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## Measurement of health-related physical fitness components of 16 years age group taekwondo players

**Dinesh Shingaram and Manohar Mahadeo Mane**

### Abstract

The present study designed to study the health-related physical fitness of 16 years age taekwondo players of Pune district. The researcher has chosen Taekwondo players with lottery method from 15 talukas of Pune district and there were a total of 170 players as Sample. The researcher has selected five health-related physical fitness components as variables i.e. muscular strength, endurance, cardiovascular endurance, freedom from obesity (Body Composition) and flexibility. All these 170 players underwent health-related physical fitness tests during the administration. The study area was divided into different five divisions. In the 16 years age group of taekwondo players, it has been witnessed that there was not a considerable difference in all five divisions.

**Keywords:** Physical Fitness, health-related physical fitness, taekwondo, and assessment

### Introduction

General fitness implies the power of an individual to measure most effectively together with his or her potential, which depends upon the physical, mental, emotional, social and spiritual components of fitness which are highly interrelated.

Devinder Kansal defines Physical Fitness by the group of five components, namely muscular strength, muscular endurance, cardiovascular endurance, freedom from obesity (proper body composition) and flexibility. Physical fitness testing has interested the human beings of all walks of life general public to experts in the disciplines of physical education, health education, pedagogy, medicine, human biology, exercise physiology, sports coaching, gym management etc. generally speaking, the physical fitness tests are conducted to achieve one or more of the purposes like a diagnosis of fitness level, classification of sportspersons, motivate the athletes, players selection, training evaluation and assessment of players etc. Keeping in view the need for fitness assessment of Taekwondo players, the researcher has taken up this study to meet the burning need of Taekwondo Players of 16 years age Groups of Pune Districts.

### Objectives of the study

1. To measure the current position of health-related physical fitness of Taekwondo players in the age group of 16 years of Pune District.
2. To decide whether a noteworthy change existed among the Taekwondo Players in the age group of 16 years of the Pune District.

### Selection of variables:

A researcher has selected five health-related physical fitness components as variables like as Muscular Strength, Muscular Endurance, Cardiovascular Endurance, Flexibility and Body Composition and instead of using expensive laboratory methods of testing physical fitness components selected Push-Up, Bent Knee Sit-Up, 12 Minute Run and Walk, Sit and Reach and BMI test to collect the data from the sample size 170 Taekwondo players from Pune district.

**Hypotheses of The Study:** It was hypothesised that there is no significant difference in the HRF factors of 16 years age group taekwondo players among five subdivisions of Pune district.

**Significances of the study**

1. The study will support the players of 16 years age group to be aware of their fitness.
2. This study will help them to compare the fitness with the players of 16 years age groups.
3. This study will help players to improve their amount of fitness status and, will educate players about health-related fitness.

**Design of Study**

In the present study, the researcher has used a descriptive research method. The researcher has used simple random sampling technique with a lottery method for selecting 16 years taekwondo players from 15 different talukas. The

researcher has selected 16 years age group, 170 taekwondo players, as a sample. Health-related physical fitness test applied for the collection of data. For the statistical comparison of data research area further divided into different five groups and the details are mentioned in the below table.

Name of the Division	Baramati	Bhor	Khed	Maval	Pune	Total
Sample	34	32	34	30	40	170

**Analysis of Data**

The data collected and statistically compared in five divisions. Statistical analyses of the Mean difference of these divisions are done with the help of SPSS software and analysis are explained in the following table.

**Table 1:** HRPF variables of boys 16 years age group of taekwondo players of five divisions of pune district

Division	Baramati		Bhor		Khed		Maval		Pune	
	N=34		N=32		N=34		N=30		N=40	
Variable	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Muscular Strength	38.82	6.35	36.16	5.03	36.97	4.78	34.77	4.07	36.18	4.08
Muscular Endurance	42.47	5.98	40.16	5.06	41.27	4.72	38.93	4.46	39.92	4.70
Flexibility	54.71	6.48	50.69	5.90	52.74	7.26	46.27	5.81	51.73	7.75
Cardio vascular Endurance	2525.29	248.42	2613.75	252.83	2511.47	267.16	2600.67	204.65	2552.00	257.71
Body Composition	19.83	2.64	19.71	3.61	21.27	3.10	19.55	3.00	19.82	2.77

**Conclusion of the Present Study**

1. Taekwondo players in 16 years age group have shown worthy muscular strength and not much difference have been witnessed among the players in 16 years age group. The mean performance for push-ups was between i.e. 34 to 38 in all divisions. Taekwondo players living in Baramati division have shown slight edge over with mean push up performance.
2. Muscular Endurance in 16 years age group is more or less the same and not significant difference has been observed among the Taekwondo players. Taekwondo players of 16 years age group in all five divisions sit up in the one-minute performance of muscular endurance were observed between 38 to 42 counts. Taekwondo players living in Baramati division have performed well as compared to other 4 division players in sit-up test.
3. Taekwondo players in 16 years have shown the flexibility between 46 to 54 cm. in sit and reach test. Taekwondo players living in Baramati division has shown better performance than other four divisions.
4. Taekwondo players in 16 years age group have proven good cardiovascular capacity in all divisions. Distance covered by Taekwondo players in 12 minute Run & Walk test in all divisions were more or less the same. Taekwondo players in Bhor and Maval division have covered maximum distance i.e. 2600 meters as compared to the other three divisions.
5. All Taekwondo players in 16 years age group carry normal body composition in BMI range i.e. between 19 to 21 kg/m.

**Recommendations**

- The parallel study may also be conducted by different age group of taekwondo players.
- The parallel study may also be conducted to find out the Physical Fitness level of other districts of Maharashtra.
- The study may also be conducted to find out the position of skill-related fitness of Taekwondo players of same age groups.

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