



Effects of Physical Exercises and Yogic Practice on Selected Psychological Variables of Residential College Men Students

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Abstract

The purpose of the study was to find out the effects of physical exercises and yogic practice on selected psychological variables of residential college men students. To achieve the purpose of the present study, sixty residential college men students from Sri Kaliswari College, Sivakasi, Tamilnadu, India were selected as subjects at random and their ages ranged from 18 to 25 years. The subjects were divided into three equal groups of twenty each. Group I acted as Experimental Group I (Physical Exercise), Group II acted as Experimental Group II (Yogic Practice) Group III acted as Control Group. Pre test was conducted for all the subjects on selected psychological variables. This initial test scores formed as pre test scores of the subjects. The groups were assigned as Experimental Group I, Experimental Group II and Control Group in an equivalent manner. Experimental Group I was exposed to physical exercises, Experimental Group II was exposed to yogic practice and Control Group was not exposed to any experimental training other than their regular daily activities. The duration of experimental period was 12 weeks. After the experimental treatment, all the sixty subjects were tested on their psychological variables. This final test scores formed as post test scores of the subjects. The pre test and post test scores were subjected to statistical analysis using dependent 't' test and Analysis of Covariance (ANCOVA) to find out the significance among the mean differences, whenever the 'F' ratio for adjusted test was found to be significant, Scheffe's post hoc test was used. In all cases 0.05 level of significance was fixed to test hypotheses. The yogic practice group showed significant differences on aggression and anxiety of residential college men students from their baseline to post training than the other groups.

Keywords: Physical Exercise, Yogic Practice, Aggression, Anxiety, Residential Students.

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Introduction

Physical conditioning programme provides an opportunity for the development and maintenance of physical fitness. It offers an opportunity for the facilitation of normal growth of a child and prevents the reversal factors of the performance such as strength, endurance, flexibility, speed. By undergoing a physical conditioning programme, one experiences a number of changes that make better performance and faster recovery possible. Through repeated muscular 10 work, strength is gained and as a result one can produce more power as there is a faster contraction, which means, gain in both power and speed. Conditioning the body through regular exercise enables an individual to meet emergencies more effectively (Mc Donald & Pamela, 2010).

The word "Yoga" is derived from the Sanskrit root "Yogi" meaning to bind, join, attach and yoke. It is the "true union of our will with the will of almighty. For

the complete development of the personality of a human being physically, mentally, morally, intellectually and spiritually. Yoga, a Vedic science has been applied in the field of therapeutics in modern times. Yoga has given patients the hope to reduce medication besides slowing the progression of the disease. Yoga employs stable postures or asana and breath control or pranayama. It has already 16 proven its mettle in the improvement of oxidative stress as well as in improving the glycaemic status of diabetics through neuroendocrinal mechanism (Chandrasekaran, 2003).

Methodology

The purpose of the study was to find out the effects of physical exercises and yogic practice on selected psychological variables of residential college men students. To achieve the purpose of the present study, sixty residential college men students from Sri Kaliswari College, Sivakasi, Tamilnadu, India were selected as subjects at random and their ages ranged from 18 to 25 years. The subjects were divided into three equal groups of twenty each. Group I acted as Experimental Group I (Physical Exercise), Group II acted as Experimental Group II (Yogic Practice) Group

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III acted as Control Group. Pre test was conducted for all the subjects on selected psychological variables. This initial test scores formed as pre test scores of the subjects. The groups were assigned as Experimental Group I, Experimental Group II and Control Group in an equivalent manner. Experimental Group I was exposed to physical exercises, Experimental Group II was exposed to yogic practice and Control Group was not exposed to any experimental training other than their regular daily activities. The duration of experimental period was 12

weeks. After the experimental treatment, all the sixty subjects were tested on their psychological variables. This final test scores formed as post test scores of the subjects. The pre test and post test scores were subjected to statistical analysis using dependent 't' test and Analysis of Covariance (ANCOVA) to find out the significance among the mean differences, whenever the 'F' ratio for adjusted test was found to be significant, Scheffe's post hoc test was used. In all cases 0.05 level of significance was fixed to test hypotheses.

Results

Table I. Computation of analysis of covariance of physical exercises, yogic practice and control groups on aggression

	PE Group	YP Group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	F-ratio
Pre-Test Means	175.75	175.20	175.45	BG	3.03	2	1.51	0.01
				WG	5445.90	57	95.54	
Post-Test Means	166.50	156.05	175.55	BG	3809.03	2	1904.51	16.35*
				WG	6636.90	57	116.43	
Adjusted Post-Test Means	166.20	156.30	175.60	BG	3716.06	2	1858.03	46.90*
				WG	2218.44	56	39.61	

An examination of table – I indicates that the results of ANCOVA for pretest scores of the physical exercises group, yogic practice group and control group. The obtained F-ratio for the pre-test is 0.016 ($P > 0.05$) indicating that the random sampling is successful and the table F-ratio is 3.158. Hence the pre-test mean F-ratio is insignificant at 0.05 level of confidence for the degree of freedom 2 and 57. The obtained F-ratio for the post-test is 16.357 ($P < 0.05$) and the table F-ratio is 3.158. Hence the post-test mean F-ratio is significant at 0.05 level of confidence for the degree of freedom 2 and 57. The

adjusted post-test means of physical exercises group, yogic practice group and control group are 166.20, 156.30 and 175.60 respectively. The obtained F-ratio for the adjusted post-test means is 46.902 ($P < 0.05$) and the table F-ratio is 3.161. Hence the adjusted post-test mean aggression F-ratio is significant at 0.05 level of confidence for the degree of freedom 2 and 56. Pre test, post test and adjusted post test mean difference of the physical exercises group, yogic practice group and control group on aggression is presented in Figure I.

Figure I. Bar diagram showing the pretest, posttest and adjusted posttest mean differences of physical exercises, yogic practice and control groups on aggression

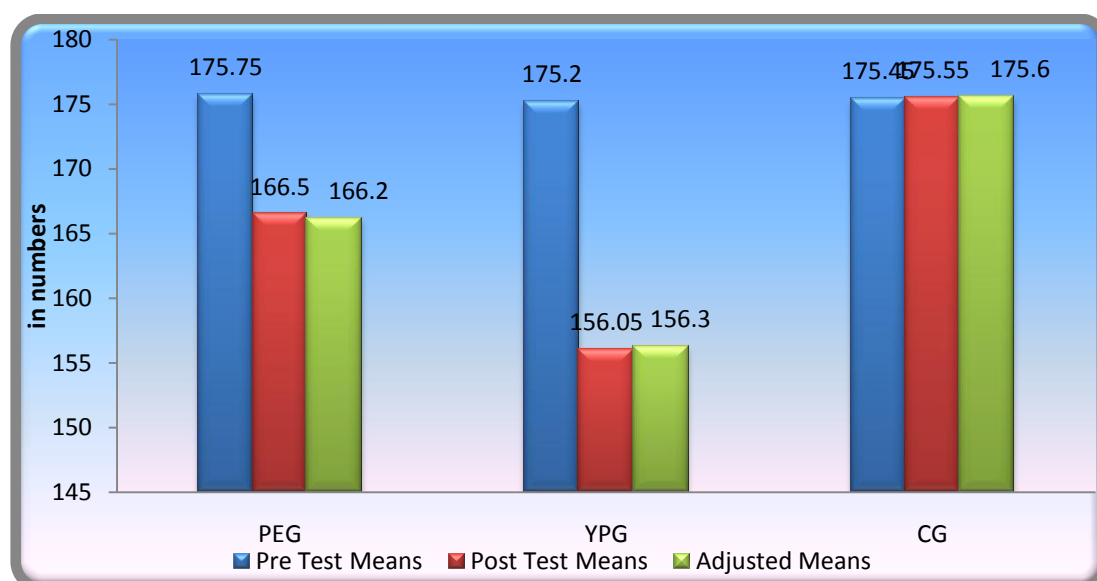


Table II. The scheffe's test for the differences between the adjusted post test paired means on aggression

Physical exercises group Group (N=20)	Yogic practice Group (N=20)	Control Group (N=20)	Mean Difference	CI value
166.20	156.30	---	9.90*	5.00
166.20	---	175.60	9.40*	
---	156.30	175.60	19.30*	

*Significant

Table - II shows the ordered adjusted means and difference between the means of the physical exercises group, yogic practice group and control group. The mean values of physical exercises group, yogic practice group and control group are 166.20, 156.30 and 175.30 respectively. The mean differences between physical

exercises group, yogic practice group and control group are 9.90, 9.40 and 19.30 respectively. Hence there is a significant difference seen between physical exercises group and yogic practice group; physical exercises group and control group; yogic practice group and control group.

Table III. Computation of analysis of covariance of physical exercises, yogic practice and control groups on anxiety

	PE Group	YP Group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	F-ratio
Pre-Test Means	54.10	53.85	54.25	BG	1.63	2	0.81	0.02
				WG	1740.10	57	30.52	
Post-Test Means	50.90	44.70	53.15	BG	766.03	2	383.01	17.10*
				WG	1276.55	57	22.39	
Adjusted Post-Test Means	50.37	44.83	53.03	BG	721.91	2	360.95	34.22*
				WG	590.57	56	10.54	

An examination of table – III indicates that the results of ANCOVA for pretest scores of the physical exercises group, yogic practice group and control group. The obtained F-ratio for the pre-test is 0.027 ($P > 0.05$) indicating that the random sampling is successful and the table F-ratio is 3.158. Hence the pre-test mean F-ratio is insignificant at 0.05 level of confidence for the degree of freedom 2 and 57. The obtained F-ratio for the post-test is 17.102 ($P < 0.05$) and the table F-ratio is 3.158. Hence the post-test mean F-ratio is significant at 0.05 level of confidence for the degree of freedom 2 and 57. The

adjusted post-test means of physical exercises group, yogic practice group and control group are 50.37, 44.83 and 53.03 respectively. The obtained F-ratio for the adjusted post-test means is 34.227 ($P < 0.05$) and the table F-ratio is 3.161. Hence the adjusted post-test mean anxiety F-ratio is significant at 0.05 level of confidence for the degree of freedom 2 and 56. Pre test, post test and adjusted post test mean difference of the physical exercises group, yogic practice group and control group on anxiety is presented in Figure II.

Figure II. Bar diagram showing the pretest, posttest and adjusted posttest mean differences of physical exercises, yogic practice and control groups on anxiety

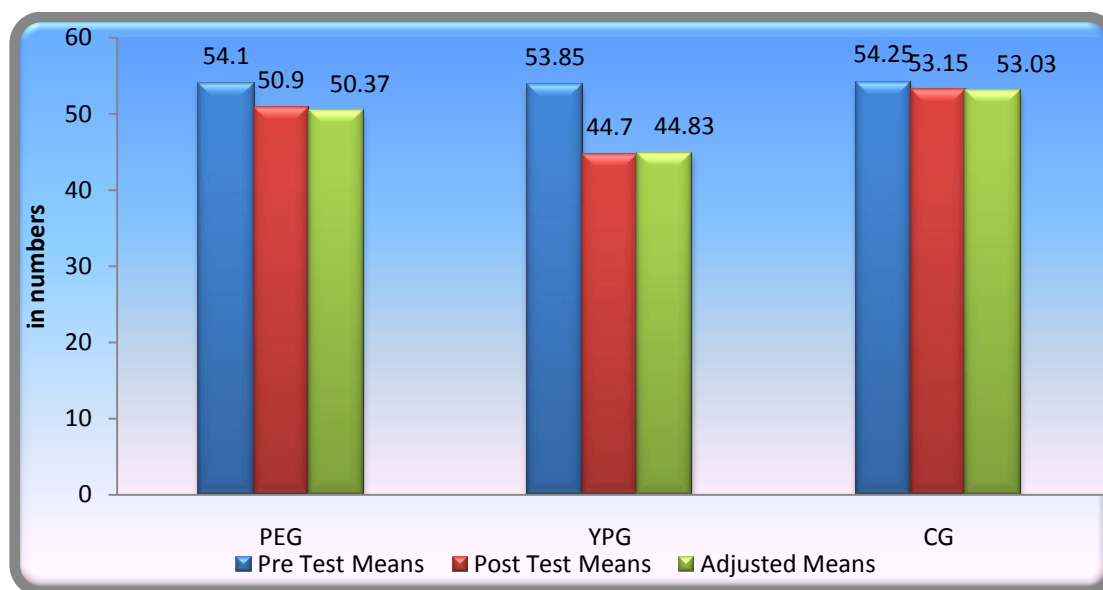


Table IV. The scheffe's test for the differences between the adjusted post test paired means on anxiety

Physical exercises group Group (N=20)	Yogic practice Group (N=20)	Control Group (N=20)	Mean Difference	CI value
50.379	44.836	---	6.043*	2.528
50.379	---	53.035	2.656*	
---	44.836	53.035	8.199*	

*Significant

Table - IV shows the ordered adjusted means and difference between the means of the physical exercises group, yogic practice group and control group. The mean values of physical exercises group, yogic practice group and control group are 50.379, 44.836 and 53.035 respectively. The mean differences between physical exercises group, yogic practice group and control group are 6.043, 2.656 and 8.199 respectively. Hence there is a significant difference seen between physical exercises group and yogic practice group; physical exercises group and control group; yogic practice group and control group.

Conclusions

From the analysis of the data, the following conclusion was drawn:

1. The yogic practice group showed significant differences on aggression and anxiety of residential college men students from their baseline to post training than the other groups.

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