ISSN: 2349 - 4891

International
Journal of Recent Research and Applied Studies
(Multidisciplinary Open Access Refereed e-Journal)

Comparative Effects of Yogic Practice and Psycho Regulatory Technique on Selected Psycho Physiological Variables among Athletes

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Received 6th April 2016, Accepted 16th May 2016

Abstract

The purpose of the study was to find out the comparative effects of yogic practice and psycho regulatory technique on selected psychophysiological variables among athletes. To achieve the purpose of the present study, forty five athletes from SDAT Tiruchirappalli, Tamilnadu, India were selected as subjects and their ages ranged from 16 to 20 years. The groups were assigned as Experimental Group I, Experimental Group II and Control Group in an equivalent manner. Experimental Group I was exposed to yogic practices, Experimental Group II was exposed to psycho regulatory techniques and Control Group was not exposed to any experimental training other than their regular daily activities. The duration of experimental period was 12 weeks. Heart rate was assessed by stethoscope and blood pressure was assessed by sphygmomanometer. The pre test and post test scores were subjected to statistical analysis using 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 practices and psycho regulatory training had shown significant improvement in all the selected psychophysiological variables among athletes after undergoing the training for a period of twelve weeks.

Keywords: Yoga, Psycho-regulatory, Athletes.

Introduction

The practice of yoga started thousands and thousands of years ago, when the world was rich in resources and man was self contented. The satisfaction in life made him look into the origin of the Universe. The inquisitiveness in man took him to Yoga. Archaeologists found out evidence from Mohenjo Daro and Harappa that people of Indus civilization period which was dated 5000 BC had practiced Yoga. Only when Aryas entered India they introduced the Vedas-Rig, Yajur, Sama, and Athervana with three components in each Veda viz., Mantras Brahmanas. Upanishads is the philosophy of Mantras and Brahmas. Aranyaka is other section which deals with Sanyasa seeking peace through penance and meditation by going deep into the forests. Rig Veda is the oldest among Vedas. Vyasar was responsible for organizing these four in order. Rig is hymns. Yajur is Yagam. Sama is song or music. Atharvana is thanthram / manthram. Even those days, there were people who disputed the existence of God. Lokhayats were prominent among them. Unfortunately this group could not have a leader. All in that group were leaders. That was why it did not become a religion like Buddhism and Jainism. But those people believed in "No person could be called God" and leading a moral life avoiding all sins would be enough. The group who followed the Upanishad thought differently and closed in toward Brahman which did not have any shape or size. In short Brahman is abstract. As there were too many sub groups in Upanishads there were inconsistencies in statements (Andre, 1987).

Sports psychology is a specialization within psychology that seeks to understand psychological factors that affect performance in sports, physical activity and exercise and apply these to enhance individual and team performance. Psycho regulatory technique is a scientific basis for the effective development of psychological skills. Sport psychology has been rapidly evolving since the 1980s (Weinberg & Gould, 2003)

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Methodology

The purpose of the study was to find out the comparative effects of yogic practice and psycho regulatory technique on selected psychophysiological variables among athletes. To achieve the purpose of the present study, forty five athletes from SDAT Tiruchirappalli, Tamilnadu, India were selected as subjects and their ages ranged from 16 to 20 years. The groups were assigned as Experimental Group I, Experimental Group II and Control Group in an

equivalent manner. Experimental Group I was exposed to yogic practices, Experimental Group II was exposed to psycho regulatory techniques and Control Group was not exposed to any experimental training other than their regular daily activities. The duration of experimental period was 12 weeks. Heart rate was assessed by stethoscope and blood pressure was assessed by sphygmomanometer. The pre test and post test scores were subjected to statistical analysis using 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 mean of yogic practices and psycho regulatory technique and control groups on heart rate

	YPG	PRTG	CG	Source of Variance	Sum of Squares	df	Means Squares	F-ratio
Pre-Test Means	73.93	73.80	74.40	**BG**	2.97	2	1.48	0.68
				WG	90.93	42	2.16	
Post-Test Means	70.73	70.13	74.20	**BG**	144.57	2	72.28	21.83*
				WG	139.06	42	3.31	
Adjusted Post-Test Means	70.80	70.03	74.34	**BG**	156.36	2	78.18	25.69*
				WG	124.76	41	3.04	

An examination of table - I indicated that the pre test means of yogic practices, psycho regulatory technique and control groups were 73.93, 73.80 and 74.40 respectively. The obtained F-ratio for the pre-test was 0.68 and the table F-ratio was 3.22. Hence the pre-test mean F-ratio was insignificant at 0.05 level of confidence for the degree of freedom 2 and 42. This proved that there were no significant difference between the experimental and control groups. The post-test means of the yogic practices, psycho regulatory technique and control groups were 70.73, 70.13 and 74.20 respectively. The obtained F-ratio for the post-test was 21.83 and the table F-ratio was 3.22. Hence the post-test mean F-ratio was significant at 0.05 level of confidence for the degree of freedom 2 and 42. This proved that the differences between the post test means of the subjects were significant. The adjusted post-test means of the yogic practices, psycho regulatory technique and control groups were 70.80, 70.03 and 74.34 respectively. The obtained F-ratio for the adjusted post-test means was 25.69 and the table F-ratio was 3.23. Hence the adjusted post-test mean F-ratio was significant at 0.05 level of confidence for the degree of freedom 2 and 41. This proved that there was a significant difference among the means due to the experimental trainings on heart rate. Since significant differences were recorded, the results were subjected to post hoc analysis using Scheffe's post hoc test. The results were presented in Table-II.

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

Adjusted Post-test means			Mean Difference	Required CI
YPG	**PRTG**	**CG**		
70.68	70.03	---	0.65	1.61
70.68	---	74.34	3.66*	
---	70.03	74.34	4.31*	

**** Significant at 0.05 level of confidence***

The multiple comparisons showed in Table II proved that there existed significant differences between the adjusted means of yogic practices and control group (3.66), psycho regulatory technique and control group (4.31). There was no significant difference between yogic practices and psycho regulatory technique (0.65) at 0.05 level of confidence with the confidence interval value of 1.61. The pre, post and adjusted means on heart rate were presented through bar diagram for better understanding of the results of this study in Figure-1.

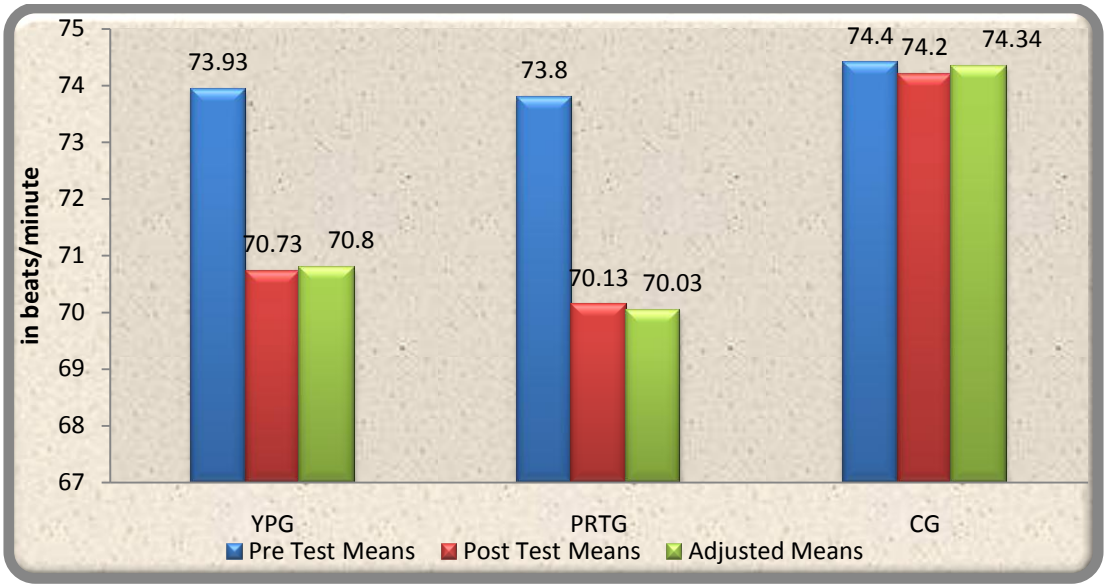

Figure II. Pre post and adjusted post test differences of the, yogic practices, psycho regulatory technique and control groups on heart rate

Table III. Computation of analysis of covariance of mean of yogic practices, psycho regulatory technique and control groups on systolic blood pressure

	YPG	PRTG	CG	Source of Variance	Sum of Squares	df	Means Squares	F-ratio
Pre-Test Means	124.06	123.40	123.86	**BG**	3.51	2	1.75	1.22
				WG	60.26	42	1.43	
Post-Test Means	120.86	120.66	124.00	**BG**	104.84	2	52.42	62.78*
				WG	35.06	42	0.83	
Adjusted Post-Test Means	120.81	120.73	123.98	**BG**	102.66	2	51.33	63.75*
				WG	33.01	41	0.80	

An examination of table - III indicated that the pre test means of yogic practices, psycho regulatory technique and control groups were 124.06, 123.40 and 123.86 respectively. The obtained F-ratio for the pre-test was 1.22 and the table F-ratio was 3.22. Hence the pre-test mean F-ratio was insignificant at 0.05 level of confidence for the degree of freedom 2 and 42. This proved that there were no significant difference between the experimental and control groups. The post-test means of the yogic practices, psycho regulatory technique and control groups were 120.86, 120.66 and 124.00 respectively. The obtained F-ratio for the post-test was 32.55 and the table F-ratio was 3.22. Hence the post-test mean F-ratio was significant at 0.05 level of confidence for the degree of freedom 2 and 42. This proved that the differences between the post test means of the subjects were significant. The adjusted post-test means of the yogic practices, psycho regulatory technique and control groups were 120.81, 120.73 and 123.98 respectively. The obtained F-ratio for the adjusted post-test means was 63.75 and the table F-ratio was 3.23. Hence the adjusted post-test mean F-ratio was significant at 0.05 level of confidence for the degree of freedom 2 and 41. This proved that there was a significant difference among the means due to the experimental trainings on systolic blood pressure. Since significant differences were recorded, the results were subjected to post hoc analysis using Scheffe's post hoc test. The results were presented in Table IV.

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

Adjusted Post-test means			Mean Difference	Required CI
YPG	PRTG	CG		
120.81	120.73	---	0.08	0.82
120.81	---	123.98	3.17*	
---	120.73	123.98	3.25*	

**** Significant at 0.05 level of confidence***

The multiple comparisons showed in Table IV proved that there existed significant differences between the adjusted means of yogic practices and control group (3.17), psycho regulatory technique and control group (3.25). There was no significant difference between yogic practices and psycho regulatory technique (0.08) at 0.05 level of confidence with the confidence interval value of 0.82. The pre, post and adjusted means on systolic blood pressure were presented through bar diagram for better understanding of the results of this study in Figure-II.

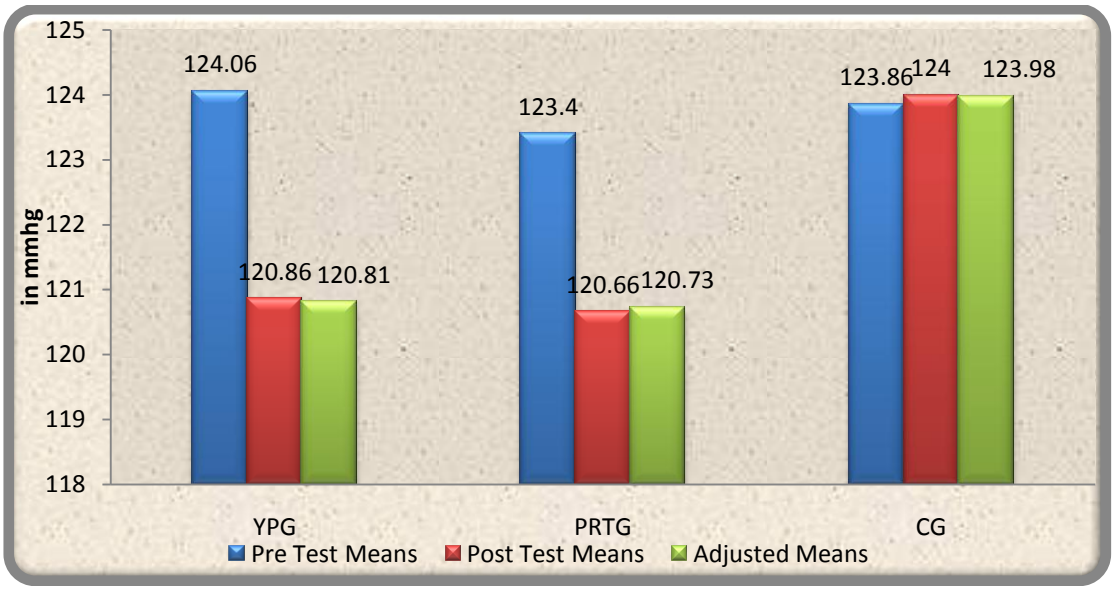

Figure II. Pre post and adjusted post test differences of the, yogic practices, psycho regulatory technique and control groups on systolic blood pressure

Table V. Computation of analysis of covariance of mean of yogic practices, psycho regulatory technique and control groups on diastolic blood pressure

	YPG	PRTG	CG	Source of Variance	Sum of Squares	df	Means Squares	F-ratio
Pre-Test Means	83.40	83.06	83.53	**BG**	1.73	2	0.86	0.54
				WG	66.26	42	1.57	
Post-Test Means	79.40	79.73	82.86	**BG**	109.73	2	54.86	39.54*
				WG	58.26	42	1.38	
Adjusted Post-Test Means	79.39	79.75	82.84	**BG**	106.95	2	53.47	37.97*
				WG	57.73	41	1.40	

An examination of table - V indicated that the pre test means of yogic practices, psycho regulatory technique and control groups were 83.40, 83.06 and 83.53 respectively. The obtained F-ratio for the pre-test was 0.54 and the table F-ratio was 3.22. Hence the pre-test mean F-ratio was insignificant at 0.05 level of confidence for the degree of freedom 2 and 42. This proved that there were no significant difference between the experimental and control groups. The post-test means of the yogic practices, psycho regulatory technique and control groups were 79.40, 79.73 and 82.86 respectively. The obtained F-ratio for the post-test was 39.54 and the table F-ratio was 3.22. Hence the post-test mean F-ratio was significant at 0.05 level of confidence for the degree of freedom 2 and 42. This proved that the differences between the post test means of the subjects were significant. The adjusted post-test means of the yogic practices, psycho regulatory technique and control groups were 79.39, 79.75 and 82.84 respectively. The obtained F-ratio for the adjusted post-test means was 37.97 and the table F-ratio was 3.23. Hence the adjusted post-test mean F-ratio was significant at 0.05 level of confidence for the degree of freedom 2 and 41. This proved that there was a significant difference among the means due to the experimental trainings on diastolic blood pressure. Since significant differences were recorded, the results were subjected to post hoc analysis using Scheffe's post hoc test. The results were presented in Table-VI.

Table VI. The scheffe's test for the differences between the adjusted post test paired means on diastolic blood pressure

Adjusted Post-test means			Mean Difference	Required CI
YPG	PRTG	CG		
79.39	79.75	---	0.56	1.09
79.39	---	82.84	3.45*	
---	79.75	82.84	2.89*	

**** Significant at 0.05 level of confidence***

The multiple comparisons showed in Table VI proved that there existed significant differences between the adjusted means of yogic practices and control group (3.45), psycho regulatory technique and control group (2.89). There was no significant difference between yogic practices and psycho regulatory technique (0.56) at 0.05 level of confidence with the confidence interval value of 1.09. The pre, post and adjusted means on diastolic blood pressure were presented through bar diagram for better understanding of the results of this study in Figure-III.

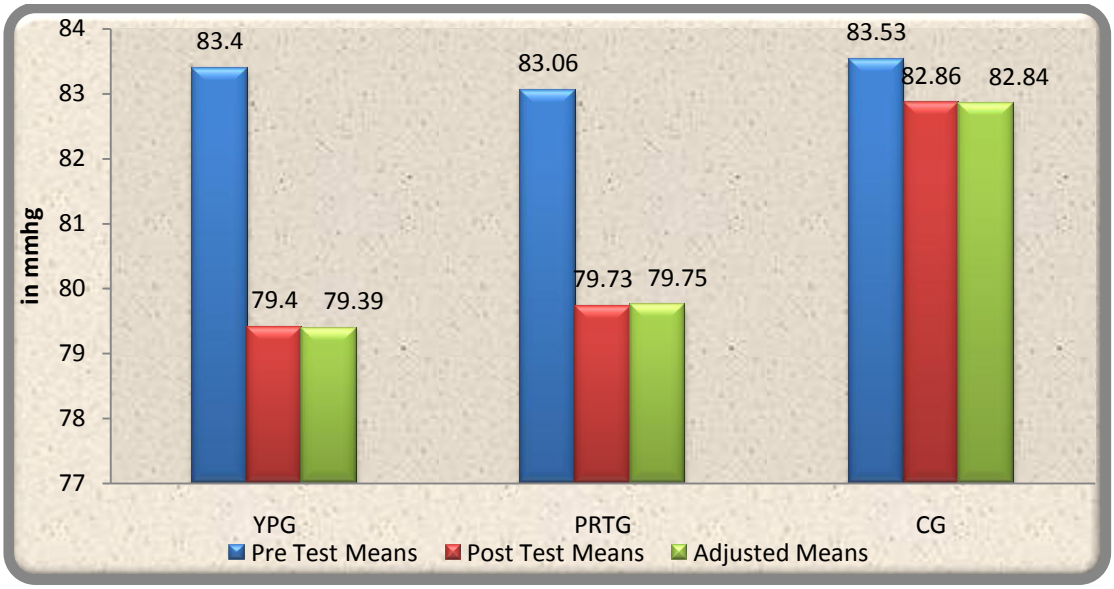

Figure III. Pre post and adjusted post test differences of the, yogic practices, psycho regulatory technique and control groups on diastolic blood pressure

Conclusion

From the analysis of the data, the following conclusions were drawn:

1. The yogic practices had shown significant improvement in all the selected psychophysiological variables among athletes after undergoing yogic practices for a period of twelve weeks.
2. The psycho regulatory training group had shown significant improvement in all the selected psychophysiological variables among athletes after undergoing the psycho regulatory training for a period of twelve weeks.

References

1. Akhtar P, Yardi S, Akhtar M. (2013). Effects of yoga on functional capacity and well being. *Int J Yoga*. 2013 Jan;6(1):76-9.
2. Andre Van Lysebeth, (1987). *Yoga Self – Taught*, Delhi: Tarage Paper Back.
3. Ankad, R.B., Herur, A., Patil, S., Shashikala, G.V. & Chinagudi, S. (2011). Effect of short term pranayama and meditation on cardiovascular functions in healthy individuals. *Heart Views.* 12(2):58-62.
4. Asai.K. and Rane .Y.V, (2011). Asanas and lezium Programme on Selected Physical Fitness Variables of School Boys. *Entire Research National Quarterly Research Journal*, 3(1) p25- 31.
5. Bal, B.S. & Kaur, P.J. (2009). Effects of selected asanas in hatha yoga on agility and flexibility level. *Journal of Sport and Health Research*. 1(2):75-87.
6. Balaji, P.A., Varne, S.R. & Ali, S.S. (2012). Physiological effects of yogic practices and transcendental meditation in health and disease. *N Am J Med Sci.* 4(10):442-8.
7. Chandrasekaran.K (2003). *Yoga for Health*, Delhi; Khel Sathiya Kendra.
8. Eugene S.Rawles, (1997). *Yoga for Beauty and Health.* New York: Parker Publishing CompanyInc.
9. Greendale, G.A., Kazadi, L., Mazdyasni, S., Ramirez, E., Wang, M.Y., Yu, S.S. & Salem, G. (2012). Yoga Empowers Seniors Study (YESS): Design and Asana Series. *J Yoga Phys Ther*. 27;2(1).
10. Hagins M, Haden SC, Daly LA. (2013). A randomized controlled trial on the effects of yoga on stress reactivity in 6th grade students. *Evid Based Complement Alternat Med.* 2013;607134.
11. Iyengar, B.K.S. (1986). *Light on Yoga.* London: George Allen and Unwin Publishing Ltd.
12. Joshi.K (2001). *Yogic Pranayama*, New Delhi: Orient Paper Backs.
13. Mikhail Zvyagintsev,1,2,3 Benjamin Clemens,2,4 Natalya Chechko,1,3 Krystyna A. Mathiak,3,5 Alexander T. Sack6 and Klaus Mathiak. (2013). Brain networks underlying mental imagery of auditory and visual information. *European Journal of Neuroscience*, pp. 1–14.
14. Miles SC, Chun-Chung C, Hsin-Fu L, Hunter SD, Dhindsa M, Nualnim N, Tanaka H. et al. (2013). Arterial blood pressure and cardiovascular responses to yoga practice. *Altern Ther Health Med.*19(1):38-45.
15. Swami Kuvalayananda (1977). *Asana*, Lonavala: Kaivalya dhama.
16. Weinberg, R.S. & Gould, D. (2003). *Foundations of Sport & Exercise Psychology, (3rd ed).* Champaign IL: Human kinetics.