



Effect of Yogic Practices and Physical Exercise on Selected Physiological and Psychological Variables in Relation to Age and Sex of School Boys

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Abstract

The purpose of the study was to find out the effect of yogic practices and physical exercise on selected physiological and psychological variables in relation to age and sex of school boys. To achieve this purpose of study, sixty school boys of were selected. To achieve this purpose of study, sixty school boys of government higher secondary school from Perambalur District, Tamil Nadu, India were put under test. They were in the age group of 8 to 12 years & were selected as subjects at random. They were divided into three equal groups of each twenty subjects. They were to conduct different yogic practices. There are three types of school for yogic practices namely Thanthai Hans Roever Residential School of yogic practice group and Dhanalakshmi Srinivasan School of yogic practice group and control group. The group I Thanthai Hans Roever Residential School of yogic practice, group II Dhanalakshmi Srinivasan School of yogic practice worked for five days per week for six weeks and group III acted as control who did not participate any special yogic practice apart from their regular day-today activities. The following variables namely vital capacity and assertiveness were selected as criterion variables. The assertiveness and study skill was assessed by spirometer and questionnaire by rathus assertiveness scale. All the subjects of three groups were tested on selected criterion variables at prior to and immediately after the training programme as pre and post test selection. Analysis of covariance (ANCOVA) was used to find out the significant difference if any, among the groups on each selected criterion variables separately. In all the cases, .05 level of confidence was fixed to test the significance, which was considered as an appropriate. The results of the study revealed that there was a significant difference between Thanthai Hans Roever Residential School of yogic practice group and Dhanalakshmi Srinivasan School of yogic practice group and control group on selected criterion variables such as vital capacity and assertiveness. There was an improvement as per the selected criterion variables namely vital capacity and assertiveness according to Thanthai Hans Roever Residential School of yogic practice and Dhanalakshmi Srinivasan School of yogic practice.

Keywords: Yoga, Physical Exercises, Physiological, Psychological, School.

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Introduction

The science of yoga works on physical, physiological, mental, emotional, psychic and spiritual aspects of a person. When imbalance is experienced at this level, the organs, and muscles and nerves no longer functions in harmony, rather they are in opposition to each other. There for yoga aims at bringing the different body function into perfect co-ordination so that they work for guarding the whole body. Yoga has a complete message for humanity. It is a message for the human body, human mind and human soul. Yoga is the art and science of living, and is concerned with the evaluation of mind and body. Therefore, yoga incorporates a system of disciplines for integrated development of all aspects of the individual. The practices of yoga not only help to keep the young body strong and supple but also incorporate mental activities, disciplines that help to

develop attention and concentration and stimulate the creative abilities that are latent within the child. (Swami Kuvalayananda, 1977)

Physiology is the science of functioning of all the organs and systems of an organism. For the physiological system of the body to be fit, they must function well enough to support to specific activity of that organism with respect to circulation respiratory, metabolic and neurologic process which are specific to the activity. In physiology, we learn how the organs, systems, tissues, cells and molecules within cells work and how their functions are put together to maintain the internal environment. Physiology is the study of how body's structures and functions are changed as a result of exercise. It applies the concept of exercise for training the athlete and enhancing the athlete's performance. (Shaver Larry.G.1982.)

Psychological study of human nature - science of the mind and soul. Psychology is the study of human nature scientifically and rather than in formal condition. Psychology plays a major role in sports and in closely

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associated with psychological components.

Sports psychology is defined as the scientific study of human behavior in sport. Like the other discipline with in sports and exercise, science & sports psychology can be applied to varied skilled movement in physical activities and exercise and other exercise programmes such as corporate fitness, exercise rehabilitation and health oriented exercise programmes as well as in traditional physical education and in competitive athletics.

Methodology

The purpose of the study was to find out the effect of yogic practices and physical exercise on selected physiological and psychological variables in relation to age and sex of school boys. To achieve this purpose of study, sixty school boys of were tested. To achieve this purpose of study, sixty school boys of government higher secondary school from Perambalur District, Tamil Nadu, India were selected. Were put under test they were in the age group of 8 to 12 years and were selected as subjects at random. They were divided into three equal groups of each twenty subjects who were assigned to conduct different yogic practices. There are three types of school yogic practices namely Thanthai Hans Roever Residential School of yogic practice group and Dhanalakshmi Srinivasan School of yogic practice

group and control group. The group I Thanthai Hans Roever Residential School of yogic practice, group II Dhanalakshmi Srinivasan School of yogic practice worked for five days per week for six weeks and group III acted as control who did not participate any special yogic practice apart from their regular day-to-day activities. The following variables namely vital capacity and assertiveness were selected as criterion variables. The assertiveness and study skill was assessed by spirometer and questionnaire by rathus assertiveness scale. All the subjects of three groups were tested on selected criterion variables at prior to and immediately after the training programme as pre and post test selection. Analysis of covariance (ANCOVA) was used to find out the significant difference if any, among the groups on each selected criterion variables separately. In all the cases, .05 level of confidence was fixed to test the significance, which was considered as an appropriate. The subjects were selected at random and were divided into three groups. Group I Thanthai Hans Roever Residential School of yogic practice group II Dhanalakshmi Srinivasan School of yogic practice for duration of one hour from Monday to Friday (Five days a week) for Six weeks. And control group was not given any training.

Results

Table I. Analysis of covariance for the data on vital capacity between pre test and post test scores of aerobic exercise thanthai hans roever residential school of yogic practice group, dhanalakshmi srinivasan school of yogic practice group and control group

Test	Thanthai Hans Roever Residential School of Yogic Practice	Dhanalakshmi Srinivasan School of Yogic Practice	Control Group	Sources of Variance	Sum of Square	df	Mean Squares	'F' Ratio
Pre Test Mean	3620	3577.5	3572.5	Between	27250	2	13625	0.05
				Within	130001750	57	228100.9	
Post Test Mean	3715	3743.75	3565	Between	368520.8	2	184260.4	0.88*
				Within	11815344	57	207286.7	
Adjust Post Mean Gain	3686.64	3755.56	3581.54	Between	307178.16	2	153589.1	43.07*
	-95	-166.25	7.5	Within	199666.67	56	3565.47	

* Significant at 0.05 level of confidence.

(The table values required for significance at .05 level of confidence for 2 and 57 and 2and 56 are 3.15 and 3.17 respectively)

Table I Shows that the pre test scores vital capacity for Thanthai hans roever residential school of yogic practice group, Dhanalakshmi Srinivasan School of yogic practice group and control group are 3620,

3577.5, and 3572.5 respectively and the obtained F ratio of 0.05 for pre-test scores is less than the required table value of 3.15 with df 2 and 42 required for significance at .05 level of confidence on vital capacity. The post test

scores for vital capacity for Thanthai hans roever residential school of yogic practice group, Dhanalakshmi Srinivasan School of yogic practice group and control group are 3715, 3743.75 and 3565 respectively and the obtained F ratio is 0.88 for pre-test scores is greater than the required table value of 3.15 with df 2 and 42 required for significance at .05 level of confidence on vital capacity. The obtained 'F' value of 43.07 adjusted for post test means is greater than the

required table 'F' value of 3.17. This proved that there was significant difference among the 'means' due to six weeks training of Thanthai hans roever residential school of yogic practice, Dhanalakshmi Srinivasan School of yogic practice on physiological variable of vital capacity. Since significant improvements were recorded, the results were subjected to post-hoc analysis using Scheffe's confidence interval test the results were presented in table-II.

Table II. The scheffe's test for the differences between paired means of vital capacity

Adjusted Post Test Means			Mean Difference	Confidence Interval
Thanthai Hans Roever Residential School of yogic practice Group	Dhanalakshmi Srinivasan School of yogic practice Group	Control Group		
3686.64	3755.56	-	-68.92*	0.08
3686.64	-	3581.54	174.02*	0.08
-	3755.56	3581.54	105.10*	0.08

*Significant at 0.05 level

The table II shows that the 'mean' difference values between Thanthai hans roever residential school of yogic practice group and Dhanalakshmi Srinivasan School of yogic practice group, Thanthai hans roever residential school of yogic practice group and control group, Dhanalakshmi Srinivasan School of yogic practice group and control group are -68.92, 174.02 and 105.10 respectively on vital capacity which were greater than the confidence interval 0.08 for significance. The results of this study showed that there was a significant difference between Thanthai hans roever residential

school of yogic practice group and Dhanalakshmi Srinivasan School of yogic practice group, Thanthai hans roever residential school of yogic practice group and control group, Dhanalakshmi Srinivasan School of yogic practice group and control group on vital capacity. The analysis of covariance of the data obtained for assertiveness of pre-test and post-test of Thanthai hans roever residential school of yogic practice group, Dhanalakshmi Srinivasan School of yogic practice group and control group, have been presented in Table III.

Table III. Analysis of covariance for the data on assertiveness between pre test and post test scores of aerobic exercise thanthai hans roever residential school of yogic practice group, dhanalakshmi srinivasan school of yogic practice group and control group

Test	Thanthai Hans Roever Residential School of Yogic Practice	Dhanalakshmi Srinivasan School of Yogic Practice	Control Group	Sources of Variance	Sum of Square	df	Mean Squares	'F' Ratio
Pre Test Mean	48.9	46.6	46.2	Between	84.93	2	42.46	0.28
				Within	8591.8	57	150.73	
Post Test Mean	52.95	50.3	47.8	Between	265.3	2	132.65	1.05*
				Within	7200.35	57	126.32	
Adjust Post Mean Gain	51.47	50.85	48.71	Between	83.78	2	41.89	4.68*
				Within	500.46	56	8.93	

* Significant at 0.05 level of confidence.

(The table values required for significance at .05 level of confidence for 2 and 57 and 2 and 56 are 3.15 and 3.17 respectively)

Table III Shows that the pre test scores assertiveness for Thanthai hans roever residential school of yogic practice group, Dhanalakshmi Srinivasan School of yogic practice group and control group are 48.9, 46.6, and 46.2 respectively and the obtained F ratio of 0.28 for pre-test scores is less than the required table value of 3.15 with df 2 and 42 required for significance at .05 level of confidence on assertiveness. The post test scores assertiveness for Thanthai hans roever residential school of yogic practice group, Dhanalakshmi Srinivasan School of yogic practice group and control group are 52.95, 50.3 and 47.8 respectively and the obtained F ratio of 1.05 for pre-test scores is greater than the

required table value of 3.15 with df 2 and 42 required for significance at .05 level of confidence on assertiveness. The obtained 'F' value of 4.68 adjusted post test means is greater than the required table 'F' value of 3.17. This proved that there was significant difference among the 'means' due to six weeks training of Thanthai hans roever residential school of yogic practice, Dhanalakshmi Srinivasan School of yogic practice on physiological variable of assertiveness. Since significant improvements were recorded, the results were subjected to post hoc analysis using Scheffe's confidence interval test the results were presented in table-IV.

Table IV. The scheffe's test for the differences between paired means of assertiveness

Adjusted Post Test Means			Mean Difference	Confidence Interval
Thanthai hans roever residential school of yogic practice Group	Dhanalakshmi Srinivasan School of yogic practice Group	Control Group		
51.48	50.86	-	2.77	0.08
51.48	-	48.71	2.15	0.08
-	50.86	48.71	2.77	0.08

*Significant at 0.05 level

The table IV shows that the 'mean' difference values between Thanthai hans roever residential school of yogic practice group and Dhanalakshmi Srinivasan School of yogic practice group, Thanthai hans roever residential school of yogic practice group and control group, Dhanalakshmi Srinivasan School of yogic practice group and control group are 2.77, 2.15 and 2.77 respectively on assertiveness which were greater than the confidence interval 0.08 for significance. The results of this study showed that there was a significant difference between Thanthai hans roever residential school of yogic practice group and Dhanalakshmi Srinivasan School of yogic practice group, Thanthai hans roever residential school of yogic practice group and control group, Dhanalakshmi Srinivasan School of yogic practice group and control group on assertiveness.

Conclusions

1. There was a significant increase due to influence of six week training of Thanthai hans roever residential school of yoga and Dhanalakshmi Srinivasan School of yoga and control group. But particularly the Thanthai hans roever residential school of yoga practice group gave a significant increase in vital capacity when compared to

Dhanalakshmi Srinivasan School of yoga practice group.

2. The assertiveness among the Thanthai hans roever residential school of yoga and Dhanalakshmi Srinivasan School of yoga increased due to influence of six week training. But particular Thanthai hans roever residential school of yoga practice group's significant improvement is assertive compared to Dhanalakshmi Srinivasan School of yoga practice group.

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