



## Impact of Core and Plyometrics Training on Anxiety among Women Basketball Players

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### Abstract

*Aim of this study was to find out the impact of core and plyometrics training on anxiety among women basketball players. For this purpose, forty five women Basketball players selected from various colleges affiliated to Bharathidasan University, Tiruchirappalli during the academic year of 2014-2015 were selected as subjects. The age, were ranged between 18 to 21 years. Subjects were divided into three equal groups of fifteen namely Core Training group, Plyometric training group and Control group. Experimental group such as Core training group, Plyometric training group underwent respective training for 12 weeks duration. The dependent variable selected for this study was Anxiety. Anxiety was assessed through SCAT Questionnaire. All the subjects were tested prior to and immediately after the training period of twelve weeks for all the selected variables. The data collected data from the three groups prior to and immediately after the training programme on the selected criterion variables were statistically analyzed with Analysis of Covariance (ANCOVA). Whenever the 'F' ratio for adjusted post test means was found to be significant, Scheffe's post hoc test was followed to determine which of the paired mean differences was significant. In all the cases 0.05 level of confidence was fixed to test the hypotheses. Anxiety showed significant difference among the groups. Plyometric training group showed better performance than other selected groups.*

**Keywords:** Core Training, Plyometric Training, Anxiety.

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### Introduction

Sport has a very prominent role in modern society. It is important to an individual, a group, a nation-indeed the world. Sport has over reflected developments in society. Sport is an institutionalized competitive activity that involves vigorous physical exertion or the use of relatively complex physical skills by individuals whose participation is motivated by a combination of the intrinsic satisfaction associated with the activity itself and external rewards earned through participation. Sport is competitive activity. The essential component of sport is competition, the striving to achieve a prescribed goal. This competition must be under rules and under standardized conditions. It is not sport if you challenge another person to run across the playground, or take kicks at a soccer goal (Howell, 1994).

Psychology is a science of behaviour of the organism. The word 'psychology' has come from the Greek work 'psyche' meaning 'soul' and the 'logos' meaning 'study'. Thus, the literal meaning of psychology is the science or study of soul (Singh et al., 2000) Greek philosopher believe that soul was responsible for various

mental activities such as learning; thinking; feeling etc. It was believed that soul was the essence or true being of an organism, the cause and the principles of life. As the relation of soul to the body and the functions of soul could not be explained, some philosophers tried to define psychology as a 'science of mind and gradually it has been known as the study of consciousness and finally as a study of behaviour. Today, it is considered as a science of behavior, behaviour activity and experience of all living organisms. Sport training is a systematic process extending over a long period. For best result the system of training has to be based and conducted on scientific facts and lines where it is not possible to do that, the training has to be based on the results « successful practice which has withstood the test of time sport (Baechle, 1994).

Plyometrics refers to exercises that enable a muscle to reach maximal strength in as short a time as possible. Such exercise usually involves some form of jumping, but other modes of exercise exist. The elements ply and metric come from Latin roots for 'increase' and 'measure', 'respectively; the combination thus means "measurable increase". Plyometric exercise utilize the force of gravity (e.g., you step off a box) to store energy in the muscles (potential energy). This energy is then utilized immediately in an opposite reaction (e.g., you immediately jump up, up on landing), so the natural elastic properties of the muscle will produce kinetic

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energy.

### Methodology

To purpose of this study was to impact of core and plyometrics training on anxiety among women basketball players. The study was conducted on forty five (N=45) women Basketball players who were randomly selected from various Arts and Science Colleges of Bharathidasan University, Tiruchirappalli Tamil Nadu, India. All the Subjects selected for this study had represented Inter-Collegiate women Basketball tournaments academic in the year 2014-2015 whose ages ranged between 18 to 21. The selected players was assigned in to three groups of fifteen each (n=15), Group –I underwent Core training, Group –II underwent Plyometric training and Group III acted as Control. Anxiety was selected as dependent variable and it was assessed by SCAT Questionnaire. All the subjects were

tested prior to and immediately after the training period of twelve weeks for the entire selected variable. The data collected data from the three groups prior to and immediately after the training programme on the selected criterion variable were statistically analyzed with Analysis of Covariance (ANCOVA). Whenever the 'F' ratio for adjusted post test means was found to be significant, Scheffe's post hoc test was followed to determine which of the paired mean differences was significant. In all the cases .05 level of confidence was fixed to test the hypotheses.

### Results and Discussion

The Analysis of covariance (ANCOVA) on Anxiety of Core training, Plyometric training, and Control group have been analyzed and presented in Table -I.

**Table I.** Analysis of covariance on anxiety of core training, plyometric training and control group

Certain Variables	Adjusted Post test Means			Source of Variance	Sum of Squares	df	Mean Squares	'F' Ratio
	Core Training Group-(I)	Plyometric Training Group-(II)	Control Group (III)					
Anxiety	17.76	15.85	19.32	Between	85.24	2	42.62	40.77*
				With in	42.86	41	1.05	

*\*Significant at 0 .05 level of confidence*

*(The table value required for significance at .05 level with df 2 and 41 is 3.23)*

Table-I shows that the adjusted post test mean values of Anxiety for Core training, Plyometric training and Control group are 17.76, 15.85, 19.32 respectively. The obtained F-ratios was 40.77 is more than the table value 3.23 for df 2 and 41 required for significance at 0.05 level of confidence. The results of the study indicate

that there is a significant difference exists among the adjusted post test means of experimental groups showing the decrease in Anxiety. To determine which of the paired means had a significant differences, Scheffe's test was applied as Post hoc test and the results are presented in Table II.

**Table II.** The scheffe's test for the differences between the adjusted post tests paired means on anxiety

Certain Variables	Adjusted Post test Means			Mean Difference	Confidence Interval
	Core Training Group-(I)	Plyometric Training Group-(II)	Control Group (III)		
Anxiety	17.76	15.85		1.91*	0.95
	17.76		19.32	1.56*	0.95
		15.85	19.32	3.47*	0.95

*\* Significant at .05 level of confidence*

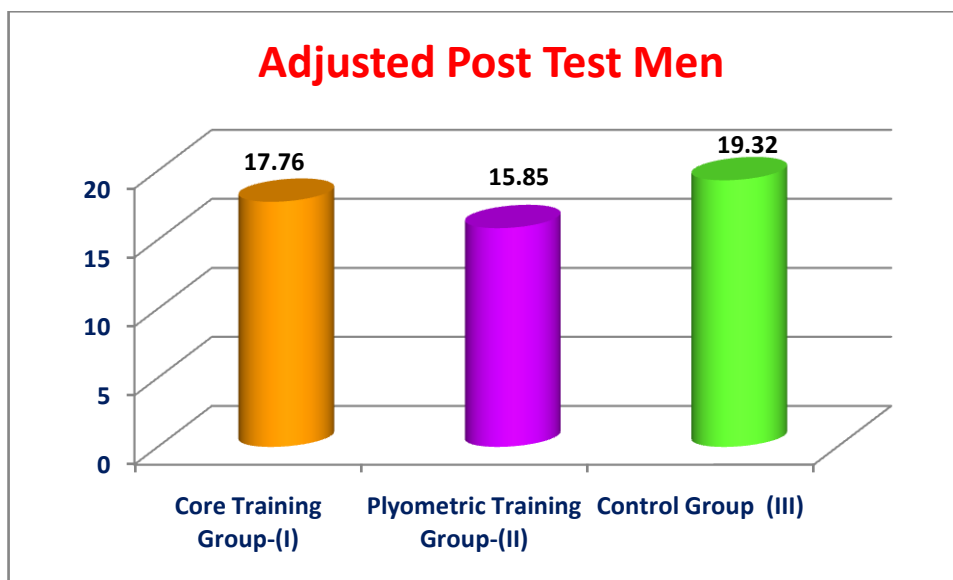
Table-II shows that the adjusted post test mean for differences on Anxiety between Core training and Plyometric training group, Core training group and

Control group, Plyometric training group and Control group are 1.91, 1.56 and 3.47. The values are greater than the confidence interval 0.95, which shows

significant differences at 0.05 level of confidence. The adjusted post test means values of Core training,

Plyometric training group and Control group on Anxiety was graphically represented in the figure-I.

**Figure I.** Adjusted post test means values of core training group, plyometric training group, and control group on anxiety



### Conclusion

From the analysis of the data, the following conclusions were drawn.

1. The Experimental groups had registered significant improvement on the selected criterion variables namely Anxiety.
2. It may be concluded that the Plyometric training group is better than Core training group and Control group in improving Anxiety.

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