Chapter III

PROCEDURE

In this chapter, the selection of subjects, selection of test, criterion measures, descriptions of tests items, procedure of test administration, collection of data and statistical procedures adopted for analyzing the data have been described.

Selection of Subjects

Main objective of the study was to construct norms for skill test for male Table-Tennis players. For this purpose 816 male, 410 Junior and 406 Senior, state and national level Table-Tennis players of different states in India were randomly selected to serve as subjects.

Selection of Test

Test comprises of skills such as Service, Push Return, Counter Stroke, and Drive. The scholar searched the literature for skill tests in Table Tennis, consulted experts in the field and came to the conclusion that the skill test constructed by Pushpendra Purashwani and Dr. A.K. Datta is the most appropriate test for this study. Hence, Table Tennis skill
test constructed by Pushpendra Purashwani and Dr. A.K. Datta was chosen for the purpose of the study.

**Criterion Measures**

The performance of Table Tennis players in Table Tennis test battery of four test items, namely, Alternate Push Test, Target Service Test, Alternate Counter Test and Fore Hand Drive on Target Test with foot movement after playing backhand push were chosen as the criterion measures.

**Description of Tests**

**Alternate Push Test**

**Purpose:** To measure the ability to execute push stroke.

**Equipment:** Balls, Rackets, Table, Twine, Twine Stands, Stop Watch and Score sheets.

**Attachment and Table Marking:** Twine was fixed on the clamp parallel to net assembly at a height of 20 cm. above the net.

**Test Administration:** The subject was instructed to warm-up and practice before the actual administration of the test. He was asked to make the numbers of push returns with the controller for a period of 30 seconds. Subject had to keep the ball in between of rope and net. Controller started the rally on the command “Start” having sufficient balls in hand/pocket to continue the rally in case ball goes out of play.
Fig. 1. Subject Performing Alternate Push Test

**Chances:** Two chances were given.

**Scoring System:** One return was counted when ball crossed in between the net and the rope. Half a return was counted when ball touched the rope but passed in between net and the rope and no return was counted when ball crossed over the rope. Best score of two chances in a period of 30 seconds was considered as the final score.

**Target Service Test**

**Purpose:** To measure the serving ability.

**Equipment:** Balls, Rackets, Table, Marking Chalks/Tapes and Score sheets.
Table Marking: Two target areas of 30 X 15 cm. were marked on the side line on both sides at the distance of 37.5 cm. from the net and 5 was marked in that area. Two more target areas of 80 X 40 cm. were marked on the side line both sides at the distance of 12.5 cm. from the net and 3 was marked in that target area. The remaining area of half of the table, 1 was marked as indicated in Fig.2.

![Diagram of Table Marking](image)

Fig.2. Target Service Test

Test Administration: The subject was instructed to warm-up and practice before the actual administration of the test. He was asked to
serve from the left side of the table (in case of right handed players) and vice-versa for left handed players and I.T.T.F. Rules were followed strictly in this regard. Any kind of legal service was permitted.

Fig.3. Subject Performing Target Service Test

**Chances**: Two chances each comprising of three attempts were given.

**Scoring System**: Score was given according to the bounce of the ball in the marked areas. The total of best out of two chances (each chance comprised of three attempts) was counted as the score of the subject in Target Service Test.
Alternate Counter Test

**Purpose**: To measure the counter stroke ability.

**Equipment**: Balls, Rackets, Table, Stop Watch and Score sheets.

**Test Administration**: Subject was asked to make the numbers of rallies of alternate counter (one forehand and one backhand) at the left corner of the table with the controller for a period of 30 seconds after sufficient warming up and practice. Controller started the rally on the command "Start" having sufficient balls in hand/pocket to continue the rally in case the ball goes out of play.

![Subject Performing Alternate Counter Test](image)

*Fig. 4. Subject Performing Alternate Counter Test*
**Chances**: Two chances were given.

**Scoring System**: Maximum numbers of returns were counted by an observer out of two chances of 30 seconds each.

**Fore Hand Drive on Target Test with foot movement after playing Back Hand Push**

**Purpose**: To measure the Drive Ability.

**Equipment**: Balls, Rackets, Table, Marking Chalks/Tapes and Score sheets.

**Table Marking**: Two target areas of 30 X 30 cm. from the corner point of the table were marked at the both corners of single portion of the table, and in those areas 5 was written. Two more target areas of 55 X 55 cm. from the corner point were marked at both corners of single portion of the table, and 3 was marked in those areas. In the remaining areas of the half of the table, 1 was marked as indicated in Fig.5.
Test Administration: The controller fed the ball and the subject was asked to attack forehand drive with foot movement from left side of a particular half after playing backhand push from at the left corner of the table (in case of right handed player) and vice-versa for left handed players within 5 returns. Sufficient numbers of trials were provided.

Chances: Two chances comprising three attempts each were given.
Fig.6. Subject Performing Fore Hand Drive on Target Test with foot movement after playing Back Hand Push

**Scoring System**: Score was given according to the bounce of the ball in the marked areas. The best of two chances (each comprising of three attempts) was counted as the score of the subject.

**Procedure of Test Administration**

The test items were administered to all the subjects by the research scholar himself. The scores of each test items were recorded by the research scholar on the basis of performance in test. Each subject followed his own warming up procedure before actual performance. The
subjects were given adequate demonstration, practice trials and required instructions for all tests. The subjects were exhorted to give their best performance.

**Collection of Data**

The data was collected by administering the test for the selected test items during the Summer Coaching Camps and Regular Training Sessions of various districts, different Ranking Table Tennis Tournaments and Inter-District Table-Tennis Championships. The data pertaining to different test items is presented in Appendices A, B, C and D. The news coverage and covering letters issued by the different associations and institutions related to the data collection have been presented through Appendix I to W.

**Statistical Procedure**

The data, which was collected by administering tests, was statistically treated to develop norms for all the test items. Two scales, namely, Percentile Scale and 7 Sigma Scale\(^1\) were constructed. Further, the scores were classified into five grades i.e. very good, good, average, poor and very poor.