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## The effect of yoga training in physiological characteristics of inter college cricket player

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### Abstract

The purpose of the study was to find out the effect of yoga training in physiological characteristics of inter college cricket player. The objective of the study was to determine the significance difference of physiological characteristic like (Respiratory Rate, Vital Capacity, Blood Pressure and Pulse Rate) of the college students. The data pertaining to the physiological characteristics were collected from the. To achieve these purpose 40 subjects (20 subjects from control group, while another 20 subjects were from experimental group), who were selected from Ch. Charan Singh Uni. Affiliated Colleges, the age of the subject ranged from 18-22 years. The subject received all the necessary information about the study procedure. The selected Subjects were divided in to two groups' namely experimental group and control group. Pre-test and post-test data of selected physiological components wear collected with the help of reliable tools of measurements to find out the significant difference and to find out the suitable yoga training programs for college students. Training was given to the subjects for 12 weeks with 6 days in a week. To find out the effect of training in physiological characteristics of college students, the dependent t-test was used. For the testing of hypotheses, the level of significance will be set at 0.05.

**Keywords:** Yoga training, physiological characteristics, cricket player

### Introduction

Cricket is one of the most popular and richest in history of all ball games. There is no record available which shows when and by whom cricket was started in England. It is essentially an English game. Old work shows that it is as old as 13th Century. The game eventually developed in the 17th century with underarm bowling, curved bat and a wicket of two feet wide and one foot high with a whole in the ground between the stumps. Cricket is a game of intricate movements combined with great speed and accuracy. Great teams are developed by the meshing of fundamentally sound players weaving clever patterns of attack and defense tactics.

Yoga is a way of life, which can be practiced by any human being regardless of age, sex and condition of health and thus it is based on general physical and spiritual laws which operate all mankind alike.

Yogic exercise is a kind of bodily movement with mental concentration. Yoga exercise can help a person to develop his health along with control at various emotions like lust, love, affection, anger, greediness and provide firm control over body and mind, specially to overcome most of dangerous diseases. For this reason at resent the importance of yoga is felt by a large number of persons in most of the nations. It is now being realized in all parts of the globe that yoga is not only for better development of mind, socio-control and spiritual moral aspect but is also- therapy.

Asana are physical exercises enabling the body to be physically fit. These exercises in physical education play an important part in helping the pupils to maintain a slim and youthful body.

Yoga Asana are comfortable and peaceful postures that make the physical body ready for the higher and more spiritual levels of Yoga practice.

Sports Science encompasses several subjects such as medical science, physiology, psychology, training science, kinesiology and biomechanics, anthropometry, sports nutrition and other allied sciences.

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Training; the word has been a part of human language since ancient times. It denotes the process of preparation for some task. The regular and systematic use of physical exercises, however, does not guarantee maximum improvement in performance. The effect of these exercises increased and decreased by a multiple of factors. Some of these factors, if ignored, lead to drastic reduction in efficacy of physical exercises. Most important among these are the sports equipment, verbal instructions, means of recovery, means of assessment of performance capacity, nutrition, psychological means and so on. In order to achieve best result all these factors or means are to be used in addition to or along with physical exercises.

These days sports are an important aspect of life. It plays a vital role in bringing about physical, mental, social and economical growth of the nation. Sports are becoming increasingly sophisticated technical gaining popularity as a separate profession. More young people are taking part in sports as a daily feature of their life. The participation in sports and daily fitness programme like aerobic, walking and dance etc. increase an individual's productivity, it also promotes social harmony and discipline.

Physiology is one of the biomedical sciences which deal with the functions of living organism. The goal of physiology is to gain insight into the machinery of the human organism, the roles and interactions of its parts and the resultant output of these interactions i.e. the overall functioning of the organism. The field of exercise physiology however has generally taken a more biological view of fitness particularly in regard to how someone responds to the demands of exercise. Essentially, this approach has required the tests to focus on how well the human circulatory and respiratory systems handle the stress prescribed exercises.

**Methodology**

The objective of the study was to determine the significance difference of physiological characteristic like (Respiratory Rate, Vital Capacity, Blood Pressure and Pulse Rate) of the college students.

The data pertaining to the physiological characteristics were collected from the 40 subjects (20 subjects from control group, while another 20 subjects were from experimental group), the age of the subject ranged from 18-22 years who were selected from Ch. Charan Singh Uni. Affiliated Colleges. Pre-test and post-test data of selected physiological components wear collected with the help of reliable tools of measurements to find out the significant difference and to find out the suitable yoga training programs for college students. Training was given to the subjects for 12 weeks with 6 days in a week.

**Findings**

To find out respiratory rate of control group students, t-ratio statistics was used and presented in Table-1.

**Table 1:** T-ratio of the means of control group respiratory rate in Cricket player

Characteristics	Group	N	Mean	S.D	df	't'
Respiratory rate	Pre Test	20	14.60	1.635	19	1.902
	Post Test	20	15.00	1.622		

\*Significant at. 05 level, t.05 (19) = 2.09

It indicates that insignificant difference was found between the mean scores of control group (pre & post test) in respiratory rate 1.902, Which was lower value than the required value at 0.05 level of significance.

To find out vital capacity of control group students, t-ratio statistics was used and presented in table-2.

**Table 2:** T-ratio of the means of control group vital capacity in Cricket player

Characteristics	Group	N	Mean	S.D	df	't'
Vital Capacity	Pre Test	20	2487.5	168.487	19	.767
	Post Test	20	2502.5	155.152		

\*Significant at. 05 level, t.05 (19) = 2.09

It indicates that insignificant difference was found between the mean scores of control group (pre & post test) in vital capacity. 767. This was lower value than the required value at 0.05 level of significance.

To find out systolic blood pressure of control group students, t-ratio statistics was used and presented in table-3.

**Table 3:** T-ratio of the means of control group systolic blood pressure in students

Characteristics	Group	N	Mean	S.D	df	't'
Systolic Blood Pressure	Pre Test	20	144.40	4.535	19	3.655*
	Post Test	20	143.55	4.773		

\*Significant at. 05 level, t.05 (19) - 2.09

It indicates that significant difference was found between the mean scores of control group (pre & posttest) in systolic blood pressure 3.655. This was higher value than the required value at. 05 level of significance.

To find out diastolic blood pressure of control group students, t-ratio statistics was used and presented in table-4.

**Table 4:** T-ratio of the means of control group diastolic blood pressure in students

Characteristics	Group	N	Mean	S.D	df	't'
Diastolic Blood Pressure	Pre Test	20	94.00	3.111	19	3.566*
	Post Test	20	92.95	3.347		

\*Significant at. 05 level, t.05 (19) - 2.09

It indicates that significant difference was found between the mean scores of control group (pre & post test) in diastolic blood pressure 3.566. This was higher value than the required value at. 05 level of significance.

To find out resting pulse rate of control group students, t-ratio statistics was used and presented in table-5.

**Table 5:** T-ratio of the means of control group resting pulse rate in students

Characteristics	Group	N	Mean	S.D	df	't'
Resting Pulse Rate	Pre Test	20	87.15	2.70	19	1.449
	Post Test	20	86.40	3.47		

\*Significant at. 05 level, t.05 (19) - 2.09

It indicates that insignificant difference was found between the mean scores of control group (pre & post test) in resting pulse rate 1.449. This was lower value than the required value at. 05 level of significance.

To find out respiratory rate of experimental group students, t-ratio statistics was used and presented in table-6.

**Table 6:** T-ratio of the means of experimental group respiratory rate in students

Characteristics	Group	N	Mean	S.D	df	't'
Respiratory rate	Pre Test	20	15.60	2.257	19	18.493*
	Post Test	20	18.60	2.062		

\*Significant at. 05 level, t.05 (19) = 2.09

It indicates that significant difference was found between the mean scores of experimental group (pre & post test) hi respiratory rate 18.493. This was higher value than the required value at .05 level of significance.

To find out vital capacity of experimental group students, t-ratio statistics was used and presented in table-7.

**Table 7:** T-ratio of the means of experimental group vital capacity in students

Characteristics	Group	N	Mean	S.D.	df	't'
Vital Capacity	Pre Test	20	260250	175.825		
	Post Test	20	2745	173.887		

\*Significant at .05 level, t.05 (19) - 2.09

It indicates that significant difference was found between the mean scores of experimental group (pre & post test) in vital capacity 15.682. This was higher value than the required value at .05 level of significance.

To find out systolic blood pressure of experimental group students, t-ratio statistics was used and presented in table-8.

**Table 8:** T-ratio of the means of experimental group systolic blood pressure in students

Characteristics	Group	N	Mean	S.D	df	't'
Systolic Blood Pressure	Pre Test	20	137.90	4.024		
	Post Test	20	13335	3.828		

\*Significant at .05 level, t.05 (19) - 2.09

It indicates that significant difference was found between the mean scores of experimental group (pre & post test) in systolic blood pressure 16.485. This was higher value than the required value at .05 level of significance.

To find out diastolic blood pressure of experimental group students, t-ratio statistics was used and presented in table-9.

**Table 9:** T-ratio of the means of experimental group diastolic blood pressure in students

Characteristics	Group	N	Mean	S.D	df	't'
Diastolic Blood Pressure	Pre Test	20	87.90	3.712		
	Post Test	20	84.45	3.546		

\*Significant at .05 level, t.05 (19) - 2.09

It indicates that significant difference was found between the mean scores of experimental group (pre & post test) in diastolic blood pressure 20.324. This was higher value than the required value at .05 level of significance.

To find out resting pulse rate of experimental group students, t-ratio statistics was used and presented in table-10.

**Table 10:** T-ratio of the means of experimental group resting pulse rate in students

Characteristics	Group	N	Mean	S.D	df	't'
Resting Pulse Rate	Pre Test	20	89.50	3.980		
	Post Test	20	86.40	4.935		

\*Significant at .05 level, t.05 (19) = 2.09

It indicates that significant difference was found between the mean scores of experimental group (pre & post test) in resting pulse rate 5.345. This was lower value than the required value at .05 level of significance.

## Discussion

The result of the study was two folded as the physiological component data were computed for two different objectives. The first objective of the study was to investigate the

physiological characteristics of cricket player. The result in the direction of Chaudhary D., Ahsan M. (2012) studies, which has revealed that there is the effect of yoga training in physiological characteristics of cricket player.

The second objective of the study was to find out significant difference effect of Surya namaskara in improve the physiological characteristics (lung capacity, vital capacity, blood pressure and pulse rate) of the cricket player. The result in the direction of Sushil Lega (2010) studies, which has revealed that there is a significant difference effects of yoga training on cardio-respiratory and the result in the direction of Cohen DL, Wintering N, Tolles V, Townsend RR, Farrar JT, Galantino ML, Newberg AB (2009) studies, which has revealed that there is a significant difference effects of yoga training on cardio-respiratory tournament cricket.

## Conclusions

1. Insignificant difference was found between the mean scores of control group (pre & post test) in respiratory rate 1.902. This was lower value than the required value at .05 level of significance.
2. Insignificant difference was found between the mean scores of control group (pre & post test) in vital capacity. 767. This was lower value than the required value at .05 level of significance.
3. Significant difference was found between the mean scores of control group (pre & post test) in systolic blood pressure 3.655. This was higher value than the required value at .05 level of significance.
4. Significant difference was found between the mean scores of control group (pre & post test) in diastolic blood pressure 3.566. This was higher value than the required value at .05 level of significance.
5. Insignificant difference was found between the mean scores of control group (pre & post test) in resting pulse rate 1.449. This was lower value than the required value at .05 level of significance.
6. Significant difference was found between the mean scores of experimental group (pre & post test) in respiratory rate 18.493. This was higher value than the required value at .05 level of significance.
7. Significant difference was found between the mean scores of experimental group (pre & post test) in vital capacity 15.682. This was higher value than the required value at .05 level of significance.
8. Significant difference was found between the mean scores of experimental group (pre & post test) in systolic blood pressure 16.485. This was higher value than the required value at .05 level of significance.
9. Significant difference was found between the mean scores of experimental group (pre & post test) in diastolic blood pressure 20.324. This was higher value than the required value at .05 level of significance.
10. Significant difference was found between the mean scores of experimental group (pre & post test) in resting pulse rate 5.345. This was lower value than the required value at .05 level of significance.

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