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Effect of SAQ Training Associated with Speed Training on Agility Explosive Power and Speed among Engineering College Sports Persons

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Abstract

The purpose of the study was to find out the effect SAQ training on agility, explosive power and speed engineering college sports persons. Twenty four sports persons those who have participated in the intercollegiate tournaments of Anna University Zone Twelve, Chennai were selected randomly as subjects. The age of the subjects ranged from 18 to 25 years. The players those who participated in the Anna University Zone Twelve Intercollegiate Tournaments were selected randomly as subjects for the study. The selected subjects were divided into two groups. Group I underwent SAQ training associated with speed training and Group II acted as control. The experimental group (SAQ training associated with speed training) was subjected to the SAQ training associated with speed training for alternative three days for up to four weeks. The SAQ training associated with speed training was selected as independent variable and the criterion variables agility, explosive power and speed were selected as dependent variables and the selected dependent variables were assessed by the standardized test items. Agility was assessed by shuttle run test and the unit of measurement in seconds, explosive power was assessed by vertical jump test and the unit of measurement in centimeters and the speed was assessed by 50 mts run and the unit meters per seconds. The experimental design selected for this study was pre and post test randomized design. The data were collected from each subject before and after the training period and statistically analyzed by using dependent't' test and analysis of covariance (ANCOVA). It was found that there was a significant improvement and significant different exist due to the effect of SAQ training associated with speed training on agility, explosive power and speed among engineering college sports persons.

Keywords: Speed, Agility, Quickness, Engineering, Explosive Power.

Introduction

The SAQ training method more frequently uses the programmed than random type conditioning after the SAQ continuum. One SAQ session is composed of seven (7) components, where the main part of the session, explosion and expression of potential, are combinations of programmed and random conditioning, integral planning and programming is required to progress from fundamental movement patterns to highly positional specific movements (Yap and Brown, 2000). A logical sequence in the learning process must not be neglected because it develops neural structures that are a prerequisite for elite – level upgrade. Consequently, elite players manipulate with their bodies without the loss of speed, balance, strength, and control. Also, with correct movement patterns (technique) and greater muscle power, they accelerate faster. Some studies (Baker, Newton & Chatzopoulos, et.al. & Fatouros et.al) found that leg muscle power is a poor predictor of agility performance that emphasizes even more the integral influence within the vast range of capabilities. (Mario Jovanovic, 2011). Furthermore, the SAQ training method consolidates speed, agility, and quickness through the range of soccer specialized exercise. All exercises are performed with optimal bio – mechanical movement structures, and consequently, energy and time savings are made. Power performance aside from major abilities has the need for optimal joint mobility, dynamic balance, appropriate loco motor system, and energy production among others. (Mario Jovanovic, 2011).

More recently, the definition of agility has been revised to reflect the fact that in most sports, such as invasion sports like basketball or soccer and racket sports like tennis or badminton, change of directions occurs in response to a stimulus, usually from an opponent's actions. Agility is rapid whole body movement with change of velocity or direction in response to a stimulus. Although agility movements are typically reactive, there are a few scenarios in sport where changes of direction movements are preplanned with no decision making (Young and Farrow, 2013). Explosive power output is the main determinant of performance in activities requiring one movement sequence to produce a high velocity at

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release or impact. Explosive muscle actions are required in throwing, jumping and striking activities. In addition, sudden bursts of power are needed when rapidly changing direction or accelerating during various sports or athletic events (Newton and Kraemer, 1994).

Methodology

To achieve the purpose, twenty four (24) college sports persons studying from Bannari Amman Institute of Technology, Sathyamangalam were selected randomly as subjects. The subjects those who are represented the Anna University Zone Twelve Inter Collegiate Tournaments were selected randomly as subjects. The age of the subjects ranged from 18 to 25 years. They were assigned randomly into two groups (group I) underwent SAQ training associated with speed training and (group II) acted as control of twelve subjects each. The experimental group was subjected to the SAQ training associated with speed training during evening hours for three days and group II acted as control. The SAQ training associated with speed training was selected as independent variable and the criterion variables agility, explosive power and speed were selected as dependent variables and the selected dependent variable were assessed by the standardized test items. Agility was assessed by shuttle run test and the unit of measurement in seconds, explosive power was assessed by vertical jump test and the unit of measurement in centimeters and speed was assessed by 50 mts run and the unit of measurement in seconds. The experimental design selected for this study was pre and post test randomized design. The data were collected from each subject before and after the training period and statistically analyzed by using dependent‘t’ test and analysis of covariance (ANCOVA).

Results and Discussions

The data pertaining to the variables in this study were examined by using dependent‘t’ test to find out the significant improvement and analysis of covariance (ANCOVA) for each variables separately in order to determine the difference and tested at .05 level of significance. The analysis of dependent‘t’ test on data obtained for agility, explosive power and speed of the pre test and post test means of experimental and control groups have been analyzed and presented in Table I.

Results

Table I. Mean and dependent ‘t’ test of experimental and control groups on selected variables

Variables	Mean	SAQ Training Associated with Speed Training	Control Group
Agility	Pre test Mean	10.21	10.26
	Post test Mean	9.96	10.28
	‘t’ test	**12.85***	**1.48**
Explosive Power	Pre test Mean	163.25	162.83
	Post test Mean	165.00	162.75
	‘t’ test	**9.75***	**1.00**
Speed	Pre test Mean	7.03	7.05
	Post test Mean	6.93	7.06
	‘t’ test	**13.00***	**1.00**

*Significant at 0.05 level of confidence (11) = 2.201

The obtained ‘t’ ratio value on Agility, Explosive power and Speed of experimental group is higher than the table value, it is understood that the SAQ training associated with Speed Training has made significant improvement on agility, explosive power and speed. However, the control group has not made significant improvement as the obtained ’t’ value is less than the table value; because it was not subjected to any specific training. The analysis of covariance on the data obtained on agility, explosive power and speed due to the effect of SAQ training associated with speed training and control groups have been analysed and presented in Table II.

Table II. Analysis of covariance of experimental and control groups on selected variables

Variables	Adjusted Post Test Means		Source of Variance	SS	df	Mean Squares	'F'-Ratio
	SAQ Training Associated with Speed Training	Control Group					
Agility	9.98	10.25	Between	0.42	1	0.42	131.72*
			Within	0.07	21	0.003	
Explosive Power	164.8	163.0	Between	20.10	1	20.10	81.73*
			Within	5.17	21	0.246	
Speed	6.93	7.1	Between	0.08	1	0.08	93.48*
			Within	0.02	21	0.001	

*Significant at .05 level of confidence, df (1, 21) = 4.32

Table II shows that the obtained 'F' ratio value are 131.72, 81.73 and 93.48 which are higher than the table value 4.32 with df 1 and 21 required to be significant at 0.05 level. Since the obtained value of 'F' ratio is higher than the table value, it indicates that there is significant difference has made among the adjusted post- test means of SAQ training associated with Speed training group and control group on agility, explosive power and speed.

The SAQ training associated with speed training may influence the significant difference on agility, explosive power and speed.

Conclusions

1. The SAQ training associated with speed training had significantly improved the agility, explosive power and speed.
2. There was significant difference among the adjusted post – test means of SAQ training associated with speed training and control group on agility, explosive power and speed.

References

1. Yap, CW and Brown, LE. (2000). Development of speed, agility, and quickness for the female soccer athlete. Strength and Conditioning Coach, 22: 9–12,.
2. Baker, D and Newton, R. (2008). Comparison of lower body strength, power, acceleration, speed, agility and sprint momentum to describe and compare playing rank among professional rugby league players. Journal of Strength and Conditioning Research, 22: 153–158.
3. Mario Jovanovic, Goran Sporis, Darija Omrcen, and Fredi Frorentini. (2011). Effects of Speed, Agility, Quickness Training Method on Power Performance in Elite Soccer Players. Journal of Strength and Conditioning Research. 25:5/ 1285 – 1292.
4. Warren Young and Damian Farrow. (2013). The Importance of a Sport – Specific Stimulus for Training Agility. National Strength and Conditioning Journal, 38:2, April, P-39.
5. Newton U. Robert & Kraemer J. William. (1994). Developing Explosive Muscle Power: Implications for a Mixed Methods Training Strategy. National Strength & Conditioning Association. Retrieved from http://hydra-gym.com/research/RSH_DevelopingExplosiveMuscluarPowerwithMixedMethodsofTraining.pdf. on 23.06.2015.