

# EFFECT OF CORE TRAINING ON SELECTED MOTOR FITNESS VARIABLES AMONG HOCKEY PLAYERS

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## Abstract

*This study was designed to determine the core training exercise among hockey players. To achieve the purpose of the study thirty male hockey players were selected from LASA (Lakshmi Ammal Sports Academy) Kovilpatti, Tamilnadu India. Their age ranged between 14 and 16 years. The selected subjects were divided into two groups. Group I experimental and Group II acted as control. The experimental group was given core training for three days a week, for a period of 6 weeks. Before and after the training all the subjects were measured on motor fitness variables such as speed was measured by 60meters dash and agility was measured by t shuttle run. The pre and post test data were statistically examined for significant difference by using dependent 't' test. The level of significance was fixed at 0.05 level of confidence. The results reveal that the 12 weeks core training had achieved significant improvement for pre and post test on motor fitness variables when compared to the control group. But also significant differences were found between experimental and control group towards improving the variables.*

**Keywords:** core training, hockey, speed and agility.

## Introduction

Core training has become the norm in many athletic training programs, and the abdominal roller have been described as quick and easy fitness solutions for our exercise deprived society. The mantra of "core training" makes athletes believe that enhanced core stability will improve their performance on the field or court. Although the media portrays these ideas as truth, the scientific community remains uncertain as to the relationship between core stability and athletic performance. This relationship may prove challenging to define because functional and core demands are typically sport or position specific and many questions, such as which element of core stability is most essential to performance, remain unanswered. The purpose of this study is to analyze the relationship between a test of core stability and athletic performance measures.

(Uppal 2017) Sports training are systematic process extending over number of days and even months and years. In the course of training in addition to application of physical load through physical exercises theoretical instructions are also imparted so as to provide necessary technical and tactical knowledge and intellectual developments. Sports training aims at improving sports performance through physical, physiological, psychological, social, intellectual and moral aspects thus contributing to development of all-round personality of sports person improves as a result of development of total personality.

According to Matveyew (1981) sports training is the basic form of an athlete's training. It is the preparation systematically organized with the help of exercises, which in fact is a pedagogically organized

process of controlling an athlete's development.

Multi-segmental coordination of core and lower extremity muscle activity provides dynamic stability for the kinetic chain that extends from the lumbar spine to the foot and is widely believed to be enhanced by an adequate level of core stability (Hodges, 2003).

### Purpose of the study

The aim of the study was to analysis the effect ofcore training on selected motor fitness variables among hockey players.

### Methodology

To achieve the purpose of the study thirtymale hockey players were randomly selected from LASA (Lakshmi Ammal Sports Academy) Kovilpatti, Tamilnadu. Their age ranged between 14 and 16 years. The selected subjects were divided into two groups. Group I underwent core training and Group II acted as control. The experimental group was given core training for three days a week, for a period of 6 weeks (such as Squats, Push-Ups, Lying Hip Raises, Lunges, Crab Walk, Single-Leg Squats and Spinal Balance). Before and after the training all the subjects were measured on motor fitness variables such as speed measured by (60 meters dash) and agility measured by (shuttle run). The pre and post test data of the two groups were statistically examined for significant differences by using dependent‘t’ test. The level of significance was fixed at 0.05 level of confidence for all cases.

### RESULTS

**TABLE I**

**COMPUTATION OF MEAN AND DEPENDENT “T” TEST VALUES FOR THE PRE AND POST TESTON EXPERIMENTAL AND CONTROL GROUPS**

Variables	Mean And Test	Experimental Group	Control Group
Speed (50 yards dash)	Pre Test Mean	8.25	8.16
	Post Test Mean	6.80	8.00
	T Value	<b>17.69*</b>	<b>8.93*</b>
Agility (T shuttle run)	Pre Test Mean	12.82	12.85
	Post Test Mean	10.10	12.87
	T Value	<b>31.86*</b>	0.01

\* Significant at 0.05 ( $P < .05$ ) level with degrees of freedom 1 & 14 is 2.145.

From the table, the obtained t-test values of pre & post-test for core training and control groups are 17.69\* & 8.93\* and 31.86\* respectively, which are greater than the tabulated t-value of 2.145 with df 14 at .05 level of confidence. This means core training and control group had significant improvement on speedbut the control group has no significantdifferences on agility.

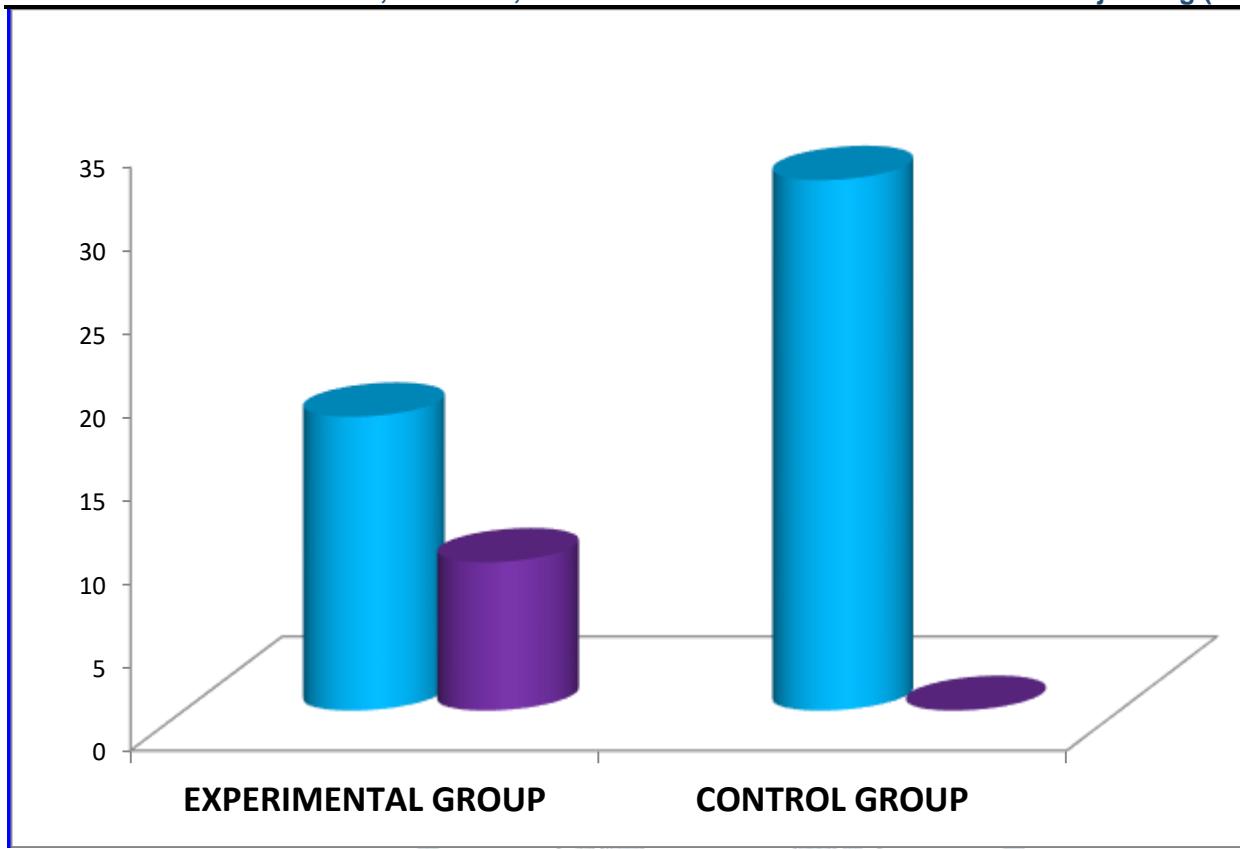


Figure I: Pre and Post Mean Values of Speed and Agility for Experimental and Control Groups.

### Discussion and Findings

The result of the study indicated that the experimental group had achieved significant improvement to pre-test and post-test performance. Hence difference on core training such as speed but the control group has no significant differences on agility when compared to experimental group. The time often seen as a limiting factor when daily routine of core training can be builds core muscles, especially in upper and lower extremist through the progression.

It was inferred from the literature and the result of the study Balaji&Murugavel (2013) investigated the motor fitness parameters responses to Core strength training on hand ball players. Core strength training was given to the experimental group for the period of eight weeks. The result of the investigation confirmed that Core strength training significantly improved the speed, agility and upper body strength.

Many simple bodyweight movements can be accomplished on this equipment and according to Peurala et al (2005) this can be an effective option for rehabilitation, even or those with significant impairments. Bodyweight exercises are safe for any person regardless of experience, age, or fitness level.

### Conclusions

1. Experimental group had achieved significant improvement pre-test and post-test on speed and agility performance
2. Significant differences were found between experimental group and control group on speed and agility performance.

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