



# ROLE OF CIRCUIT BASED SKILL TRAINING ON SELECTED MOTOR FITNESS COMPONENTS AMONG SCHOOL BADMINTON PLAYERS

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## ABSTRACT

The present study aimed to examine the role of circuit-based skill training on selected motor fitness components among school badminton players. To achieve the purpose of the study thirty (N=30) school badminton players were selected as subjects from ASA Badminton Academy Ashtamichira in Thrissur District, Kerala. The subjects ages ranged between 14 and 17 years. The selected thirty subjects were divided into two equal groups consisting of fifteen (n=15) each, namely Experimental Group I which underwent circuit-based skill training and Group II acted as a control group. The subjects in the control group will not undergo any sort of training except their routine work. The experimental group was treated with circuit-based skill training three alternative days per week for a period of eight weeks. Data collected from the two groups before and after the training period was statistically examined for significant by using the dependent 't' test. The level of significance was fixed at 0.05. The results indicated that experimental group (circuit-based skill training) improved significantly at the end of the eight weeks of training. The experimental group I was showed highly significant when compared with control group. It was concluded that the circuit-based skill training achieves an optimum level of improvement on selected motor fitness components among school badminton players over an eight-weeks of training.

**KEYWORDS:** Motor fitness components, Skill training, Circuit training and School badminton players.

## INTRODUCTION

Badminton, a sport steeped in history and revered for its blend of grace, agility and strategy, has captivated players and enthusiasts worldwide for decades. Originating from ancient civilizations and evolving into a highly competitive Olympic sport, badminton combines elements of power and fitness, demanding exceptional physical fitness and mental acuity from its participants. Played either as singles or doubles, badminton requires players to maneuver a shuttlecock across a net using lightweight rackets. The sport's dynamic nature, characterized by rapid changes in direction, explosive movements and split-second decision-making, challenges players' cardiovascular endurance, speed, agility and hand-eye coordination. Beyond its physical demands, badminton fosters strategic thinking and resilience, making it a holistic exercise for both body and mind. In recent years, the focus on enhancing motor fitness among school students has gained significant attention due to its profound implications for overall health and academic performance. Motor fitness, encompassing abilities such as strength, agility, coordination and speed, plays a crucial role in the physical development and well-being of children and adolescents. As sedentary lifestyles and technological advancements increasingly dominate daily

activities, the need for structured interventions to improve motor skills has become imperative.

## METHODOLOGY

To achieve the purpose of the study, thirty (N=30) school badminton players were selected as subjects from ASA Badminton Academy Ashtamichira in Thrissur District, Kerala. The subjects ages ranged between 14 and 17 years. The selected thirty subjects were divided into two equal groups, each consisting of fifteen (n=15) players. Experimental Group I underwent circuit-based skill training and Group II will act as a control group. The subjects in the Control Group did not undergo any specific training, except their routine activities. The experimental group underwent circuit-based skill training three alternative days per week for a period of eight weeks. Data collected from the two groups before and after the training period were statistically tested for significance using the dependent 't' test at the 0.05 level of significance.

**Criterion Measures:** It is evaluated that selected motor fitness components were chosen as the criterion measures for this study for testing.



**TABLE-I  
 CRITERION MEASURES**

S. NO	CRITERION VARIABLES	TEST ITEMS	UNIT OF MEASUREMENTS
<b>MOTOR FITNESS COMPONENTS (SAI Test Protocol)</b>			
1.	Leg Explosive power	Standing Broad Jump	In Meters
2.	Arm Strength	Push Ups	In Counts
3.	Abdominal Strength	Partial Curl Up	In Counts
4.	Flexibility	Sit and Reach	In Centimeters

**TABLE -II  
 THE ‘t’- RATIO FOR SCHOOL BADMINTON PLAYERS ON LEG EXPLOSIVE POWER, ARM STRENGTH,  
 ABDOMINAL STRENGTH AND FLEXIBILITY**

Variable	Groups	Pre mean	Post mean	SD	SEM	t
Leg Explosive power	Experimental Group	1.62	1.96	0.11	0.03	11.15*
	Control Group	1.42	1.46	0.07	0.01	1.78
Arm Strength	Experimental Group	16.40	19.80	1.24	0.32	10.60*
	Control Group	15.73	16.00	0.59	0.15	1.74
Abdominal Strength	Experimental Group	21.33	25.66	1.54	0.39	10.87*
	Control Groups	19.26	19.60	0.61	0.15	2.09
Flexibility	Experimental Group	26.26	29.93	3.28	0.84	4.31*
	Control Groups	20.93	19.86	2.01	0.52	2.04

(Significance at 0.05 level of confidence for df of 14 and 1, is 2.14)

The mean standard deviation and t-ratio were calculated for each outcomes measure as shown in Table-II. The result shows that the pre-test and post-test mean values of the Experimental group (circuit-based skill training group) for Leg explosive power (1.62 & 1.96), Arm Strength (16.40 & 19.80), Abdominal Strength (21.33 & 25.66) and Flexibility (26.26 & 29.93) respectively. In comparison, the Control group had mean values for Leg Explosive power (1.42 & 1.46), Arm Strength (15.73 & 16.00), Abdominal Strength (19.26 & 19.60) and Flexibility (20.93 & 19.86) respectively. The obtained dependent t-test value of Experimental group on leg explosive power (11.15\*), arm

strength (10.60\*), abdominal strength (10.87\*), flexibility (4.31\*) and Control group leg explosive power (1.78), arm strength (1.74), abdominal strength (2.09), flexibility (2.04) respectively. The table value required for a significant difference, with 14 degrees of freedom at a 0.05 level of confidence, was 2.14.

Since the obtained ‘t’ ratio value for the experimental group was greater than the table value (2.14), the results clearly indicated that the leg explosive power, arm strength, abdominal strength and flexibility significantly improved due to the impact of circuit-based skill training among school badminton players.

**FIGURE-I**

**BAR DIAGRAM SHOWS THE MEAN VALUES OF LEG EXPLOSIVE POWER AND ARM STRENGTH AMONG SCHOOL BADMINTON PLAYERS**

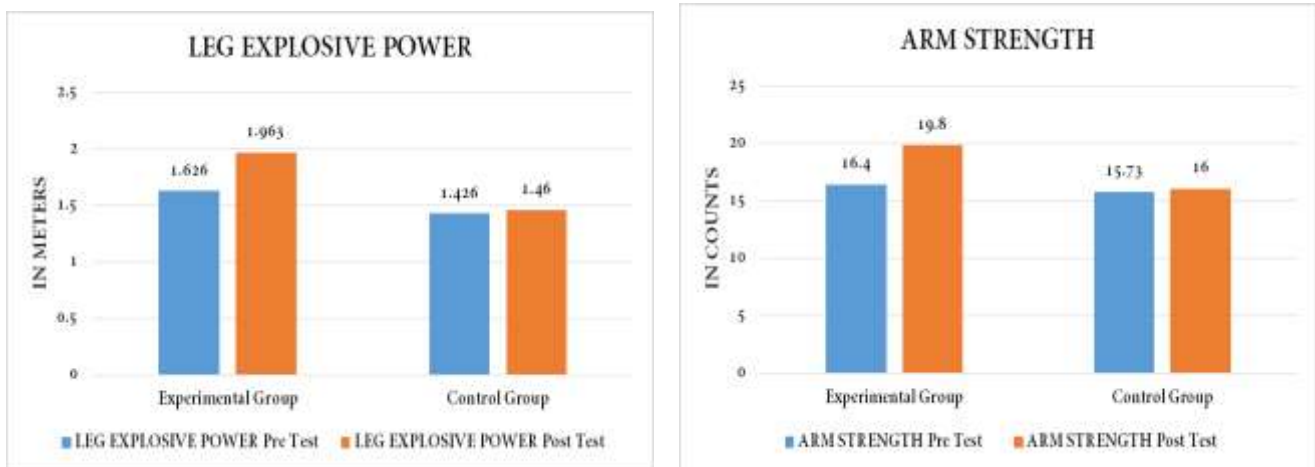
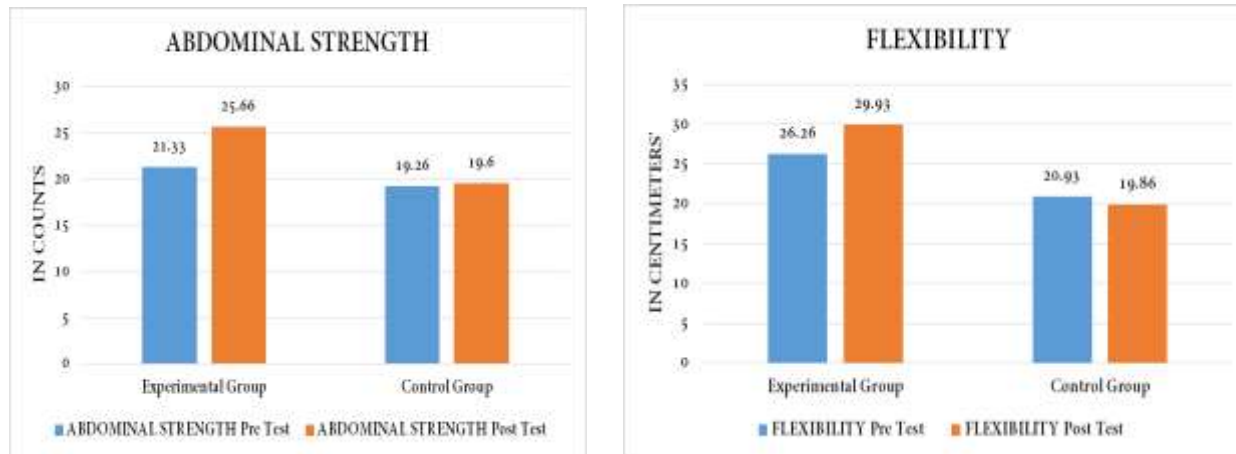




FIGURE-II

BAR DIAGRAM SHOWS THE MEAN VALUES OF ABDOMINAL STRENGTH AND FLEXIBILITY AMONG SCHOOL BADMINTON PLAYERS



## FINDINGS

The findings observed on role of circuit based skill training on selected motor fitness components among school badminton players are as follows:

1. In the circuit-based skill training group, the mean differences observed between pre- test and post – test for leg explosive power, arm strength, abdominal strength and flexibility were statistically significant.
2. In the control group, the mean differences observed between pre- test and post – test for leg explosive power, arm strength, abdominal strength and flexibility were not statistically significant.

## DISCUSSION ON FINDINGS

The study found that an eight week of circuit based skill training had a significant positive impact on the selected motor fitness components namely leg explosive power, arm strength, abdominal strength and flexibility. It is also found that the improvement caused by circuit-based skill training significantly improved the experimental group when compared to the control group. Thus, the results are in line with other study of which has effects of circuit training on selected motor fitness variables among school badminton players. The results of the study show that there was a significant improvement in speed and agility due to the effects of the circuit training among school boys (Dr. A. Mahaboobjan, 2023). Effect of interval circuit training on motor fitness and volleyball skill performance of male volleyball players. The result of the study show that the interval circuit training has significant impact on muscular strength, cardio respiratory endurance, explosive power, Brady volley test and Russell Lange serving test performance (V.A. Shafeeq 2012).

## CONCLUSIONS

The study concludes that an eight-week program of circuit-based skill training effectively enhances leg explosive power, arm strength, abdominal strength and flexibility. Moreover, these

improvements were significantly greater in the Experimental group compared to the Control group, highlighting the efficacy of this training approach in enhancing motor fitness components.

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