



EFFECTS OF YOGIC PRACTICES AND COMBINED PHYSICAL EXERCISE AND YOGIC PRACTICES ON SELECTED PHYSIOLOGICAL VARIABLES AMONG COLLEGE SPORTS MEN

Presented By

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ABSTRACT- The aim of this study was to find out the effect of yogic practices and combined physical exercise with yogic practices on selected physiological variables among college sport men. This research was to find out the effects of yogic practices and combined physical exercises and yogic practices on selected physiological variables among college sportsmen. To achieve the purpose of this study, 54 male from Bolpur College, Birbhum District were randomly selected as subjects and their age was between 18 and 22 years. They were assigned into three groups of which one group served as yogic practices groups, second group served as combined physical exercise and yogic practices group and the third group served as control group.

Keywords: *Yoga, Physical Exercise, Resting pulse rate, Respiratory rate and Breath holding time*

INTRODUCTION

Physiological factors play a dominant role in addition to the physical fitness for the best sports performance. Each sports required a predominant physiological quality which helps to win competitions. Though the numbers of studies have been under taken on physiological factors. No attempt has been made to find out the effects of yogic practices and combined effects of physical exercises and yogic practices on selected physiological variables among college men sports persons. Further it is found from the research that physical exercise and yogic practices can improve physiological quality of players, which is needed for the specific activity, keeping the above facts in mind the investigator has chosen this study.

OBJECTIVES OF THE STUDY

Researches show that the yogic practices significantly improve physiological factors and there are researches to prove that physical exercises significantly influences selected physiological variables.

The objective of this study was to compare the effect of yogic practices and combined effect of physical exercises and yogic practices on selected physiological variables.

STATEMENT OF THE PROBLEM

The purpose of the study was to find out the effects of selected yogic practices and combined physical exercise and yogic practices on selected physiological variables such as resting pulse rate, respiratory rate and breath holding time among college men sports persons.

HYPOTHESES

To aid the findings of this study, the following hypotheses were formulated:

1. It was hypothesized that yogic practices group would significantly decrease the resting pulse rate, respiratory rate and increase breath holding time as compared to control group.
1. It was hypothesized that combined yogic practices and physical exercises group would significantly decrease the resting pulse rate, respiratory rate and increase breath holding time as compared to control group and yogic practices group.

DELIMITATION

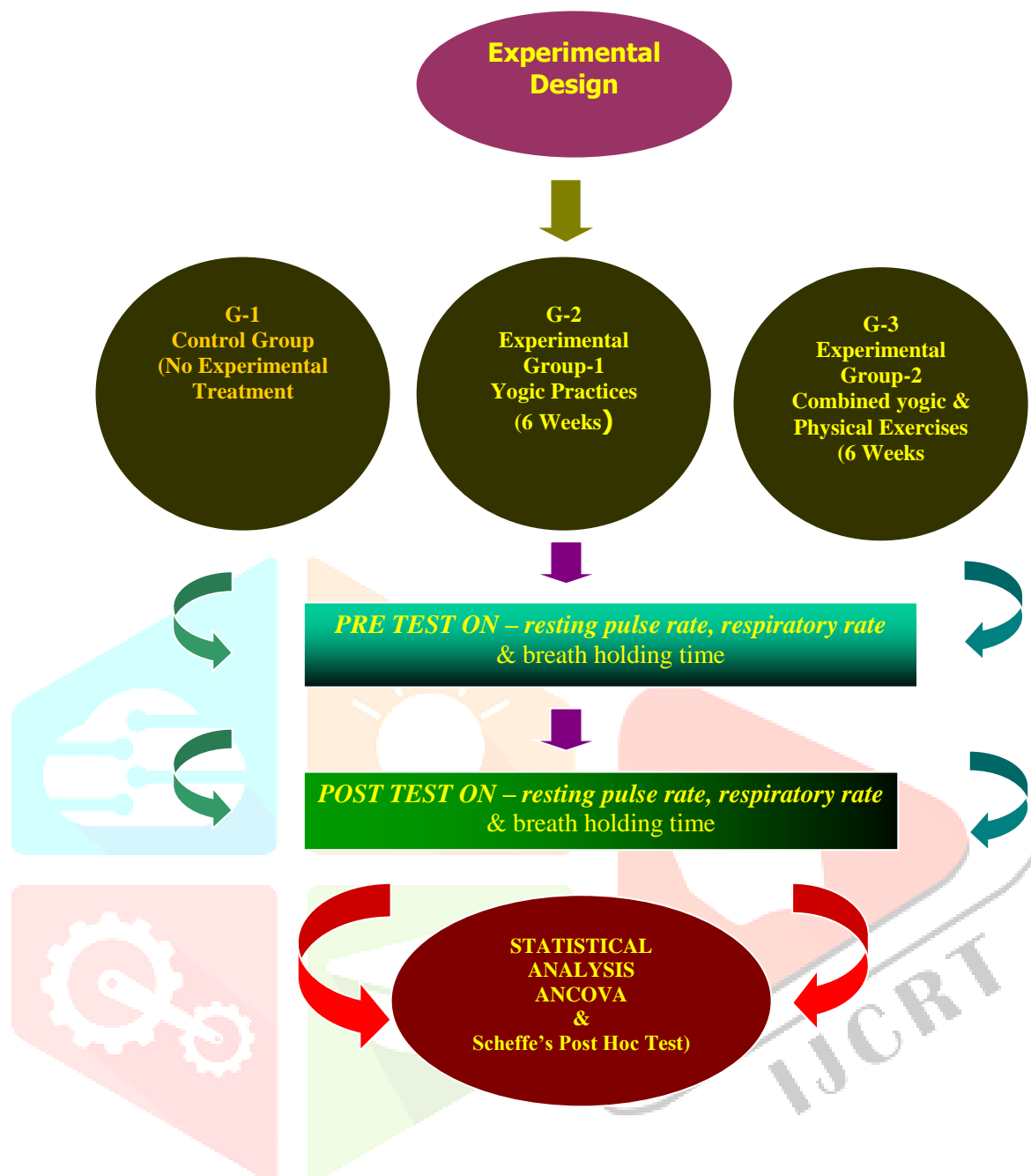
- Age range: 18 to 22 years
- College level sports man
- Willing to participate voluntarily
- This study was restricted to the Bolpur College sports persons.

LIMITATIONS

- Socio-economic and cultural status of the subjects.
- Factors like food, heredity, environment, life style and the day to day activity of the subjects.

PROCEDURE

54 male college sportsmen were randomly selected and divided into three groups. Six weeks yogic practices for experimental group-I and six weeks combined physical exercise with yogic practices for experimental group II were given. Control group was not given any training except of their routine. Physiological variables such as resting pulse rate, respiratory rate and breath holding time before and after the training were measured. The differences between the initial and final scores in selected Physiological variables were subjected to statistical treatment using Analysis of Covariance (ANCOVA) to find out whether the mean differences were significant or not. The Scheffe's post hoc test was used to find out the paired means significance difference.



RESULT AND DISCUSSION

Results on Physiological Variable – Resting Pulse Rate

The results presented in Table I and II proved that resting pulse rate scores were decreased significantly, which meant, the resting pulse rate of the sports persons were reduced significantly due to six weeks training programmes. Comparing with control group, yogic group significantly reduced the resting pulse rate level of the sports persons as well as comparing with control group the combined group also significantly reduced the resting pulse rate level of college sports persons.

While comparing the two training methods, it was found that combined training (physical exercises and yogic practices) had improved better than yogic practices group as the obtained value was greater than required value to be significant. (Table II).

The statistical analysis comparing the initial and final means of resting pulse rate due to yogic practices and combined physical exercises and yogic practices on college male athletes is presented in Table I & II

Table I

COMPUTATION OF ANALYSIS OF COVARIANCE OF RESTING PULSE RATE
(Number of Beats per Minute)

	YOGIC PRACTICES	COMBINED YOGIC & PHYSICAL	CONTROL	SOURCE OF VARIANCE	SUM OF SQUARES	DF	MEAN SQUARES	OBTAINED F RATIO
Pre Test Mean	73.39	73.50	74.89	Between	27.1	2	13.56	0.82
				Within	843.7	51	16.54	
Post Test Mean	71.00	69.83	73.39	Between	252.3	2	126.13	8.10*
				Within	794.3	51	15.57	
Adjusted Post Test Mean	71.51	70.24	73.97	Between	125.6	2	62.78	41.22*
				Within	76.2	50	1.52	
Mean Diff	-2.39	-3.67	-1.50					

Table F-ratio at 0.05 level of confidence for 2 and 51 (df) =3.16, 2 and 50(df) =3.16 .

*Significant

Table II

Scheffe's Confidence Interval Test Scores on resting pulse rate
(Total score in number)

MEANS				Required C I
Phy. Exercises & Yogic Practices	Yogic Practices	Control	Mean Difference	
70.24	71.51		-1.27*	1.03
70.24		73.97	-3.72*	1.03
	71.51	73.97	-2.45*	1.03

* Significant

The ordered adjusted means were presented through line graph for better understanding of the results of this study in Figure I.

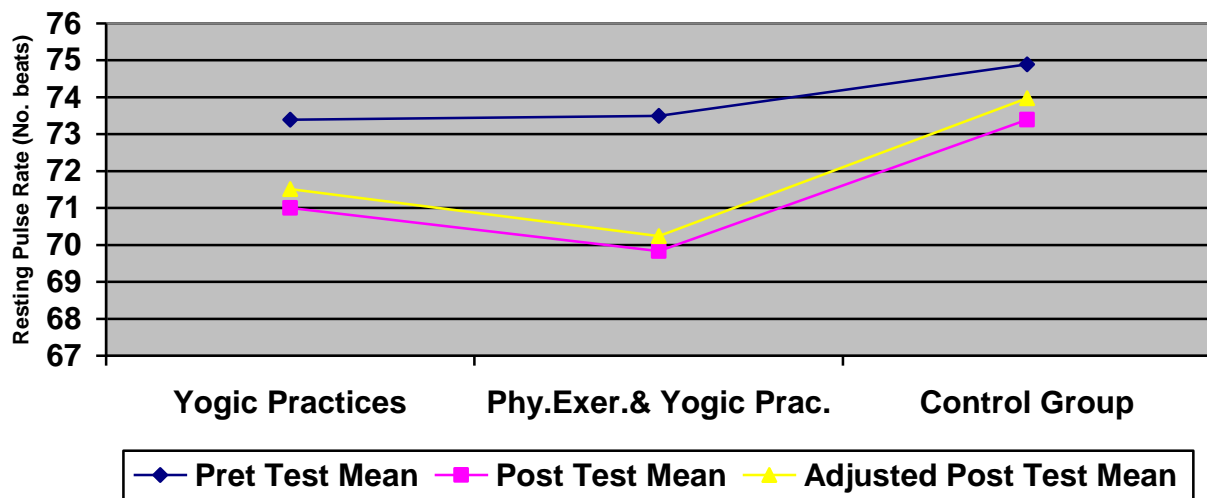


Figure I

LINE GRAPH ON ORDERED ADJUSTED MEANS OF PHYSIOLOGICAL VARIABLE RESTING PULSE RATE

Results on Physiological Variable – Respiratory Rate

The results on physiological variable respiratory rate due to yogic practices and combined physical exercise and yogic practices were presented in Table III and IV. The obtained values between control group and yogic practices and combined physical exercise and yogic practices were significantly lesser than the required difference. However, while comparing the effects of the two methods, it was found that there was no significant difference between the scores of yogic practices and combined physical exercises and yogic practices.

The statistical analysis comparing the initial and final means of aggression due to yogic practices and combined physical exercises and yogic practices on college male athletes is presented in Table III & IV.

Table III
COMPUTATION OF ANALYSIS OF COVARIANCE OF RESPIRATORY RATE
 (Number of Breaths per Minute)

	YOGIC PRACTICES	COMBINED YOGIC & PHYSICAL	CONTROL	SOURCE OF VARIANCE	SUM OF SQUARES	DF	MEAN SQUARES	OBTAINED F RATIO
Pre Test Mean	32.72	32.83	34.56	Between	53.6	2	26.80	1.48
				Within	923.9	51	18.12	
Post Test Mean	29.22	27.39	32.72	Between	499.0	2	249.50	18.72*
				Within	679.8	51	13.33	
Adjusted Post Test Mean	29.69	27.79	33.69	Between	310.6	2	155.30	23.70*
				Within	327.7	50	6.55	
Mean Diff	-3.50	-5.44	-1.84					

Table F-ratio at 0.05 level of confidence for 2 and 51 (df) =3.16, 2 and 50(df) =3.16 .

*Significant

Table IV
Scheffe's Confidence Interval Test Scores on Respiratory Rate
 (Total score in number)

MEANS				Required C I
Phy. Exercies & Yogic Practices	Yogic Practices	Control	Mean Difference	
27.79	29.69		-1.90	2.15
27.79		33.69	-5.90*	2.15
	29.69	33.69	-4.00*	2.15

* Significant

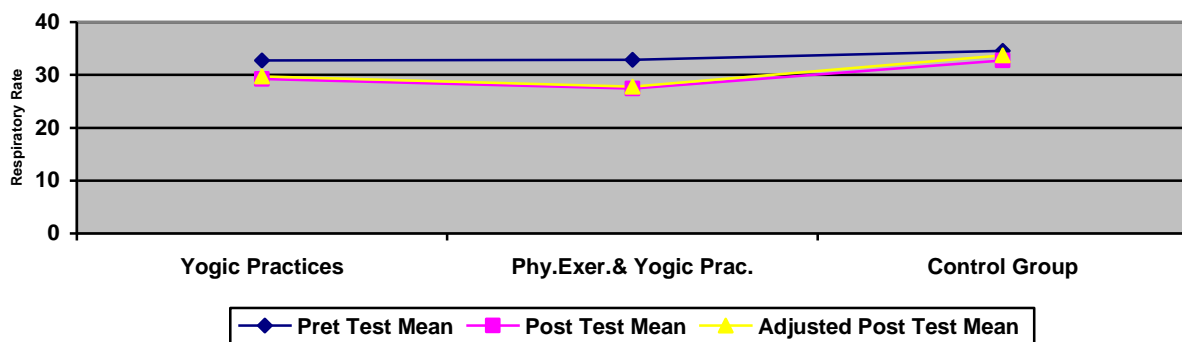


Figure II

LINE GRAPH ON ORDERED ADJUSTED MEANS OF PHYSIOLOGICAL VARIABLE RESPIRATORY RATE

Results on Physiological Variable – Breath Holding Time

The results presented in Tables V and VI proved that six weeks yogic practices and physical exercises and yogic exercises had significantly increased the breath holding time of the college sports persons. While comparing the two training methods, it was found that combined training (physical exercises and yogic practices) had improved better than yogic practices group as the obtained value was greater than required value to be significant.

The statistical analysis comparing the initial and final means of self-confidence due to yogic practices and combined physical exercises and yogic practices on college male athletes is presented in Table V & VI

Table V
COMPUTATION OF ANALYSIS OF COVARIANCE OF BREATH HOLDING TIME
(Total Scores in Number)

	YOGIC PRACTICES	COMBINED YOGIC & PHYSICAL	CONTROL	SOURCE OF VARIANCE	SUM OF SQUARES	DF	MEAN SQUARES	OBTAINED F
Pre Test Mean	43.06	42.44	35.61	Between	568.3	2	284.13	4.19*
				Within	3459.2	51	67.83	
Post Test Mean	52.56	54.50	43.06	Between	3886.1	2	1943.06	30.24*
				Within	3277.2	51	64.26	
Adjusted Post Test Mean	50.17	52.68	39.82	Between	1451.3	2	725.65	105.08*
				Within	345.3	50	6.91	
Mean Diff	9.50	12.06	7.45					

Table F-ratio at 0.05 level of confidence for 2 and 51 (df) =3.16, 2 and 50(df) =3.16 . *Significant

Table VI
Scheffe's Confidence Interval Test Scores on breath holding time
(Total Scores in Number)

MEANS				Required C I
Phy. Exercises & Yogic Practices	Yogic Practices	Control	Mean Difference	
52.68	50.17		2.51*	2.20
52.68		39.82	12.85*	2.20
	50.17	39.82	10.35*	2.20

* Significant

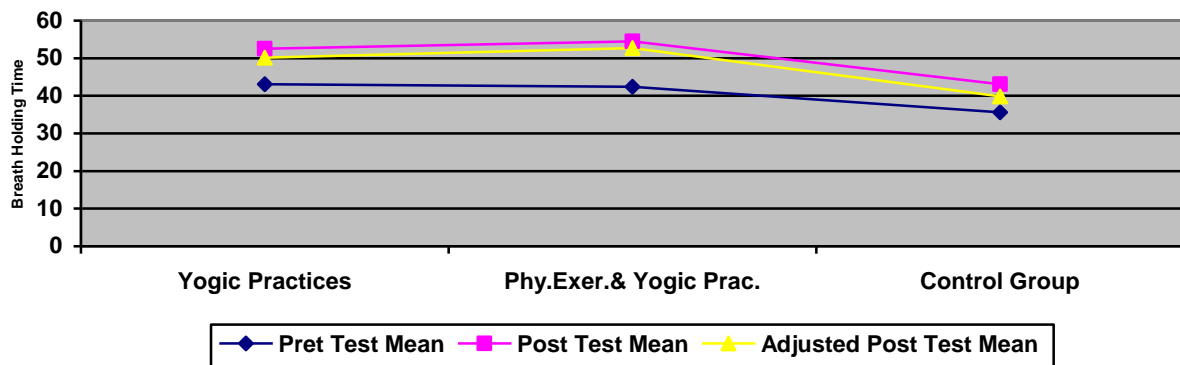


Figure III

LINE GRAPH ON ORDERED ADJUSTED MEANS OF PHYSIOLOGICAL VARIABLE BREATH HOLDING TIME

CONCLUSION

Within limitations of this study, the following conclusions were drawn

1. It was concluded that combined physical exercises and yogic practices group was significantly better than yogic practices group and control group in management of selected physiological variables such as resting pulse rate, respiratory rate and breath holding time.
2. It was concluded that yogic practices group was significantly better than control group in management of selected physiological variables such as resting pulse rate, respiratory rate and breath holding time.

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