STAR
Research Journal

Available online at www.starresearchjournal.com (Star International Journal)
PHYSICAL EDUCATION
Star. Phy. Edn 01 (2015)

EFFECT OF INTERVAL TRAINING ON SELECTED PHYSICAL FITNESS VARIABLES AMONG SCHOOL CHILDREN OF KARNATAKA STATE

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Abstract

The purpose of the study was to investigate the effect of interval training on selected physical fitness variables among school children of karnataka state. It was hypothesized that there would be significant differences on selected physical fitness variables due to the effect of interval among school children of karnataka state. For the present study the 30 male school children from karnataka state were selected at random and their age level was 14 years. For the present study pre test – post test random group design which consists of control group and experimental group was used. The subjects were randomly assigned to two equal groups of fifteen each and named as Group 'A' and Group 'B'. Group 'A' underwent interval training and Group 'B' have not underwent any training. Speed was assessed by 30 metres standing start and agility was assessed by shuttle run and explosive power was assessed by vertical jump test. The data was collected before and after twelve weeks of training. The data was analyzed by applying Analysis of Co-Variance (ANCOVA). The level of significance was set at 0.05. The interval training had positive impact on speed, agility and explosive power among school children of karnataka state. The experimental group showed better improvement on speed, agility and explosive power among school children of karnataka state than the control group.

Key words: *Interval Training, School Children, Speed, Agility, Explosive Power.*

INTRODUCTION

Interval training is a highly taxing type of training that we could compare with the extremely strenuous work performed by Sisyphus. According to Greek mythology, Sisyphus was the king of Corinth and well known for his craftiness. When Hades, the god of death, came to get him, Sisyphus tricked Hades and put him in chains. Hades eventually escaped and punished Sisyphus for his trickery. The sentence was that Sisyphus would eternally push a huge stone to the top of a hill. Every time Sisyphus reached the summit the stone would roll back down forcing him to start his work again and again and again. Those who want to experience Interval training had better remember the work of Sisyphus.

The concept of interval training has existed for a number of years in one form or another. **Alkahtani (2014)** credit the famous German coach, Woldemar Gerschler, with the formalization of a structured system of interval training in the 1930s. With interval

training, short to moderate periods of work are alternated with short to moderate periods of rest, or reduced activity. The concept has a firm foundation in physiological principles. Researchers have demonstrated that athletes can perform a considerably greater volume of work by breaking the total work into short, intense bouts with rest, or reduced activity, intervals interspersed between consecutive work bouts. The intervals of work and rest are usually equal and can vary from several seconds to five minutes or more.

METHODOLOGY

The purpose of the study was to investigate the effect of interval training on selected physical fitness variables among school children of karnataka state. It was hypothesized that there would be significant differences on selected physical fitness variables due to the effect of interval training among school children of karnataka state. For the present study the 30 male school children from karnataka state were selected at random and their age level was 14 years. For the present study pre test – post test random group design which consists of control group and experimental group was used. The subjects were randomly assigned to two equal groups of fifteen each and named as Group 'A' and Group 'B'. Group 'A' underwent interval training and Group 'B' have not underwent any training. Speed was assessed by 30 metres standing start, agility was assessed by shuttle run and explosive power was assessed by vertical jump test. The data was collected before and after twelve weeks of training. The data was analyzed by applying Analysis of Co-Variance (ANCOVA). The level of significance was set at 0.05.

RESULTS

The findings pertaining to analysis of co-variance between experimental group and control group on selected physical fitness variables among school children of karnataka state for pre-post test respectively have been presented in table I to II.

Table I. ANCOVA between Experimental Group and Control Group on Speed of School children of karnataka state for Pre, Post and Adjusted Test

	Experimental Group	**Control Group**	**Source of Variance**	**Sum of Squares**	**df**	**Mean Square**	**F**
Pre Test Mean	5.34	5.56	BG	0.07	1	0.07	0.03
			WG	53.46	28	1.90	
Post Test Mean	4.97	5.49	BG	155.03	1	155.03	56.69*
			WG	76.56	28	2.73	
Adjusted Post Mean	4.98	5.49	BG	145.56	1	145.56	75.50*
			WG	53.98	27	1.92	

*** Significant at 0.05 level.** **df: 1/27= 4.21**

Table I revealed that the obtained 'F' value of 75.50 was found to be significant at 0.05 level with df 1, 27 as the tabulated value of 4.21 required to be significant at 0.05 level. The same table indicated that there was a significant difference in adjusted means of speed of school children of karnataka state between experimental group and control group. The graphical representation of data has been presented in figure I.

Figure I. Comparisons of Pre – Test Means Post – Test Means and Adjusted Post – Test Means for Control group and Experimental Group in relation to Speed

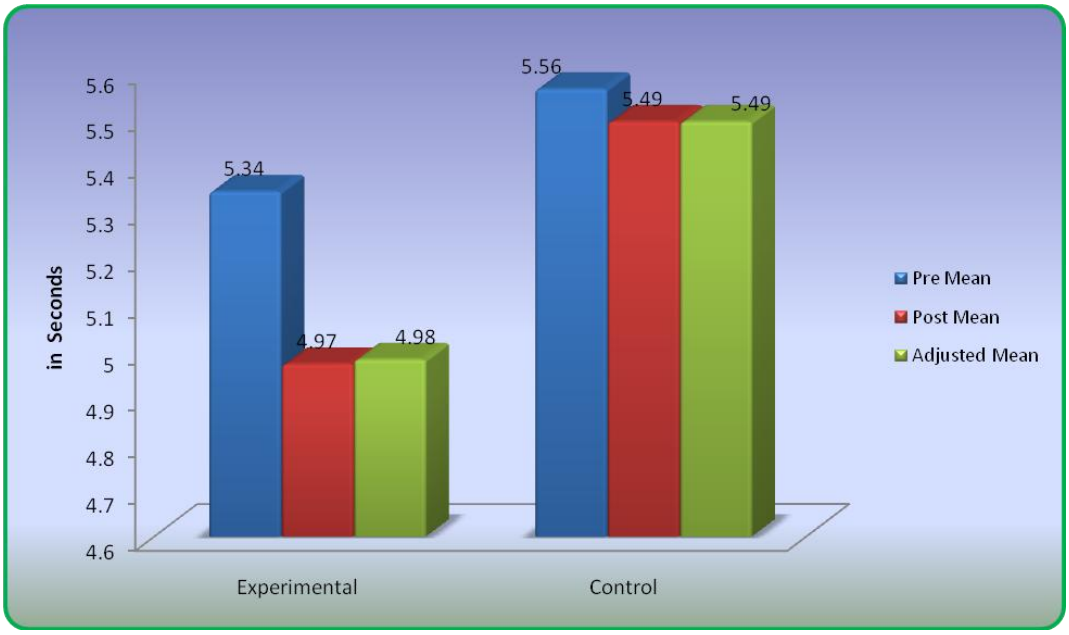


Table II. ANCOVA between Experimental Group and Control Group on Agility of School children of karnataka state for Pre, Post and Adjusted Test

	Experimental Group	Control Group	Source of Variance	Sum of Squares	df	Mean Square	F
Pre Test Mean	11.17	11.15	BG	12.10	1	12.10	2.17
			WG	155.76	28	5.56	
Post Test Mean	10.52	11.07	BG	260.49	1	260.49	33.99*
			WG	214.56	28	7.66	
Adjusted Post Mean	10.50	11.05	BG	169.28	1	169.28	21.53*
			WG	220.12	27	7.86	

*** Significant at 0.05 level.** **df: 1/27= 4.21**

Table II revealed that the obtained 'F' value of 21.53 was found to be significant at 0.05 level with df 1, 27 as the tabulated value of 4.21 required to be significant at 0.05 level. The same table indicated that there was a significant difference in adjusted means of agility of school children of karnataka state between experimental group and control group. The graphical representation of data has been presented in figure II.

Figure II. Comparisons of Pre – Test Means Post – Test Means and Adjusted Post – Test Means for Control group and Experimental Group in relation to Agility

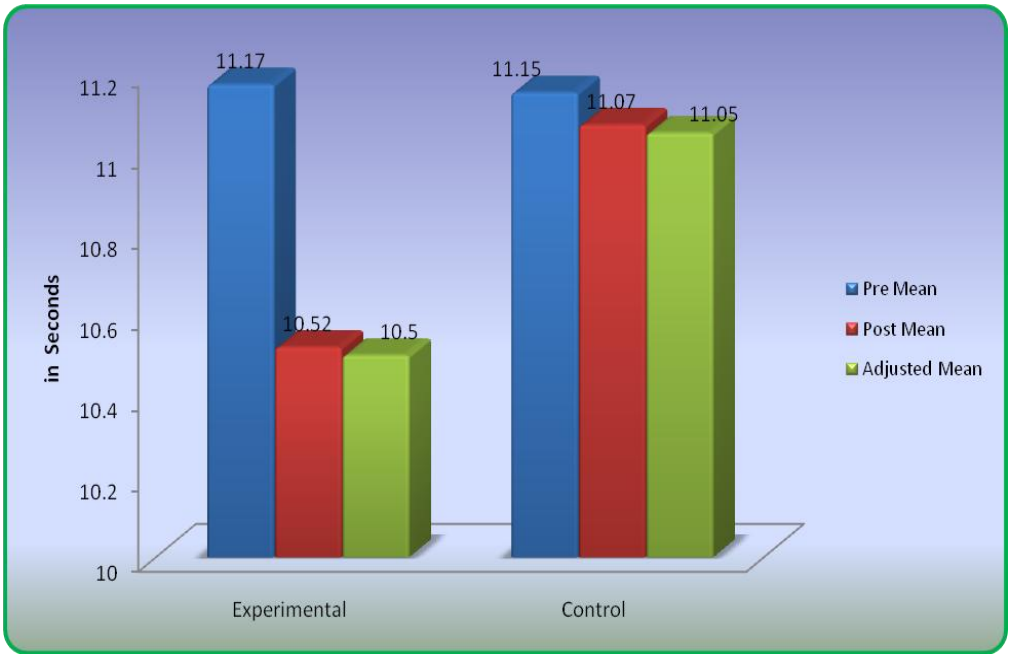


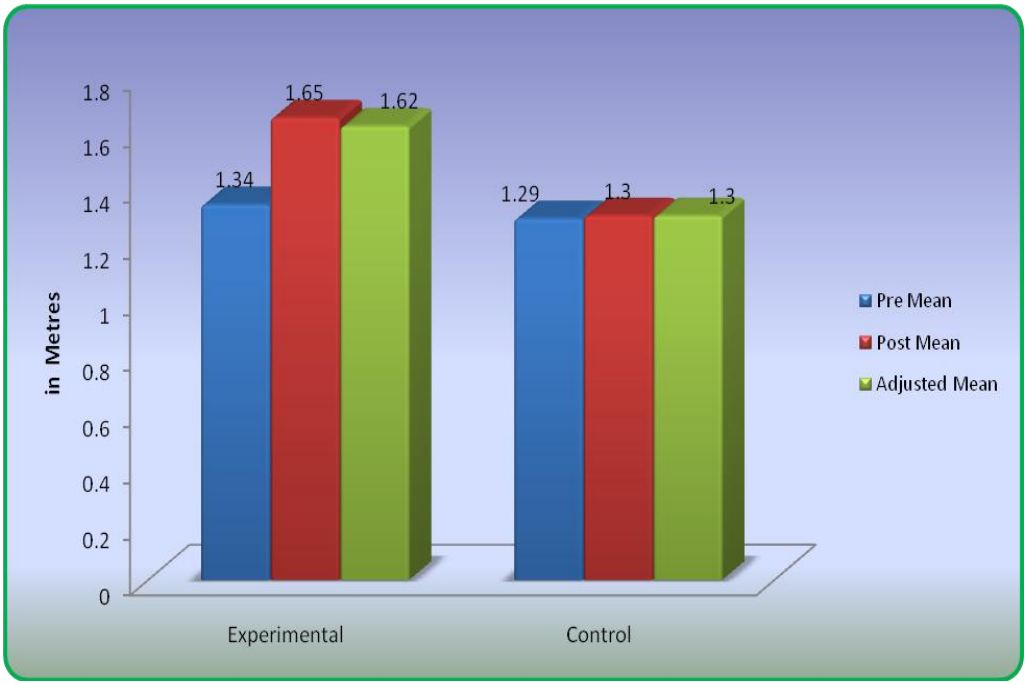
Table III. ANCOVA between Experimental Group and Control Group on Explosive power of School children of karnataka state for Pre, Post and Adjusted Test

	Experimental Group	Control Group	Source of Variance	Sum of Squares	df	Mean Square	F
Pre Test Mean	1.34	1.29	BG	7.10	1	7.10	1.87
			WG	105.76	28	3.77	
Post Test Mean	1.65	1.30	BG	160.89	1	160.89	36.16*
			WG	124.56	28	4.44	
Adjusted Post Mean	1.62	1.30	BG	109.48	1	109.48	23.55*
			WG	130.12	27	4.64	

*** Significant at 0.05 level.** **df: 1/27= 4.21**

Table III revealed that the obtained 'F' value of 23.55 was found to be significant at 0.05 level with df 1, 27 as the tabulated value of 4.21 required to be significant at 0.05 level. The same table indicated that there was a significant difference in adjusted means of explosive power of school children of karnataka state between experimental group and control group. The graphical representation of data has been presented in figure II.

Figure III. Comparisons of Pre – Test Means Post – Test Means and Adjusted Post – Test Means for Control group and Experimental Group in relation to Explosive power



DISCUSSIONS ON FINDINGS

In case of physical fitness variables i.e. speed, agility and explosive power the results between pre and post (12 weeks) test has been found significantly higher in experimental group in comparison to control group. This is possible because due to regular interval training which may also bring sudden spurt in physical fitness variables in school children of karnataka state. The findings of the present study have strongly indicates that interval training of twelve weeks have significant effect on selected physical fitness variables i.e., speed, agility and explosive power of school children of karnataka state. Hence the hypothesis earlier set that interval training programme would have been significant effect on selected physical fitness variables in light of the same the hypothesis was accepted.

CONCLUSIONS

On the basis of findings and within the limitations of the study the following conclusions were drawn:

1) The interval training had positive impact on speed, agility and explosive power among school children of karnataka state.
2) The experimental group showed better improvement on speed, agility and explosive power among school children of karnataka state than the control group.

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