

EFFECT OF STRUCTURED RESISTANCE TRAINING AND WEIGHT TRAINING ON SPEED AMONG POWERLIFTERS

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.ABSTRACT

Aim of the study to find out the effect of structured resistance training and weight training on speed among powerlifters study was formulated as a true random group design, consisting of a pre test and post test. The subjects (n=60) were randomly selected who represented Yogi Vemana University Inter College Power Lifting competition and their age between 18-23 years. assigned to three equal groups of twenty men powerlifters in each group. The groups were assigned as Experimental Groups I, II and control group respectively. Experimental group I was assigned as structured 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 . 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 variable 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: structured Resistance Training, Weight Training, Speed .

INTRODUCTION

Powerlifting is a sport that primarily emphasizes maximal strength, focusing on three key lifts: the squat, the bench press, and the deadlift. Traditionally, training for powerlifting has been

centered around increasing these lifts' absolute strength through various forms of resistance and weight training. However, recent research has begun to highlight the importance of speed and explosiveness in improving performance even in strength-based sports. Speed, in this context, is not merely about how quickly an athlete can move but also about how rapidly they can apply force to the barbell, which can significantly impact their lifting efficiency and overall performance.

Structured resistance training and weight training are two methodologies that have been explored for their potential to enhance speed among powerlifters. Structured resistance training involves a systematic approach to varying resistance levels and exercise types to target different muscle groups and improve overall power and force application. Weight training, on the other hand, often focuses on progressive overload and specific lift techniques to maximize strength gains. Both approaches have their unique benefits, but their combined effects on speed in the context of powerlifting have not been thoroughly investigated.

The integration of speed-focused elements into traditional powerlifting training regimens could provide valuable insights into optimizing performance outcomes. Understanding how structured resistance training and weight training influence speed among powerlifters could help refine training programs, enabling athletes to not only lift heavier weights but also do so more efficiently and explosively.

This study aims to explore the effects of structured resistance training and weight training on speed among powerlifters. By analyzing how these training approaches impact the velocity of lifts and overall lifting performance, this research seeks to contribute to the development of more effective training strategies that enhance both strength and speed. The findings will offer practical implications for powerlifters and coaches striving to achieve peak performance in competitive settings.

SELECTION OF SUBJECTS

To find out the effect of structured resistance training and weight training on speed among powerlifters

the investigator randomly selected 60 power lifters, who competed at inter collegiate level sports meets representing different colleges in Yogi vemana university, kadapa .They were divided into three groups at random again consisting twenty subjects in each group and they were randomly assigned as experimental group I structured 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

study was formulated as a true random group design, consisting of a pre test and post test. The subjects (n=60) who represented Yogi Vemana University Inter College Power Lifting competition and their age between 18-23 years. were randomly assigned to three equal groups of twenty men powerlifters in each group. The groups were assigned as Experimental Groups I, II and control group respectively. Experimental group I was assigned as structured 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 . The experimental groups participated in their respective training protocols for a period of twelve weeks.

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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 Power lifters is presented in Table I

Table I

COMPUTATION OF ANALYSIS OF COVARIANCE OF SPEED

	STRUCTURED 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 Mean	6.16	6.21	6.33	Between	0.32	2	0.16	5.71*
				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 structured 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 Speedon structuredResistance 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
structuredResistance Group	Training Group	Weight Training Group	Control Group	Mean Difference C I
6.17		6.23		0.06
6.17			6.30	0.13
		6.23	6.30	0.07

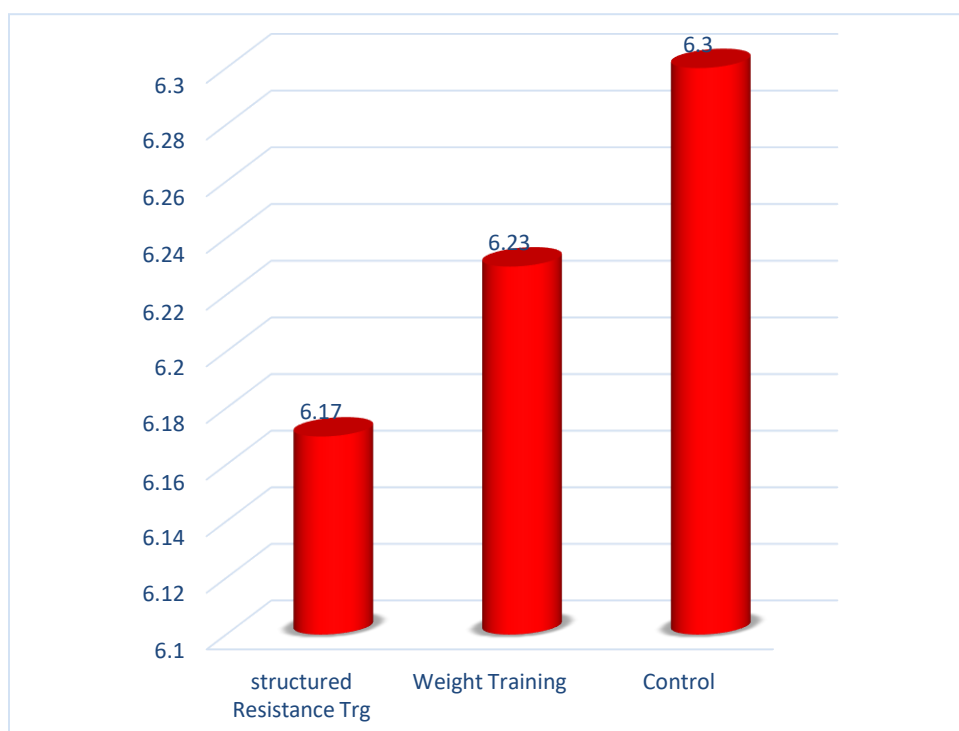
* Significant

The post hoc analysis of obtained ordered adjusted means proved that there was significant differences existed between structuredResistance 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, structured 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



CONCLUSIONS

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

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