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The effect of yoga and physical exercise on speed and cardio respiratory endurance variables 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 speed and cardio respiratory endurance, for this purpose hundred fifty students studying in various classes of Government high school Nagathan 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 fifty 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 perouid, the subjects were tested for leg explosive strength and agility ability. The analysis of covariance (ANCOVA) was applied to find out which group has better in performance, 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 improved leg explosive strength and agility, significant increases found in explosive strength among the physical exercise group comparing their counterpart and agility has ability has been increased in the yoga group comparing to physical exercises'.

Keywords: effect of yoga, physical exercise, speed, secondary school students

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 phyaical 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 psycho-social wellbeing of young children is of paramount importance and schools can provide a strategic means of children's health

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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 Selected Physical Variables of Secondary School Students “The present study was carried out in the background of the experimental method.

Hypothesis

There would be significant effect of yoga and physical exercises training on improvement of motor variables of secondary school students.

1. The training of physical exercises leads to better in speed and cardio respiratory endurance comparing to yoga training
2. There is no significant difference of yoga and physical exercise training in improving motor and physical fitness abilities among students

Objectives

1. To assess the effect of yoga and Physical exercises on motor and physical 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 100 students studying in the Government High School Nagthan of Biajpur district of Karnataka has selected randomly as subject for the experiment, they were divided into two equal groups, each group consists of the 50 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 explosive power and agility were 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 among 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 of yoga and physical exercise gro speed and cardio vascular endurance up were analyzes and presented in the following table-I

Table I: Computation of Covariance of Speed 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	88.809	44.405	Sig
Within the group	147	161.607	1.099	

Significant at 0.05 level

Results and findings (Speed)

Table- I shows the ‘F’ ratio of 40.391 which was greater than table value of 0.05 level. Hence Scheff’s Post Hoc test was employed to the data the score is 33.98 which was also found significant. Table-IA (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 0.632. The difference between the Group A (control group) and Group C Experimental group(Physical Exercise) was 1.854. The difference between Group B Experimental groups I (Yogic Exercise) and Experimental group II (Physical exercise) was 1.222. it is greater than table value that is 0.05 level.

Discussion and findings of Speed

When we refer TABLE-I it 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 improved speed than their counter part (Yogic exercise and control group). It may be due to the reason that speed is product of various fitness and motor qualities of the students, therefore, Regular and strenuous

physical exercise is going to develop the motor qualities and explosive strength among the practitioners, hence, physical exercises group has shown better performance in their speed variables than their counterpart. Hence formulated hypothesis there would be significant difference in the speed between experiment groups has proved statistically and formulated hypothesis is accepted.

Cardio Respiratory Endurance

2.It was hypothesized that there would be a significant difference in the cardiovascular endurance between the subjects of experiment 1 and experiment 2and control group of experiment, it was assumed on the rational that strenuous, varied and high intensive kind of activities and fast moment of the body posture are going increase the muscles, lungs and heart working capacity of the practitioners, this would help to enhance the muscle working capacity and reflexive action in the muscle system of the physical exercises group pulse rate of the yogic group comparing to control and yoga exercise group of secondary school students. The data on cardiovascular endurance before and after training of the yogic and physical exercises and control groups are analyzed and presented in the table-2

Table II: Computation of Covariance of Cardio Respiratory Endurance 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	15861.213	7930.607	Sig
Within the group	147	3383.620	23.018	

Significant at 0.05 level

Results and findings (Cardio Respiratory Endurance)

Table- II shows the 'F' ratio of 344.542 which was greater than table value of 0.05 level. Hence Scheff's Post Hoc test was employed to the data the score is 355.819 which was also found significant. Table-II 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 -6.120. The difference between the Group A (control group) and Group C Experimental group (Physical Exercise) was -24.220. The difference between Group B Experimental groups I (Yogic Exercise) and Experimental group II (Physical exercise) was 18.100. It is greater than table value that is 0.05 level.

Conclusion

The practice of physical exercises and yoga asana were played significant role in developing and improving the speed and cardio respiratory endurance factors among the secondary school students, were has physical exercises has improved the speed ability comparing to the yoga group and yogic exercises has improved cardio respiratory endurance among the yogic group comparing to thir counter part. hence was recommended to that the curriculum and yoga syllabus must teach and practice effectively to notice the harmonious development of personify of students.

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