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PHYSICAL EDUCATION



EFFECT OF PHYSICAL ACTIVITY YOGIC PRACTICES AND COMBINATION OF PHYSICAL ACTIVITY WITH YOGIC PRACTICES ON CARDIO RESPIRATORY ENDURANCE MUSCULAR STRENGTH AND MUSCULAR ENDURANCE AMONG SCHOOL BOYS

M.Kumaresa Muthu Pandian* & Dr.K.Chandrasekaran**

*Part Time Ph.D., Research Scholar, Department of Physical Education, Madurai Kamaraj University, Madurai-625021, India.

**CHAIRPERSON, Professor & Head, Department of Physical Education, School of Education, Madurai Kamaraj University, Madurai-625021, India

Abstract



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The purpose of the study was to determine the effect of physical activity, yogic practices and combination of physical activity with yogic practices on Cardio Respiratory Endurance, Muscular Strength and Muscular Endurance among school boys. To achieve the purpose of the present study, sixty school boys from various schools from Madurai district were selected as subjects at random and their ages ranged from 15 to 17 years. The study was formulated as a true random group design, consisting of a pre-test and post-test. The subjects (N=60) were randomly assigned to four equal groups of fifteen subjects each. The group I underwent physical activities, group II underwent yogic practices, group III underwent combined physical activities with yogic practices and group IV acted as a control group. The data were collected from experimental and control groups before and immediately after the training period of 6 weeks as pre and post test. The collected data were analyzed by using analysis of covariance and the level of confidence was fixed at 0.05. The result reveals that the combined physical activity and yogic practices group showed better performance on Cardio Respiratory Endurance, Muscular Strength and Muscular Endurance than the other experimental groups.

Introduction

Physical training is any bodily activity that enhances or maintains physical fitness and overall health. Physical fitness is the functioning of the heart, blood vessels, lungs, and muscles to function at optimum efficiency. In previous years, fitness was defined as the capacity to carry out the day's activities without undue fatigue. It is performed for many different reasons. These include: strengthening muscles and the cardiovascular system, honing athletic skills, and weight loss or maintenance. Frequent and regular physical exercise boosts the immune system, and helps prevent diseases.

Yoga is a physical, mental, and spiritual discipline, originating in ancient India. The word "Yoga" came from the Sanskrit word "yuj" which means "to unite or integrate. Hence means 'union' between the mind, body and spirit. As the name suggests, the ultimate aim of practicing Yoga is to create a balance between the body and the mind and to attain self-enlightenment (Joshi, 2001). Thereby creating a union between a person's own consciousness and the universal consciousness. Yoga may mean: Union; combination; sublimation; merging; attainment of the eternal bliss become oneness. Yoga enhances the intelligence, empowers the mind and makes the life pleasant. Yoga is a part of Indian Culture and Religion. Yoga

is essentially an art of understanding all about the soul and to realize the self. The inherent aim of human birth is to understand fully the self, the nature, the almighty and its order of function. Once the realization is achieved one should live respecting the order of function in peace and content (Chandrasekaran, 2003).

Methodology

The purpose of the study was to determine the effect of physical activity, yogic practices and combination of physical activity with yogic practices on Cardio Respiratory Endurance, Muscular Strength and Muscular Endurance among school boys. To achieve the purpose of the

present study, sixty school boys from various schools from Madurai district were selected as subjects at random and their ages ranged from 15 to 17 years. The study was formulated as a true random group design, consisting of a pre-test and post-test. The group I underwent physical activities, group II underwent yogic practices, group III underwent combined physical activities with yogic practices and group IV acted as a control group. The data were collected from experimental and control groups before and immediately after the training period of 6weeks as pre and post test. The collected data were analyzed by using analysis of covariance and the level of confidence was fixed at 0.05.

Table-I

Computation of Analysis of Covariance of Yogic Practices, Physical Activity, Combined Yogic Practices with Physical Activity and Control Groups on Cardio Respiratory Endurance (PAG, YPG, CPAGWYPG & CG)

Physical Activity and Control Groups on cardio respiratory Endurance (PAG, YPG, CPAGWYPG & CG)									
Test	PAG	YPG	CPAGWYPG	CG	SOV	Sum of Squares	df	Mean Squares	Obtained 'F' Ratio
Pre Test									
Mean	1278.00	1280.00	1293.33	1290.67	BG	2618.33	3	872.78	0.06
S.D.	92.25	107.70	89.19	150.40	WG	760266.67	56	13576.19	
Post Test									
Mean	1374.67	1380.00	1536.67	1296.67	BG	455420.0	3	151806.67	10.45*
S.D.	88.61	107.70	117.57	144.76	WG	813440.00	56	14525.71	
Adjusted Post Test									
Mean	1794.65	1798.06	1941.88	1720.00	BG	433539.69	3	144513.23	73.59*
					WG	108000.84	55	1963.65	

* Significant at 0.05 level of confidence.

(The table values required for significance at .05 level of confidence for 3 and 56 and 3 and 55 are 1.761 and 2.776 respectively).

The adjusted post-test means of yogic practices, physical activity, combined yogic practices with physical activity and control groups were 1794.65, 1798.06, 1941.88 and 1720.00 respectively. The

obtained "F" ratio was 73.59 was greater than the table value of 2.78 for df 3 and 55 required for significance at 0.05 level of confidence.

Table - II

The Scheffe's Test for the Differences between the Adjusted Post Test Means on Cardio Respiratory Endurance

PAG	YPG	CPAGWYPG	CG	Mean Differences	Confidence Interval Value
1794.65	1798.06	-	-	3.41	46.67
1794.65	-	1941.88	-	147.23*	46.67
1794.65	-	-	1720.00	74.65*	46.67
-	1798.06	1941.88	-	143.82*	46.67
-	1798.06	-	1720.00	78.06*	46.67
-	-	1941.88	1720.00	221.88*	46.67

* Significant at 0.05 level of confidence

Table II shows that the mean difference between physical activity and combined physical activity with yogic practices group, physical activity and control group, yogic practices and combined physical activity with yogic practices group, yogic practices and control group, combined physical activity with yogic practices group and control group were 147.23, 74.65, 143.82, 78.06, and 221.88 which were greater than the confidence interval value 46.67 required for significance at 0.05 level of confidence.

Figure – 1
Graph showing the Mean values of Yogic Practices, Physical Activity, Combined Yogic Practices with Physical Activity and Control Groups on Cardio Respiratory Endurance

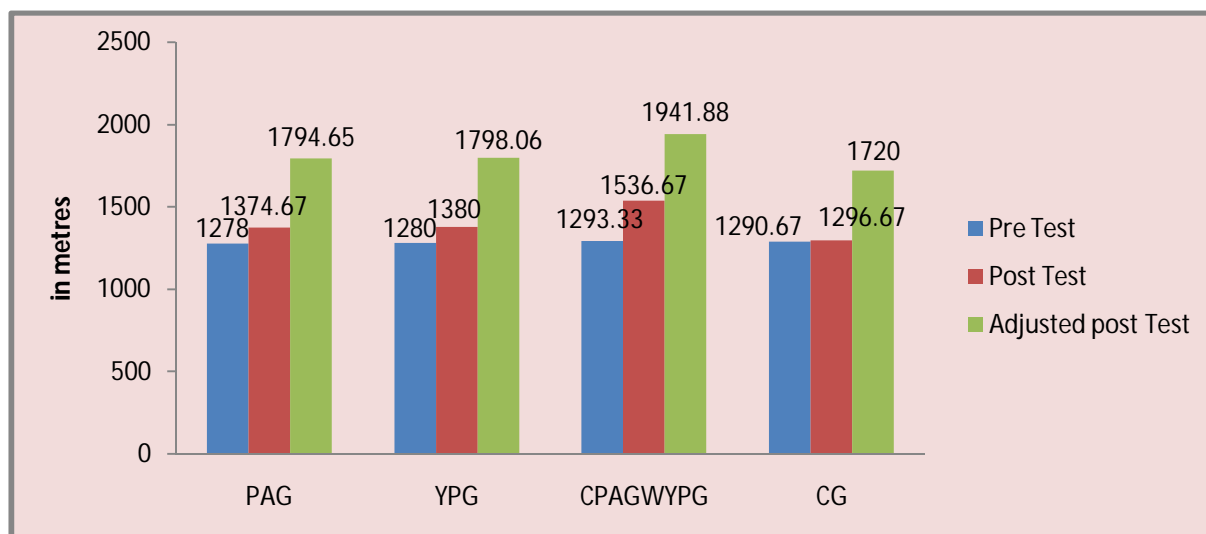


Table-III
Computation of Analysis of Covariance of Mean of Yogic Practices, Physical Activity, Combined Yogic Practices with Physical Activity and Control Groups on Muscular Strength (PAG, YPG, CPAGWYPG & CG)

Test	PAG	YPG	CPAGWYPG	CG	SOV	Sum of Squares	Df	Mean Squares	Obtained 'F' Ratio
Pre Test									
Mean	21.67	20.60	22.53	19.20	BG	92.93	3	30.98	1.52
S.D.	5.68	3.24	5.04	2.79	WG	1139.07	56	20.34	
Post Test									
Mean	24.33	23.87	26.80	19.33	BG	435.78	3	145.26	4.15
S.D.	5.98	3.24	8.08	4.36	WG	1958.80	56	34.98	
Adjusted Post Test									
Mean	31.41	32.13	32.91	28.13	BG	110.45	3	36.82	3.77
					WG	537.31	55	9.77	

* Significant at .05 level of confidence.

(The table values required for significance at .05 level of confidence for 3 and 56 and 3 and 55 are 1.761 and 2.776 respectively).

The adjusted post-test means of yogic practices, physical activity, combined yogic practices with physical activity and control groups were 32.91, 32.13, 31.41 and 28.13 respectively.

The obtained "F" ratio of 3.77 was greater than the table value of 2.78 for df 3 and 55 required for significance at 0.05 level of confidence.

Table – IV
The Scheffe's Test for the Differences between the Adjusted Post Test Means on Muscular Strength

PAG	YPG	CPAGWYPG	CG	Mean Differences	Confidence Interval Value
31.41	32.13	-	-	0.72	3.29
31.41	-	32.91	-	1.50	3.29
31.41	-	-	28.13	3.28*	3.29
-	32.13	32.91	-	0.78	3.29
-	32.13	-	28.13	4.00*	3.29
-	-	32.91	28.13	4.78*	3.29

* Significant at 0.05 level of confidence

The table IV shows that the mean difference between physical activity and control group, yogic practices and control group, combined physical activity with yogic practices

group and control group were 4.78, 4.00 and 3.28 which were greater than the confidence interval value 3.29 required for significance at 0.05 level of confidence.

Figure – 2

Graph showing the Mean values of Yogic Practices, Physical Activity, Combined Yogic Practices with Physical Activity and Control Groups on Muscular Strength

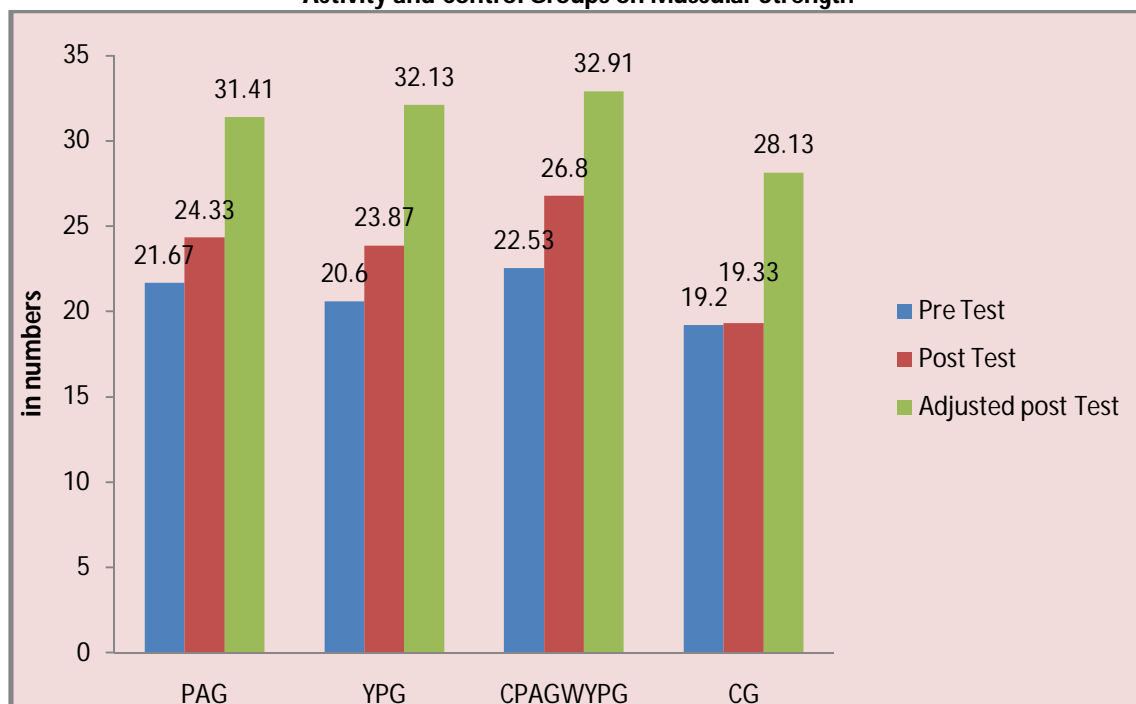


Table-V

Computation of Analysis of Covariance of Mean of Yogic Practices, Physical Activity, Combined Yogic Practices with Physical Activity and Control Groups on Muscular Endurance (PAG, YPG, CPAGWYPG & CG)

Test	PAG	YPG	CPAGWYPG	CG	SOV	Sum of Squares	df	Mean Squares	Obtained 'F' Ratio
Pre Test									
Mean	34.27	32.20	32.40	32.27	BG	44.32	3	14.77	0.39
S.D.	5.70	5.91	5.99	6.23	WG	2131.87	56	38.07	
Post Test									
Mean	36.60	38.07	39.80	32.47	BG	441.07	3	147.02	3.93
S.D.	5.81	5.80	5.92	6.11	WG	2096.67	56	37.44	
Adjusted Post Test									
Mean	45.72	49.19	50.73	43.91	BG	480.08	3	160.03	82.48
					WG	106.63	55	1.94	

* Significant at .05 level of confidence.

(The table values required for significance at .05 level of confidence for 3 and 56 and 3 and 55 are 2.76 and 2.77 respectively).

The adjusted post-test means of yogic practices, physical activity, combined yogic practices with physical activity and control groups were 45.72, 49.19, 50.73 and 43.91 respectively.

The obtained "F" ratio of 3.77 was greater than the table value of 2.78 for df 3 and 55 required for significance at 0.05 level of confidence.

Table – VI
The Scheffe's Test for the Differences between the Adjusted Post Test Means on Muscular Endurance

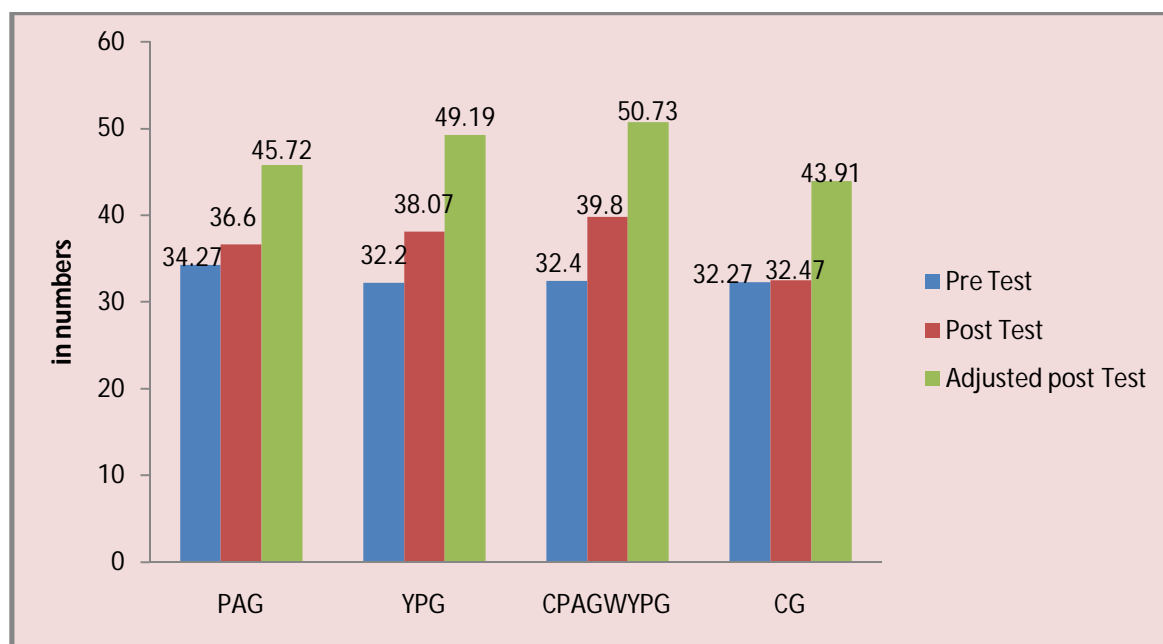
PAG	YPG	CPAGWYPG	CG	Mean Differences	Confidence Interval Value
45.72	49.19	-	-	3.47*	0.27
45.72	-	50.73	-	5.01*	0.27
45.72	-	-	43.91	1.81*	0.27
-	49.19	50.73	-	1.54*	0.27
-	49.19	-	43.91	5.28*	0.27
-	-	50.73	43.91	6.82*	0.27

* Significant at 0.05 level of confidence

The table VI shows that the mean difference between physical activity and yogic practices, physical activity and combined physical activity with yogic practices group, physical activity and control group, yogic practices and combined physical activity with yogic practices group, yogic

Practices and control group, combined physical activity with yogic practices group and control group were 3.47, 5.01, 1.81, 1.54, 5.28 and 6.82 which were greater than the confidence interval value 0.27 required for significance at .05 level of confidence

Figure – 3
Graph showing the Mean values of Yogic Practices, Physical Activity, Combined Yogic Practices with Physical Activity and Control Groups on Muscular Endurance



CONCLUSIONS

The result reveals that the combined yogic practices and physical activity for 6weeks improved Cardio Respiratory Endurance, Muscular Strength and Muscular Endurance among school boys. Further it was observed that CYPWPAG showed better improvement on Cardio Respiratory Endurance, Muscular Strength and Muscular Endurance among the other groups.

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