

## Effect of shadow training on motor fitness components of badminton players

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### Abstract

This study aimed to find out the effect of shadow training on motor fitness components of school level badminton players. To achieve the purpose of the study thirty school level badminton players were selected from various badminton clubs at Coimbatore. Their age ranged between 12-16 years. They were divided into two equal groups consists of fifteen each. No attempt was made to equate the groups. Group I acted as Experimental Group underwent Shadow training (ST) for the period of 8 weeks and Group II acted as control group (CG), the subjects in control group was not engage in any training programme other than their regular activity. The motor fitness components agility was assessed by 4x10mts shuttle run test and Reaction Time was assessed by Penney Cup Test. The data collected from the subjects was statistically analyzed with 't' ratio to find out significant improvement if any at 0.05 level of confidence. The result of the agility and reaction time improved significantly due to effect shadow training with the limitations of (diet, climate, life style ) status and previous training the results of the current study coincide findings of the investigation done by completely different specialists within the field of sports sciences. Shadow training significantly improved agility and reaction time of school level badminton players.

**Keywords:** badminton, agility and reaction time

### Introduction

Badminton may be a racket sport played by either 2 opposing players (singles) or 2 opposing pairs (doubles), World Health Organization take a position on opposite halves of an oblong court that's divided by a net. Player score points by striking a shuttlecock with their opponents 'half' of the court. A rally ends once the shuttlecock has struck the ground, and side may only strike the shuttlecock once before it passes over the net. The shuttle (or shuttle) may be a feathered projectile whose distinctive mechanics properties cause it to fly otherwise from the balls utilized in most racquet sports; particularly, the feather create the much higher drag, causing the shuttlecock to decelerate more rapidly than a ball. Shuttlecocks have a far higher high speed in comparison to alternative sports implement sports. Because shuttlecock flight is plagued by wind, competitive badminton is best played indoors. Badminton is additionally played outdoors as an informal recreational activity, often as a garden or beach game.

Since 1992, court game has been an Olympic sport with 5 events: men's and women's doubles and mixed doubles, during which every try consists of a person and a girl. At high levels of play, the sports demands excellent fitness: players require aerobic stamina, agility, strength, speed, and precision. It also technical sports requiring good motor coordination and the development of sophisticated racquet movement (Sunil Kumar, 2013) [1].

Shadow badminton is one of the most effective badminton exercises that most players seem to have overlooked. It is very beneficial in a lot of aspects of the game if it's done properly. It will improve your court endurance, speed, anticipation, timing, and physical condition. is an exercise performed

without a shuttlecock, where the player runs through positions and/or stroke actions on the court. It enables the player to concentrate fully on the running and stroke techniques.

### Experimental approach to the Problem

To address the hypothesis presented herein, we selected thirty school level badminton players. Their age ranged between 12 and 16 years. The selected subjects were divided into two equal groups consisting of 15 each. No attempt was made to equate the groups. Experimental group I (n = 15) underwent shadow training for 8 weeks and group II (n = 15) acted as a control group (CG), the subjects in the control group were not engaged in any training programme other than their regular work.

### Design

The evaluated parameters were agility (4x10m shuttle run) and reaction time (Penney Cup Test). The parameters were measured at baseline after 8 weeks of ST and the effects of the training were examined.

### Training Protocol

In each training session the training was imparted for a period 45 minutes. The Shadow practices, which included warming up and relaxation procedure after training programme for six days per week for a period of 8 weeks.

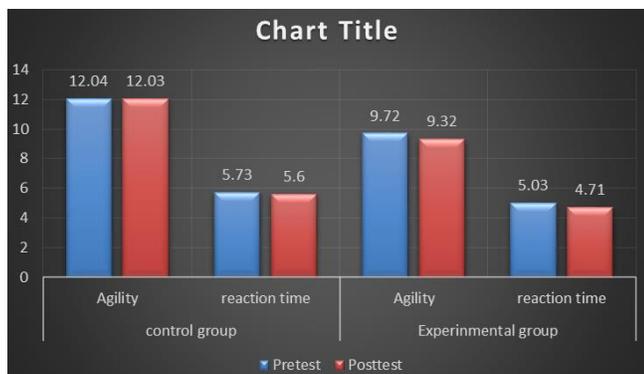
### Statistical Analysis

The collected data were analyzed with application of 't' test to find out the individual effect from base line to post-test if any. 0.05 level of confidence was fixed to test the level of significance.

**Table 1:** Summary of mean and 't' test for the pre and post tests on agility and reaction time of control and experimental groups

Group	Variables	Mean	SD	MD	't' ratio	
Control	Agility	Pretest	12.04	1.10	0.01	0.111
		Posttest	12.03	1.04		
	Reaction Time	Pretest	5.73	1.10	0.13	1.528
		Posttest	5.60	1.14		
Experimental	Variables		Mean	SD	MD	't' ratio
	Agility	Pretest	9.72	0.74	0.40	8.330*
		Posttest	9.32	0.70		
	Reaction Time	Pretest	5.03	0.75	0.32	8.305*
		Posttest	4.71	0.75		

\* Significant at 0.05 level of confidence (2.14), 1 and 14.



**Graph 1:** Representation of Agility and Reaction Time

**Results and Discussion**

In the present study the shadow training has improved the agility and reaction time over respectively by finding significant differences in comparison from baseline to post test. The results of this study indicated that selected shadow training is more efficient to bring out desirable changes over agility and reaction time of school level badminton players, the finding of the present study had similarity with the finding of the investigator referred in this study Luiz de França Bahia Loureiro (2017) [3] created to assess badminton players by simulating specific movements and conditions of uncertainty, is a specific agility test for badminton players given that the differences between badminton players and other groups of athletes occur only when these athletes have their agility evaluated by the Bad camp agility test. Mehmet Fatih (2017) [2] reported that the effect of shadow badminton trainings on some the motoric features of badminton players has positive results effects on the physical performance parameters of 8-10 age group individuals. Lim Joe Heang (2012) [4] determined that the effect of plyometric training on the agility of students enrolled in required college badminton programme, the result supported the idea that a plyometric training programme was able to improve agility over duration of six week. Dimitris Chatzopoulos, (2014) [5] speculated that the acute effects of static and dynamic stretching on balance, agility, reaction time and movement time based on the present investigation, statics stretching has a negative effect on balance, agility and movement time compared to dynamic stretching. Dorothy Beise (2013) [6] examined that the relation of reaction time, speed, and agility of big muscle groups to certain sport skills research quarterly training of individuals in tennis, golf, or

archery classes, meeting two hours a week for seven weeks, did not significantly affect scores on the SAR test. Anil R. Waghmare (2012) [7] observed that the and results shows flexibility, agility was significantly more and reaction time was significantly less in handball players as compared to their age matched controls

However, the subject participated in the control group did not improve their agility and reaction time

The results of the present study indicates that the shadow training methods is appropriate protocol to improve agility and reaction time of badminton players. The discrepancy between the results and the results of previous studies might be attributed to several reason, such as the training experience level of the subjects, the training programme, in intensity used and the duration of the training programme.

**Conclusion**

Based on the result of the study it was concluded that the 8 weeks shadow training have been significantly improved agility and reaction time among badminton players From the finding it is postulated that Shadow Training is suitable mode to bring out desirable change over agility and reaction time among badminton players.

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