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## The effect of yoga and physical exercises on body fat variable of secondary school students

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### Abstract

The purpose of the study was intended to assess the effect of yogic and physical exercises on Cardiovascular Endurance for this purpose hundred fifty students studying in various classes of Government high school Nagathan and Sanganbasaveshawar residential school of Vijayapur in Karnataka state in age group of 14-16 years were selected. They were divided into three equal groups, each group consist of 100 subjects, in which group-I underwent yoga practices, group-II underwent physical exercises and group-III acted as control group who were not allowed to participated and receive any special treatment apart from their regular curriculum classes. The training period for this study was six days a week for twelve weeks the before and after the training period, the subjects were tested for Body fat. The analysis of covariance (ANCOVA) was applied to find out which group has produced better results, whenever "F" ratio for adjusted test was found to be significant for adjusted post-test means Scheffe's test was followed, as a post hoc to determine which of the paired means differ significantly. It was drawn conclusions that after the training of yoga and physical exercise both training has decreased body fat, but significant decreases has found among the physical exercise group comparing their counterpart yoga group.

**Keywords:** physical exercises, body fat, effect of yogic

### Introduction

Yoga is the art and science of maintaining physical and mental wellbeing that has its origin in India, is among the most ancient yet vibrant living traditions that is getting increasingly popular today. A potent stress buster, yoga is an instrument of self-evolvement and enlighten, through physical and mental well-being. Math-dimension it enhances the quality of our lives at so many levels. One aspect of yoga's benefits is to explore the bond between health and beauty.

The word Yoga derived from Sanskrit word 'YUJ' meaning to yoke, join or unite. This implies joining or integrating all aspects of the individual body with mind with soul- to achieve a happy, balanced and useful life, and spiritually, uniting the individual with the supreme,

Physical exercise in any organised activity that involves continuous participation and effects on whole body. Exercise occupies a leading role in keeping a person fit. It will be quite difficult to adjunct one's life in terms on stress, diet, and sleep and so on without proper exercise.

Regular practices of asana maintain the physical body in an optimum condition and promote health even in an unhealthy body. Through asana practice, the dormant energy potential is released and experienced as increased confidence in all areas of life, yogasna have a deeper significance value in the development of the physical, mental, and spiritual personality, whereas pure exercise only have physical effect on muscles and bones.

Physical exercises are performed quickly and with a lot of heavy breathing, yogasan are performed slowly with relaxation and concentration. The benefits of various yoga techniques have been professed to improve body muscular strength, performance, stress reduction, attainment of inner peace and self-realization.

Schools are dynamic setting for promoting health and wellness through various correlated areas such as physical education and sports. There is a growing awareness that the health and

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psycho-social wellbeing of young children is of paramount importance and schools can provide a strategic means of children’s health, self-esteem, life skills and behaviour the yoga and physical exercise are the means to notice all round and harmonious development among school students in the modern society, hence scholar made an attempt explore the “The Effect of Yoga and Physical Exercise on body fat Variables of Secondary School Students” The present study was carried out in the background of the experimental method.

**Hypothesis**

1. There would be significant effect of yoga and physical exercises training on improvement of Body fat variables of secondary school students.
2. The training of Physical Exercises leads and develops better body fat comparing to yoga training.
3. The is no significant difference of yoga and Physical Exercise training in improving Body fat among students.

**Objectives**

1. To assess the effect of yoga and Physical exercises on cardiovascular endurance fitness variables of secondary school students

**Methodology**

The purpose of the study was to find out effect of yogasana on selected physical variables such as flexibility and explosive power between yoga and Physical exercises group, to achieve the purpose of the study 300 students studying in the Government High School Nagthan and Sanganbasaveshawar residential school of Vijayapur district of Karnataka (Indi) has selected randomly as subject for the experiment, they were divided into two equal groups, each group consists of the 100 students. Group I and Group II underwent yogasan and physical; exercises training for six days per week for twelve weeks. Group III Acted as control that did not undergo any special training programme apart from their regular physical education classes programme. The following variables’ namely Body fat was selected as criterion variables. All the subjects of two groups were tested on selected depended variables at prior to and immediately after the training programme. The analyses of covariance were used to analyze the significant difference if any between the groups. The 0.05 level of confidence was fixed as the level of significance to test the ‘F’ ratio obtained by the analysis of covariance, which was considered as an appropriate.

**Analysis of the data:** The data collected prior and the after the experimental period on body fat variables of yoga and physical exercise group were analyzes and presented in the following table -I

**Physiological Variables (Body Fat Content)**

It is said that the key to success in control in weight management keeping energy intake or food and energy output Physical activity in balance. Hence this study proved that how the Physical exercises effect on the body. To determine the Impact of yogic and Physical exercise on Physiological variables such as body fat content of secondary school students for that all experimental group has made to expose the 12 week training of Physical exercises and yoga and collected data was assessed through the Anacova and scheffe’s post hoc test.

**Body fat**

It was hypothesised that the regular practices of Physical exercises’ are going to decrease the body fat content than yogic exercise training formulated on the rational that Physical exercises require more calories of energy to perform strenuous and high intensive activities, and fat is gong burn in Physical activities comparing yoga exercises

**Table 1:** Computation of Covariance of Physiological variables (Body fat content) of control Group, Experimental group 1(Yogic Exercises) and Experimental group 2 (Physical Exercises) of Secondary school students.

| Source            | Variance | Df  | Sum of the Square | Mean square | Remarks |
|-------------------|----------|-----|-------------------|-------------|---------|
| Between the group |          | 2   | 1664.317          | 832.158     | 20.49   |
| Within the group  |          | 296 | 12068.666         | 40.635      | Sig     |

Significant at 0.05 level

**Table 1:** A Body fat content mean differences of control group (A), Experimental group 1(B) (Yogic Exercise) and experimental group 2(C) (Physical Exercise)

| GROUP         | M1     | M2     | Diff  |
|---------------|--------|--------|-------|
| Group C & E1  | 75.610 | 72.747 | 2.863 |
| Group C & E2  | 75.610 | 69.841 | 5.769 |
| Group E1 & E2 | 72.747 | 69.841 | 2.906 |

**Results and finding (Body fat)**

Table- 1-A shows the ‘F’ ratio of 20.49, which was greater than table value of 0.05 level. Hence Scheff’s Post Hoc test was employed to the data the score is 20.64 which was also found significant. Table-I-A (shows Scheff’s Post Hoc test) shows the mean difference between the three groups. The difference between Group A (control group) and Group B (Yogic exercise) was 2.863. The difference between the Group A (control group) and Group C Experimental group (Physical Exercise) was 5.769. The difference between Group B Experimental groups I (Yogic Exercise) and Experimental group II (Physical exercise) was 2.906. It is greater than table value that is 0.05 levels.

**Discussion and findings of body fat**

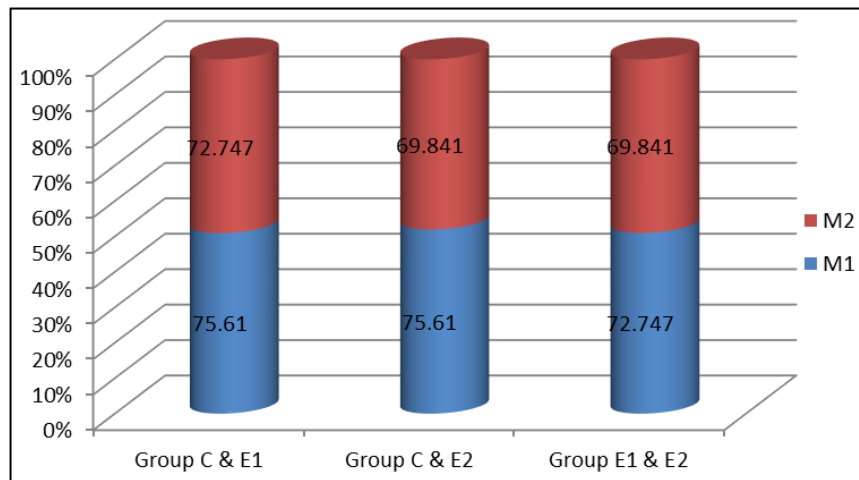
Body fat is the proportion of the lean body mass and depot fat and it’s one of the lean Body when we refer Table-I-A it was reveals that computed F ratio was greater than the table value and data was employed to find-out the adjusted paired means that was also significant. From the statistical analysis of the data, it was found that Physical exercise has reduced the fat content than their counter part (Yogic exercise and control group). It may be due to the reason that Physical exercise is having quick nature in performing activities and strenuous these factors might be contributed to develop and spend more calories and energy for working muscle among the trainee’s, because Physical; exercises requires energy and continuous development in strenuous and high intensive Physical work going to spent and burn more energy, but yoga would be performed in slow phase and steadily, this kind of activities results in decreasing body fat percentage of the trainers. Yogic exercises help to build muscle and burn fat all over the body, some forms of yogasanas is more effective for burning calories and reducing fat. Yoga poses also stimulate poor performing glands to increase their hormonal secretions. The thyroid gland, especially, has a big effect on weight because it affects body metabolism. If the metabolism is slow, this hinders body’s natural ability to use body fat efficiently for energy. There are several poses, for the thyroid gland. Fat

metabolism is also increased, so fat is burned in the furnace of the muscle cell. Yoga also tones and strengthens the muscles. When under nervous strain persons tend to swallow more food without getting satisfaction. Yoga reduces anxiety and reduces anxious eating.

Hence formulated hypothesis was, Physical exercise training

can be decreases the body fat content of secondary school students was accepted and null hypothesis is rejected.

**The graph - showing the mean difference of Body fat Between the Experimental and control group**



### Conclusion

The physical exercises plays significant role in controlling and decreasing body fat contents, so modern science, technology and style of living has influenced health condition of school going students, hence it research outcome states that physical education curriculum should be implemented and maintained effectively for the all-round and harmonious development of school personality.

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