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## Comparative effect of parachute training and sand training on speed of tennis players

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### Abstract

The purpose of the study was to compare the effect of sand training and parachute training on speed of Tennis players. To fulfill the objective of the study 30 male tennis player of age group  $20\pm4$  from the Madhya Pradesh was selected (10 in sand training, 10 in parachute training and 10 control group) for the collection of data. 50 mtr dash test was used to measures of speed of the subjects. In order to analyze the data ANCOVA was used and investigator observed the significant difference between sand training program and parachute training program among the subjects.

**Keywords:** parachute training, sand training, speed and vertical jump

### Introduction

Tennis is a racquet sport that can be played individually against a single opponent (singles) or between two teams of two players each (doubles). Each player use a racquet that is strung with cord to strike a hollow rubber ball covered with felt over or around a net and into the opponent's court. The object of the game is to play the ball in such a way that the opponent is not able to play a good return. The opponent who is unable to return the ball will not gain a point, while the opposite opponent will (Wikipedia). Then tennis player need to develop their motor components and physiology component. If you want to play sport in good levels then you have good fitness level the basic physical fitness element are muscular strength, muscular power, agility, and speed, and body balance. The method of training has varied according to the nation's interests, but the traditional method has been the use of isotonic exercise program. Isometric training. Tennis player have to take all court movement with better speeds. Tennis player have to run as fast as possible to the net for taking the volley and other strokes and come back basic line for hit the ball. Speed is important to work on grooving your strokes. Speed development depends on muscular strength and power. There are lots of methods to develop the speed of the players, like short distance run, sand run, parachute training, plyometrics etc. Among that sand run and parachute are good training method to develop speed of tennis player as both have different nature of training.

### Sand training

Running on sand requires generating more force and working through a fuller range of motion from ankles and your hip. It's good for strength for muscle as resistance training.

### Parachute training

Speed parachute workouts are designed to improve an athlete's speed and power and strength due to air resistance which provide by parachute.

### Methodology

#### Selection of Subjects

A total of 30 subject selected of university level randomly in tennis. 10 subjects in each group (control group 10, sand training 10, and parachute training 10) the age of the selected subject ranged from 16 to 24 years.

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## Variables and Tests

Speed was chosen as the alone fitness variable and was tested by the 50m sprint which had the unit second for collected the data of speed.

## Statistical technique

ANCOVA was used for comparing the sand training and parachute training groups at 0.05 level of significance.

**Table 1**

Descriptive Statistics			
Dependent Variable: post testing			
Treatment Groups	Mean	Std. Deviation	N
Parachute training	6.0650	.61904	10
Sand training	6.1530	.52559	10
Control group	6.4150	.65683	10
Total	6.2110	.60117	30

Table 1 reveals that the mean and standard deviation of the parachute training ( $6.065 \pm .62$ ) respectively, and mean and standard deviation of sand training ( $6.153 \pm .53$ ) respectively.

**Table 2:** Levene's test of equality of error variances

Dependent Variable: post testing			
F	df1	df2	Sig.
4.147	2	27	.027

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.<sup>a</sup>

a. Design: Intercept + pre + groups

Levene's statistic for the pretest has been founded significant as corresponding 'p' value is more than 0.05. Also in case of posttest levene's test founded significant 'p' value is less than 0.05 which indicates that the data is not homogeneous in nature.

**Table 3:** Tests of between subjects effects

Dependent Variable: post testing						
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Pre	5.714	1	5.714	36.203	.000	.582
treatments	2.001	2	1.000	6.337	.006	.328
Error	4.104	26	.158			
Total	1167.777	30				
Corrected Total	10.481	29				

a. R Squared = .608 (Adjusted R Squared = .563)

Table 3 reveals that the test of between subject effects for the scores of comparative effect of parachute and sand training before and after eight weeks training and it concluded that pretest score were significant as the 'p' value is less than 0.05 and this shows that the pre test scores can be considered as the

covariates for the study. And in the case of posttest of comparative effect of parachute and sand training is founded to be significant as the 'p' value is less than 0.05. The means differences between two groups are .066.

**Table 4:** Pair wise comparisons

Dependent Variable: post testing					
(I) groups	(J) groups	Mean Difference (I-J)	Std. Error	Sig. <sup>b</sup>	95% Confidence Interval for Difference <sup>b</sup>
					Lower Bound
Parachute training	Sand training	-.066	.178	.977	-.519
	control group	-.598*	.182	.009	-1.064
Sand training	Parachute training	.066	.178	.977	-.388
	control group	-.533*	.183	.022	-1.000
Control group	Parachute training	.598*	.182	.009	.133
	sand training	.533*	.183	.022	.065

Table four reveal that the means difference of scores between experimental and control group significant as the 'p' value is less than 0.05.

## Conclusion

Significance difference is founded in between control group and parachute and sand training but there is no any significant difference founded in the trainings.

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