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## Relative effect of hatha yoga and aerobic training on body mass index variables among endomorphy type boys

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### Abstract

The main purpose of the present study was to find out the relative effect of hatha yoga and aerobic training on body mass index variables among endomorphy type boys. To achieve the purpose of the study, 45 boys will be selected at random from in and around Tirunelveli, Tamil Nadu, India. There were age of the subjects are ranged between 13-17 year. The Selected subjects were divided into three equal groups as follows Hatha Yoga Group (HYG) underwent practice yoga, Aerobic Training Group (ATG) underwent aerobic training and Control Group (CG) did not participate any training. The hatha Yoga group consists of 15 subjects who undergone the practice of Asanas and Pranayama. The Aerobic group consists of 15 subjects who undergone rhythmic Aerobic exercises. A qualification criterion for the experimental group was some participation in school level sports and games in order to sustain the training process. The post--tests were conducted on the above said dependent variables after a period fourteen weeks. The difference between the pre-test and post test was considered the effect of respective experimental practice. To test the statistical significance ANCOVA was used. In all cases 0.05 levels was fixed to test the hypothesis.

**Keywords:** hatha yoga and aerobic training, body mass index

### Introduction

Hatha Yoga originate in India is the sciences. Nowadays, hatha yoga individual a subject of wide-ranging happiness has gain universal status. It can serve as an applied science in a number of fields such as education, physical education exercise physiology and sports. Hatha yoga is physical discipline. Hatha yoga is an Indian philosophical and holy institution regulation intended to bring balance and health to the physical, mental, emotional, and spiritual dimension of the individual.

Hatha Yoga training fundamentally consists of posture-a particular position of the body which contributes to steadiness of body and mind, Pranayama is control the breathing in a superior and extra-ordinary way and meditation. It produces dependable physiological changes and have sound scientific basis. Effect of yogic practices on respiratory function has been a significant area of research for decades. Practicing yoga, in adding together to its contribution in the improvement of pulmonary ventilation and gas exchange, helps in the prevention, cure and rehabilitation of many respiratory illnesses by success better ventilatory function. The studies with Hatha Yoga are timely and scientifically important since it would be an attractive tool against the aforementioned unhealthy lifestyle. It could benefit both healthy and unhealthy adults. Thus, the aim of the present study was evaluate the effects of a 12-week systematized yoga intervention on health-related physical fitness. It was hypothesized that the systematized intervention of Hatha Yoga is sufficient to improve health-related physical fitness components.

### Materials and Method

The main purpose of the present study was to find out the relative effect of hatha yoga and aerobic training on body mass index variables among endomorphy type boys. To achieve the purpose of the study, 45 boys will be selected at random from in and around Tirunelveli, Tamil Nadu, India. There were age of the subjects are ranged between 13-17 year. The Selected subjects were divided into three equal groups as follows Hatha Yoga Group (HYG) underwent practice yoga, Aerobic Training Group (ATG) underwent aerobic training and Control Group

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(CG) did not participate any training. The hatha Yoga group consists of 15 subjects who undergone the practice of Asanas and Pranayama. The Aerobic group consists of 15 subjects who undergone rhythmic Aerobic exercises. A qualification criterion for the experimental group was some participation in school level sports and games in order to sustain the training process. Measures: The dimensions be perform during one week prior to and one week after the 14-week hatha yoga intercession. The tests were done under measure of laboratory conditions after amiliarizing the subjects with the testing procedures. Collecting data included age, gender, height, body mass, and body composition, the body mass index (BMI) was calculated using the standardized formula BMI = body mass (kg) / height<sup>2</sup> (m).

**Statistical Procedure**

In order to investigate the Relative effect of each training method i.e Aerobic training and Hatha yoga training, on body mass index among two experimental groups and one control group of the college male students undertaken on this study, the analysis of co-variance statistics was applied. In case of existence of significant, the post-hoc test was applied in order to investigate the existence significant differences if any, among three experimental groups namely aerobic training, hatha yoga training and one control group of school boys. The significant level was set at 0.05 level of confidence.

**Results**

Analysis of Covariance for the Pre Test and Post Test Data on Body Mass Index Score of Aerobic, Hatha Yoga and Control Groups

Tests/Groups		AEG	HYPG	CG	SOV	Sum of Squares	DF	Mean Squares	“F” Ratio
Pre Test	$\bar{X}$	27.3400	27.5800	27.3600	B	0.532	2	0.266	0.853
	$\square$	0.75479	0.24553	0.55266	W	13.096	42	0.312	
Post Test	$\bar{X}$	25.8600	26.6400	27.2067	B	13.715	2	6.858	10.74*
	$\square$	1.22929	0.38508	0.50493	W	26.801	42	0.638	
Adjusted Post Test	$\bar{X}$	25.927	26.521	27.258	B	13.341	2	6.671	14.48*
	$\square$				W	18.888	41	0.461	

\* F<sub>(0.05)</sub> (2, 42 and 2, 41) = 3.22, \*Significant at 0.05 level of confidence

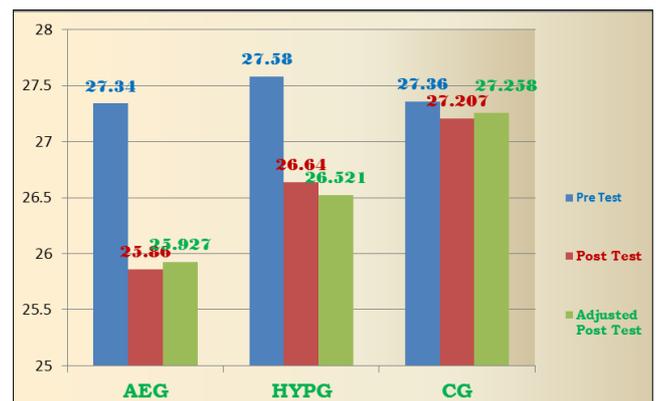
Table I shows that the pre-test means in body mass index performance of the AEG, HYPG and the control groups (CG) are 27.3400, 27.5800 and 27.3600 respectively, resulted in an “F” ratio of 0.853, which indicates statistically no significant difference between the pre test means at 0.05 level of confidence. The post test means of body mass index of the AEG, HYPG and the control groups (CG) are 25.8600, 26.6400 and 27.2067 respectively, resulted in an “F” ratio of 10.746, which indicates statistically significant difference between the post test means at 0.05 level of confidence. The adjusted post test means of body mass index of the AEG, HYPG and the control groups (CG) are 25.927, 26.521 and 27.258 respectively. The obtained F-ratio value was 14.480, which was higher than the table value 3.22 with df 2 and 41 required for significance at 0.05 level. It indicates that there was a significant difference among the adjusted posttest means of body mass index performance of the AEG, HYPG and the control groups (CG). The investigated the effect of Aerobic training on Body Mass Index of men. The experimental group was administered aerobic training programme, five days in a week for a period of 8-weeks. Participation in eight weeks of aerobic training resulted in improved in Body Mass Index. The results of the study indicate that there was a significant improvement in all the physiological variables due to the effect of aerobic exercises and hatha yoga practices. Hence, the first hypothesis was completely accepted with respect to the all physiological variables at 0.05 level of confidence.

To find out which of the paired means had a significant difference, the Scheffe’s post-hoc test is applied and the results are presented in table II.

Adjusted Post-test means			Mean Differences
AEG	HYPG	CG	
25.927	26.521		0.594
	26.521	27.258	0.737
25.927		27.258	1.331

\* Significant at 0.05 level.

Table II shows that the adjusted post-test mean difference in body mass index between AEG and HYPG, AEG and CG and between HYPG and CG are 0.594, 0.737 and 1.331 respectively which were statistically significant at 0.05 level of confidence. It is concluded that there was a significant difference on body mass index among the groups. However, Aerobic exercise group was to be found better in improving the body mass index than hatha yoga practice group and control group. The pre test, post test and adjusted post-test mean values of Aerobic exercise training (AEG) group, Hatha yoga practice group (HYPG) and control group (CG) on body mass index are graphically presented in figure I.



**Conclusions**

In the present investigation, as a result of two training programmes the following improvements occurred on physiological, of endomorph type. The Regular practice of aerobic exercises and hatha yoga practices significantly reduced the level of body mass index.

**References**

1. Abraham G. Analysis of anthropometry, body composition and performance variables of young Indian athletes in southern region, Indian Journal of Science and Technology. 2010; 3:12.

2. Agro RA. Effect of Low Impact and High Impact Aerobic Dance Exercise on Selected Fitness Measures, Completed Research in Health Physical Education and Recreation, 1988; II:30.
3. Abhishek Chaturvedi, Gayathry Nayak, Akshatha Nayak G, Vivek Sharma A, Sapna Dev, Anjali Rao. Efficacy of yoga in balancing the deranged biochemical profile in healthy perimenopausal women hailing from South Kanara district of Karnataka, India, Asian Journal of Biomedical and Pharmaceutical Sciences. 2015; 5(45):20-25.
4. Amarnath, Thulasimala. Role of Yoga in improving Health Related Physical Fitness of School Children, International Journal of Health, Physical Education and Computer Science in Sports. 2014; 15(1):520-521.
5. Durstine J *et al.* Lipids, Lipoproteins and Exercise. Journal cardio pulmonary Rehabilitation. 2002; 22:385-398.
6. Freedman DS, Wang J, Ogden CL, Thornton JC, Mei Z, Pierson RN *et al.* The prediction of body fatness by BMI and skinfold thicknesses among children and adolescents. Ann Hum Biol, 2007; 34(2):183-94.
7. Ganguly. Effect of short test yogic training programme on cardiovascular endurance, SNIPES Journal. 1981; 4:2.
8. Govindharajulu E, Gnanadeepam Bera. Effect of Yoga Practices on Flexibility and Cardio Respiratory Endurance on High Schools Girls, Yoga Mimamsa, 2003, XXXV.