



ISSN: 2456-4419

Impact Factor: (RJIF): 5.18

Yoga 2019; 4(1): 1200-1202

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www.theyogicjournal.com

Received: 22-11-2018

Accepted: 24-12-2018

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Effect of yogic practices on agility 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 Agility, subjects belonging to experimental groups i.e. Asana, Pranayama and Dhyana group differed significantly than the control group. Agility 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.

One's controlled ability to change body position and direction rapidly and accurately. (Kansal, Devinder. K 1996)

Objective of the Study

To measure the agility in the Shuttle- run movement among secondary school children.

Hypothesis

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

Psychological variable

1. Shuttle- run

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

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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 what-so-ever 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 (Pranayama): 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 Shuttle- run

	Asana	Pranayama	Dhyana	Control	Ss	DF	MS	F
Pre-test means	10.77	10.56	10.82	9.91	A: 10.7 W: 15.5	3 76	3.6 0.2	18*
Post-test means	10.53	10.23	10.77	9.89	A: 8.7 W: 15.9	3 76	2.9 0.2	14.5*
Adjusted post-test means	10.33	10.20	10.53	10.36	A: 1.1 W: 6.5	3 75	0.4 0.09	4.4*

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 groups (Asana, Pranayama, Dhyana, and Control) are 10.77, 10.56, 10.82, and 9.91 respectively. The resultant ‘F’ ratio 18 found statistically significant (p< .05).

The post-test means for the same group are 10.53, 10.23, 10.77 and 9.89 respectively. The resultant ‘F’ ratio 14.5 also

found statistically significant at (p<.05).

The adjusted post-test means for above same groups are 10.33, 10.20, 10.53 and 10.36 respectively. Since obtained ‘F’ value 4.4 was found greater than the table value of 2.73 required to be significant at five per cent level. Further Scheffe’s post-hoc test was applied to determine that in which of the paired adjusted means an actual difference existed. The results of post-hoc test have been presented in table 2.

Table 2: Paired Adjusted Final means and differences between the means for three experimental groups and Control group on Shuttle-run.

Adjusted Means				Differences Between Means	Scheffe’s Post-hoc
Asana	Pranayama	Dhyana	Control		
10.33	10.20	-	-	.13	.26
10.33	-	10.53	-	.2	.26
10.33	-	-	10.36	.03	.26
-	10.20	10.53	-	.33	.26
-	10.20	-	10.36	.16	.26
-	-	10.53	10.36	.17	.26

Table 2 presents that there is no statistical significant differences in the adjusted means between groups of Asana and pranayama, Asana and Dhyana, Asana and Control, Pranayama and control, Dhyans and Control groups. The adjusted mean value of pranayama group (10.20) and Dhyana group (10.53) indicates Pranayama and Dhyana group better

in comparison to control group on the variable shuttle-run. However, Pranayama group is found statistically significant in comparison to Dhyana groups. The difference between these two groups is observed .33 which is found greater than the obtained critical ratio.

Table 3: Significance of the difference between pre-test and post-test of experimental groups and control group on Yogic practices (Shuttle- run)

Groups	Pre-Test		Post-Test		Pairst 't' Value
	Mean	S.D.	Mean	S.D.	
Asana	10.77	.40	10.53	.50	2.74*
Pranayama	10.56	.45	10.23	.38	4.50*
Dhyana	10.82	.44	10.77	.44	.77
Control	9.91	.51	9.89	.50	1.39

* t .05 (df .38) = 2.02

In table 3 significance of the differences between pre-test and post-test means of three experimental groups (Asana, Pranayama, Dhyana and Control group) are presented. The pre-test mean values of Asana group, Pranayama group, Dhyana group and control group were 10.77, 10.56, 10.82 and 9.91 respectively. Whereas, the post mean value of above same groups were 10.53, 10.23, 10.77 and 9.89 respectively. The respective 't' values were 2.74, 4.50, .77 and 1.39 respectively. The t-values of Asana and Pranayama group 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.

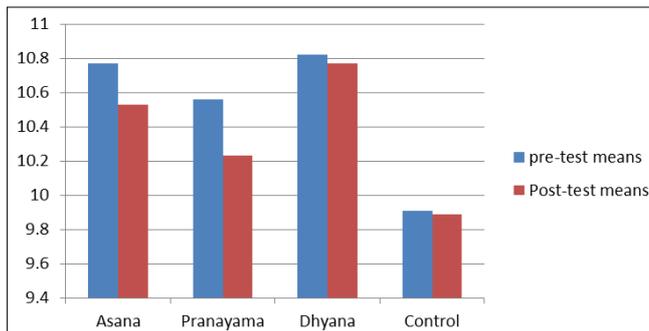


Fig 1: Pre-test and Post-test means of Asana group, Pranayama group, Dhyana group and Control group on the Shuttle- run

The results of covariance demonstrated significant inter group differences in the variable of Shuttle-run. Therefore to know the direction of differences post-hoc analysis was conducted on Shuttle-run. The finding of the present investigation is in line with the findings of Mahinder (2000) which demonstrated regular practice of Yoga Asana improved the physical fitness component of Agility. The results of this investigation are to be used with caution because it also presents several contradictions. This study could not demonstrate significant post-test improvement in motor fitness components.

The subjects belonging to experimental groups i.e., Pranayama group and Dhyana Group differed significantly in their respective level of performance (post-data results). However, experimental group (II); i.e. Pranayama group was better than experimental group (III); i.e. Dhyana group on the variable Shuttle-run. Significant difference was found on Shuttle-run between the pre-test and post-test levels of both Asana and Pranayama groups. Whereas, no significant difference was found between the pre-test and post-test results of Dhyana and Control groups.

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