

## **43 Talent identification in table tennis**

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### **1 Introduction**

Table tennis requires physical, technical, and tactical qualifications in order to obtain a higher level of athletic performance. Knowledge of these factors may lead to better talent identification. It is not easy to describe the major characteristic of Table Tennis. Table Tennis is an intermittent exercise (Watanabe et al, 1992). As an "open lopped" skilled sport requires various skills. Some of the most important principles of the sport are anticipation, speed, precision, and concentration (Yan, 1992, Gadai, 1997). However, many other factors such as psychocological, physical and technical are the key of success too.

Although Table Tennis is very famous worldwide there are not many talent identification reviews that can express the factors that are necessary in one or another way for "selecting" players. Thus, the purpose of the present study was to determine the specific physical fitness characteristics of male and female table tennis players aged 11 to 12 years old in order to improve the talent detection process.

### **2 Methods**

#### **2.1 Subjects**

In this study participated 75 children at the age of 11 ~ 12 years old that were separated into two groups: table tennis athletes (n = 15: 6 boys and 9 girls) and the control group (non - athletes n = 60: 20 boys and 40 girls). The athletes had training age between 2 ~ 4 years, were signed for a professional club and also played in the national table tennis championship. The non - athletes had never played table tennis, and Control Group.

#### **2.2 Measurement**

All subjects performed selected motor fitness tests of the Euro fit test battery: flamingo balance (general balance), plate tapping (coordination and speed of limb movement), handgrip test (static strength), and 10X5 - m shuttle run

(speed and agility). Also, they performed specific table tennis tests: Ball Balance, Ball Bounce Relay, and Volley Relay.

## **2.3 Motor Fitness Tests (Euro fit)**

### **2.3.1 Flamingo Balance**

The subject should balance on one leg on a balance beam. A stopwatch was used per beam. The subject was required to stay balanced as long as possible on the long axis of the beam using his/ her preferred foot for one minute. Each time subject loses balance test stops. The number of attempts needed to keep balance for 1 minute was the score of each subject.

### **2.3.2 Handgrip Test**

This test measures the isometric grip strength of the hand. The subject stands with the arm extended and then squeeze the dynamometer. Every subject had two attempts.

#### **2.3.2.1 10x5m. Shuttle Run**

Each subject had to run as fast as possible 10x5 metres on a slip – proof floor, which was between four traffic cones.

#### **2.3.2.2 Plate Tapping**

This test measures how fastness of the hand. Each subject had one attempt.

## **2.4 Specific Table Tennis Tests**

### **2.4.1 Volley Relay**

Subjects had to hit the ball vertically using forehand side of the racket without the ball touching the floor. Each subject had two attempts.

### **2.4.2 Ball Bounce Relay**

Each subjects had to bounce the ball using forehand side of the racket. Each subject had two attempts.

### **2.4.3 Ball Balance**

Each subjects stands with a ball balancing on the racket face up. Each subject had two attempts.

## **2.5 Statistical analysis**

Descriptive statistics (means and standard deviations) were calculated for each group for each age level to describe central tendencies and dispersion. The two – way analysis of variance (group X sex) was applied in order to determine if any significant differences existed between the groups of the

study (athletes and non - athletes). An  $\alpha$  level of  $p < 0.05$  was used as a criterion of significance.

### 3 Results

The two - way analysis of variance (group X sex) found that there are significant differences between table tennis players and non - athletes in Volley Relay ( $p < 0.05$ ), Ball Bounce Relay ( $p < 0.05$ ) and Ball Balance ( $p < 0.001$ ). Not significant differences were found in other test (Table 1).

Table 1. Results of the two - way analysis of variance (group X sex) (n = 75).

VARIABLES	F	p
Volley Relay	5.95	0.05
Group	1.95	NS
Sex	1.08	NS
Ball Bounce Relay	4.60	0.05
Group	7.33	0.001
Sex	2.11	NS
Ball Balance	11.01	0.001
Group	0.00	NS
Sex	0.04	NS
Flamingo Balance	1.50	NS
Group	0.04	NS
Sex	1.50	NS
Plate Tapping	2.40	NS
Group	0.00	NS
Sex	0.39	NS
10x5m. Shuttle Run	2.75	NS
Group	0.25	NS
Sex	0.18	NS
Handgrip	3.76	NS
Group	3.56	NS
Sex	0.18	NS

#### 4 Discussion

From the analysis of the results it was obvious that the Table Tennis group achieved better records at the total results. With regard to the measurement of height, the total of sample (both groups) presented prices that are found in harmony with other previous studies (Moravec, Sedlacek, 1993; Joan, 1990; Mechelen, Lier, Hlobil, Crolla, Kemper, 1987). Similar values found also with the measurement of weight, in the total of sample, where they agree with the studies that were reported. The unique difference is located in the measurement of weight of girls, where the control group girls are heavier. It is not however statistically important difference and likely is accidental. Similar conclusions are also exported concerning the height of two teams, where not observed important differences as well as the two teams are moved near in the means.

No significant difference found between Table Tennis and Control group in Flamingo Balance test. Table Tennis group had numerically better records than Control group. Both group values were in satisfactory levels marking better prices than Slovak students (Moravec, Sedlacek, 1993) and of course better than similar measurements in Spanish students of same age (Joan, 1991).

The output in the ordeal locomotion of hand and for the two teams oscillated in the mean of category. It should be marked, that the records of boys and girls of team of Table Tennis are better than the corresponding team. This can be explained because the nature of sport requires from the athletes of Table Tennis they use more utmost and particular the sovereign hand or we could say the one that keeps the racquet. Taking into consideration of what they (Levarlet - Joue, Fieventz, 1990) point out, that the sports that their nature requires use more or under utmost overcome and more specifically in basketball and the tennis, is justified also the difference in the prices. Concerning the corresponding studies that are reported in Slovaks (Moravec, Sedlacek, 1993) and Spanish's (Joan, 1991), students of same age present itself lightly more low than the two groups.

Statistically a significant difference was achieved in all the measurements that were related to the movement of arms and hands and possibly that can constitutes a criterion for the selection of talents for the sport of Table Tennis. However, we have to take into consideration that the results will be evaluated in total and also to consider other factors such as biological etc. Further more the analysis with t - test showed statistically a significant difference among the girl from Table Tennis group and Control group which can possibly constitutes indication that the training irritation was more efficient because of

previous maturing of the girls of that age against boys. Biological age measurements were not accomplished in order to have scientific results.

Concluding we would like to stress that it was not easy to compare the founding of this study because there is not enough bibliography reviews. Of course more research is needed in order to receive more valid results. The next target is the realization of new measurements and greater range of tests, having taken into consideration that the theory of detection and selection of athletic talents has to act consultatively and not prohibitively for the future of an athlete and in relation to the fact that training is the one which plays the main role as the will of trainees to succeed in something better.

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