

Impact of Weight Training on Selected Physical Fitness Components among Weight Lifters**Dr. Nitin W. Deulkar**

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Abstract

The purpose of the study was to find out the effect of weight training on selected physical fitness components namely speed, grip strength and agility among male weight lifters. To achieve the purpose of the study thirty male weight lifters have been randomly selected from various colleges under Sant Gadge Baba Amravati University, Amravati (M.S.) The age of subjects were ranged from 18 to 25 years. The subjects had past experience of at least three years in weight lifting and only those who had represented their respective college teams were taken as subjects. The subjects were randomly assigned into two groups of fifteen each, such as experimental and control groups. The experimental group participated in the weight training for 3 days a week, one session per day and for 8 weeks each session lasted 45 minutes. The control group maintained their daily routine activities and no special training was given. The subjects of the two groups were tested on selected variables prior and immediately after the training period. The collected data were analyzed statistically through analysis of covariance (ANCOVA) to find out the significance difference, if any between the groups. The 0.05 level of confidence was fixed to test the level of significance difference, if any between groups. The results of the study showed that there was significant differences exist between weight training group and control group. And also weight training group showed significant improvement on speed, grip strength and agility compared to control group.

Key words: weight training, speed, grip strength, agility.

Introduction

Weight training is a common type of strength training for developing the strength and size of skeletal muscles. It utilizes the force of gravity in the form of weighted bars, dumbbells or weight stacks in order to oppose the force generated by muscle through concentric or eccentric contraction. Weight training uses a variety of specialized equipment to target specific muscle groups and types of movement. Sports where strength training is central are bodybuilding, weightlifting, powerlifting, strongman, highland games, hammer throw, shot put, discus throw, and javelin throw. Many other sports use strength training as part of their training regimen, notably: American football, baseball, basketball, football, hockey, lacrosse, mixed martial arts, rowing, rugby league, rugby union, track and field, boxing and wrestling.

Weight training also requires the use of proper or 'good form', performing the movements with the appropriate muscle group, and not transferring the weight to different body parts in order to move greater weight

(called 'cheating'). Failure to use good form during a training set can result in injury or a failure to meet training goals. If the desired muscle group is not challenged sufficiently, the threshold of overload is never reached and the muscle does not gain in strength. At a particularly advanced level; however, "cheating" can be used to break through strength plateaus and encourage neurological and muscular adaptation. Although weight training is similar to bodybuilding, they have different objectives. Bodybuilders use weight training to develop their muscles for size, shape, and symmetry regardless of any increase in strength for competition in bodybuilding contests; they train to maximize their muscular size and develop extremely low levels of body fat. In contrast, many weight trainers train to improve their strength and anaerobic endurance while not giving special attention to reducing body fat far below normal.

The bodybuilding community has been the source of many weight training principles, techniques, vocabulary, and customs. Weight training does allow

tremendous flexibility in exercises and weights which can allow bodybuilders to target specific muscles and muscle groups, as well as attain specific goals. Not all bodybuilding is undertaken to compete in bodybuilding contests and, in fact, the vast majority of bodybuilders never compete, but body build for their own personal reasons.

Methodology

To achieve the purpose of the study thirty male weight lifters have been randomly selected from various colleges Sant Gadge Baba Amravati University, Amravati (M.S.). The age of subjects were ranged from 18 to 25 years. The subjects had past experience of at least three years in weight lifting and only those who represented their respective college teams were taken as subjects. The subjects were randomly assigned into two groups of fifteen each, such as experimental and control groups. The experimental group participated in the weight training for 3 days a week, one session per day and for 8 weeks each session lasted 45 minutes. The control group maintained their daily routine activities and no special training was given. The subjects of the two groups were tested on selected variables prior and immediately after the training period. The collected data were analyzed statistically through analysis of covariance (ANCOVA) to find out the sign difference, if any between the groups. The 0.05 level of confidence was fixed to test the level of significance difference, if any between groups.

Table-1: Criterion measures

S. No	Criterion measure	Test items	Unit of measurement
1	Speed	50 mts dash	In seconds
2	Grip strength	Grip dynamometer	In kg
3	Agility	Shuttle run 4x10	In seconds(1/10)

Table – 2: Descriptive analysis of physical fitness components among experimental and control groups

S. No	Variab les	Gro up	Pre-Test mea n	SD (±)	PostTt est mean	SD (±)	Adjust ed
1	Speed	WT	6.6	0.1	6.14	0.0	6.14

		G	8	6		2	
		CG	6.8	0.0	6.35	0.3	6.38
			5	1		2	
2	Grip strengt h	WT	55.	0.2	62.48	0.2	60.46
		G	30	2		8	
		CG	58.48	0.2	60.95	1.6	60.01
			8	8		5	
3	Agility	WT	4.7	0.0	5.62	0.0	5.60
		G	2	4		1	
		CG	5.7	0.0	5.70	0.0	5.70
			2	1		6	

BBTG = Weight training group CG= Control group

The table -2 shows the pre, post-test means, standard deviations and adjusted means on physical fitness components of weight lifters. The analysis of covariance on selected variables of weight training group and control group is presented in table – 3

Table – 3: Computation of analysis of covariance on physical fitness components among weight lifters

S. No	Variabl es	Test	Sum of varian ce	Sum of squar es	D f	Mea n squa re	F rati o
01	Speed	Pre-test	B.G.	0.03	0	0.03	2.35
			W.G.	0.52	2	0.01	
		Post-test	B.G	0.42	0	0.42	7.34 *
			W.G	1.70	2	0.05	
	Adjust ed means	B.S	0.39	0	0.40	6.34 *	
				1			

02	Grip strengt h	Pre-test	W.S	1.70	2	0.05	
			B.G	0.05	0	0.05	0.80
		Post-test	W. G	2.10	2	0.06	
			B.G	16.5	0	16.5	12.44 *
			W. G	37.5	2	1.40	
		Adjuste d means	B.S	15.4	0	14.4	10.92 *
	0		1	0			
03	Agility	Pre-test	W.S	36.9	2	1.40	
			B.G	0.00	0	0.00	1.25
		Post-test	W. G	0.03	2	0.00	
					8	2	

		B.G	0.04	0	0.05	15.08
		W.G	0.08	1	0.00	*
	Adjusted means	B.S	0.04	0	0.04	12.32
		W.S	0.08	1	0.00	*

*Significant at 0.05 level of confidences
(The table values required for significance at 0.05 level of confidence for 1 & 22 and 1 & 21 are 4.30 and 4.33 respectively).

Discussion on findings

The results of the study indicate that the experimental group which underwent weight training had showed significant improvement in the selected variables namely speed, grip strength and agility when compared to the control group. The control group did not show significant improvement in any of the selected variables.

Conclusions

The experimental group weight lifters showed significant improvement in all the selected variables such as speed, grip strength and agility than the control group.

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