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## Effect of yogic practices on strength among secondary school students

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### Abstract

Yoga is a way to harmonious development of mankind that is physical, mental, intellectual, emotional and spiritual aspect of life. The study was conducted on 80 secondary school students. On the variable Strength, subjects belonging to experimental groups i.e. Asana, Pranayama and Dhyana group differed significantly than the control group. Strength indicating positive effect of selected yogic practices (Asana, Pranayama and Dhyana).

**Keywords:** Asana, Pranayama and Dhyana

### Introduction

Yoga is a way to harmonious development of mankind that is physical, mental, intellectual, emotional and spiritual aspect of life. The development of a family, a society, a nation and the world depends upon the development of an individual. Individual is the foundation stone of the society. The concept of yoga is that each seed has an inherent capacity gifted by the nature to grow in shape of a big tree. The process of growing into a big tree, laden with flowers and fruits, needs proper soil, irrigation, sunlight, heat and other support. Likewise human beings right from childhood to the old age, need proper diet, education and other facilities in order to become a healthy person and the process of yoga is meant for the total development of an individual. It is clear that the creator of this trinity has made every material and living organism with a definite purpose in order to make the creation well managed and balanced. The human body gets enormous energy and strength. With the help of yogic treatment it gets enlightened about its potential and can make best use of power lying within. Human life is a precious gift of nature, which is not meant for purposeless stress and frustration. Therefore, one should understand responsibilities towards body to make it healthy and worthy for ourselves and for the society at large. The growing children of our society are very vulnerable to this haphazard living style prevalent in our society; therefore, it is very important and essential to impart yogic education to our children.

Strength is generally defined as the muscular force exerted against movable and immovable objects (Johnson & Nelson 1982). Muscular strength may be defined as the force exerted by an individual during a single maximum effort. (Eckert, Helen M 1974)

### Objective of the study

To measure the strength of the arms and shoulders in the pull-up movement among secondary school children.

### Hypothesis

There exist significant effect of yogic practices on Vital Capacity among senior secondary school children

### Psychological variable

600 Yard run-walk

**Methodology**

Sample: The present study was conducted on male subjects of 16 to 19 years of age, studying in XI and XII grades in Government Senior Secondary School, Sector 23, Chandigarh. To ensure the selection of subject having normally sound mind in sound body, the investigator checked the health records maintained by the school with the help of a small team of physical instructors and eliminated (20) subjects finally selecting (80) students. Further the selected subjects were assigned the following four (4) groups.

1. Experimental Group I (Asana)
2. Experimental Group II (Pranayama)
3. Experimental Group III (Dhyana)
4. Control Group

Due emphasis was laid on aspects like age, height, weight, past game / sports experience / participation and health records before allocating the groups to ensure homogeneity. Prior to the administration of pre-test; a meeting of all the selected subjects were held in which the principal and the teachers of physical education of the said school were present. The purpose of the study along with various testing procedures and training program were explained to them in detail. Later on the selected subjects were also explained the same so that, they could grasp the importance and should suffer from no confusion whatsoever regarding the hard work and interest they would have to put in. All the subjects agreed to co-operate whole heartedly.

Experimental design: A simple random group design was adopted for this study as it seemed to be the most appropriate one. The eighty (80) subjects were classified into four equal groups with twenty (20) subjects in each group. Three experimental groups (Asana, Pranayama, Dhyana) and fourth as a control group. Training design: The training lasted twelve weeks. There were three sessions of one hour for each group in a week. Time was controlled for each group and the sessions commenced at 7.00 A. M. sharp. The training design was broadly classified as follows.

**1. Experimental Group I (Asana): Following exercises short listed & administered on experimental group-I**

- Surya Namaskara
- Paschimotianasana
- Sarvangasana
- Halasana
- Pavan Muktasana
- Uthit Padmasana
- Shavasana

**2. Experimental Group II (Prayanama): Following was practiced by experimental group-II**

- Surya Bhedana
- Kapalbhati
- Sitali
- Sitakari

**3. Experimental Group III (Dhyana): Following was administered to Experimental Group III.**

- Dot Trataka
- Candle Trataka

**Statistical Analysis**

To find out the significance of the differences among the groups as a result of training, the analysis of covariance (ANCOVA) was applied since the study employed the random group design and the four groups were not equal with reference to the factors examined through the analysis of covariance, the final means and the adjusted final means were listed for significance. In the case of variables where the F-ratio (ANCOVA) was found significant with regard to paired adjusted means post-hoc test was applied. The level of significance chosen to test the hypothesis was chosen as .05 which was recognized as appropriate in relation to the research process adopted and the equipment used in the study. Finally to find out the significance of the differences between pre-test and post-test means of the two experimental groups and control group 't' test was applied.

**Table 1:** Analysis of Covariance for three experimental and control groups on 600 Yard run-walk

	Asana	Pranayama	Dhyana	Control	Ss	DF	MS	F
Pre-test means	3.34	3.29	3.54	3.34	A: .8 W: 5.0	3 76	.3 .1	3*
Post-test means	3.29	3.26	3.46	3.37	A: .5 W: 3.9	3 76	.2 .05	4*
Adjusted post-test means	3.31	3.32	3.34	3.40	A: .1 W: 1.3	3 75	.03 .02	1.5

P<.05 =2.73\*

Table 1 presents the pre-test, post-test and adjusted post-test means of Asana group, pranayama group, Dhyana group and control group. The pre-test means for these groups are 3.34, 3.29, 3.54 and 3.34 respectively. The resultant 'F' ratio 3 found significant (p< .05). The post-test means for the above said groups are 3.29, 3.26,

3.46 and 3.37 respectively. The 'F' ratio 4 is also found statistically significant (p<.05).

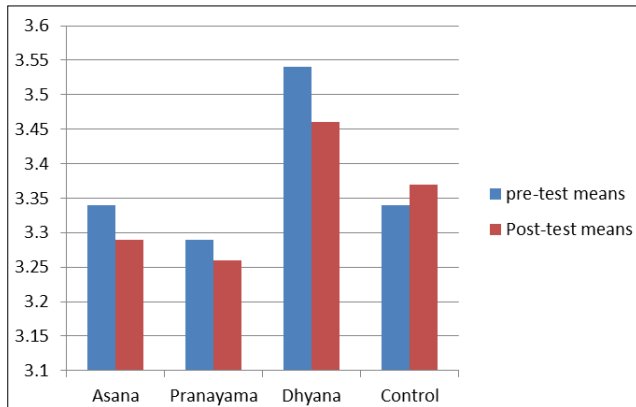
The adjusted post-test means for Asana, Pranayama, Dhyana and Control group are 3.29, 3.32, 3.34 and 3.40 respectively. Hence the analysis of covariance resulted in 'F' ratio of 1.5 which was not found statistically significant (p< .05).

**Table 2:** Significance of the difference between pre-test and post-test of experimental groups and control group on Yogic practices (600 Yard run-walk).

Groups	Pre-Test		Post-Test		Paired 't' Value
	Mean	S.D.	Mean	S.D.	
Asana	3.34	.20	3.29	.17	3.27*
Pranayama	3.29	.21	3.26	.21	5.67*
Dhyana	3.54	.37	3.46	.31	1.44
Control	3.34	.26	3.37	.20	3.23*

\* t .05 (df .38) = 2.02

In table 2 significance of the differences between pre-test and post-test means of three experimental groups (Asana, Pranayama, Dhyana) and Control group are shown. The pre-test mean values of Asana group, Pranayama group, Dhyana group and control group were 3.34, 3.29, 3.54 and 3.34 respectively. Whereas, the post mean value of above same groups were 3.29, 3.26, 3.46 and 3.37 respectively. The respective 't' values were 3.27, 5.67, 1.44 and 3.23 respectively. The 't' values of Asana group and Pranayama group along with the control group were found statistically significant at .05 (df .38) level. The intra-group differences between the means of pre and post on yogic practices are graphically represented in Figure.



**Fig 1:** Pre-test and Post-test means of Asana group, Pranayama group, Dhyana group and Control group on the 600 Yard run-walk

The results of covariance demonstrated significant inter group differences in the variable of 600 Yard run-walk. Therefore to know the direction of differences post-hoc analysis was conducted only on 600 Yard run-walk. Post-hoc analysis on 600 Yard run-walk demonstrated significant difference between Asana group and Control group table-2. While the other groups were not significant differ on this variable. This indicates that regular practice of Asana improves the strength of the arms and the shoulders which are required for 600 Yard run-walk. However, there have been improvements of 600 Yard run-walk although in varying degrees as a result of the experimental treatment. These findings of the investigator, that using Asana, Pranayama and Dhyana contributed positively on 600 Yard run-walk.

There were significant difference found between the subjects belonging to three experimental groups i.e Asana group, Pranayama group, Dhyana group and that of Control group. Asana group performed better than the other groups on motor fitness variable 600 Yard run-walk.

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