Panjab University, Chandigarh and these subjects had participated in the Panjab University inter-college table tennis competition for men and women which was held at DAV College, Sector 10, Chandigarh and MCM College, Sector 36, Chandigarh respectively in the month of September 2003. The subjects were in the age group of 18 to 25 years.

**SELECTION OF VARIABLES**

**Dependent Variables**

Overall table tennis playing ability.

**Independent Variables**

Motor fitness variables

1. **Speed**
   - Reaction ability
   - Speed of movement
   - Choice- Response- Movement ability
   - Acceleration speed

2. **Flexibility**
   - Wrist flexibility (planter and dorsi flexion)
   - Trunk flexibility

3. **Power**
   - Leg explosive power (Vertically)
   - Leg explosive power (Horizontally)

4. **Agility**
   - Running and changing direction
   - Lateral movement
5. **Endurance**
   - Agility and speed endurance
   - Abdominal muscle strength endurance

**TOOLS USED FOR THE COLLECTION OF DATA**

**Overall Table Tennis Playing Ability**

Overall table tennis playing ability was judged through average of cumulative points scored by each player in the Panjab University Inter-college table tennis competition held in the month of September 2003 for both men and women.

**MOTOR FITNESS VARIABLES:**

The following tests were used to measure the related motor fitness test variables.

1. **Speed**
   (i) Reaction time (Nelson Hand Reaction Test 1967).
   (ii) Speed of movement (Nelson Speed of Movement Test 1967).
   (iv) Acceleration Speed (30m Fly starts).

2. **Flexibility**
   (i) Wrist flexibility (Wrist planter flexion and Wrist dorsi flexion test).
   (ii) Trunk flexibility (Bend and Reach test).

3. **Power**
   (i) Leg explosive power vertically (Sargent jump).
   (ii) Leg explosive power horizontally (Standing broad jump).
4. Agility
   (i) Running and changing direction (Shuttle run).
   (ii) Lateral movement (Side step test).

5. Endurance
   (i) Agility and speed endurance (Side stepping test).
   (ii) Abdominal muscle strength and endurance (Sit-ups).

ANALYSIS OF DATA

Pearson’s Product Moment Coefficient of Correlation was used to analyze the data to assess the relationship of overall table tennis playing ability of male and female players with each of the motor fitness test variables and multiple step-wise regression technique was used to identify the meaningful motor fitness test variables affecting playing ability of male as well as female table tennis players.

CONCLUSIONS

Within the limitations of the study, the following conclusions are deduced, which are as follows:

Results of male table tennis players in relation to tested motor fitness variables

All the motor fitness test variables namely reaction speed, speed of movement, acceleration speed, choice-response-movement ability, wrist flexibility (planter and dorsi flexion), trunk flexibility, leg explosive power vertically and horizontally, running and changing direction, lateral movement, agility and speed endurance and abdominal muscle strength endurance were found significantly related to the overall playing ability of male table tennis players.

However following motor fitness test variables were found meaningful predictors to draw out final regression equation:

131
1. 30m fly start (X₁)
2. Shuttle run (X₄)
4. Speed of reaction (X₁₀)

The final regression equation came to be as under.

\[ Y = 160.534 - 4.6107 (X₁) - 3.8917 (X₄) - 17.2334 (X₉) - .9316 (X₁₀) \]

Where \( Y \) = Playing ability.

**Results of female table tennis players in relation to tested motor fitness variables**

Except two motor fitness test variables i.e. leg explosive power vertically and leg explosive power horizontally, remaining all the motor fitness test variables namely reaction time, speed of movement, acceleration speed, Choice-Response-Movement ability, wrist flexibility (planter and dorsi flexion), trunk flexibility, running and changing direction, lateral movement, agility and speed endurance and abdominal muscle strength endurance were found significantly related to the overall playing ability of female table tennis players.

However, following motor fitness test variables were found meaningful predictors to draw out final regression equation.

1. Sit ups (X₂)
2. Sargent jump (X₅)
3. Lateral movement for 10 Sec. (X₇)
4. Side stepping for 30 Sec. (X₈)

The final regression equation came to be as under.

\[ Y = -47.6167 + .4238 (X₂) - 1.1233 (X₅) + 2.0055 (X₇) + 1.9751 (X₈) \]

Where \( Y' \) = Playing ability.
RECOMMENDATIONS

In the light of the findings of the present study, the following recommendations are made to the coaches, physical educators, sports scientists and players.

1. The result of this study might help the coaches and physical education teachers as an aid in assessing and investigating potentials of the players to spot out the talent and in selection of players for university teams.

2. On the basis of results, coaches and trainers might develop their training program laying more emphasis on the related motor fitness test variables proved to be important for the performance.

3. It is recommended that the study may be conducted by selecting subjects belonging to different age groups and levels of achievement other than those employed in the present study.

4. A similar study may be conducted utilizing the functional and psychological components in addition to the components chosen in the present study.

5. Similar studies may also be conducted for other sports.