



EFFECT OF SELECTED YOGIC ASANA ON SELECTED PHYSIOLOGICAL VARIABLES OF NATIONAL BASEBALL PLAYERS

Physical Education

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ABSTRACT

The Study aimed to examine out the effect of yogic practices on selected physiological parameters of Baseball players, a total of 180 male national level Baseball players were randomly selected for the study, and were selected from Punjab University. The age of the subjects was between 17 to 25 years with mean age to be 21 (+SD) years. They were categorized into different groups (i.e. 60 each group) Experimental Group I, Experimental Group II and Control Group. The selected data was analyzed by computing Descriptive analysis and one way analysis of Variance. The results shows that a significant difference is found in the post test values of Resting Heart Rate for Experimental Group I and Control Group (-1.047*), no significant difference has been found between the Experimental group I and Experimental group II (0.106) and finally a significant difference has been found in the post test values of Experimental Group II and control group (-1.153*). A significant difference is found in the post test values of Resting Respiratory Rate for Experimental Group I and Control Group (-0.886*), no significant difference has been found between the Experimental group I and Experimental group II (0.341) and finally a significant difference has been found in the post test values of Experimental Group II and control group (-0.545*). A significant difference is found in the post test values of Total Body Fat Percentage for Experimental Group I and Control Group (-0.965*), a significant difference has been found between the Experimental group II and Control group (-0.640*) and finally no significant difference has been found in the post test values of Experimental Group II and Experimental group I (-0.325).

KEYWORDS

Heart Rate, Respiratory Rate, Body fat percentage

INTRODUCTION:

Under modern condition especially related to training for sports and games with a focus on superior performance adequate emphasis is given for the physical structure of the athlete and body build of each individual participating indifferent variety of sports. Therefore the modern trend in the field of sports and physical education is to assess the related components successfully as a part of total body build and size of each player and interpret how far each of these components are helpful in the performance in games and sports under competitive conditions Physiology is the study of tissue and functions of living things and Sports physiology would be the study of how the body works and functions during athletic activities. The game badminton is combination of both aerobic and anaerobic in nature. A well conditioned heart and an efficient respiratory system are essential for high levels of aerobic fitness, as it means that the systems will be able to adjust and recover quicker from the effects of exercise and work. Aerobic fitness can be influenced by factors such as heredity, training, age, gender and body fat (Sharkey, 1997), as well as heart size and red blood cell concentration (Noble, 1986). It has been established that 93% of an individual's aerobic power is due to genetic influences, and that, although aerobic power is trainable, there is a genetic ceiling on improvement (Noble, 1986), namely between 5 - 30% Knowledge about cardiovascular, metabolic, and respiratory demands in certain types of sports provides the basis for adequate performance assessment and evidence-based design of training regimens. In addition to heart rate monitoring and blood lactate determinations, gas exchange measurements over the opportunity to directly evaluate the physiological profile of discipline-specific performance. Such an approach has originally been used in laboratory settings for endurance sports such as running, cycling and rowing or even in soccer players while dribbling a ball on a treadmill. However, recent research has demonstrated that there are considerable differences in physiological responses during intermittent high intensity exercise compared to continuous endurance exercise of the same average intensity. Racquet and Weld sports are characterized by intermittent activity and cannot be appropriately simulated in a laboratory. Therefore, it is necessary to assess physiological profiles and energy patterns of such sports during Weld tests Physiological variables may be defined as those variables which are erectly linked with various physiological systems such as pulse rate, blood pressure, and vital capacity fat percentage, respiratory rate, hemoglobin Today the preparation of an athlete for achievement is a complex dynamic state characterized by high level of physical, physiological and psychological efficiency and the degree of perfection of the necessary skills and knowledge, technical and tactical preparation Many other factors are also brought into action in his preparation (means of rehabilitating, strength after loads, special nutrition, organization of general regime in accordance with the conditions of sports activity etc.). Thus athletes' training today is a multi sided process of expedient use of aggregate factors, means method condition so as to influence the development of an athlete and ensure the necessary level of preparation

OBJECTIVES AND HYPOTHESIS

Following objectives are framed for the study:

- To compare the effect of yogic exercises on Resting Heart Rate of different groups.
- To compare the effect of yogic exercises on Resting Respiratory rate of different groups.
- To compare the effect of yogic exercises on Total Body fat percentage of different groups.

Based on the objectives following hypothesis were framed:

- There would be no significant difference of yogic exercises on Resting Heart Rate of different groups.
- There would be no significant difference of yogic exercises on Resting Respiratory rate of different groups.
- There would be no significant difference of yogic exercises on Total Body fat percentage of different groups.

Procedure and Methodology

Study aimed to examine out the effect of yogic practices on selected physiological parameters of Baseball players, a total of 180 male national level Baseball players were selected randomly for the study, the players were selected from Punjab University Chandigarh. The age of the subjects was between 17 to 25 years with mean age to be 21 (+SD) years. They were categorized into different groups (i.e. 60 each group) Experimental Group I, Experimental Group II and Control Group. The selected data was analyzed by computing Descriptive analysis and one way analysis of Variance.

RESULTS AND DISCUSSIONS

The collected data was analyzed and had been described below in the following tables:

Table No.1: Descriptive Analysis of the Resting Heart Rate of the selected Groups

S. No.	Groups	Mean		Standard Deviation		N
		Pre	Post	Pre	Post	
1	Experimental Group I	71.42	71.05	4.31	4.38	60
2	Experimental Group II	72.25	71.75	4.49	4.44	60
3	Control Group	73.33	73.95	4.47	4.74	60

Table No.1 Clearly Depicts the values of Descriptive analysis of the selected groups for the variable Resting Heart Rate, which shows that the pre and post values of Experimental Group I, Experimental Group II and Control Group are found to be 71.42±4.31, 72.25±4.49, 73.33±4.47 and 71.05±4.38, 71.75±4.44, 73.95±4.74 respectively.

Table No. 2: Test of Between Subject Effects

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	3514.49 ^a	3	1171.49	529.68	0.00

Intercept	3.58	1	3.58	1.620	0.21
Pre Resting Heart Rate	3239.69	1	3239.69	1464.802	0.00
Groups	47.62	2	23.80	10.765	0.00
Error	389.26	176	2.21		
Total	943515.0	180			
Corrected Total	3903.75	179			

Table no 2 clearly depicts the value of test of between subjects effects, which shows that a significant difference has been found in the post test values of the selected groups by keeping pre test values as covariant, as the value is found to be 10.765, which is significant at 0.05 level

Table 3: Pair wise Comparison

(I) Groups	(J) Groups	Mean Difference (I-J)	Std. Error	Sig. ^a	95% Confidence Interval for Difference	
					Lower Bound	Upper Bound
Experimental Group I	Experimental Group II	0.106	0.272	0.69	-0.432	0.643
	Control Group	-1.047 [*]	0.276	0.00	-1.592	-0.503
Experimental Group II	Experimental Group I	-0.106	0.272	0.69	-0.643	0.432
	Control Group	-1.153 [*]	0.273	0.00	-1.691	-0.614
Control Group	Experimental Group I	1.047 [*]	0.276	0.00	0.503	1.592
	Experimental Group II	1.153 [*]	0.273	0.00	0.614	1.691

Table 3 clearly depicts the pair-wise comparison values of the selected groups for the variable Resting Heart Rate, which shows that a significant difference is found in the post test values of Experimental Group I and Control Group (-1.047*), no significant difference has been found between the Experimental group I and Experimental group II (0.106) and finally a significant difference has been found in the post test values of Experimental Group II and control group (-1.153*)

Table No. 4: Descriptive Analysis of the Resting Respiratory Rate of the selected Groups

S. No.	Groups	Mean		Standard Deviation		N
		Pre	Post	Pre	Post	
1	Experimental Group I	13.42	12.63	2.00	1.26	60
2	Experimental Group II	13.48	13.02	2.09	1.44	60
3	Control Group	13.65	13.67	2.17	2.25	60

Table No. 4 Clearly Depicts the values of Descriptive analysis of the selected groups for the variable Resting Respiratory Rate, which shows that the pre and post values of Experimental Group I, Experimental Group II and Control Group are found to be 13.42±2.00, 13.48±2.09, 13.65±2.17 and 12.63±1.26, 13.02±1.44, 13.67±2.25 respectively.

Table No. 5: Test of Between Subject Effects

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	342.064 ^a	3	114.021	96.978	0.00
Intercept	86.479	1	86.479	73.553	0.00
Pre Resting Respiratory Rate	309.320	1	309.320	263.085	0.00
Groups	23.908	2	11.954	10.167	0.00
Error	206.930	176	1.176		
Total	31465.000	180			
Corrected Total	548.994	179			

Table no 5 clearly depicts the value of test of between subjects effects, which shows that a significant difference has been found in the post test values of the selected groups by keeping pre test values as covariant, as the value is found to be 10.167, which is significant at 0.05 level

Table 6: Pair wise Comparison

(I) Groups	(J) Groups	Mean Difference (I-J)	Std. Error	Sig. ^a	95% Confidence Interval for Difference	
					Lower Bound	Upper Bound

Experimental Group I	Experimental Group II	-0.341	0.198	0.09	-0.732	0.050
	Control Group	-0.886 [*]	0.198	0.00	-1.277	-0.495
Experimental Group II	Experimental Group I	0.341	0.198	0.09	-0.050	0.732
	Control Group	-0.545 [*]	0.198	0.07	-0.936	-0.154
Control Group	Experimental Group I	0.886 [*]	0.198	0.00	0.495	1.277
	Experimental Group II	0.545 [*]	0.198	0.07	0.154	0.936

Table No. 6 clearly depicts the pair-wise comparison values of the selected groups for the variable Resting Respiratory Rate, which shows that a significant difference is found in the post test values of Experimental Group I and Control Group (-0.886*), no significant difference has been found between the Experimental group I and Experimental group II (0.341) and finally a significant difference has been found in the post test values of Experimental Group II and control group (-0.545*)

Table No. 7: Descriptive Analysis of the Total Body Fat Percentage of the selected Groups

S. No.	Groups	Mean		Standard Deviation		N
		Pre	Post	Pre	Post	
1	Experimental Group I	20.65	20.07	3.14	2.84	60
2	Experimental Group II	20.79	20.53	3.16	3.22	60
3	Control Group	20.90	21.27	3.28	3.55	60

Table No. 7 Clearly Depicts the values of Descriptive analysis of the selected groups for the variable Total Body Fat Percentage, which shows that the pre and post values of Experimental Group I, Experimental Group II and Control Group are found to be 20.65±3.14, 20.79±3.16, 20.90±3.28 and 20.07±2.84, 20.53±3.22 21.27±3.55 respectively.

Table No. 8: Test of Between Subject Effects

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	1637.687 ^a	3	545.896	391.720	0.00
Intercept	5.244	1	5.244	3.763	0.05
Total Body Fat Percentage	1593.470	1	1593.470	1143.432	0.00
Groups	28.924	2	14.462	10.378	0.00
Error	245.271	176	1.394		
Total	78459.046	180			
Corrected Total	1882.958	179			

Table no 8 clearly depicts the value of test of between subjects effects, which shows that a significant difference has been found in the post test values of the selected groups by keeping pre test values as covariant, as the value is found to be 10.378, which is significant at 0.05 level

DISCUSSION AND CONCLUSIONS

The results shows that a significant difference is found in the post test values of Resting Heart Rate for Experimental Group I and Control Group (-1.047*), no significant difference has been found between the Experimental group I and Experimental group II (0.106) and finally a significant difference has been found in the post test values of Experimental Group II and control group (-1.153*). A significant difference is found in the post test values of Resting Respiratory Rate for Experimental Group I and Control Group (-0.886*), no significant difference has been found between the Experimental group I and Experimental group II (0.341) and finally a significant difference has been found in the post test values of Experimental Group II and control group (-0.545*).

A significant difference is found in the post test values of Total Body Fat Percentage for Experimental Group I and Control Group (-0.965*), a significant difference has been found between the Experimental group II and Control group (-0.640*) and finally no significant difference has been found in the post test values of Experimental Group II and Experimental group I (-0.325)

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