

EFFECT OF BOUNDING BOX DRILL AND DEPTH JUMP ON SPEED STRENGTH AND EXPLOSIVE POWER AMONG YOUTH LEVEL SPRINTERS

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Abstract

The purpose of the study was to find out the "effect of bounding box drill and depth jump on speed strength and explosive power among youth level sprinters. To achieve this purpose, thirty male students aged between 18 to 23 years were selected randomly. They were randomly divided into experimental [bounding box drill and depth jump resistance & Control group of fifteen subjects each. All the subjects of the two groups were tested on dependent variables such as speed, strength and explosive power. The data pertaining to the variable in this study were examined by using analysis of covariance (ANCOVA). The results of this study showed that there was a significant difference between bounding box drill and depth jump group and control group.

Keywords: Bounding Box Drill, Depth Jump, Strength, Sprinters.

Introduction

Physical fitness is one of the components of the total fitness of the individual, which also includes mental social and emotional fitness. Total fitness is essential (fitness) to health living. Physical education is potentially a powerful force in the present day society to develop total fitness. Physical fitness is one of the basic requirements of the broadly speaking it means the ability to carry out our daily tasks without undue fatigue. In the sporting context it is difficult to define since it can refer to psychological, physiological or anatomical states of the body most physical education teachers see it as a concept obtained by measuring and evaluating a person's state of fitness by using a battery of test. The concept of physical fitness in general athletic terms means the capability of the individual to the varied physical and physiological demands made by a sporting activity without reducing the person to an excessively fatigued state. Such a state would be one in which he/she can no longer perform the skill of the activity accurately and successfully. Fitness is determined by what we do twenty four hours a day to live work sit, walk, think, eat and sleep fitness helps to enjoy the life. Physical fitness is not a static factor and it varies from individual to individual and in the same persons from time to time depending on various factors.

Methodology

The purpose of the study was to find out the effect of bounding box drill and depth jump on speed strength and explosive power among college men. To achieve this purpose, 30 male students were randomly selected as subjects from the St. Aloysius College, Edathua and S.B.

College Changanacherry under MG University, studying on various classes in Arts & Sciences in Degree course. The age of the subjects were ranged from 18 to 23 years. The subjects were further classified at random into two equal groups of 15 subjects. Group - I underwent bounding box drill and depth jump for three days per week for twelve weeks and group II acted as control. The selected criterion variables - namely speed; strength and explosive power were assessed before and after the training period. The selected variables were measured by using standard testing procedures.

SPEED

The analysis of covariance on speed of bounding box drill and depth jump group and control group were analyzed and presented in Table-I.

Table -I
ANALYSIS OF COVARIANCE ON SPEED
OF EXPERIMENTAL AND CONTROL GROUPS

	Exp Group	Control group	SV	SS	df	MS	'f' ratio
Pre-test Mean	8.18	8.43	B:	0.48	1	0.48	3.21
S.D	0.31	0.45	W:	4.195	28	0.15	
Post-test Mean	7.61	8.46	B:	5.43	1	5.43	21.13*
S.D	0.49	0.52	W:	7.19	28	0.26	
Adjusted Post-test Mean	7.69	8.37	B:	3.08	1	3.08	15.94*
				5.21	27	0.19	

- **Significant at .05 level of confidence (The table values required for significance at .05 level of confidence with 1 and 28 and 1 and 27 were 4.20 and 4.21 respectively)**

Table I showed that the pre-test mean values of speed for bounding box drill and depth jump group and control group were 8.18 ± 0.31 and 8.43 ± 0.45 respectively. The obtained f ratio value of 3.21 for pre-test scores of bounding box drill and depth jump group and control group on speed was less than the required table value of 4.20 for significance with df 1 and 28 at .05 level of confidence. The post-test mean values for speed for bounding box drill and depth jump group and control group were 7.61 ± 0.49 and 8.46 ± 0.52 respectively. The obtained f ratio value of 21:13 for post-test scored of bounding box drill and depth jump group was greater than the required table value of 4.20 for significance with df 1 and 28 at .05 level of confidence. The adjusted post-test scores of bounding box drill and depth jump group and control group were 7.69 and 8.37 respectively. The obtained f ratio value of 15.94 for adjusted post-test scores of bounding box drill and depth jump group and control group were greater than the required table value of 4.21 for significance with df 1 and 27 at .05 level of confidence.

The result of this study showed that there was a significant difference between bounding box drill and depth jump group and control on speed.

Leg Strength

The analysis of covariance on leg strength of bounding box drill and depth jump group and control group were analysed and presented in Table – II.

Table –II
ANALYSIS OF COVARIANCE ON LEG STRENGTH
OF EXPERIENTAL AND CONTROL GROUPS

	Exp Group	Control group	SV	SS	df	MS	'f' ratio
Pre-test Mean	77.73	77.94	B:	1.00	1	1.00	1.67
S.D	8.15	8.36	W:	16814.37	28	600.51	
Post-test Mean	88.93	78.02	B:	821.62	1	821.62	13.90*
S.D	8.59	8.42	W:	1654.68	28	59.10	
Adjusted Post-test Mean	88.92	78.03	B:	821.63	1	821.63	14.75*
			:	1508.71	27	55.69	

- **Significant at .05 level of confidence (The table values required for significance at .05 level of confidence with of 1 and 28 and 1 and 27 were 4.20 and 4.21 respectively)**

Table II showed that the pre-test mean values of Leg Strength for bounding box drill and depth jump group and control group were 77.73 ± 8.15 and 77.94 ± 8.36 respectively. The obtained f ratio value of 1.67 for pre test scores of bounding box drill and depth jump group and control group on Leg Strength was less than the required table value of 4.20 for speed for significance with df 1 and 28 at .05 level of confidence. The post test mean values for speed for bounding box drill and depth jump group and control group were 88.93 ± 8.59 and 78.02 ± 8.42 respectively. The obtained f ratio value of 21.13 for post-test scores of bounding box drill and depth jump group and control group was greater than the required table value of 4.20 for significance with df 1 and 28 at .05 level of confidence. The adjusted post-test mean values of leg strength for bounding box drill and depth jump group and control group were 88.92 and 78.03 respectively. The obtained f ratio value of 14.75 for adjusted post-test scores of bounding box drill and depth jump group and control group were greater than the required table value of 4.21 for significance with df 1 and 27 at .05 level confidence.

The results of this study showed that there was a significant difference between bounding box drill and depth jump group and control group on leg strength.

Explosive power

The analysis of covariance on Explosive power of bounding box drill and depth jump group and control group were analysed and presented in Table -III.

Table -III
ANALYSIS OF COVARIANCE ON EXPLOSIVE POWER
OF EXPERIMENTAL AND CONTROL GROUPS

	Exp Group	Control group	SV	SS	df	MS	'f' ratio
Pre-test Mean	46.87	47.84	B:	93.64	1	93.64	1.69
S.D	3.58	4.81	W:	1551.33	28	54.40	
Post-test Mean	51.33	48.21	B:	161.64	1	161.64	4.71*
S.D	4.85	4.80	W:	961.06	28	34.32	
Adjusted Post-test Mean	50.87	48.68	B:	105.85	1	105.85	122.65*
				23.3	27	0.863	

- Significant at .05 level of confidence (The table values required for significance at .05 level of confidence with df 1 and 28 and 1 and 27 were 4.20 and 4.21 respectively)

Table III showed that the pre-test mean values of Explosive power for bounding box drill and depth jump group and control group were 46.87 df 3.58 and 47.84 ± 4.81 respectively. The obtained f ratio value of 1.69 for pre-test scores of bounding bow drill and depth jump group and control group on Explosive power was less than the required table value of 4.20 for significance with df 1 and 28 at .05 level of confidence. The post-test mean values from speed for bounding box drill and depth jump group and control group were 51.38 ± 4.85 and 48.21 ± 4.80 respectively. The obtained T ratio value of 4.71 for pro-test scores of bounding box drill and depth jump and control group was greater than the required table value of 4.20 for significance with df 1 and 28 at .05 level of confidence. The adjusted post-test mean values of Explosive power for bounding box drill and depth jump group and control group were 50.87 and 48.68 respectively. The obtained f' ratio value of 122.65 for adjusted post-test scores of bounding box drill and depth jump group and control group were greater than the required table value of 4.21 for significance with df 1 and 27 at .05 level of confidence.

The results of this study showed that there was a significant difference between bounding box drill and depth jump group and control group on Explosive power.

Conclusion

Based on the results of the study, the following conclusion were drawn.

1. There was a significant difference between bounding box drill and depth jump group and control group on speed.
2. There was a significant difference between bounding box drill and depth jump group and control group on leg strength.
3. There was a significant difference between bounding box drill and depth jump group and control group on explosive power.

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