

Effect of Plyometric and Circuit Training on Speed on School Children

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ABSTRACT

The aims was Effect of Plyometric and Circuit Training on Speed on School Children. School Children (50, 50, 50, boys students) 14 to 16 years from the schools of Vasda, Dist Navsari. Total 150 School Children were selected as subjects for the sample of the present study, in which 50 Children were included in the plyometric training group, 50 Children in circuit training group and 50 Children were included in the control group. The 50 Children of 14 to 16 years age group were included in the present study. The Criterion measurement of Speed through 50 Yard Dash. Statistical technique such as analysis of covariance was applied to know the effects on plyometric training group and circuit training group. Mean difference was examined at 0.05 levels by using Least Significant Difference (Post Hoc) Test. It is hereby clear that, due to Plyometric and Circuit training, significant improvement is seen in the performance of subjects of Plyometric Training Group and Circuit Training Group in Speed Test with comparison to the Control Group. Noteworthy improvement is seen in Speed Test of the subjects selected through 12 weeks training.

1. Introduction

Many professional and Olympic athletes use plyometrics training to improve muscular strength and jumping abilities, which therefore increases their power. There are varying levels of intensity to plyometrics. Another benefit of plyometrics are that you can vary your level of intensity which means anyone looking to improve strength and jumping training can be involved regardless of fitness. Another good reason with so many exercises being available is that you can find exercises that do not require the use of any equipment. It also increases muscular strength and endurance increases metabolic rate, which increases weight loss and heart rate.

Speed and power of body and muscles, endurance of muscle and heart, performance of lungs, pliability of joints, pace co-ordination of muscular system, accuracy of body controlling etc are included in components of physical fitness. Various training methods such as Weight lifting, Isotonic, isometric and kinetic training methods, circuit training, interval training, fast leg polymeric training etc are included in training methods for development of components of physical fitness.

2. Aims of the Study:

The aim was Effect of Plyometric and Circuit Training on Speed on School Children.

3. Selection of Subjects:

School Children (50, 50, 50, boys students) 14 to 16 years from the schools of Vasda, Dist Navsari. Total 150 School Children were selected as subjects for the sample of the present study, in which 50 Children were included in the plyometric training group, 50 Children in circuit training group and 50 Children were included in the control group. The 50 Children of 14 to 16 years age group were included in the present study.

4. Criterion measurement :

No.	Variable	Test	Measurement
1	Speed	50 Yard Dash	Time

5. Statistical Process :

Statistical technique such as analysis of covariance was applied to know the effects on plyometric training group and circuit training group. Mean difference was examined at 0.05 levels by using Least Significant Difference (Post Hoc) Test.

6. Result of the Study :

Table – 1

Analysis of covariance of mean scores of Speed of two experimental groups and a control group

Test	Groups			Analysis of variance				
	Plyometric	Circuit	Control	Sum of classes (SS)		df	MSS	'F'
Pre test mean	8.381	8.47	8.332	A	0.488	2	0.244	0.272
				W	131.841	147	0.896	
Post-test mean	7.71	7.974	8.498	A	16.116	2	8.058	7.918*
				W	149.596	147	1.017	

Adjusted mean	7.720	7.913	8.549	A	18.798	2	9.399	21.933*
				W	62.563	146	0.428	

*Significance Level at 0.05 'F' (2,147) = 3.057 & (2,146) = 3.058

In the Table-5 above, performance of SpeedTest 'F' ratio of means of pre test was found to be 0.272. Comparing it with Table value (3.057), it was found insignificant at 0.05 level. The 'F' ratio of Post Test was found 7.918. Comparing it with Table

value (3.058) it was found significant at 0.05 level. In addition, the 'F' ratio of Adjusted was found to be 21.933. Comparing it with Table value (3.058) it was found significance at 0.05 level. It is shown in Table-2.

Table – 2
Critical difference of mean scores of Speed of two experimental groups and a control group

Mean			Mean difference	Critical difference
Plyometric Training	Circuit Training	Control Group		
7.720	7.913		0.192	0.258
7.720		8.549	0.829*	
	7.913	8.549	0.636*	

* Significance at 0.05 levels

In the Table-2 very significant difference is observed in Plyometric Training Group with mean difference of 6.026 Thereafter, Circuit Training Group shows improvement with mean difference of 5.961. Very significant effect is seen of the training given to Plyometric Training, among Plyometric Training Group and Circuit Training Group in Practical Training. In comparison with Control group, the significant effect of practical training given to both the Experimental Groups of Plyometric Group and the Circuit Group was seen. Between two Experimental Groups no significant effect of practical training was seen. But, in comparison to Control Group,

significant effect of practical training was seen in two Experimental Groups.

7. Conclusion:

It is hereby clear that, due to Plyometric and Circuit training, significant improvement is seen in the performance of subjects of Plyometric Training Group and Circuit Training Group in Speed Test Test with comparison to the Control Group. Noteworthy improvement is seen in Speed Test of the subjects selected through 12 weeks training.

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