



IMPACT OF ASANA AND MEDITATION ON VITAL CAPACITY OF THE HIGH SCHOOL STUDENTS

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ABSTRACT

The aim of the study was designed to determine the Impact of Asana and Meditation on Vital Capacity of the High School Students. To attain the purpose, Forty five (N=45) high school students studying various government high schools in and around Mysore, Karnataka State, India during the academic year 2015-2016 were selected randomly as subjects. Their age ranged from 14 to 16 years. The subjects were assigned at random into three groups of fifteen each (n=15). Group-I underwent Yogasana Practice (n=15), Group-II underwent Meditation Practice (n=15) and Group-III acted as Control. The dependent variable selected for this study was Vital Capacity and it was assessed by Spirometer. All the subjects were tested prior to and immediately after the training for the selected variable. Data were collected and statistically analyzed using ANCOVA. Scheffe's post hoc test was applied to determine the significant difference between the paired means. In all the cases 0.05 level of significance was fixed. The results of the study showed that there was a significant difference among all the Experimental groups' namely Yogasana Practices and Meditation Practices. Further the results showed Meditation group was found to have greater impact on the group concerned than the Yogasana group and Control group in enhancing the performance of Vital Capacity.

KEYWORDS : Yogasana Practices, Meditation Practices , Vital Capacity

INTRODUCTION

Yoga is the oldest known science of self-development, originated in ancient India. Yogic practices are a physical and mental exercise practiced throughout the world. Many research studies of the past report that yogic training improves the physical & mental fitness level as well as the performance of sports persons in various sports disciplines.

Yogasanas make possible not only physical and mental development but also intellectual and spiritual development. Asanas require the least possible use of physical energy. Yogasanas are called a 'non-violent activity' (*Sharma, 1984*).

The word "meditation" is derived from the Latin word "meditari", which means "to engage in contemplation or reflection." The word meditation comes from both Greek and Latin root word meaning medicine. Further, it refers to a family of self-regulation practices that focus on training attention and awareness in order to foster general mental well-being and development and / or specific capacities such as calmness, clarity, and concentration.

Meditation healing the body of disease by proper diet, right living, and recharging the body with God's all-powerful cosmic energy; removing in harmonies and inefficiency from the mind by concentration, constructive thinking, and cheerfulness; and freeing the ever-perfect soul from the bonds of spiritual ignorance by meditation.

Meditation is the seventh limb of Astanga yoga. Meditation in yogic terminology stands for that state of mind-stuff in which all thinking is pinned on the contemplation of the omnipresent and the omniscient Ishwara.

Athletes have higher vital capacity than sedentary workers do. There is a relationship between vital capacity and physical measurements like height, weight, sitting height and body surface area. The normal value has a wide range. Even in healthy subjects of about the same and age physical build. The vital capacity may vary from the mean by about 20 per cent. Vital capacity is reduced by about 5 percent in the lying position partly because of an increase in the pulmonary blood volume and partly because of an upward shift of the diaphragm. Vital capacity varies with age, sex and physical development. It is

higher in males than in females. Vital capacity increases progressively from childhood to adolescence and the highest values are obtained in young adults. It is reduced in old age. The vital capacity is reduced due to many diseases of the respiratory system as well as in cardiac disorders. Low values are observed in pulmonary emphysema, fibrosis, bronchial obstruction, pneumothorax, pleural and pericardial effusion, poliomyelitis and congestive cardiac failure (*Chakrabarthy, and Sahana's, 1984*).

METHODOLOGY

The study was conducted on Forty five (N=45) high school students studying various government high schools in and around Mysore, Karnataka State, India during the academic year 2015-2016 were selected randomly as subjects. Their age ranged from 14 to 16 years. The subjects were assigned at random into three groups of fifteen each (n=15). Group-I underwent Yogasana Practice (n=15), Group-II underwent Meditation Practice (n=15) and Group-III acted as Control. The experimental groups underwent the respective training for a period of 12 weeks (3 days/week), whereas the control remain as normal with the sedentary life. The dependent variable selected for this study was Vital Capacity and it was assessed by Spirometre. All the three groups were tested on selected Vital Capacity was analyzed before and after the training period.

ANALYSIS OF THE DATA

The data collected from the experimental groups and control group on prior and after experimentation on selected variables were statistically examined by analysis of covariance (ANCOVA) was used to determine differences, if any among the adjusted post test means on selected criterion variables separately. Whenever they obtained f-ratio value was significant the Scheffe's test was applied as post hoc test to determine the paired mean differences, if any. In all the cases 0.05 level of significance was fixed.

The Analysis of covariance (ANCOVA) on Vital Capacity of Experimental Groups and Control group have been analyzed and presented in Table-1.

The analysis of covariance on Vital Capacity of the pre, post, and adjusted test scores of Yogasana Practices group, Meditation Practices group and Control group have been analyzed and presented in Table-1.

TABLE – 1 COMPUTATION OF ANALYSIS OF COVARIANCE OF PRE TEST, POST TEST AND ADJUSTED POST TEST ON VITAL CAPACITY OF EXPERIMENTAL GROUPS AND CONTROL GROUP

Test	Yogasana Practices Group-I	Meditation Practices Group-II	Control Group-III	Source of Variance	Sum of Squares	df	Mean Squares	F-ratio
Pre-Test Mean	3112.07	3098.73	3060.73	Between groups	21284.44	2	10642.22	0.23
				Within groups	1926686.80	42	45873.50	
Post-Test Mean	3363.67	3264.33	3052.73	Between groups	756606.04	2	378303.00	10.20*
				Within groups	1557895.60	42	37092.75	
Adjusted Post-Test Mean	3347.33	3258.10	3075.30	Between sets	570608.25	2	285304.10	25.93*
				Within Sets	451101.43	41	11002.47	

***Significant at 0.05 level of confidence**
Table value for df (2, 42) at 0.05 level = 3.22 Table value for df (2, 41) at 0.05 level = 3.23 (Vital Capacity scores are in ml/kg/min)

Table-1 shows that the obtained F-ratio value 0.23 for pre test mean of Yogasana Practices group, Meditation Practices group and Control group on Vital Capacity is less than the required table value of 3.22 for significance with df 2 and 42 at 0.05 level of confidence.

The obtained F-ratio value of 10.20 for post test mean of Yogasana Practices group, Meditation Practices group and Control group on Vital Capacity is more than the required table value of 3.22 for significance with df 2 and 42 at 0.05 level of confidence.

The obtained F-ratio value of 25.93 for adjusted post test mean of Yogasana Practices group, Meditation Practices group and Control group on Vital Capacity is higher than the required table value of 3.23 for significance with df 2 and 41 at 0.05 level of confidence.

The results of the study indicated that there is a significant difference between the adjusted post-test means of Yogasana Practices group, Meditation Practices group and Control group on Vital Capacity.

Since, three groups are compared and whenever the obtained 'F' ratio for adjusted post test is found to be significant, Scheffe's test is used to find out the paired mean difference and it is presented in Table-2.

TABLE-2 SCHEFFE'S TEST FOR THE DIFFERENCE BETWEEN PAIRED MEANSONVITAL CAPACITY

Yogasana Practices Group-I	Meditation Practices Group-II	Control Group	Mean Difference	Confident Interval Value
3347.33	3258.10	---	89.23	97.35
3347.33	---	3075.30	272.03	
---	3258.10	3075.30	182.80	

***Significant at 0.05 level of confidence.**

Table-2 shows that the mean difference values of Yogasana Practices group and Control group, Meditation Practices group and Control group are 272.03 and 182.80 respectively, which are greater than the confidence interval value of 97.35 on Vital Capacity at 0.05 level of confidence. Further the mean difference values of Yogasana Practices group and Meditation Practices group, is 89.23, which is less than the confidence interval value of 97.35 on Vital Capacity at 0.05 level of confidence.

The results of the study showed that there was a significant difference between Yogasana Practices group and Control group, Meditation Practices group and Control group. Further the results of the study showed that there was no significant difference between Yogasana Practices group and Meditation Practices group.

The above data also reveal that Meditation Practices group had

shown better performance than Yogasana Practices group and Control in Vital Capacity.

The adjusted post mean values of Yogasana Practices group, Meditation Practices group and Control group on Vital Capacity are graphically represented in the Figure -1.

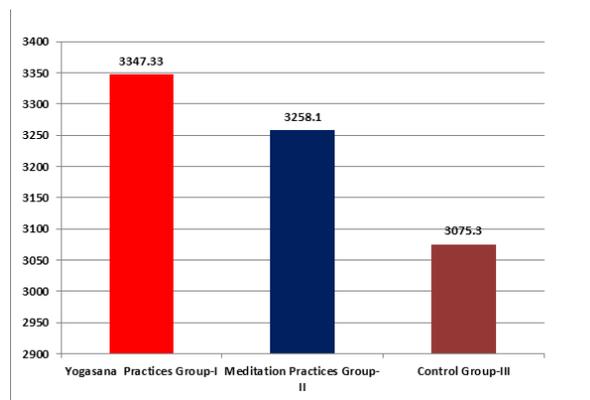


Figure: 1 The Adjusted Post Test Mean Values of Yogasana Practices group, Meditation Practices group and Control group on Vital Capacity

CONCLUSION

From the analysis of the data, the following conclusions were drawn.

1. Significant differences in achievement were found between Yogasana Practices group, Meditation Practices group, and Control group in the selected criterion variable on Vital Capacity.
2. The Experimental groups namely, Yogasana Practices group, Meditation Practices group, had significantly increased in Vital Capacity.
3. The Meditation Practices group was found to be better than the Yogasana Practices group and Control group in decreasing Strength performance.

REFERENCES

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