

Research Article

Influence of Asanas, Pranayama, and Meditation on Breath-Holding Time

N. Sakthivel¹, N. Prem Kumar²¹Department of Physical Education, TNPESU, Chennai, Tamil Nadu, India, ²Department of Physical Education, KCG College of Technology, Karapakkam, Chennai, Tamil Nadu, India

CrossMark

ABSTRACT

The purpose of the present study was to find out the influence of asanas, pranayama, and meditation practice on breath-holding time. To achieve the purpose of the study, 40 students from Vivekananda School were randomly selected as subjects. The age of the subject ranged from 13 to 15 years. The selected subjects were divided into four equal groups of 10 subjects from each. Group I underwent asana practice, Group II underwent pranayama practices, and Group III underwent meditation practice for 5 days per week for 8 weeks of training period, and Group IV acted as control that did not participant in any special training program apart from their regular activities. The data were collected before and after the training program of 8 weeks. Breath-holding time was chosen as a criterion variable. The analysis of covariance was used to analyze the data. The result of the study showed that the breath-holding time was significantly improved due to the asana, pranayama, and meditation practices.

Address for correspondence:

Dr. N. Prem Kumar, Head and Director, Department of Physical Education, KCG College of Technology, Karapakkam, Chennai - 600097, Tamil Nadu, India.

E-mail: pkdec16@gmail.com
comprem.sports@kcgcollege.com

Keywords:

Asana, Pranayama, Meditation, Breath-holding time

Received: 10th August 2018

Published: 15th September 2018

Accepted: 02nd November 2018

INTRODUCTION

The study of yoga is fascinating to those with a philosophical mind and is the silencing of the mind activities, which lead to complete realization of the intrinsic nature of the Supreme Being. It is a practical holistic philosophy designed to bring about profound sate as well as an integral subject, which takes into consideration man as a whole (Iyengar, 1966). The aim of yoga is devise ways and means of helping the better emotional and intellectual concentration. Asana is the main yogic practice for balancing the physical body. It consists of various static postures and physical movement performed to release tension, improve flexibility, maximize the flow of energy, and remove fixation.^[1-6] The objective of asana is to create a free flow of energy to help to direct our attention within. In this study, an attempt was made to find out the effects of asanas, pranayama, and meditation practices on breath-holding time.

METHODOLOGY

The selected subjects from Vivekananda School, Chennai, were divided into four equal groups of 10 subjects each. Group I underwent asana practices, Group II underwent pranayama practice group, Group III underwent asana practice for 5 days per

week for 8 weeks of training period, and Group IV acted as control as they did not participate in any special training program apart from their regular activities. Subjects were required to attend yoga classes 5 days a week for a total of 8 weeks. Each yoga session consisted of 10 min of pranayamas (breath control exercises), 15 min of asanas, and 10 min of meditation. The subjects were evaluated before and after the training program. Breath-holding time was measured by manual breath-holding method with the unit of measurement was in numbers. The findings and discussion on the influence of asanas, pranayama, and meditation practice on holding time were analyzed separately and presented below. The analysis of covariance on breath-holding time of the pre- and post-test scores or experimental Groups I, II, and III and control group has been analyzed and presented in Table 1.

Table 1 shows the analyzed data on breath-holding time. The pre-test means of breath-holding time were 53.00 for experimental Group I, 52.80 for experimental Group II, 52.50 for experimental Group III, and 52.90 for control group. The obtained "F" ratio of 0.12 was lesser than the table F-ratio 4.12. Hence, the pre-test means of breath-holding time were 54.10 for experimental Group I, 62.50 for experimental Group II, 58.10 for experimental Group III, and 52.60 for control group. The obtained "F" ratio of 70.44 was higher than the

Copyright ©2018. The Author(s). Published by Arunai publications private Ltd.



This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>)

Table 1: Analysis of covariance of pre-test-post-test and adjusted post-test on breath-holding time of three experimental group and control group (scores in seconds)

Test	Exp. Group I	Exp. Group II	Exp. Group III	Control group	SV	SS	Df	Mean square	OF value
Pre-test mean	53.00	52.80	52.50	52.90	B	1.40	3	0.47	0.12
SD	1.92	1.96	1.82	1.99	W	145.00	36	4.03	
Post-test mean	54.10	62.50	58.10	52.60	B	591.07	3	197.02	70.44*
SD	1.78	1.59	1.39	1.64	W	100.70	36	2.80	
Adjusted post-test mean	53.97	62.50	58.30	52.53	B	608.36	3	202.79	198.94*
					W	35.68	36	1.02	

*Significant at 0.05 level of confidence

Table 2: Scheffe's *post hoc* test mean difference on breath-holding time among the groups (scores in seconds)

Exp. Group I	Exp. Group II	Exp. Group III	Control group	Mean difference	Confidence interval value
53.97	62.50	-	-	8.53*	1.30
53.97	-	58.30	-	4.33*	1.30
53.97	-	-	52.53	1.43*	1.30
-	62.50	58.30	-	4.20*	1.30
-	62.50	-	52.53	9.97*	1.30
-	-	58.30	52.53	5.77*	1.30

*Significant at 0.05 level of confidence

table F-ratio 4.12. Hence, the post-test was significant at 0.05 level of confidence for the degrees of freedom 3 and 36. The adjusted post-test means of breath-holding time were 53.97 for experimental Group I, 62.50 for experimental Group II, 58.30 for experimental Group III, and 52.53 for control group.

The obtained "F" ratio of 198.94 was higher than the table F-ratio 4.12. Hence, the post-test was significant at 0.05 level of confidence for the degrees of freedom 3 and 35. Since four groups were compared, whenever the obtained "F" ratio for adjusted post-test was found to be significant, the Scheffe's test to find out the paired mean differences and it was presented in Table 2.

Table 2 shows the Scheffe's *post hoc* test results. The ordered adjusted final mean difference for breath-holding time of experimental Groups I-III and control group was tested for significance at 0.05 level confidences against confidential interval value. The mean difference between experimental Group I and experimental Group II, experimental Group I and experimental Group III, experimental Group I and control group, experimental Group II and experimental Group III, experimental Group II and control group, and experimental Group III and control group were 8.53, 4.33, 1.43, 4.20, 9.97, and 5.77, respectively, and it was seen to be greater than the confidential interval value of 1.30. Hence, all the comparisons were significant.

CONCLUSIONS

It was concluded that:

1. The practice of asana for 8 weeks had improved breath

holding slightly.

2. Meditation practice for 8 weeks had improved breath holding better than the practice of asanas.
3. The practice of pranayama had influence on improving breath-holding time than the other two.
4. It is evident that practice of asanas, pranayama, and meditation improves breath-holding time.

REFERENCES

1. Swamy S. Yoga Asanas. 20th ed. Chennai: Divine Life Society Publication; 2004. p. 1934.
2. Larry GS. Essentials of Exercise Physiology. Delhi: Surjeet Publications; 1982. p. 6-10.
3. Bhutkar PM, Bhutkar MV, Taware GB, Dojjad V, Doddamanil BR. Effect of surya namaskar practices on cardio-respiratory fitness parameters. A1 Am J Med Sci 2008;1:126-9.
4. Kenneth HC. Aerobics. New York: Evans; 1931.
5. Yogi M. The Science of Being and the Art of Living. London: SRM publication; 1963.
6. Taimini IK. The Science of Yoga. Wheaton, Illinois: The Theosophical Publishing House; 1967.

Cite this article: Sakthivel N, Kumar NP. Influence of Asanas, Pranayama, and Meditation on Breath-Holding Time. Asian J Appl Res 2018;4(4):1-2.

Source of Support: Nil, **Conflict of Interest:** None declared.