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Effect of Plyometric Training on selected Physical Fitness Variables of School Boys

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Abstract

The purpose of the study was to find out the effect of plyometric training on selected physical fitness variables among the school boys. To achieve the purpose of the present study, forty school boys from Lake Montfort School, Bengaluru, Karnataka, India were selected as subjects at random and their ages ranged from 15 to 17 years. The subjects were divided into two equal groups of twenty each. Group I acted as Experimental Group I (Plyometric training) and Group II acted as Control Group. Before and after twelve weeks of training period data were collected and analysis of covariance (ANCOVA) was computed to test the treatment effect of the training programmes on all the variables used in the study. It was observed that the twelve weeks of plyometric training have significant improvement on leg explosive power and arm explosive power of school boys.

Keywords: Plyometric, Physical Fitness, School Boys.

Introduction

Sports and games possess a one of a kind situation in this serious world. Top class worldwide games meets are considered by the global envoys for world supermodel in different games constantly. Games and sports have been important for human life nearly, since the time in dedication. The games and sports have been key to humanity and have become part of his way of life. The games and sports are incredible bringing together power and have enormous impact on the public and worldwide incorporation of individuals. Today, way of life generally relies on science and innovation. In such condition, individuals need more exercise to keep the body and psyche fit to execute the exercises proficiently. Game is the way which we utilize our actual abilities to play. Sports have accepted overall significance in this contracting world, which is coming ever closer and step by step. It is assuming a significant function in uniting individuals at public and global level. It doesn't recognize religion, position, race and it grasps each game and area of the world.

Plyometrics is the term given to practices intended to expand the intensity of a competitor. It is characterized as what might be compared to touchy quality (Brukner and Khan, 2001) and alluded to by others as "speed-quality". In layman's terms, the point of plyometrics is to build the touchiness of the muscle permitting a competitor to run quicker, hop further, or produce power at a more noteworthy rate. Plyometric preparing is a type of preparing that is utilized to help create and upgrade dangerous force, which is an essential segment in various athletic exhibitions. This preparation technique is intended to be utilized with other force advancement strategies in a total preparing project to improve the connection between greatest quality and unstable force. The advanced history of Plyometrics is fairly concise yet not generally new. This method was begun in Russia and Eastern Europe in 1960. The Soviets were effective in the utilization of Plyometrics in their preparation programs, particularly in olympic style events. This procedure was initially known as the "Stun Method of Training". Yuri Verhoshansky, a Russian mentor whose accomplishment with jumpers is amazing, could in all likelihood be known as the "Father of Plyometrics". He had attempted and prevailing with regards to expanding his competitors' responsive capacities by exploring different avenues regarding practices like the profundity bounce. He has been the main scientist and mentor generally perceived with the spread of Plyometrics. He likewise has been credited with a large portion of the types of plyometric preparing that are as yet being used today (Chundu & Kishore, 2014).

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Methodology

The purpose of the study was to find out the effect of plyometric training on selected physical fitness variables among the school boys. To achieve the purpose of the present study, forty school boys from Lake

Montfort School, Bengaluru, Karnataka, India were selected as subjects at random and their ages ranged from 15 to 17 years. The subjects were divided into two equal groups of twenty each. Group I acted as Experimental Group I (Plyometric training) and Group II acted as Control Group. Before and after twelve weeks of training period data were collected and analysis of covariance (ANCOVA) was computed to test the treatment effect of the training programmes on all the variables used in the study.

Table 1. *Test selection*

S.No	Variables	Tests/Equipments	Units
1	Leg explosive power	Sargent Jump	Centimetres
2	Arm explosive power	Push Ups	Numbers

Results

The descriptive measures and the results of analysis of covariance on the criterion measures were given in the following tables.

Table 2. *Computation of mean and analysis of covariance leg explosive power of experimental and control groups*

	Experimental Group	Control Group	Source of Variance	Sum of Squares	df	Mean Square	F
Pre Test Mean	0.33	0.35	BG	0.013	1	0.013	2.20
			WG	0.224	38	0.005	
Post Test Mean	0.40	0.37	BG	0.577	1	0.577	45.87*
			WG	0.478	38	0.012	
Adjusted Post Mean	0.41	0.37	BG	0.464	1	0.464	54.41*
			WG	0.3155	37	0.008	

* Significant at 0.05 level
Table value for df 1, 38 was 4.09, df 1, 37 was 4.10

The above table indicates the adjusted mean value on leg explosive power of experimental and control groups were 0.41 and 0.37 respectively. The obtained F-ratio of 54.41 for adjusted mean was greater than the table value 4.10 for the degrees of freedom 1 and 37 required for significance at 0.05 level of confidence. The result of the study indicates that there was a significant difference among experimental and control groups on leg explosive power. The above table also indicates that both pre and post test means of experimental and control groups differ significantly. The pre, post and adjusted mean values of leg explosive power of both experimental and control groups are graphically represented in the figure-I.

Figure I. Show the mean values on leg explosive power of plyometric training and control groups

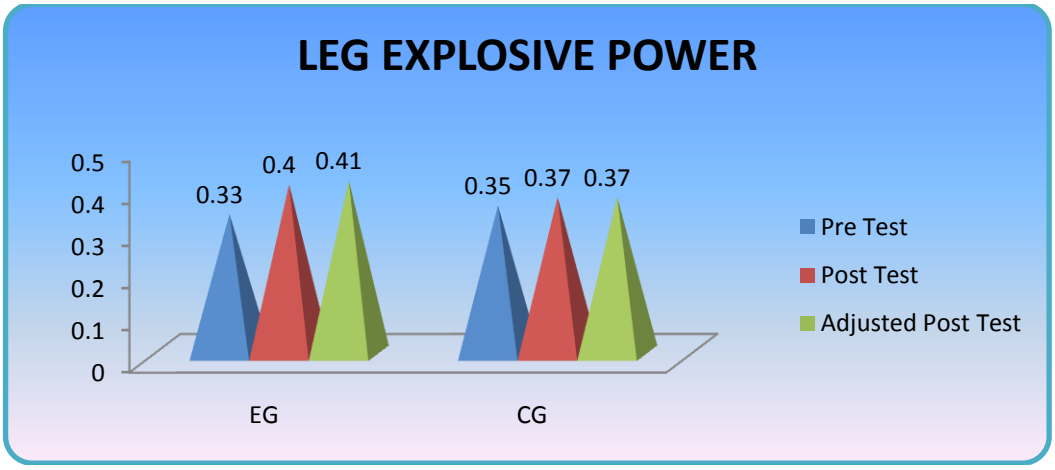


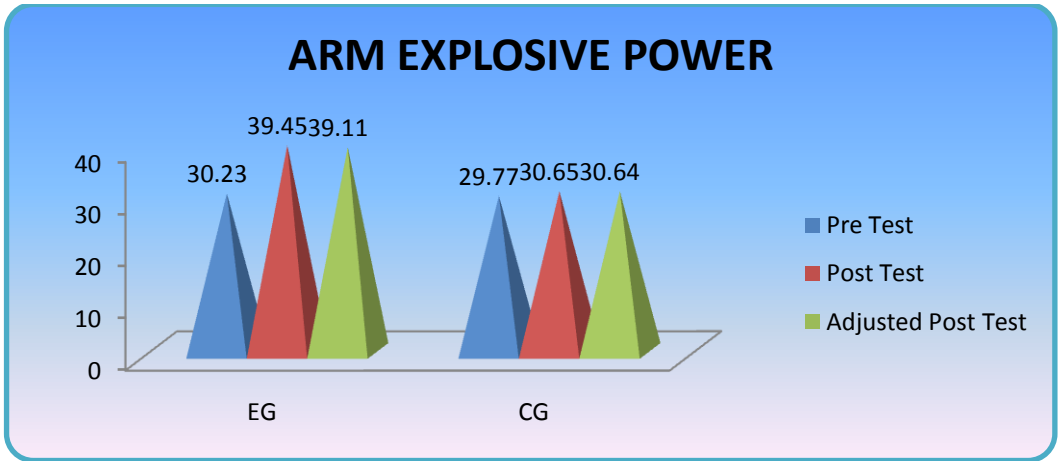
Table 3. *Computation of mean and analysis of covariance on arm explosive power of experimental and control groups*

	Experimental Group	Control Group	Source of Variance	Sum of Squares	df	Mean Square	F
Pre Test Mean	30.23	29.77	BG	2.133	1	2.133	1.24
			WG	65.321	38	1.71	
Post Test Mean	39.45	30.65	BG	20.833	1	20.833	16.76*
			WG	47.223	38	1.24	
Adjusted Post Mean	39.11	30.64	BG	21.582	1	21.582	17.14*
			WG	46.563	37	1.25	

* Significant at 0.05 level
Table value for df 1, 38 was 4.09, df 1, 37 was 4.10

The above table indicates the adjusted mean value of arm explosive power of experimental and control groups were 39.11 and 30.64 respectively. The obtained F-ratio of 17.14 for adjusted mean was greater than the table value 4.10 for the degrees of freedom 1 and 37 required for significance at 0.05 level of confidence. The result of the study indicates that there was a significant difference among experimental and control groups on arm explosive power. The above table also indicates that both pre and post test means of experimental and control groups also differ significantly. The pre, post and adjusted mean values of arm explosive power of both control and experimental groups are graphically represented in the figure-II.

Figure II. Show the mean values on arm explosive power of plyometric training and control groups



Conclusion

1. It was observed that the twelve weeks of plyometric training have significant improvement on leg explosive power and arm explosive power of school boys.

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