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Effect of Battle Rope Training on Selected Physical and Physiological Variables Among College Level Athletes

KEYWORDS: Battle Rope Training, Endurance, Vital Capacity, Athletes.

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ABSTRACT *The purpose of the study was to find out the effect of Battle Rope Training on Selected Physical and Physiological Variables among College level Athletes. To achieve this purpose of the study, thirty (N=30) College level men Athletes were selected randomly as subjects from Mahatma Gandhi University Kerala, India. The subjects were aged between 18 to 25 years. They were divided into two equal groups consist of 15 each, Group I underwent Battle Rope Training and Group II acted as Control Group. The control group did not participate in any special training programme apart from the regular physical activities as per the curriculum. The selected physical and physiological variables such as endurance, explosive power were measured by Cooper 12 minutes run/walk test and standing broad jump respectively. In physiological variables such us respiratory rate and vital capacity were measured by using expirograph and wet spirometer respectively. The data were collected prior and after the training programme. The data were statistically analyzed by using Analysis of Covariance (ANCOVA). The criteria for statistical significance were set at 0.05 level of confidence (P<0.05). The results of the study indicated that systematic practice of Battle Rope Training has significantly improved the Selected Physical Physiological variables among College level Athletes.*

INTRODUCTION

Today's fitness devices present themselves in diverse forms. This can be a detractor to some that may not be familiar with current fitness equipment, while for others the wait for the latest fitness equipment brings a feeling of excitement similar to that of a kid on Christmas morning.

Fitness doesn't get much more simplistic than the highly touted battle ropes. This high-powered rope has taken the elite training scene by storm, becoming popular with the military and most combat/contact (MMA, boxing, football) sports (Andy Rivandeneira, 2014).

The Battling Ropes System was created and developed by John Brookfield. John is a multiple world record holder and the author of the popular book, Mastery of Hand Strength. John spent over a year developing this system strictly for himself. He was using this advanced training system to skyrocket his strength and stamina to new heights, despite the fact that John is nearly 53 years old. After using the Battling Ropes for his own personal goals, John decided to show the basics of a few of his friends. They thought that this system was simply the best due to the incredible results that the system produces.

STATEMENT OF THE PROBLEM

The Purpose of the study was to find out the Effect of Battle Rope Training on selected physical and physiological variables among College level Athletes.

HYPOTHESIS

It was hypothesized that there would be significant improvement on selected physical variables due to Battle Rope Training.

It was hypothesized that there would be significant improvement on selected physiological variables due to Battle Rope Training.

METHODOLOGY

To achieve this purpose of the study, thirty (N=30) College level men Athletes were randomly selected as subjects from Mahatma Gandhi University Kerala, India. The subjects were age ranged between 18 to 25 years. The subject further divided into two equal groups of 15 each at random basis in which, Group I underwent Battle Rope Training Group and Group II acted as Control Group. The following experimental variables were selected to analyze the effect of Battle Rope Training for developing Endurance, explosive power, respiratory rate and vital capacity, among College level Athletes. The data were collect prior and after the training programme. The data were statistically analyzed by using Analysis of Covariance (ANCOVA). The criteria for statistical significance were set at 0.05 level of confidence (P<0.05).

The collected data of pre and post test for Battle rope Training Group and Control Group were analyzed with covariance and presented below Table I.

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TABLE -I
Analysis of Covariance of Data on Endurance between Pre Test, Post Test and Adjusted Test of Battle Rope Training Group and Control Group

Variables	Test	Battle Rope group	Control group	Sum of variance	Sum of squares	Df	Mean of squares	'F' ratio
Endurance	Pre	2620.00	2568.00	Between	20280.00	1	20280.00	1.18
				Within	480990.00	28	17178.21	
	Post	2794.33	2564.66	Between	395600.83	1	395600.83	20.04*
				Within	552816.66	28	19743.45	
	Adjusted post	2666.35	2521.64	Between	91546.81	1	91546.81	32.76*
				Within	75443.65	27	2794.20	

*Significant at 0.05 level of confidence.

(The table value required for significant at 0.05 level of confidence for 1 and 28 and 1 and 27 are 4.20 and 4.23 respectively).

Table I shows that the pretest means of Battle Rope Training group and control group were 2620.00, 2568.00 respectively. The obtained 'F' ratio of 1.18 for pre test means was lesser than the table value of 4.20 for df 1and 28 required for significant at 0.05 level of confidence. The post test means of Battle Rope Training group and control group were 2794.33, 2564.66 respectively. The obtained 'F' ratio of 20.04 for post test means was greater than the table value of 4.20 for df 1and 28 required for significant at 0.05 level of confidence. The adjusted post test means of Battle Rope Training group and control group were 2666.35, 2521.64 respectively. The obtained 'F' ratio of 30.76 for adjusted post test means was greater than the table value of 4.23 for df 1and 27 required for significant at 0.05 level of confidence.

The result indicated that there was a significant difference between adjusted post test mean of Battle Rope Training group and control group on endurance.

The collected data of pre and post test for Battle rope Training Group and Control Group were analyzed with covariance and presented below Table II.

TABLE -II
Analysis of Covariance of Data on Explosive Power between Pre Test, Post Test and Adjusted Test of Battle Rope Training Group and Control Group

Variables	Test	Battle Rope group	Control group	Sum of variance	Sum of squares	Df	Mean of squares	'F' ratio
Explosive Power	Pre	1.97	1.84	Between	0.13	1	0.13	1.43
				Within	2.52	28	0.090	
	Post	2.31	1.81	Between	1.85	1	1.85	17.19*
				Within	3.01	28	0.11	
	Adjusted post	2.04	1.76	Between	0.384	1	0.384	27.14*
				Within	0.382	27	0.014	

*Significant at .05 level of confidence.

(The table value required for significant at .05 level of confidence for 1 and 28 and 1 and 27 are 4.20 and 4.23 respectively).

Table II shows that the pretest means of Battle Rope Training group and control group were 1.97, 1.84 respectively. The obtained 'F' ratio of 1.43 for pre test means was lesser than the table value of 4.20 for df 1and 28 required for significant at 0.05 level of confidence. The post test means of Battle Rope Training group and control group were 2.31, 1.81 respectively. The obtained 'F' ratio of 17.19 for post test means was greater than the table value of 4.20 for df 1and 28 required for significant at 0.05 level of confidence. The adjusted post test means of Battle Rope Training group and control group were 2.04, 1.76 respectively. The obtained 'F' ratio of 27.14 for adjusted post test means was greater than the table value of 4.23 for df 1and 27 required for significant at 0.05 level of confidence.

The result indicated that there was a significant difference between adjusted post test mean of Battle Rope Training group and control group on explosive power.

The collected data of pre and post test for Battle rope Training Group and Control Group were analyzed with covariance and presented below Table III.

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TABLE -III
Analysis of Covariance of Data on Respiratory Rate between Pre Test, Post Test and Adjusted Test of Battle Rope Training Group and Control Group

Variables	Test	Battle Rope group	Control group	Sum of variance	Sum of squares	Df	Mean of squares	'F' ratio
Respiratory Rate	Pre	14.60	15.00	Between	1.20	1	1.20	1.56
				Within	21.60	28	0.77	
	Post	13.13	15.33	Between	36.30	1	36.30	27.42*
				Within	37.06	28	1.32	
	Adjusted post	14.23	15.37	Between	4.85	1	4.85	35.95*
				Within	3.64	27	0.14	

*Significant at .05 level of confidence.

(The table value required for significant at .05 level of confidence for 1 and 28 and 1 and 27 are 4.20 and 4.23 respectively).

Table III shows that the pretest means of Battle Rope Training group and control group were 11.60, 15.00 respectively. The obtained 'F' ratio of 1.56 for pre test means was lesser than the table value of 4.20 for df 1and 28 required for significant at 0.05 level of confidence. The post test means of Battle Rope Training group and control group were 13.13, 15.33 respectively. The obtained 'F' ratio of 27.42 for post test means was greater than the table value of 4.20 for df 1and 28 required for significant at 0.05 level of confidence. The adjusted post test means of Battle Rope Training group and control group were 14.23, 15.37 respectively. The obtained 'F' ratio of 35.95 for post test means was greater than the table value of 4.23 for df 1and 27 required for significant at 0.05 level of confidence.

The result indicated that there was a significant difference between adjusted post test mean of Battle Rope Training and control group on respiratory rate.

The collected data of pre and post test for Battle rope Training Group and Control Group were analyzed with covariance and presented below Table IV.

TABLE -IV
Analysis of Covariance of Data on Vital Capacity between Pre Test, Post Test and Adjusted Test of Battle Rope Training Group and Control Group

Variables	Test	Battle Rope group	Control group	Sum of variance	Sum of squares	Df	Mean of squares	'F' ratio
Vital Capacity	Pre	5.03	4.78	Between	0.47	1	0.47	1.78
				Within	7.38	28	0.26	
	Post	5.67	4.75	Between	6.37	1	6.37	19.51*
				Within	9.14	28	0.33	
	Adjusted post	5.16	4.65	Between	1.17	1	1.17	29.11*
				Within	1.09	27	0.04	

*Significant at .05 level of confidence.

(The table value required for significant at .05 level of confidence for 1 and 28 and 1 and 27 are 4.20 and 4.23 respectively).

Table IV shows that the pretest means of Battle Rope Training group and control group were 5.03, 4.78 respectively. The obtained 'F' ratio of 1.78 for pre test means was lesser than the table value of 4.20 for df 1and 28 required for significant at 0.05 level of confidence. The post test means of Battle Rope Training group and control group were 5.67, 4.75 respectively. The obtained 'F' ratio of 19.51 for post test means was greater than the table value of 4.20 for df 1and 28 required for significant at 0.05 level of confidence. The adjusted post test means of Battle Rope Training group and control group were 5.16, 4.65 respectively. The obtained 'F' ratio of 29.11 for post test means was greater than the table value of 4.23 for df 1and 27 required for significant at 0.05 level of confidence.

The result indicated that there was a significant difference between adjusted post test mean of Battle Rope Training group and control group on vital capacity.

CONCLUSIONS

With the limitations of the study the following conclusions have been arrived.

1. There were significant improvements on Endurance in Experimental Group when compared to that of the control group.

2. There was significant improvement on Explosive power in Experimental Group when compared to that of the Control Group.

3. There was significant improvement on Respiratory rate in Experimental Group when compared to that of the control group.

4. There was significant improvement on Vital capacity in Experimental Group when compared to that of the control group.

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REFERENCE

1. Charles Fountaine and Brad Schmidt. Metabolic Cost of Rope Training. Journal of Strength & Conditioning Research, (26 July 2013). doi: 10.1519/JSC.0b013e3182a 35da8. | 2. John Brookfield (2015), Battling Ropes Training System. 888-556-7464. | 3. John Brookfield (2014), Introduction to the Battling Ropes System. (910) 295-4049. | 4. Andy Rivandeneira, Battle Ropes and More..Equipment Review (2014). | 5. Locke Hughes (2014), The Faces Behind Your Favorite Fitness Classes. |