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## Impact of different intensities of resistance training with yogic packages on selected physical fitness variables among college men students

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### Abstract

The purpose of the study is to find out the effect of varied intensities of resistance training with yoga practice on selected physical fitness variables among college male students. To achieve the purpose of the present study forty five male students were selected from various classes and departments from Meenatchi Physical Education College Thathanur, Tamil Nadu during the year 2022-2023. The age group of the subjects were between 18-23 years. They were divided into three groups, in which, Group-I (n=15) underwent low intensity resistance training with yoga practice, group-II (n=15) underwent medium intensity resistance training with yoga practice and group-III (n=15) acted as control, who did not participate any special training apart from their regular routine activities. The subjects were tested on selected criterion variables such as shoulder muscular strength and cardio-respiratory endurance at prior to and immediately after the training period. For testing the shoulder muscular strength and cardio-respiratory endurance was measured by push-ups test and Cooper 12 minutes run/walk test respectively. The analysis of covariance (ANCOVA) was used to find out the significant difference if any, between the experimental groups and control group on selected criterion variables separately. Since there were three groups involved in the present study, the Scheffé S test was used as post-hoc test. The result of the study shows that there was a significant improvement in shoulder muscular strength and cardio-respiratory endurance after the low intensity resistance training with yogic practice and medium intensity resistance training with yogic practice.

**Keywords:** Resistance training, yoga exercises, shoulder muscular strength and cardio-respiratory endurance

### Introduction

Resistance exercise is in the form of resistance bands, weight machines, free-weights, and even own body weight of an athlete, which apply a load/overload to a particular muscle or group of muscle, and force the muscles to adapt and grow stronger. Opposition preparing is otherwise called preparing for strength improvement or weight lifting, has transform into one of the really famous types of activity for working on an individual's wellness and for molding competitors. The obstruction preparing which gets the muscle against an outside opposition, causes expansion in tone, strength, mass and strong perseverance or perseverance. A few supplies like hand weights, own body weight, elastic activity tubing, power lifting which empowers the muscles to contract. There are assortments of opposition preparing which incorporates, medication balls, weight machines, free loads, own body weight and obstruction groups. Obstruction practice is as opposition groups, weight machines, free-loads, and, surprisingly, own body weight of a competitor, which apply a heap/over-burden to a specific muscle or gathering of muscle, and power the muscles to adjust and develop further.

Yoga also described as wisdom in skilful living or work amongst action, synchronization and control. Yoga is not for human being who attracts too much, nor for his/her who suffer himself/herself. It is not neither for sleep, nor for stays awake. By altering in taking food and taking rest, by regulating the work and by accordance in sleep and wake, yoga demolishing all pain and sorrows. An Indian's unique contribution to physical education is yoga. Both may be measured as to two bullocks hitched to shaft as they are for the well-judged combination of the education of the mind and the body.

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## Methodology

The purpose of the study is to find out the effect of varied intensities of resistance training with yoga practice on selected physical fitness variables among college male students. To achieve the purpose of the present study forty five male students were selected from various classes and departments from Meenatchi Physical Education College Thathanur, Tamil Nadu during the year 2022-2023. The age group of the subjects were between 18-23 years. They were divided into three groups, in which, Group-I (n=15) underwent low intensity resistance training with yoga practice, Group-II (n=15) underwent medium intensity resistance training with yoga practice and group III (n=15) acted as control, who did not participate any special training apart from their regular routine activities. The subjects were tested on selected criterion variables such as shoulder muscular strength and cardio-respiratory endurance at prior to

and immediately after the training period. For testing the shoulder muscular strength and cardio-respiratory endurance was measured by push-ups test and Cooper 12 minutes run/walk test respectively. The analysis of covariance (ANCOVA) was used to find out the significant difference if any, between the experimental groups and control group on selected criterion variables separately. Since there were three groups involved in the present study, the Scheffé S test was used as post-hoc test.

## Analysis of data

The data collected prior to and after the experimental periods on shoulder muscular strength and cardio-respiratory endurance on low and medium intensity resistance training with yoga practice and control group were analyzed and presented in the following.

**Table 1:** Analysis of covariance and 'f' ratio for shoulder muscular strength and cardio-respiratory endurance on low and medium intensity resistance training with yoga practice and control group

Variable Name	Group Name	Experimental Group-I	Experimental Group-II	Control Group	F ratio
Shoulder muscular strength	Pre-test Mean $\pm$ S.D	32.07 $\pm$ 2.37	31.33 $\pm$ 2.16	32.13 $\pm$ 2.56	0.53
	Post-test Mean $\pm$ S.D.	35.93 $\pm$ 2.66	3.20 $\pm$ 2.18	30.93 $\pm$ 2.40	18.65*
	Adj. Post-test Mean $\pm$ S.D.	35.738	35.649	30.680	79.50*
Cardio-respiratory endurance	Pre-test Mean $\pm$ S.D	1176.67 $\pm$ 18.00	1173.00 $\pm$ 18.88	1182.33 $\pm$ 11.78	1.33
	Post-test Mean $\pm$ S.D.	1189.33 $\pm$ 18.79	1184.67 $\pm$ 15.41	1177.33 $\pm$ 16.99	11.87*
	Adj. Post-test Mean $\pm$ S.D.	1190.359	1189.831	1172.161	58.92*

Significant at .05 level of confidence.

The table value required for significance at .05 level of confidence with DF 2 and 42 and 2 and 41 were 3.22 and 3.23 respectively.

Experimental Group-I = Low Intensity Resistance Training with Yogic Practice Group Experimental Group- II = Medium Intensity Resistance Training with Yogic Practice Group

The obtained 'F' ratio value of 18.65 and 11.87 for post-test scores of low intensity resistance training with yogic practice, medium intensity resistance training with yogic practice and control groups was higher than the required table value of 3.22 for significance with DF 2 and 42 at .05 level of confidence. The above statistical analysis indicates that there was a significant improvement in shoulder muscular strength and cardio-respiratory endurance after the training periods. Further to determine which of the paired means has a significant improvement, Scheffé S test was applied. The result of the follow-up test is presented in Table 2.

**Table 2:** Scheffé s test for the difference between the adjusted post-test mean of shoulder muscular strength and cardio-respiratory endurance

Adjusted Post-test Mean of shoulder muscular strength				
Experimental Group-I	Experimental Group-II	Control Group	Mean Difference	C I at .05 Level
35.738		30.680	5.059*	1.162
35.738	35.649		0.089	1.162
	35.649	30.680	4.969*	1.162
Adjusted Post-test Mean of cardio-respiratory endurance				
1190.359		1172.161	18.198*	4.60
1190.359	1189.831		0.528	4.60
	1189.831	1172.161	17.67*	4.60

\*Significant at .05 level of Confidence.

Experimental Group-I = Low Intensity Resistance Training with Yogic Practice Group Experimental Group-II = Medium Intensity Resistance Training with Yogic Practice Group

## Conclusions

The result of the study shows that there was a significant improvement in shoulder muscular strength after the respective training programme. Meera and Mohanakrishnan (2017) <sup>[5]</sup> found that core strength training has helped to improve the muscular strength. Vishnu Raj (2017) <sup>[8]</sup> and Manju Dua and Dolly (2017) <sup>[4]</sup> found that the yogic practice has improved the shoulder muscular strength significantly. It was also found from the result of the study that there was a significant improvement in cardio-respiratory endurance after the low intensity resistance training with yogic practice and medium intensity resistance training with yogic practice. Prasad and Singh (2017) <sup>[1]</sup> found that resistance training has improved the cardio-respiratory endurance and the same was reduced after the detraining period. Kuppam and Muthuraj (2019) <sup>[3]</sup> found that the cardiorespiratory endurance was improved due to the resistance training. There was a significant improvement in cardio-respiratory endurance after the yoga practice (Ghuman and Kuldeep Singh, (2014) <sup>[7]</sup>).

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