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Effect of aerobics yoga and resistance training on strength and vital capacity of sports school students

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Abstract
Forty male students studying in Government G.V Raja Sports VHS School, Mylam, Trivandrum, Kerala, India selected randomly as subjects. The age of the subjects ranged from 14 to 18 years. They were randomly divided into four groups. Group I underwent aerobic training, group II underwent yoga, group III underwent resistance training practices and group IV acted as control group. Each group consist of 10 subjects each. The training schedule was for a period of 24 weeks. The criterion variables selected for the study were strength and cardio vascular endurance. The data collected for the pre, mid and post test were analysed by using one way repeated measure (ANOVA) and analysis of co variance (ANCOVA). The result of the study reveals that all the criterion variables had significant improvement in all the three experimental groups when compared to control group.

Keywords: Aerobics yoga, resistance training, vital capacity

Introduction
In the ancient times, the idea of training was derisory to spirited sports. However, in recent years, athletic training has become a customary part of a dynamic life and today athletic training belongs to the life style of all generations. Human beings are by nature, competitive and ambitious for their dominance in all athletic performance. All men or nation want to show their dominance by demanding other men or nations. Thus, this face stimulates, inspires and motivates the entire nation to sweat, strive, run faster, jump higher, throw farther and exhibit greater strength, endurance and skills in the present competitive world. Methodical knowledge has revolutionized the standard of sports.

"The sports competitions are ever expanding with concentration of rivalry that enhances the methodical swot up of human being actions. Sports actions are energetic in nature and are progressive. It is not confined to "What has been", but its target is to fix new targets". (Ervin, 1967)

"Physical activity is an important ingredient in the quality of life because it increases energy and promotes the physical, mental and psychological wellbeing in addition to conferring worthy health habits" (Gopinath, 2008) [6].

Aerobic exercise provides cardiovascular conditioning. The term aerobic actually means "with oxygen," which means that breathing controls the amount of oxygen that can make it to the muscles to help them burn fuel and move

Yoga is "a control of thought waves in the mind." It is as wisdom in work or skilful living amongst activities of harmony and moderation. (Ravi, 1988)

Resistance training is exercise, using resistance (normally weights) to build muscle strength and endurance. In resistance training one can use resistance like dumbbells, weight, bar bells, pulley machines or simply one's own weight as resistance.

Methodology
To achieve the purpose, forty male students studying G.V Raja Sports VHS School, Mylam, Trivandrum, Kerala, India were selected randomly as subjects. The age of the subjects ranged from 14 to 18 years. They were randomly divided into four groups. The experimental groups were subjected to the aerobic training, yogic practices and resistance training in the morning for alternative days for a period of 24 weeks except on Sunday.

The data were collected two days before the training schedule (pre-test); during the middle of the training schedule 12 weeks (mid-test) and two days after the training schedule 24 weeks (post-test). The criterion variables selected for the study are strength and vital capacity; and were assessed by the following standardized test items such as: shuttle run and 12 minutes run/walk test respectively.

Analysis of the Data and Results of the Study

The data pertaining to the criterion variables selected for the study were examined by using one way repeated measure (ANOVA) for finding the significance difference within the group (pre, mid and post test); in order to find significance difference between the groups (aerobic training, yogic practices and par course training, and control groups) are presented in the following tables.

Strength

Table 1: One way repeated measure ANOVA on Strength of Experimental and Control groups

Group	Source of Variance	Sum of Squares	d.f	Mean Squares	F-ratio
Aerobic training	Test (Between)	63.22	2	31.61	24.97*
	Error	22.78	18	1.27	
Yogic Practices	Test (Between)	10.07	2	5.03	3.24*
	Error	27.93	18	1.55	
Resistance training	Test (Between)	234.02	2	117.01	42.71*
	Error	49.32	18	2.74	
Control group	Test (Between)	0.00	2	0.00	0.00
	Error	0.01	18	0.00	

*Significant at 0.05 level of confidence.

Table 1 reveals the analyzed data on within the group. The obtained F- ratio values are 24.97; 3.24 & 42.71 of aerobic training, yogic practices and resistance training group respectively. The table value required for significance at 0.05 level of confidence with 2 and 18 were 3.55. Based on F-ratio value aerobic training group training proves to be the most significant and resistance training was the least significant among the three experimental groups.

Table 2: Analysis of Covariance of Experimental and Control Groups on Strength

Adjusted Post test Mean				Source of variance	Sum of squares	d. f	Mean squares	F -ratio
Aerobic training	Yogic Practices	Resistance training	Control group					
28.95	27.35	26.26	25.42	Between	279.53	3	93.18	16.79*
				Error	199.77	36	5.55	

*Significant at 0.05 level of confidence

Table 2 reveals that all the three experimental had shown significant improvement in vital capacity among the group. The obtained ANCOVA (F- ratio) values 16.79 shows that the entire experimental groups are significant among themselves and is higher than the table value 2.92 of 3 and 35.

Vital Capacity

Table 3: One Way Repeated Measure ANOVA on Vital capacity of Experimental and Control Groups

Group	Source of Variance	Sum of Squares	d.f	Mean Squares	F-ratio
Aerobic training	Test (Between)	257631.67	2	128815.83	39.19*
	Error	59168.00	18	3287.11	
Yogic Practices	Test (Between)	411495.00	2	205747.50	51.46*
	Error	71971.67	18	3998.43	
Resistance training	Test (Between)	24461.67	2	12230.83	18.24*
	Error	12071.67	18	670.65	
Control group	Test (Between)	186.67	2	93.33	0.03
	Error	65413.33	18	3634.07	

*Significant at 0.05 level of confidence.

Table 3 reveals the analyzed data on vital capacity within the group. The obtained F- ratio values are 39.19; 5.46 & 18.24 of aerobic training, yoga and resistance training group respectively. The table value required for significance at 0.05 level of confidence with 2 and 18 were 3.55. Based on F-ratio value aerobic training group training proves to be the most significant and resistance training was the least significant among the three experimental groups.

Table 4: Analysis of Covariance of Experimental and Control Groups on Vital Capacity

Adjusted Post test Mean				Source of variance	Sum of squares	d.f	Mean squares	F – ratio
Aerobic training	Yogic Practices	Resistance training	Control group					
4880.03	4910.85	4805.74	4766.38	Between	526192.25	3	175397.42	24.09*
Error				262140.57	36	7281.68		

*Significant at 0.05 level of confidence.

Table 4 reveals that all the three experimental groups had shown significant improvement in vital capacity among the groups. The obtained ANCOVA (F- ratio) value 24.09 shows that the entire experimental groups are significant amongst them and is higher than the table value 2.92 of 3 and 35.

Conclusions

The following were the main findings of the study.

1. The resistance training had achieved better significant improvement than aerobic training and yogic practices in strength.
2. The yogic practices had achieved better significant improvement than aerobic training and resistance training in the vital capacity.

Reference

1. Barrow Harold M, Rose Mary McGee. A Practical Approach to measurement in Physical Education, Philadelphia: Lea and Febiger, 1979.
2. Barry Johnson L, Nelson Jack K. Practical Measurement in Evaluation in Physical Education, Delhi: Surjeet Publication, 1982.
3. Biju Lukose, Sosamma John, Binoy K. Voice of Sports Published by Association of Physical Education, Arekkal, Chandrakunnu, Nilambur, Kerala, S. India. Volume V Issue 2, 2011.
4. Dick Frank W. Sports Training Principles, London: Lepus Books, 1980.
5. Fox Edward L, Richard WCB, Borwers W, Merie L Foss. The Physiological Basis for Exercise and Sports (5th Edition) Dubugue, Lowa: Brown Benchamane Publishers, 1993.
6. Gopinath V. Effect of weight training parallel with plyometric and cross training on speed Indian Journal for Research in Physical Education and Sports Sciences Published by Dr. Sivanthi Aditanar College of Physical Education Tiruchendur, Tamil Nadu, South India. 2008; 3(1):25-30.
7. Desiga JP, Srinivasan, Pon Solai, Pandian, Thana Lakshmi R. Comparative effect of iron yoga and yogic training on flexibility and explosive Power: Indian Journal for Research in Physical Education and Sports Sciences Published by Dr. Sivanthi Aditanar College if Physical Education, Tiruchendur, Tamil Nadu, S. India. 2010; 5(1):65-68.
8. Judith Rink E. Teaching physical education for learning, St: Louis: Times Mirror / Mosby College Publication, 1985.