



Effect of Kalaripayattu Training on Selected Psychomotor Variables of Intercollegiate Cricket Players

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ABSTRACT

The purpose of this study was to evaluate the effectiveness of Kalaripayattu training on selected psychomotor variables of inter-collegiate cricket players. To achieve this, thirty male cricket players from Coimbatore district, aged between 18 and 25 years, were randomly selected as subjects. The participants were divided into two groups: an experimental group (n=15) and a control group (n=15). The study followed a true purposive random group design, incorporating both pre-test and post-test assessments. The selected psychomotor variables for evaluation were Multi limb co-ordination and Finger Dexterity. Before the intervention, all participants underwent a pre-test to establish baseline measurements. The experimental group then participated in an eight-week Kalaripayattu training program, conducted five days a week for 45 minutes per session, while the control group did not receive any specific training. After the completion of the training period, a post-test was administered, and the results were recorded. To analyze the effectiveness of the training, a paired sample t-test was conducted to compare pre-test and post-test scores within and between groups. The significance level was set at 0.05 to determine whether the observed differences were statistically significant.

KALARIPAYATTU

Kalaripayattu, one of the oldest and most dynamic martial arts of India, is known for its emphasis on agility, flexibility, strength, and mental discipline. It integrates physical movements with cognitive coordination, making it a highly effective training method for athletes across various sports, including cricket. Cricket, as a sport, demands a combination of motor skills such as balance, reflexes, coordination, and explosive movements, alongside cognitive abilities like quick decision-making, focus, and anticipation.

This study aims to explore the impact of Kalaripayattu training on the motor and cognitive skills of inter-collegiate cricket players. By incorporating Kalaripayattu techniques, players can potentially enhance their reaction time, footwork, body control, and overall athletic performance. Additionally, the mental focus and breathing techniques emphasized in Kalaripayattu may contribute to improved concentration and strategic thinking on the field. The research seeks to analyze how this traditional martial art can serve as a complementary training tool for cricket players, helping them develop a well-rounded skill set that enhances both their physical and cognitive abilities. By integrating Kalaripayattu into cricket training programs, athletes may gain a competitive edge, improving their overall performance and injury resilience.

SELECTION OF SUBJECTS

The purpose of this study was to determine the effect of Kalaripayattu training on selected psychomotor variables of intercollegiate-level cricketers. To achieve this purpose, thirty male intercollegiate cricket players who were studying at Sri Ramakrishna Mission Vidyalaya Maruthi College of Physical Education (N=15) and Sri Ramakrishna Mission Vidyalaya College of Arts and Science (N=15), Coimbatore, were randomly selected as subjects. Their ages ranged from 18 to 25 years, respectively.

SELECTION OF VARIABLES

I. Dependent Variables

- **Psychomotor Variables**
 - Multi limb coordination
 - Finger dexterity

SELECTION OF TESTS

As per the available literatures, the following tests were used to collect relevant data on the selected dependent variables and they were presented in the table I.

TABLE I**TESTS SELECTION**

S.NO	VARIABLE	NAME OF THE TEST	UNIT OF MEASURES
1	Multi Limb Coordination	Division of Attention Board	In Points
2	Finger Dexterity	Finger Dexterity Board	Number of Pins in 30 sec

TRAINING PROGRAM

During the training period the experimental groups underwent their Kalaripayattu training program in addition to their regular program of the course of study. Group I underwent Kalaripayattu training and Group II acted as control group. The duration of training session in the eight weeks was 45 minutes approximately, including warming up and cool down. All the experimental subjects involved in this study were carefully monitored throughout the training program to be away from injuries. The training program scheduled with the duration and load was based on the results of the pilot study. The training program was carried out for a period of eight weeks. The subjects in the Kalaripayattu group performed Kalaripayattu drills: the kalari exercise.

EXPERIMENTAL DESIGN AND STATISTICAL ANALYSIS

The pre-test and post test random group design was employed as an experimental design for the study. The thirty men selected for the study were assigned at random. This study consists of two dependent variables as an Kalaripayattu training. Group I was treated with Kalaripayattu training, group II acted as control. The experimental design used in this study was pre and post test random group design involving 30 subjects who were divided at random into two groups of fifteen each (SRMV MCPE-15) and (SRMV CAS-15). The data collected from the two groups before and after the experimental period were statistically examined for significant improvement by dependent 't' test.

TABLE - II**MEANS, STANDARD DEVIATIONS AND DEPENDENT 't' TEST VALUES ON MULTI LIMB COORDINATION OF EXPERIMENTAL AND****CONTROL GROUPS**

Groups	Pre test mean \pm SD	Post test mean \pm SD	M. D	SEM	't'-ratio
Experimental	2.40 \pm 1.57	2.73 \pm 1.05	0.33	0.13	2.16*
Control	2.34 \pm 1.04	2.35 \pm 1.06	0.01	0.10	0.03

*Significant at .05 level.

Table -II indicates that the obtained 't' ratio for Psychomotor variable were: 2.16 (Multi limb coordination). The obtained 't' ratios on Psychomotor variable were greater than the table value of 2.14 for degrees of freedom 14. It was observed that the mean gains and losses made from pre 2.40 and post-test 2.73 were statistically significant resulting that eight weeks practice of kalaripayattu training produced significant improvement from the performance of baseline. The obtained 't' ratio for Psychomotor variable were: 0.03 (Multi limb coordination). The obtained 't' ratios on Psychomotor variable was lesser than the table value of 2.14 for degrees of freedom 14. It was observed that the mean gains and losses made from pre 2.34 and post-test 2.35 of control group were statistically insignificant. The Graphical Representation of the Pre and Post Test Mean Value of kalaripayattu training Group and control Group on Multi limb coordination presented in Figure-1

FIGURE- 1**MEAN VALUES OF PRE AND POST TEST OF KALARIPAYATTU TRAINING GROUP AND CONTROL GROUPS ON MULTI LIMB COORDINATION**

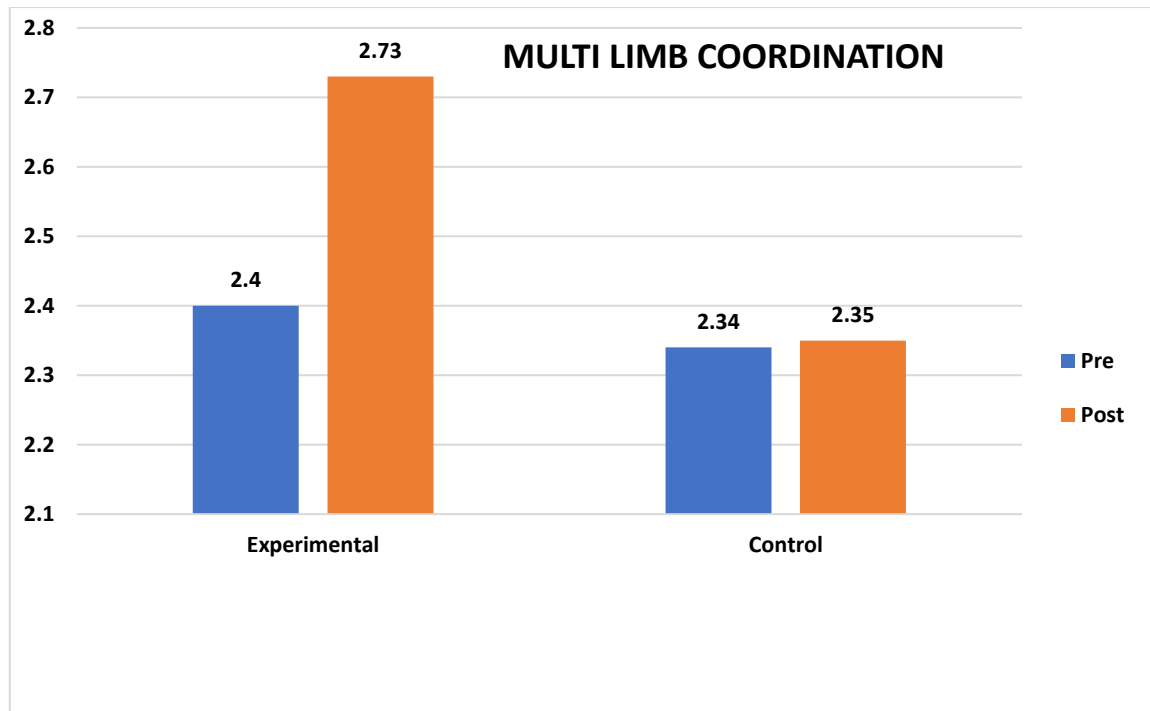


TABLE - III

MEANS, STANDARD DEVIATIONS AND DEPENDENT 't' TEST VALUES ON FINGER DEXTERITY OF EXPERIMENTAL AND CONTROL GROUPS

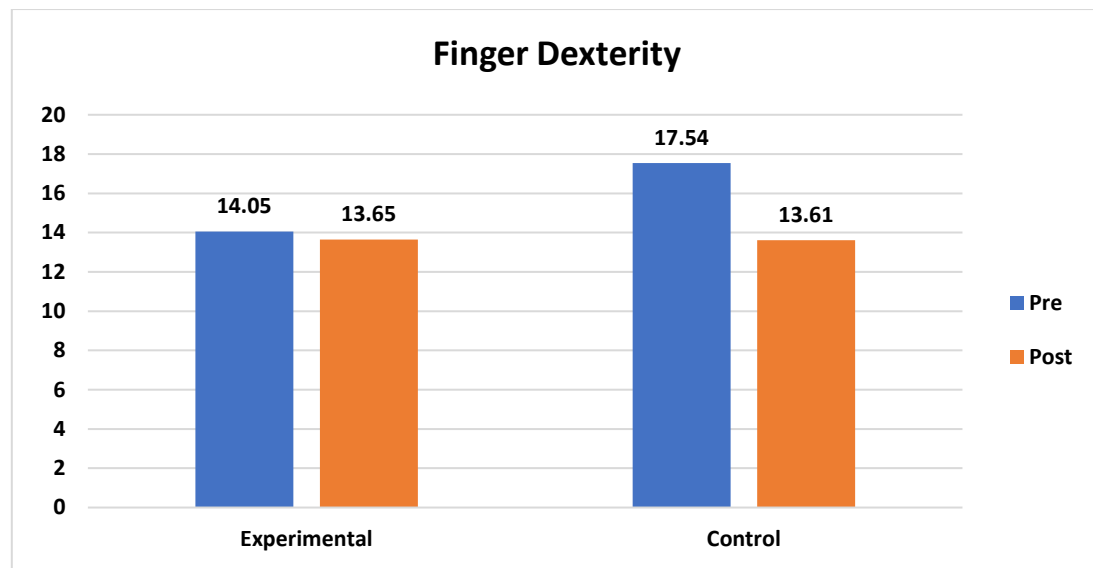
Groups	Pre test mean \pm SD	Post test mean \pm SD	M. D	SEM	't'-ratio
Experimental	14.05 \pm 2.67	17.54 \pm 2.30	3.49	0.26	13.54*
Control	13.65 \pm 2.31	13.61 \pm 2.47	0.04	0.33	0.18

*Significant at .05 level.

Table – III indicates that the obtained 't' ratio for Psychomotor variable were: 13.54 (finger dexterity). The obtained 't' ratios on Psychomotor variable were greater than the table value of 2.14 for degrees of freedom 14. It was observed that the mean gains and losses made from pre 14.05 and post-test 17.54 were statistically significant resulting that eight weeks practice of kalaripayattu training produced significant improvement from the performance of baseline. The obtained 't' ratio for Psychomotor variables were: 0.18 (finger dexterity). The obtained 't' ratios on Psychomotor variables was lesser than the table value of 2.14 for degrees of freedom 14. It was observed that the mean gains and losses made from pre 13.65 and post-test 13.61 of control group were statistically insignificant. The Graphical Representation of the Pre and Post Test Mean Value of kalaripayattu training Group and control Group on finger dexterity presented in Figure-2

FIGURE- 2

MEAN VALUES OF PRE AND POST TEST OF KALARIPAYATTU TRAINING GROUP AND CONTROL GROUPS ON FINGER DEXTERITY



DISCUSSION OF FINDINGS

The results of the study indicate that the experimental group that underwent Kalaripayattu training showed significant improvement in the selected dependent variables, namely Multi Limb Coordination and Finger Dexterity, compared to the control group. The findings further suggest that Kalaripayattu training had a greater impact on enhancing Multi Limb Coordination and Finger Dexterity than the absence of specialized training.

These results align with previous research, such as Senthilkumar (2016), which examined the effect of specific batting skill training on selected psychomotor variables in college-level cricket players. The study found that the training group demonstrated significant improvements in Multi Limb Coordination and Finger Dexterity compared to the control group. Similarly, the present study confirms that Kalaripayattu training can be an effective method for improving key psychomotor variables in cricket players.

CONCLUSIONS

Based on the analysis of the data, the following conclusions were drawn:

- **Effectiveness of Kalaripayattu Training:** The experimental group that underwent Kalaripayattu training showed significant improvements in key psychomotor variables, particularly Multi-Limb Coordination and Finger Dexterity, demonstrating the effectiveness of this traditional martial art in enhancing motor skills relevant to cricket performance.
- **Lack of Improvement in Control Group:** In contrast, the control group did not show any significant improvements in Multi-Limb Coordination and Finger Dexterity, highlighting the importance of structured training interventions like Kalaripayattu in developing these essential skills for cricket players.

These findings suggest that Kalaripayattu training can serve as a valuable complementary practice for cricket players, aiding in overall skill enhancement and athletic performance.

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