yards from the restraining line. The subjects were asked to kick the stationary ball through the air with the right foot so that it land on the target. Each kick was awarded in accordance with the place of landing of the ball. No point was awarded if the ball did not land on the target area or landed outside the target area. When the ball landed on the circle with the radius of 4 feet, four points were awarded. When the ball landed on the circle with the radius of 8 feet, three points were awarded. When the ball landed on the circle with the radius of 12 feet, two points were awarded. When the ball landed on the circle with the radius of 16 feet, one point was awarded. On the other hand, if the ball landed on the line, the subjects were awarded the higher of the two scores. Same procedure and scoring system were followed for kicking with the left leg.

![Figure 4 Passing for accuracy (air)](image)

Scoring:

- 5 times preferred foot
- 5 times non-preferred foot

2) Passing for accuracy [ground]
As per the test conducted by Van Rossum a 5 mts long starting line was drawn and two cones (1.5 meter apart) were placed 30 mts away from the starting line. Keeping the ball either behind the starting line or on the starting line, the subjects were asked to kick the ball with their right foot. The ball must not rise up from the ground. The ball must enter between the two cones. Each subject was given five kicks. One point was given for one correct kick. The similar procedure was followed for kicking with the left leg.

![Figure 5 Passing for accuracy (ground)](image)

**Figure 5** Passing for accuracy (ground)

**Scoring:**

- 5 times preferred foot (max. 15 points)
- 5 times non-preferred foot (max. 15 points)

3) Kicking for Accuracy

The test was constructed by Van Rossum and was published by SAI. It was adapted to measure kicking accuracy with instep of the foot. The goal was divided vertically into three equal parts, i.e., right, middle and left. The stationary ball has to be kicked with the right foot into the
predetermined part of the goal from outside the penalty area line. Out of the ten attempts, four are to be kicked into the right part of the goal, four into left part of the goal and two in the center. The sequence for the kicks was first two kick into the right side, followed by a kick into the middle part of the goal, and then, two kicks into the left part of the goal post. The same sequence is followed for the second time, taking the count of kicks to ten. Ball must cross the goal line in the air to have the desired speed and force in kick. Total number of correctly executed kicks is the subject's score. Same procedure and scoring system is followed for kicking with the left leg.

![Kicking spot](image)

**Figure 6** *Kicking for accuracy*

Scoring:

- 5 times preferred foot (max. 15 points)
- 5 times non-preferred foot (max. 15 points)
4) Dribbling
The purpose of this test was to measure the dribbling ability with speed, agility and the ball control of the subject in terms of time taken by him. A starting line was marked and the first cone was placed one meter away from the starting line. Eight more cones were then placed keeping the distance of one meter among them. At the signal “GO” the subject dribbles the ball from the starting line around the cones in a zigzag manner. The subject was free to choose either of the foot to dribble the ball. The score for each subject was the time taken for completing the round-reach in the tenth of a second. Two trials are taken to obtain the score. Both the scores are summed and divided by two to obtain the score.

Figure 7 Dribbling in soccer

Scoring

• Distance between the cones/flags was 1m
• Maximum two trials and both the scores are summed and divided by two to obtain the score.

5) Juggling type-1
The test was administered to measure the ball control of the subjects. Each subject was given two trails. The subjects were asked to juggle the ball as many times as they can by using any part of the body. The better of two trails was recorded for the score. Since the score is recorded in minutes, to convert these scores into simple units as in other test components. The scores are standardized by applying mathematical calculation.

Scoring

• Maximum two trails and each ball contact gets one point.
• Maximum 100 points

6) Juggling type-2
This is the variation of juggling type-1. In this case, the only difference was that subjects were not allowed to make two continuous touches with the same part of the body of either side. Each subject was given two trails. The better of two trails was recorded for the score.

Scoring

- Maximum two trails and each ball contact gets one point.
- Maximum 100 points

Test reliability and validity

The test indicated that reasonable reliable values of the total, by adding all the components, vary between 0.63 (p<0.005) and 0.88 (p<0.005) and the values between 0.33 (p<0.005) and 0.63 (p<0.005) indicated reasonable validity.

Administration of test and collection of data

For the collection of data from different colleges and universities of Punjab, Haryana and Delhi, the researcher had to seek cooperation from many quarters. He had to approach to different organizations for cooperation for the collection of data. Information regarding the data, venues and timing of each coaching camp was also obtained well in advance. The researcher collected the data from different colleges randomly selected from the institutions where these games were more popular, coaching camps conducted to prepare athlete for inter-university tournaments were also visited by the researcher to collect data. Timings for test were decided as per convenience of the officials. At the college level, the intercollegiate competition were followed in the same discipline. The schedules of the same were procured from the organizers of the state universities. The managers and coaches of the respective college teams were requested to help in the matter by acquainting them with the purpose of research study. The timing for the data collection was also fixed with them. The psychological tests were administered right after the soccer skill tests at a place where no distraction or minimum distraction could be caused. All the three tests were administered one after the other and before the commencement of each test, the test instructions were read out to the players who were allowed to ask questions (if any) about the test. In almost all the tests, the subjects were told to
tick their first response without any delay, to meet the demands of the tests. The subjects were
told to complete the test within the time prescribed for the test. The subjects were asked to
record their first response and hand over the test response sheet as soon as the responses were
filled up.

**Statistical design**

The data collected through administration of the test was subjected to statistical treatment on
computer. In order to examine the hypothesis of the present study means, SD and One Way
ANOVA were employed to compare the players of the colleges and universities of the three
states namely, Punjab, Haryana and Delhi on the psychological variables and soccer skills.
Where the F ratio was found significant, Student Newman Keul’s post hoc test was applied to
find out the direction of differences among the various groups of soccer players. The result was
examined at 0.05 and 0.01 level of significance. Pearson correlation test was administered to
see the relationships between the psychological variables and soccer skills of the players of the
colleges and universities of the above mentioned states. The result was examined at 0.05 and
0.01 level of significance.