

EFFECT OF VARIOUS INTENSITY OF RESISTANCE TRAINING ON RESTING HEART RATE AMONG COLLEGE STUDENTS

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ABSTRACT

The purpose of the study was to find the effect of resistance training with different intensity on resting heart rate among college students. To achieve the purpose of the present study, forty five college students from Tiruchirappalli, Tamilnadu were selected as subjects at random and their ages ranged from 18 to 25 years. The subjects were divided into three equal groups of fifteen each. Group I acted as Experimental Group I (RTWHIG), Group II acted as Experimental Group II (RTWLIG) and Group III acted as Control Group. The requirement of the experiment procedures, testing as well as exercise schedule was explained to the subjects so as to get full co-operation of the effort required on their part and prior to the administration of the study. Analysis of covariance (ANCOVA) was applied and whenever the adjusted post-test means were found significant, the Scheffe's post-hoc test was administer to find out the paired means difference. To test the obtained results on variables, level of significance 0.05 was chosen and considered as sufficient for the study. The RTWHIG and RTWLIG had shown significant differences in resting heart rate among college students than the control group. The RTWHIG had produced significant differences in resting heart rate among college students than the RTWLIG.

KEYWORDS: Resistance Training, Resting Heart Rate, College Students.

INTRODUCTION

Resistance training is well established effective methods of exercise for developing muscular fitness. The primary goals of resistance training as improving muscular strength and endurance and other benefits includes increases in bone mass, reduced blood pressure, increase muscle and connective tissue cross-sectional area and reduced body fat. Although modern technology has reduced much of the need for high levels of force production during activities of daily living, it is recognised in both the scientific and medical communities that muscular strength is a fundamental physical trait necessary for health, functional ability, and enhanced quality of life. Therefore, exercise induced skeletal muscle growth and accompanying gains in strength expression are areas of interest not only for the competitive athlete wishing to enhance performance but also for non-competitive individuals who simply wish to alter their body composition or increase their capacity to perform tasks requiring muscular effort (Sara & Siva, 2013).

METHODOLOGY

The purpose of the study was to find the effect of resistance training with different intensity on resting heart rate among college students. To achieve the purpose of the present study, forty five college students from Tiruchirappalli, Tamilnadu were selected as subjects at random and their ages ranged from 18 to 25 years. The subjects were divided into three equal groups of fifteen each. Group I acted as Experimental Group I (RTWHIG), Group II acted as Experimental Group II (RTWLIG) and Group III acted as Control Group. The requirement of the experiment procedures, testing as well as exercise schedule was explained to the subjects

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RESULTS

TABLE – I
COMPUTATION OF MEAN AND ANALYSIS OF COVARIANCE OF RESTING HEART RATE OF RTWHIG, RTWLIG AND CONTROL GROUP

	RTWHIG	RTWLIG	Control Group	Source of Variance	Sum of Squares	df	Mean Square	F
Pre Test Mean	66.20	66.13	65.80	BG	1.37	2	0.68	1.40
				WG	20.53	42	0.48	
Post Test Mean	60.53	63.33	65.40	BG	178.97	2	89.48	66.32*
				WG	56.66	42	1.34	
Adjusted Post Test Mean	60.48	63.30	65.48	BG	178.96	2	89.48	67.53*
				WG	54.32	41	1.32	

* Significant at 0.05 level Table value for df 2, 42 was 3.21 and 2, 41 was 3.22

The above table indicates the adjusted mean value of resting heart rate of RTWHIG, RTWLIG and control group were 60.48, 63.30 and 65.48 respectively. The obtained F-ratio of 67.53 for adjusted mean was greater than the table value 3.22 for the degrees of freedom 2 and 41 required for significance at 0.05 level of confidence. The result of the study indicates that there was a significant difference among experimental and control group on resting heart rate. The above table also indicates that both pre and post test means of experimental and control group differ significantly.

FIGURE – I
SHOWS THE MEAN VALUES ON RESTING HEART RATE OF RTWHIG,
RTWLIG AND CONTROL GROUP

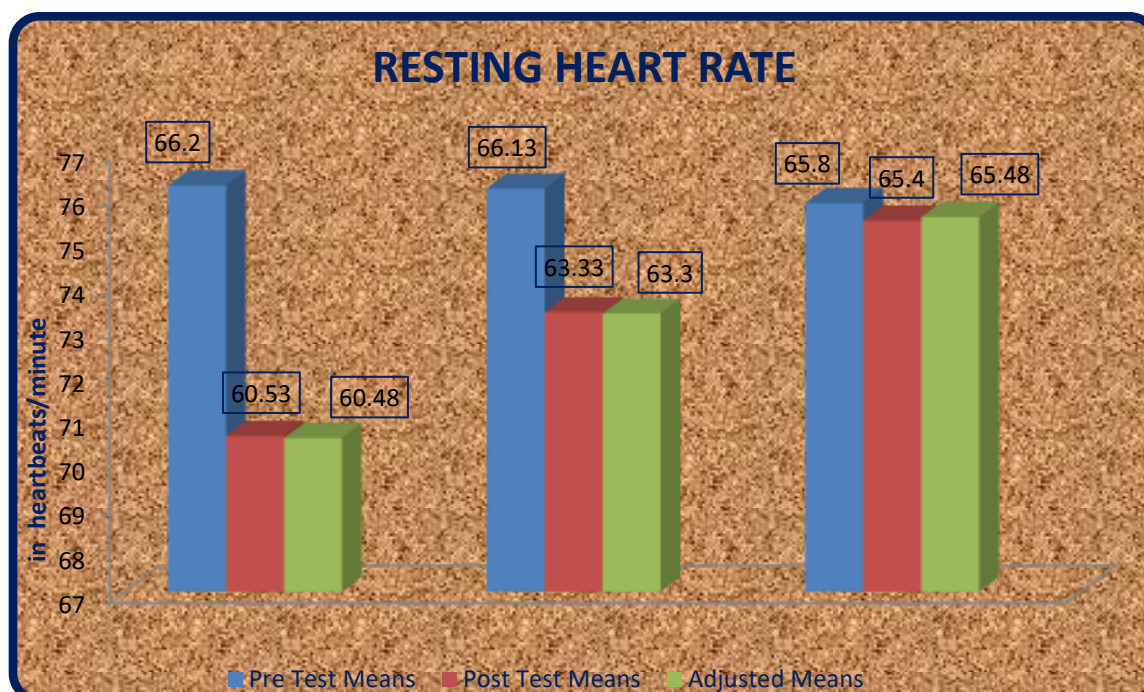


TABLE - II
ADJUSTED MEAN AND DIFFERENCES BETWEEN THE MEANS OF RTWHIG,
RTWLIG AND CONTROL GROUP ON RESTING HEART RATE

RTWHIG	RTWLIG	CONTROL GROUP	Mean difference	CI value
60.48	63.30	---	2.82*	1.06
60.48	---	65.48	5.00*	
---	63.30	65.48	2.18*	

Table - II shows the adjusted means on resting heart rate and difference between the means of the RTWHIG, RTWLIG and control group. The mean differences of RTWHIG and RTWLIG, RTWHIG and control group, RTWLIG and control group were 70.48, 73.30 and 75.48 respectively was greater than the CI value 1.06. Hence there exist significant differences between the groups.

CONCLUSION

1. The RTWHIG and RTWLIG had shown significant differences in resting heart rate among college students than the control group.
2. The RTWHIG had produced significant differences in resting heart rate among college students than the RTWLIG.

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