

EFFECT OF RESISTANCE TRAINING AND WEIGHT TRAINING ON SPEED AND AGILITY AMONG BOXERS

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ABSTRACT

Aim of the study to find out the effect of resistance training and weight training on speed and agility among boxers study was formulated as a true random group design, consisting of a pre test and post test. The subjects (n=60) were randomly assigned to three equal groups of twenty men boxers in each group. The groups were assigned as Experimental Groups I, II and control group respectively. Experimental group I was assigned as Resistance Training and Experimental group II was assigned as weight training and control group. The control group was not given any special treatment except of their routine. Pre tests were conducted for all the subjects on speed and agility. The experimental groups participated in their respective training protocols for a period of twelve weeks.

The post tests were conducted on the above said dependent variables after the experimental period of twelve weeks for all the three groups. The differences between the initial and final means on selected variables were considered. The obtained data were subjected to statistical treatment using ANCOVA. In all cases 0.05 level was fixed to test the hypothesis set for this study.

Key Words: Resistance Training, Weight Training, Speed Agility and Boxers.

INTRODUCTION

Improving skill means that the performance of any motor task becomes more efficient thereby reducing the time taken to complete the task and the level of effort required. This increased level of skillfulness could also mean more enjoyment and satisfaction for the performer by increasing the ease with which the task can be completed or by allowing new, more complex skills to be attempted. If by understanding the processes that govern the control of movement we can show the way for all individuals to improve their ability to perform the myriad of motor tasks that they confront, then we can claim to have made a real contribution to improving the quality of life within our society (Kerr, R. 1982).

SELECTION OF SUBJECTS

To find out the effect of resistance training and weight training on speed and agility among Boxers the investigator randomly selected 60 boxers, who competed at inter collegiate level sports meets representing different colleges in Mahatma Gandhi University, Nalgonda. They were divided into three groups at random again consisting twenty subjects in each group

and they were randomly assigned as experimental group I Resistance Training and Experimental group II weight training). And control group..The requirements of the experimental procedures, testing as well as exercise schedules were explained to them so as to avoid any ambiguity of the effort required on their part and prior to the administration of the study, the investigator got the individual consent from each subject.

EXPERIMENTAL DESIGN

The study was formulated as a true random group design, consisting of a pre test and post test. The subjects (n=60) were randomly assigned to three equal groups of twenty men boxers in each group. The groups were assigned as Experimental Groups I, II and control group respectively. Experimental group I was assigned as Resistance Training and Experimental group II was assigned as weight training and control group. The control group was not given any special treatment except of their routine. Pre tests were conducted for all the subjects on speed and agility. The experimental groups participated in their respective training protocols for a period of twelve weeks.

The post tests were conducted on the above said dependent variables after the experimental period of twelve weeks for all the three groups. The differences between the initial and final means on selected variables were considered. The obtained data were subjected to statistical treatment using ANCOVA. In all cases 0.05 level was fixed to test the hypothesis set for this study.

COMPUTATION OF REPEATED ANALYSIS OF VARIANCE AND POST HOC TEST

RESULTS ON SPEED

The statistical analysis comparing the initial and final means of Speed due to Structured Resistance Training and Weight Training among Boxers is presented in Table I

Table I

COMPUTATION OF ANALYSIS OF COVARIANCE OF SPEED

	RESISTANCE TRAINING	WEIGHT TRAINING	CONTROL GROUP	SOURCE OF VARIANCE	SUM OF SQUARES	df	MEAN SQUARES	OBTAINED F
Pre Test Mean	6.28	6.27	6.34	Between	0.05	2	0.02	0.77
				Within	1.85	57	0.03	
Post Test	6.16	6.21	6.33	Between	0.32	2	0.16	5.71*

Mean				Within	1.59	57	0.03	
Adjusted Post Test Mean	6.17	6.23	6.30	Between	0.15	2	0.08	13.68*
				Within	0.31	56	0.01	
Mean Diff	-0.12	-0.06	0.00					

Table F-ratio at 0.05 level of confidence for 2 and 57 (df) =3.16, 2 and 56 (df) =3.16.

*Significant

As shown in Table I the obtained pre test means on Speed on Resistance Training group was 6.28, Weight Training group was 6.27 was and control group was 6.34. The obtained pre test F value was 0.77 and the required table F value was 3.16, which proved that there was no significant difference among initial scores of the subjects.

The obtained post test means on Speed on Resistance Training group was 6.16, Weight Training group was 6.21 was and control group was 6.33. The obtained post test F value was 5.71 and the required table F value was 3.16, which proved that there was significant difference among post test scores of the subjects.

Taking into consideration of the pre test means and post test means adjusted post test means were determined and analysis of covariance was done and the obtained F value 13.68 was greater than the required value of 3.16 and hence it was accepted that there was significant differences among the treated groups.

Since significant differences were recorded, the results were subjected to post hoc analysis using Scheffe's Confidence Interval test. The results were presented in Table II.

Table II

Scheffe's Confidence Interval Test Scores on Speed

MEANS				Required C I
Resistance Training Group	Weight Training Group	Control Group	Mean Difference	
6.17	6.23		0.06	0.06

6.17		6.30	0.13	0.06
	6.23	6.30	0.07	0.06

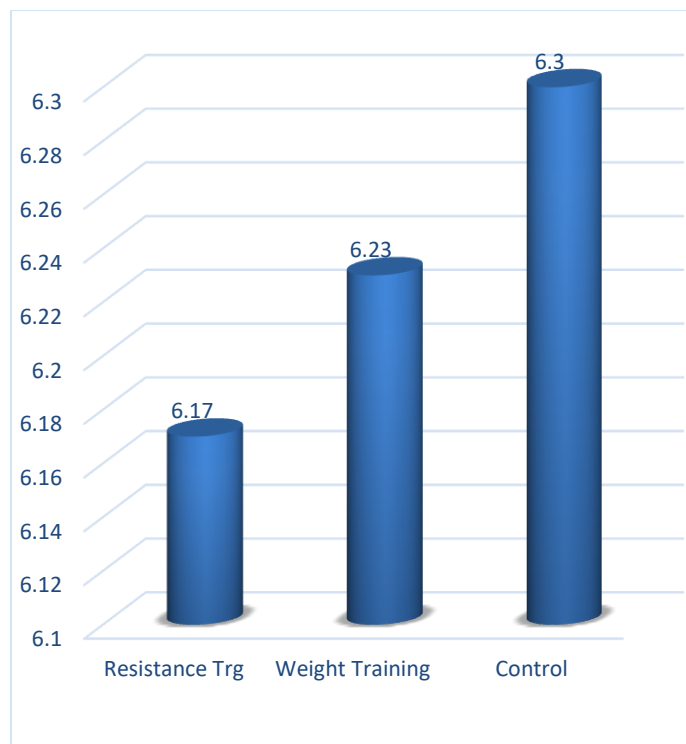
* Significant

The post hoc analysis of obtained ordered adjusted means proved that there was significant differences existed between Resistance Training group and control group (MD: 0.13). There was significant difference between Weight Training group and control group (MD: 0.07). There was significant difference between treatment groups, namely, Resistance Training group and Weight Training group. (MD: 0.06).

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

Figure I

BAR DIAGRAM ON ORDERED ADJUSTED MEANS ON SPEED



RESULTS ON AGILITY

The statistical analysis comparing the initial and final means of Agility due to Resistance Training and Weight Training among Boxers is presented in Table III

Table III
COMPUTATION OF ANALYSIS OF COVARIANCE OF AGILITY

	RESISTANCE TRAINING	WEIGHT TRAINING	CONTROL GROUP	SOURCE OF VARIANCE	SUM OF SQUARES	df	MEAN SQUARES	OBTAINED F
Pre Test Mean	10.81	10.57	10.74	Between	0.61	2	0.31	1.45
				Within	12.00	57	0.21	
Post Test Mean	10.51	10.54	10.75	Between	0.74	2	0.37	1.68
				Within	12.51	57	0.22	
Adjusted Post Test Mean	10.42	10.66	10.73	Between	1.03	2	0.52	8.04*
				Within	3.60	56	0.06	
Mean Diff	-0.31	-0.03	0.01					

Table F-ratio at 0.05 level of confidence for 2 and 57 (df) =3.16, 2 and 56 (df) =3.16.

*Significant

As shown in Table III, the obtained pre test means on Agility on Resistance Training group was 10.81, Weight Training group was 10.57 and control group was 10.74. The obtained pre test F value was 1.45 and the required table F value was 3.16, which proved that there was no significant difference among initial scores of the subjects.

The obtained post test means on Agility on Resistance Training group was 10.51, Weight Training group was 10.54 and control group was 10.75. The obtained post test F value was 1.68 and the required table F value was 3.16, which proved that there was no significant difference among post test scores of the subjects.

Taking into consideration of the pre test means and post test means adjusted post test means were determined and analysis of covariance was done and the obtained F value 8.04 was greater than the required value of 3.16 and hence it was accepted that there was significant differences among the treated groups.

Since significant differences were recorded, the results were subjected to post hoc analysis using Scheffe's Confidence Interval test. The results were presented in Table IV.

Table IV
Scheffe's Confidence Interval Test Scores on Agility

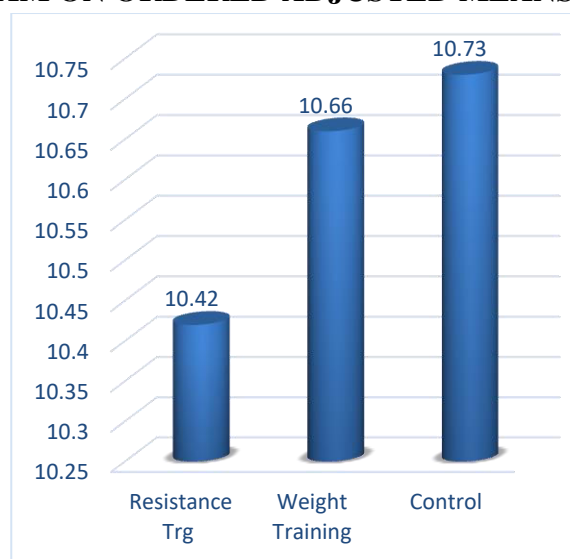
MEANS				Required C I
Resistance Training Group	Weight Training Group	Control Group	Mean Difference	
10.42	10.66		0.24*	0.20
10.42		10.73	0.31*	0.20
	10.66	10.73	0.07	0.20

* Significant

The post hoc analysis of obtained ordered adjusted means proved that there was significant differences existed between Resistance Training group and control group (MD: 0.31). There was no significant difference between Weight Training group and control group (MD: 0.07). There was significant difference between treatment groups, namely, Resistance Training group and Weight Training group. (MD: 0.24).

The ordered adjusted means were presented through bar diagram for better understanding of the results of this study in Figure II.

Figure II
BAR DIAGRAM ON ORDERED ADJUSTED MEANS ON AGILITY



CONCLUSIONS

1. It was concluded that resistance training and weight training exercises significantly improved speed of the college level Boxers. Comparing between the treatment groups, it was found that resistance training was better than weight training group.
2. It was concluded that resistance training and weight training exercises significantly improved agility of the college level Boxers. Comparing between the treatment groups, it was found that resistance training was better than weight training group.

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