International Journal of Interdisciplinary Research in Arts and Humanities (IJIRAH)
Impact Factor: 5.225, ISSN (Online): 2456 - 3145
(www.dvpublication.com) Volume 3, Issue 1, 2018

EFFECT OF PHYSICAL TRAINING AND YOGA PRACTICES ON VITAL CAPACITY

Mukesh Kumar Taker* & Dr. Pramjeet Singh Ghuman**
* Research Scholar, Department of Physical Education, Poonima University, Jaipur
** Professor, Department of Physical Education, Poonima University, Jaipur

Cite This Article: Mukesh Kumar Taker & Dr. Pramjeet Singh Ghuman, "Effect of Physical Training and Yoga Practices on Vital Capacity", International Journal of Interdisciplinary Research in Arts and Humanities, Volume 3, Issue 1, Page Number 326-328, 2018.

Abstract:

The purpose of the preset study was to find out the effect of physical training and yoga practices on vital capacity. To achieve the purpose of this study, Ninety untrained students was selected from Poornima University, Jaipur of professional course during the academic year 2015-2016 between age group of 18 to 21 years. The selected subject was divided into three groups with thirty subjects in each group selected randomly, with two experimental groups and one control group. Experimental Group-I underwent the physical training in selected exercise. Experimental Group-II underwent the selected yoga asana. The training period of experimental groups was twelve weeks, five days per week with duration of 70 minutes. Control group-III did not undergo any training programme rather than their routine work. The experimental groups namely physical activity group and yoga activity group exhibited increased mean values from the pre test to post test, whereas the control groups exhibited equal mean values from the pre test to post test in regard to vital capacity variable shows in the table 1 the pre-mean and pre-S.D. values of Physical activity Group, Yoga activity Group and the Control Group were found to be 2876.67±419.92, 3043±440.75, and 3016±370.54 respectively such as post-mean and post-S.D. values of Physical activity Group, Yoga activity Group and the Control Group were found to be 3250±368.36, 3403±340.87 and 3146.67±372.99 respectively and table no. 4.26 shows the Physical Activity group pre- Vital Capacity and post- Vital Capacity paired mean difference, S.D., S.E.D and t-values were found to be -373.33, 340.32, 62.13 and -6.01 respectively. As shown in the table ($p<.05$) post- Vital Capacity values of physical activity group were significantly greater than the pre- Vital Capacity values of physical activity group

Key Words: Vital Capacity, Physical Activity & Yoga Activity

Introduction:

Physical education has developed recently to incorporate a greater variety of activities besides typical sports. Introducing students to activities like bowling, walking, hiking and frisbee at an early age can help students develop good activity habits that will carry over into adulthood. Some teachers have even begun to incorporate stress-reduction techniques such as yoga, deep-breathing and tai chi. Tai chi, an ancient martial arts form focused on slow meditative movements is a relaxation activity with many benefits for students. Studies have shown that tai chi enhances muscular strength and endurance, cardiovascular endurance, and provides many other physical benefits. It also provides psychological benefits such as improving general mental health, concentration, awareness and positive mood. It can be taught to any age student with little or no equipment making it ideal for mixed ability and age classes. Tai chi can easily be incorporated into a holistic learning body and mind unit. Teaching non-traditional sports to students may also provide the necessary motivation for students to increase their activity, and can help students learn about different cultures.

Methodology:

The purpose of the preset study was to find out the effect of physical training and yoga practices on health related physical fitness and physiological variables. To achieve the purpose of this study, Ninety untrained students was selected from Poornima University, Jaipur of professional course during the academic year 2015-2016 between age group of 18 to 21 years. The selected subject was divided into three groups with thirty subjects in each group selected randomly, with two experimental groups and one control group. Experimental Group-I underwent the physical training in selected exercise. Experimental Group-II underwent the selected yoga asana. The training period of experimental groups was twelve weeks, five days per week with duration of 70 minutes. Control group-III did not undergo any training programme rather than their routine work. The samples belong to the middle socio-economic status. Prior to the administration of the test all subjects was assembled and a brief description was given about the purpose and requirement of testing procedures of the study to make them understand about what they are actually required to do during the experiment or the study. Three sessions were spent to familiarize the subjects with the techniques involved in executing the physical training and yogic training, which helped them to perform exercises properly and avoid injures. The subjects were verbally motivated to attend the training session regularly. All subjects agreed voluntarily to cooperate in the testing procedure which was to be explained to them.

Descriptive Statistics of Vital Capacity:

Table 1: Descriptive statistics of the data measured in the pre and post testing Vital Capacity

Group		N	Mean	S.D	S.E.D
Physical Training	Pre-Test	30	2876.67	419.92	76.67
	Post-Test	30	3250	368.36	67.25
Yoga Activity	Pre-Test	30	3043.33	440.75	80.47
	Post-Test	30	3403.33	340.87	62.24
Control (No Activity)	Pre-Test	30	3016.67	370.54	67.65
	Post-Test	30	3146.67	372.99	69

Table 1 indicates the values of descriptive statistics of the experimental Groups (Physical activity Group and Yoga activity Group) & Control Group for physiological variable of vital capacity, which shows that the pre-mean and pre-S.D. values of Physical activity Group, Yoga activity Group and the Control Group were found to be 2876.67±419.92, 3043±440.75, and 3016±370.54 respectively such as post-mean and post-S.D. values of Physical activity Group, Yoga activity Group and the Control Group were found to be 3250±368.36, 3403±340.87 and 3146.67±372.99 respectively. Above table also indicates the pre-S.E.D values of Physical activity Group, Yoga activity Group and the Control Group were found to be 76.67, 80.47, 67.65 respectively and post-S.E.D values of Physical activity Group, Yoga activity Group and the Control Group were found to be 67.25, 62.24, 69 respectively.

Table 2: Paired t-test description all Groups between pre and post value of Vital Capacity

Groups	Paired Group	Mean Difference	S.D	S.E.D	DF	t-value	Sig (2-tailed)
Physical Training	Pre Vital Capacity - Post Vital Capacity	-373.33	340.32	62.13	29	-6.01*	0.00
Yoga	Pre Vital Capacity - Post Vital Capacity	-36	245.79	44.87	29	-8.02*	0.04
Control	Pre Vital Capacity - Post Vital Capacity	-13	153.46	28.02	29	-4.64	0.58

(p<.05) * Significant at 0.05 level of confidence.

Table 2 indicates the pre-Vital Capacity and post- Vital Capacity paired t-test values of Physical Activity group, yoga group and control group separately. The Physical Activity group pre- Vital Capacity and post- Vital Capacity paired mean difference, S.D., S.E.D and t-values were found to be -373.33, 340.32, 62.13 and -6.01 respectively. As shown in the table (p<.05) post- Vital Capacity values of physical activity group were significantly greater than the pre- Vital Capacity values of physical activity group. Hence the null hypothesis is rejected and there was significant effect of Physical Activity on Vital Capacity (Physiological variable). The Yoga Activity group pre- Vital Capacity and post- Vital Capacity paired mean difference, S.D., S.E.D and t-values were found to be -36, 245.79, 44.87, and -8.02 respectively. As shown in the table (p<.05) post- Vital Capacity values of yoga activity group were significantly effect than the pre- Vital Capacity values of physical activity group. Hence the null hypothesis is rejected and there was significant effect of Yoga activity on Vital Capacity (Health Related Physical Fitness variable). The control group (no activity group) pre- Vital Capacity and post- Vital Capacity paired mean difference, S.D., S.E.D and t-values were found to be -13, 153.46, 28.02, and -4.46 respectively. As shown in the table (p>.05) post- Vital Capacity values of control group were no significantly effect than the pre- Vital Capacity values of Physical activity group. Hence the null hypothesis is accepted and there was no significant effect of control group (no activity) on Vital Capacity (Physiological variable).

Table 3: Post hoc comparison for the group means in post-measurement adjusted with the initial differences Vital Capacity

Source	Type III Sum of Squares	DF	Mean Square	F	Sig
Vital Capacity PRE	6977088	1	6977088	137.55*	0.00
GROUPS	980095.8	2	490047.9	9.66*	0.00
Error	4362245	86	50723.78		

(P<.05) * Significant at 0.05 level of confidence.

Table 3 indicates the ANCOVA test of difference between the subject effects, which shows that there are a significant difference in pre test values of Physiological variable of vital capacity for the three selected Groups, as the value has found to be 137.55, which proves to be the base of Analysis of Co-Variance. Also, a significant difference is found between the post test values (Dependent variable) of the experimental and Control Group as the value has found to be 9.66, which is significant at 0.05 level.

Table 4: Post hoc comparison for the group means in post-measurement adjusted with the initial differences Vital Capacity

(I) Different Groups	(J) Different Groups	Mean Difference (I-J)	Sig. a (p-value
Physical Activity Group	Yoga Activity Group	-38*	0.00
Physical Activity Group	Control Group	200*	0.00
Yoga Activity Group	Control Group	238*	0.00

Based on estimated marginal means
a. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).
***** The mean difference is significant at the 0.05 level.

Table 4 indicates the values of post hoc test for the selected Groups for physiological variable of Vital Capacity, which shows that a significant difference has found between the post test values of Physical activity Group and Yoga activity Group as the value have found to be -38 which is significant at 0.05 level, the post test values of Physical activity Group and Control Group as the value have found to be 200 which is significant at 0.05 level, Yoga activity Group and the Control Group as the value have found to be 238 which is significant at 0.05 level.

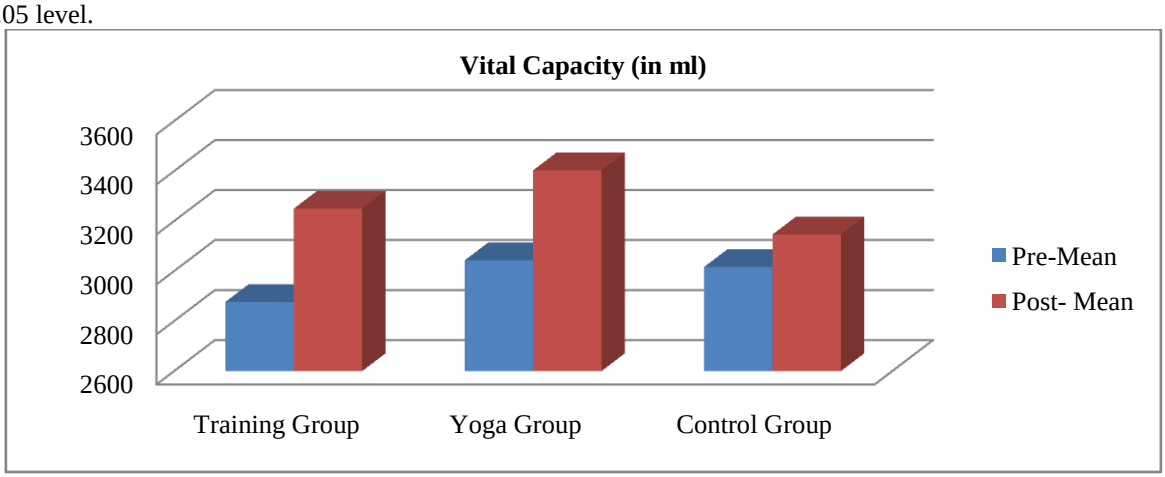

Figure 1: Bar Diagram Showing the pre and post mean value of vital capacity among Physical activity Group, Yoga Activity Group and Control Group

Conclusion:

The variables namely vital capacity (physiological variables) documented significant experimental effect of physical activity group and yoga group.

- ✓ A few minutes practice daily may help to achieve the expected focus level of mind which is required for better works and studies. Through daily practice one can maintain good physical and mental health for a long period.
- ✓ The findings as a whole concluded that the physical activity and yoga activity having significant experimental effect on health related physical fitness variables and physiological variables. Hence, should be included for professional practices and experimentations.
- ✓ The conducted study further increased the scope of experimentation paradigm for health related physical fitness variables and physiological variables domains. Hence, enriched the academic and scientific practices and book of knowledge

References:

1. Dobalion (2003), "Diagnosed metal and physical health conditions I the United States nursing home population: differences between urban and rural facilities". Journal Rural Health. , 19 (4).
2. Raghu, M. Syam Babu (2011), "Effect of Progressive Weight Training on Selected Health Related Physical Fitness Components among Degree College Male", International Journal of Health, Physical Education and Computer Science in Sports, Vol.2, No.1, pp 62-64.
3. G. L. Moghe, P. N. Deshmukh (2011), "The effect of plyometric training on the competitive swimming block start", Asian Journal of Physical Education and Computer Science in Sports, Vol.5, No.1, pp 4-5.
4. Hamid, Norlizah Abdul.(2014), "Anhropometirc and Physiological profiles of Varsity SepakTakraw players."International Conference on Innovative trends in Multidisciplinary Academic Research, 20(21), (Oct., 2014), pp.176-181.
5. J. Carson Smith "Effects of Emotional Exposure on State Anxiety after Acute Exercise" Medicine and Science in Sports and Exercise 2013; 45(2):372-378.
6. Kuno Hottenroot, Sebastian Ludyga, Stephan Schulze (2012), "Effects of high intensity training and continuous endurance training on aerobic capacity and body composition in recreationally active runners" Journal of Sports Science and Medicine, Vol.11, pp 483-488.
7. M. Seenimurugan, V. Jeyaveerapandian (2011), "Effect of Resistance Endurance Training and Combined Training on Selected Physical Fitness Variables", International Journal of Health, Physical Education and Computer Science in Sports, Vol.2, No.1, pp 11-14.
8. M.Gore, Anatomy and Physiology of Yogic Practices (Lonavala: Kanchan Prahasan, 1991), p.p.83-84.