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EFFECT OF PLYOMETRIC TRAINING ON ACCELERATION ABILITY OF KARNATAKA STATE SCHOOL CHILDREN IN THE AGE GROUP OF 15 AND 16 YEARS

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Abstract

The purpose of the study was to find out the effect of plyometric training on speed of the school children of the age group between 15 and 16 years. The present study was conducted on 100 school children of 15 and 16 years of age taken from different schools in Karnataka State who never had any previous sports training. The plyometric training exercises were planned for the experimental group on alternated days, three days week plyometric training was administered as per the training programme for 12 weeks. The control group did not participated in any form of training. The data collected from the two groups on speed were used for the statistical treatment using paired 't' test. The levels of significance were fixed at 0.05 level of confidence. The experimental group showed significant improvement in speed than the control group the age group of 15 years students. The experimental group showed significant improvement in speed than the control group the age group of 16 years students.

Key Words: Plyometric Training, Speed, School Children.

Introduction

Plyometric training may improve physiological performance in the following ways. Elastic strengthening loads the elastic components of the muscular system and thereby increases the tension of the resulted rebound force. The stretch reflex also may increase the stiffness of the muscular spring by recruiting additional muscle fibers that would not be possible with concentric contraction. The body will move with in a range of speed set by the nervous system to matter how strong the muscle is. Training with explosive pre-stretch improves neural efficiency and thereby increases neuro-muscular performance **(Chu, 1992).**

Athletics is an exclusive collection of sporting events that involve competitive running, jumping, throwing, and walking. The most common types of athletics competitions are track and field, road running, cross country running, and race walking. The simplicity of the competitions, and the lack of a need for expensive equipment, makes athletics one of the most commonly competed sports in the world. Athletics is mostly an individual sport, with the exception of relay races and competitions which combine athletes' performances for a team score, such as cross country.

STATEMENT OF THE PROBLEM

The purpose of the study was to find out the effect of plyometric training on speed of the school children of the age group between 15 and 16 years.

HYPOTHESIS

It was hypothesized that the experimental and control group may have the improvement after the plyometric training in the speed performance of the age group of 15 and 16 years.

METHODOLOGY

The present study was conducted on 100 school children of 15 and 16 years of age taken from different schools in Karnataka State who never had any previous sports training. The plyometric training exercises were planned for the experimental group on alternated days, three days week plyometric training was administered as per the training programme for 12 weeks. The control group did not participated in any form of training. Acceleration ability was measured

by 30 metre sprint test. The data collected from the two groups on speed were used for the statistical treatment using paired 't' test. The levels of significance were fixed at 0.05 level of confidence.

RESULTS AND DISCUSSION

The mean and 't' ratio for speed for the Experimental and Control groups in the age group of 15 years are presented in table I.

TABLE I

MEAN AND STANDARD DEVIATION OF EXPERIMENTAL AND CONTROL GROUP FOR SPEED IN THE AGE GROUP OF 15 YEARS

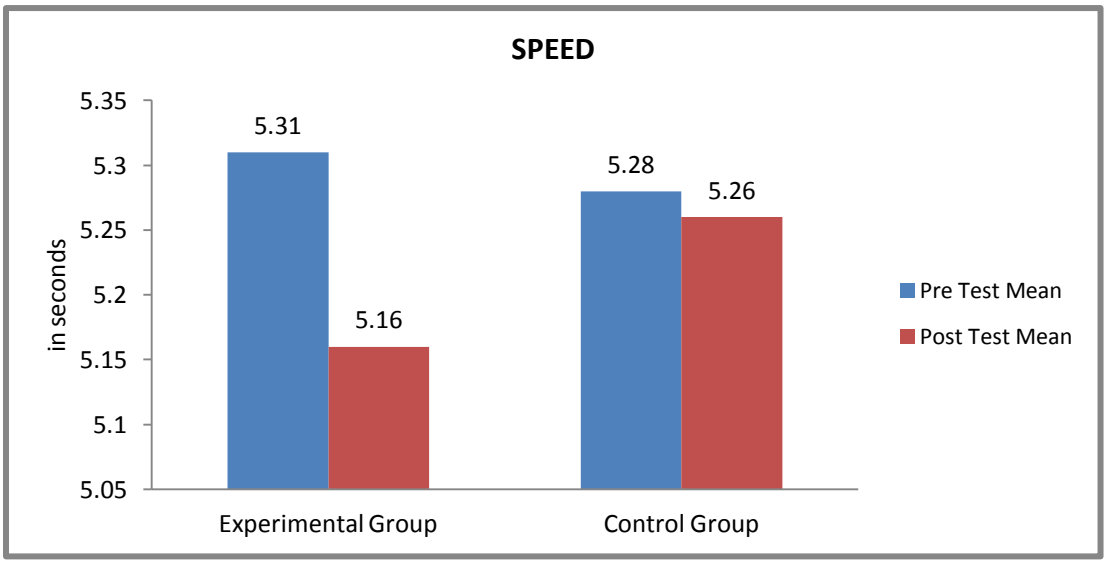
MEANS	MEANS		df	t- VALUE
	PRE TEST MEAN	POST TEST MEAN		
EXPERIMENTAL	5.31	5.16	48	6.77*
CONTROL	5.28	5.26		1.23

(Performance in Seconds)

The mean and 't' ratio on speed for the Experimental and Control groups are presented in table I. The table I also reveals that, in speed there existed significant differences between the experimental and control groups. The t-ratio also indicated that the obtained value for experimental group was 6.77 were higher than the required table value 2.01. It is significant. The obtained value for control group was 1.23 were lesser than the required table value 2.01. Hence it is insignificant

FIGURE 1

THE PRE AND POST TEST MEANS BETWEEN THE EXPERIMENTAL AND CONTROL GROUP FOR SPEED IN THE AGE GROUP OF 15 YEARS



The mean and 't' ratio for speed for the Experimental and Control groups in the age group of 16 years are presented in table II.

TABLE II

MEAN AND STANDARD DEVIATION OF EXPERIMENTAL AND CONTROL GROUP FOR SPEED IN THE AGE GROUP OF 16 YEARS

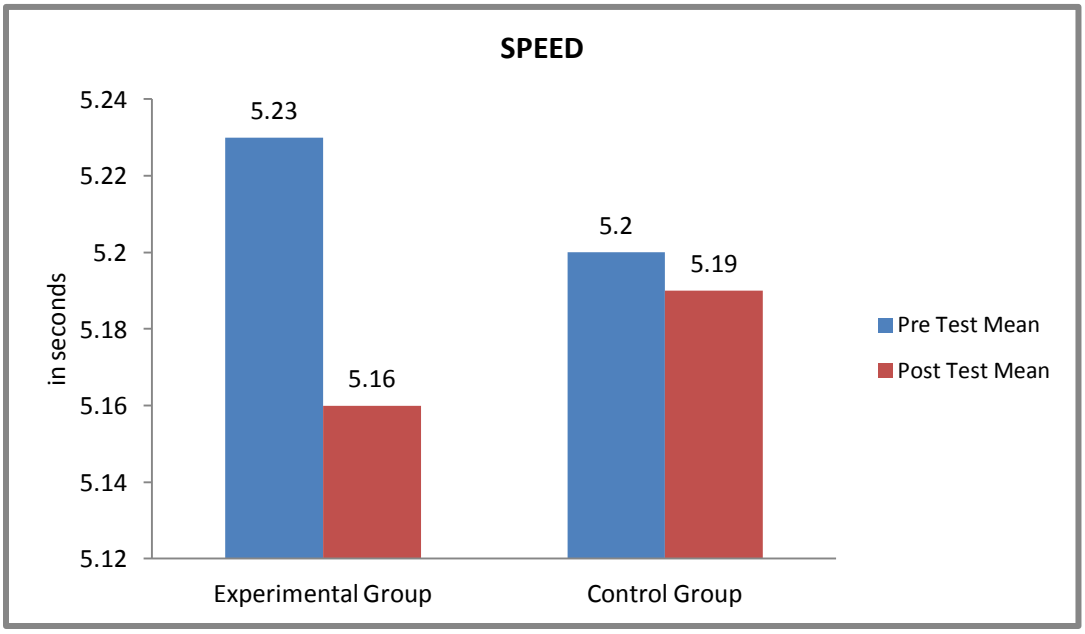
MEANS	MEANS		df	t- VALUE
	PRE TEST MEAN	POST TEST MEAN		
EXPERIMENTAL	5.23	5.16	48	4.87*
CONTROL	5.20	5.19		0.47

(Performance in Seconds)

The mean and 't' ratio on speed for the Experimental and Control groups are presented in table I. The table I also reveals that, in speed there existed significant differences between the experimental and control groups. The t-ratio also indicated that the obtained value for experimental group was 4.87 were higher than the required table value 2.01. It is significant. The obtained value for control group was 0.47 were lesser than the required table value 2.01. Hence it is insignificant

FIGURE 2

THE PRE AND POST TEST MEANS BETWEEN THE EXPERIMENTAL AND CONTROL GROUP FOR SPEED IN THE AGE GROUP OF 16 YEARS



CONCLUSIONS

1. The experimental group showed significant improvement in speed than the control group the age group of 15 years students.
2. The experimental group showed significant improvement in speed than the control group the age group of 16 years students.

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