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EFFECT OF A RESISTANCE BAND TRAINING PROGRAMME ON SELECTED MOTOR FITNESS VARIABLES AND SKILL PERFORMANCE VARIABLES OF INTER-COLLEGIATE LEVEL MALE CRICKET PLAYERS

Sri. S. Prithivi Raj[1], Dr. P. Senthilkumar[2]
[1]*SRMV MCPE*
[2]*Assistant Professor, SRMV MCPE*

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ABSTRACT

The purpose of this study was to evaluate the effect of a resistance band training programme on selected motor fitness variables and skill performance variables of Inter-Collegiate level male cricket players. To achieve this, forty 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=20) and a control group (n=20). The study followed a true purposive random group design, incorporating both pre-test and post-test assessments. The selected motor fitness and skill performance variables for evaluation were speed, agility and arm explosive power and skill performance variables for evaluation were batting and bowling. Before the intervention, all participants underwent a pre-test to establish baseline measurements. The experimental group then participated in a six-week resistance band training program, conducted five days in a week for 60 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.

INTRODUCTION

Cricket is a highly demanding sport that requires a combination of motor fitness and technical skill performance. Players, particularly at the intercollegiate level, must develop essential physical qualities such as speed, agility, and explosive power to perform effectively in both batting and bowling. These motor fitness components play a crucial role in enhancing overall performance and reducing the risk of injury.

In modern sports training, resistance-based exercises have gained popularity due to their effectiveness in improving muscular strength and functional performance. Among these, resistance band training has emerged as a practical and efficient method. Resistance bands provide variable resistance, improve muscle activation, and enhance movement-specific strength, making them highly suitable for sports like cricket. Resistance band training is especially beneficial for developing arm explosive power, which is essential for both batting strokes and bowling speed. Additionally, improvements in speed and agility contribute to better fielding, quick running between wickets, and overall game performance.

Skill performance in cricket, particularly batting and bowling, depends not only on technical ability but also on physical preparedness. Therefore, integrating resistance band training into regular practice may lead to significant improvements in both motor fitness and skill execution. Despite its advantages, limited research has focused on the application of resistance band training among cricket players. Hence, this study aims to evaluate the effect of a resistance band training programme on selected motor fitness variables (speed, agility, and arm explosive power) and skill performance variables (batting and bowling) among intercollegiate male cricket players.

SELECTION OF SUBJECTS

The purpose of this study was to determine the effect of a resistance band training programme on selected motor fitness variables and skill performance variables of Inter-Collegiate level male cricket players. To achieve the purpose of the study, 40 male intercollegiate Cricket players are studying in and around Coimbatore district were randomly selected as subjects. Their age as range from 18 to 25 years respectively.

SELECTION OF VARIABLES

The research scholar reviewed the available literature pertaining to the aquatic with skill training practices from books, journals, periodicals, magazines and research papers. Taking into consideration feasibility criteria, availability of instrument and the relevance of the variables of the present study, the following variables will be selected. By considering the feasibility the following motor fitness and skill performance variables are selected for this study.

❖ **MOTOR FITNESS VARIABLES**
- Speed
- Agility
- Arm Explosive power

❖ **SKILL PERFORMANCE VARIABLES**
- Batting
- Bowling

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CRITERION MEASURES

As per the available literature and consultation with experts the following standardized tests was used to collected data on selected Motor fitness and skill performance variables. The selected criterion variables were measured using standardized test and equipment's. The criterion variables selected, test item used and the units of measurement were presented in Table-I

TABLE-I
LIST OF CRITERION VARIABLES AND TEST ITEMS

S.NO	VARIABLES	TEST	MEASUREMENT
MOTOR FITNESS VARIABLES			
1	Speed	50, meter dash	IN Seconds
2	Agility	4X10 Shuttle Run	In Seconds
3	Arm Explosive Power	Medicine Ball Put	In Metres
SKILL PERFORMANCE VARIABLES			
5	Batting	Match Performance	In Average
6	Bowling		In Average

TRAINING PROGRAMME

The training group, namely the resistance band training group, underwent their training program for six weeks. They trained five days a week, with each session lasting 60 minutes, including warm-up and cool-down exercises. The control group did not participate in any specific training; however, they continued with their regular physical education curriculum. All the subjects who participated in the training program were monitored throughout the training period. None of them reported any injuries. However, muscle soreness was reported during the early weeks but subsided later. Attendance was recorded before the commencement of each training session, and all subjects attended more than 90% of the total training sessions.

EXPERIMENTAL DESIGN

This study was conducted to determine the possible causes and effect of a resistance band training programme on selected motor fitness variables and skill performance variables of Inter-Collegiate level male cricket players. The study was formulated as a true random group design, consisting of a pre-test and post-test. The subjects (N=40) were randomly assigned to two groups, namely Group-I experimental group (N=20) and Group-II control group (N=20), with twenty subjects in each group. All the participants were tested before and after the experimentation on motor fitness variables, namely Speed, Agility and Arm Explosive Power using standardized tests. Skill performance variables namely: batting and bowling. After the pre-test, the experimental group underwent six weeks of resistance band training for five days per week for 60 minutes per day, while the control group was not given any specific training. After six weeks of training, the post-test was conducted, and the readings were carefully recorded as post-test scores.

TABLE – II
THE SUMMARY OF MEAN AND DEPENDENT 't' TEST FOR THE PRE AND POST TESTS ON SPEED OF EXPERIMENTAL AND CONTROL GROUPS

Groups	Pre test mean ±SD	Post test mean ± SD	M. D	SEM	P-Value	't'-ratio
Experimental	7.55 + 0.43	6.89 + 0.75	0.66	0.19	0.00	3.41*
Control	7.53 +0.48	7.87 +0.65	0.34	0.18	0.06	1.88

**** Significant at 0.05 level.***

Table – 4.1 Indicates the paired sample 't' was computed on selected dependent variables. The 't' test value of resistance band training group and control group are 3.41 and 1.88 for speed performance. The experimental 't' value is 3.41 are significantly higher than the required table value of 2.09 with degrees of freedom 19 at 0.05 level of confidence. The 't' test value of control group 1.88 which is less than the required table value, it indicates that there was not significant improvement on speed performance due to they were not subjected to any specific training. The result of the study shows that resistance band training group has significantly improved the performance of speed. The Graphical Representation of the Pre and Post Test Mean Value of resistance band training Group and control Group on speed presented in Figure-I

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FIGURE – I
THE GRAPHICAL REPRESENTATION OF THE PRE AND POST-TEST MEANS VALUES OF RESISTANCE BAND TRAINING GROUP AND CONTROL GROUP ON SPEED

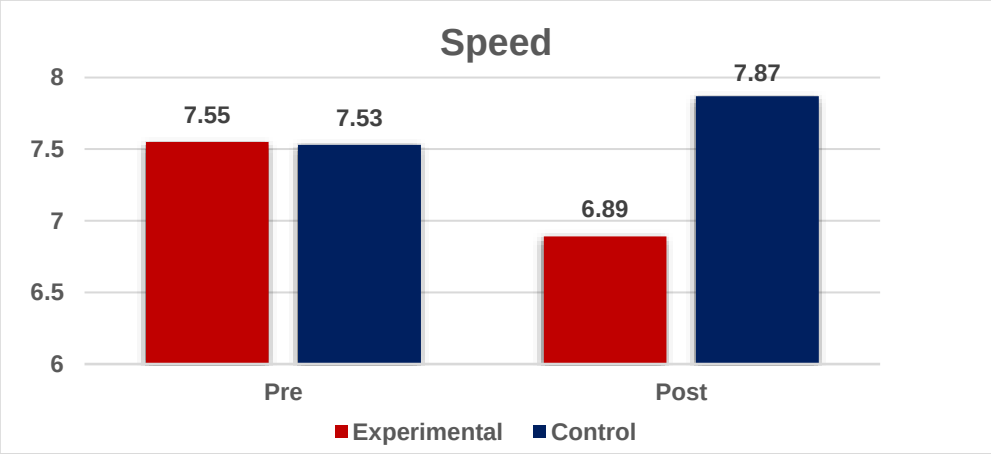


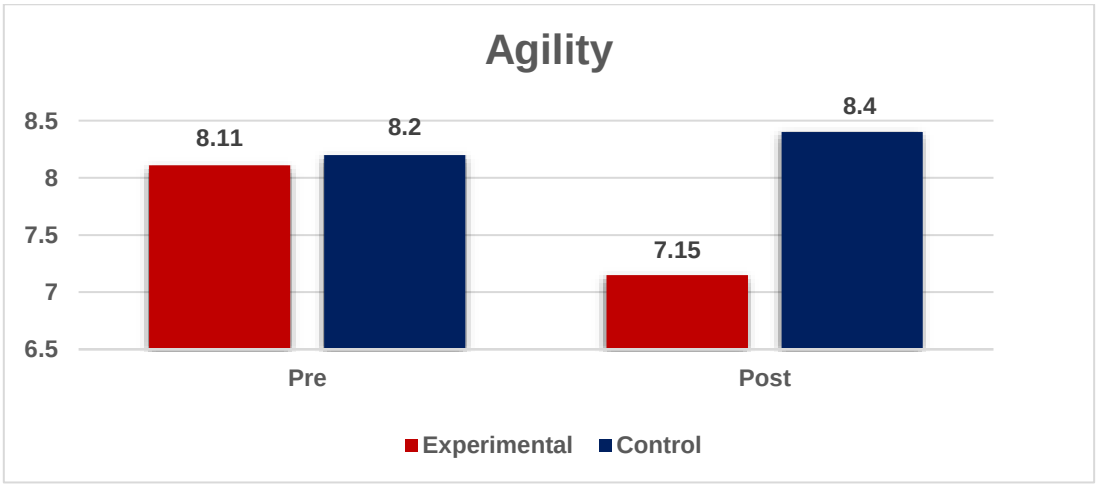
TABLE - III
THE SUMMARY OF MEAN AND DEPENDENT 't' TEST FOR THE PRE AND POST TESTS ON AGILITY OF EXPERIMENTAL AND CONTROL GROUPS

Group	Pre test mean ±SD	Post test mean ± SD	M. D	SEM	P Value	't'-ratio
Experimental	8.11 +1.07	7.15 +1.14	0.96	0.35	0.00	2.74*
Control	8.20 +1.04	8.40 +1.07	0.20	0.33	0.54	0.61

Significant at 0.05 level

Table – 4.2 Indicates the paired sample 't' was computed on selected dependent variables. The 't' test value of Resistance band training group and control group are 2.74 and 0.61 for agility performance. The experimental 't' value is 2.74 significantly higher than the required table value of 2.09 with degrees of freedom 19 at 0.05 level of confidence. The 't' test value of control group is 0.61 which is less than the required table value, it indicates that there was not significant improvement on agility performance due to they were not subjected to any specific training. The result of the study shows that resistance band training group has significantly improved the performance of agility. The Graphical Representation of the Pre and Post Test Mean Value of resistance band training Group and control Group on agility presented in Figure-2

FIGURE-2
THE GRAPHICAL REPRESENTATION OF THE PRE AND POST-TEST MEANS VALUES OF RESISTANCE BAND TRAINING GROUP AND CONTROL GROUP ON AGILITY



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TABLE - III
THE SUMMARY OF MEAN AND DEPENDENT 't' TEST FOR THE PRE AND POST TESTS ON ARM EXPLOSIVE POWER OF EXPERIMENTAL AND CONTROL GROUPS

Group	Pre test mean ±SD	Post test mean ± SD	M. D	SEM	P Value	't'-ratio
Experimental	51.52 + 5.02	55.94 + 5.62	4.42	1.69	0.01	2.61*
Control	51.54 + 5.54	50.24 + 5.07	0.20	1.67	0.90	0.12

Significant at 0.05 level

Table – 4.3 Indicates the paired sample 't' was computed on selected dependent variables. The 't' test value of resistance band training group and control group are 2.61 and 0.12 for arm explosive power performance. The experimental 't' value is 2.61 significantly higher than the required table value of 2.09 with degrees of freedom 19 at 0.05 level of confidence. The 't' test value of control group is 0.12 which is less than the required table value, it indicates that there was not significant improvement on arm explosive power performance due to they were not subjected to any specific training. The result of the study shows that resistance band training group has significantly improved the performance of arm explosive power. The Graphical Representation of the Pre and Post Test Mean Value of resistance band training Group and control Group on arm explosive power presented in Figure-III.

FIGURE-3
THE GRAPHICAL REPRESENTATION OF THE PRE AND POST-TEST MEANS VALUES OF RESISTANCE BAND TRAINING GROUP AND CONTROL GROUP ON ARM EXPLOSIVE POWER

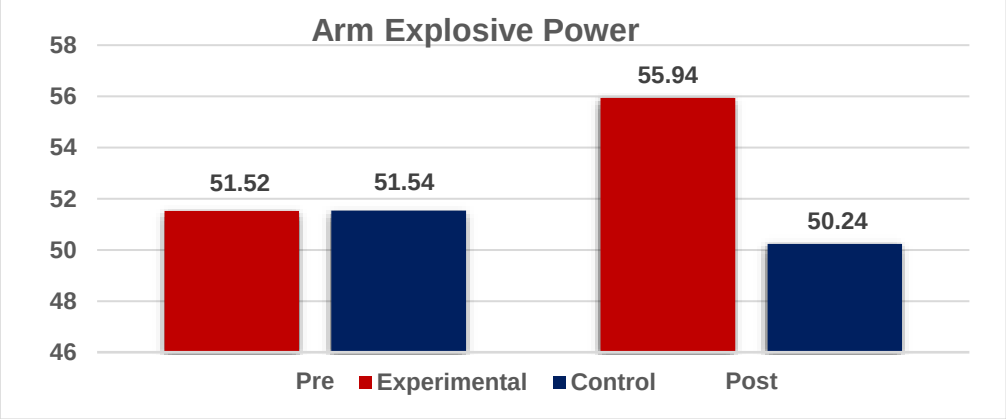


TABLE - IV
THE SUMMARY OF MEAN AND DEPENDENT 't' TEST FOR THE PRE AND POST TESTS ON BATTING OF EXPERIMENTAL AND CONTROL GROUPS

Group	Pre test mean ±SD	Post test mean ± SD	M. D	SEM	P Value	't'-ratio
Experimental	35.65 +1.64	37.78 +1.98	2.13	0.57	0.00	3.70*
Control	35.78 +2.43	36.25 +1.87	0.47	0.68	0.79	0.69

Significant at 0.05 level

Table – 4.4 Indicates the paired sample 't' was computed on selected dependent variables. The 't' test value of resistance band training group and control group are 3.70 and 0.69 for batting performance. The experimental 't' value is 3.70 significantly higher than the required table value of 2.09 with degrees of freedom 19 at 0.05 level of confidence. The 't' test value of control group is 0.69 which is less than the required table value, it indicates that there was not significant improvement on batting performance due to they were not subjected to any specific training. The result of the study shows that resistance band training group has significantly improved the performance of batting. The Graphical Representation of the Pre and Post Test Mean Value of resistance band training Group and control Group on Batting performance presented in Figure-IV

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FIGURE – IV
THE GRAPHICAL REPRESENTATION OF THE PRE AND POST-TEST MEANS VALUES OF RESISTANCE BAND TRAINING GROUP AND CONTROL GROUP ON BATTING

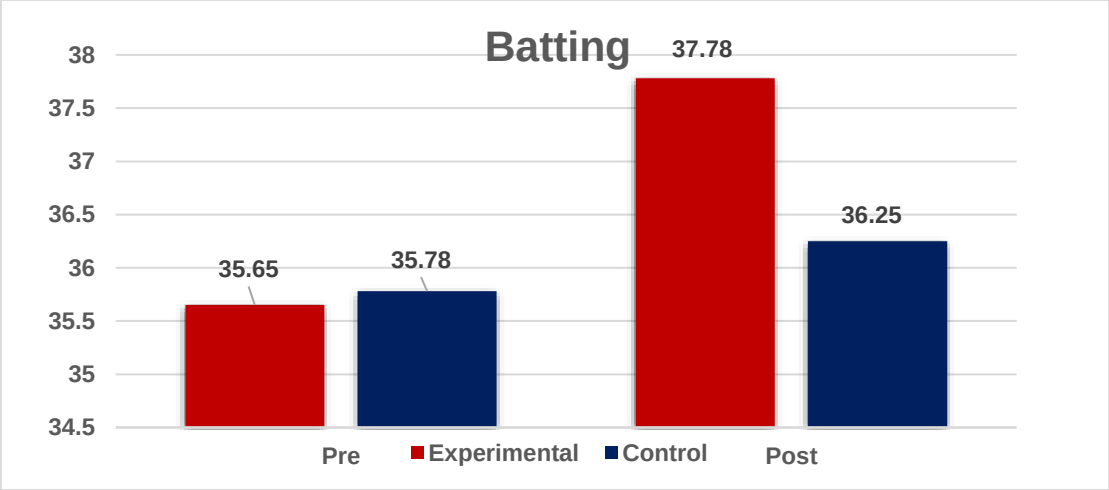


TABLE - V
SIGNIFICANCE OF MEAN GAINS /LOSSES BETWEEN PRE AND POST TEST OF EXPERIMENTAL AND CONTROL GROUP ON BATTING

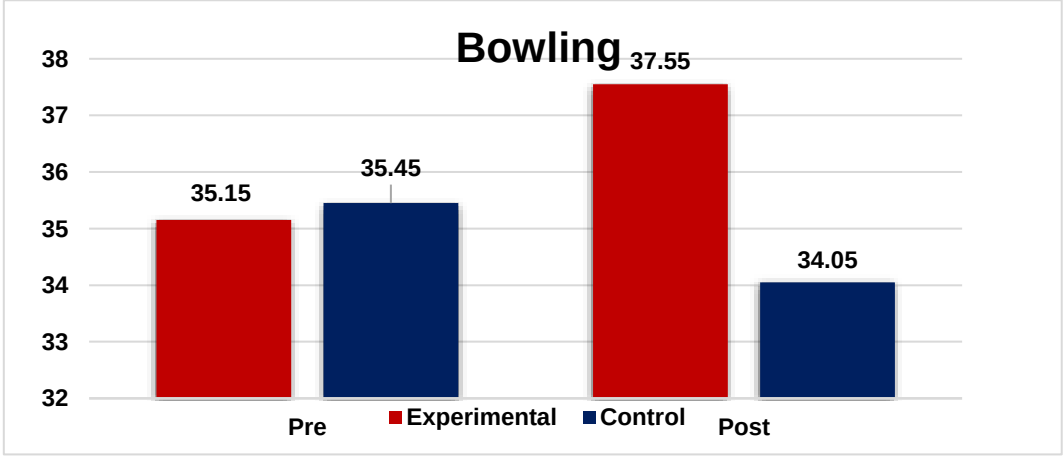
Groups	Pre test mean ±SD	Post test mean ± SD	M. D	SEM	P Value	't'-ratio
Experimental	35.15 +2.57	37.55 +2.38	2.40	0.78	0.00	3.07*
Control	35.45 +2.16	34.05 +2.67	1.40	0.77	0.07	1.82

Significant at 0.05 level.

Table – 4.5 Indicates the paired sample 't' was computed on selected dependent variables. The 't' test value of resistance band training group and control group are 3.07 and 1.82 for bowling performance. The experimental 't' value is 3.07 significantly higher than the required table value of 2.09 with degrees of freedom 19 at 0.05 level of confidence. The 't' test value of control group is 1.82 which is less than the required table value, it indicates that there was not significant improvement on bowling performance due to they were not subjected to any specific training. The result of the study shows that resistance band training group has significantly improved the performance of bowling.

The Graphical Representation of the Pre and Post Test Mean Value of resistance band training Group and control Group on bowling performance presented in Figure-V

FIGURE- 5
THE GRAPHICAL REPRESENTATION OF THE PRE AND POST-TEST MEANS VALUES OF RESISTANCE BAND TRAINING GROUP AND CONTROL GROUP ON BOWLING



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DISCUSSION OF FINDINGS

The results of the study indicate that the experimental group that underwent resistance band training showed significant improvement in the selected motor fitness variables, namely Speed, Agility and Arm Explosive Power, skill performance variables namely batting and bowling compared to the control group. The findings further suggest that resistance band training had a greater impact on enhancing Speed, Agility and Arm Explosive Power, batting and bowling compared, than the absence of specialized training.

These results align with previous research, such as Caspersen **CJ, Powell KE, Christenson GM.** Physical activity, exercise, and motor fitness: definitions and distinctions for health-related research. These results align with previous research, such as **Senthil Kumar Ponmoorthi (2016),** which examined the effect of specific batting skill training on selected psychomotor variables on college level cricket players. The study found that the training group demonstrated significant improvements in Muscular strength and flexibility compared to the control group. Similarly, the present study confirms that resistance band training can be an effective method for improving key motor fitness and skill performance variables in cricket players.

CONCLUSION

The findings of this study demonstrate that resistance band training significantly improved motor fitness variables, namely Speed, Agility and Arm Explosive Power, skill performance variables namely batting and bowling of intercollegiate-level cricketers compared to the control group. The results suggest that incorporating resistance band training as part of a structured cricket training program can have a greater impact on enhancing these motor fitness and skill performance variables than the absence of specialized training. Therefore, resistance band training can be considered an effective method for improving key physical attributes essential for cricket performance.

REFERENCE

1. *Caspersen CJ, Powell KE, Christenson GM. Physical activity, exercise, and motor fitness: definitions and distinctions for health-related research. Public health reports. 1985 Mar;100(2):126.*
2. *Tiong, Kim Yew, Chin&Ngien Siong (2019). Effect of six-week plyometric and resistance band training on badminton overhead clear stroke in 12 years old players. Pertanika Journal of Social Sciences & Humanities. 27, S3, 183-192.*
3. *Farley JB, Stein J, Keogh JW, Woods CT, Milne N. The relationship between motor fitness qualities and sport-specific technical skills in female, team-based ball players: A systematic review. Sports medicine-open. 2020 Dec;6(1):1-20.*
4. *Senthilkumar&Ramadevi.,(2023)., effect of nutrition with specific fitness training of physical fitness variables and body composition variables of intercollegiate level cricketers.,RabindraBharati Journal of Philosophy., ISSN : 0973- 0087.,Vol. : XXIV, No:02, 2023 P.No:51-55.*
5. *Senthil Kumar Ponmoorthi.,(2016) effect of specific batting skill training on selectedpsychomotor variables on college level cricket players., International Journal of Adapted Physical Education & Yoga., Vol. 1, No. 1., ISSN : 2455-8958.*