Frontiers in Health Informatics
ISSN-Online: 2676-7104
www.healthinformaticsjournal.com
2024; Vol 13: Issue 3
Open Access

Effects Of Specific Sports Training In Combination Of Resistance Training On Selected Motor Fitness Components And Skill Performance Variables Of Saveetha University Men Cricket Players

N. Sundar Raj [1] ,Dr.Jamal Sherif G F[2] ,Mr. Jai Ramji A[3] ,Mr. Kasimayan K[4] , Mr. Jayabal M[5] ,Mr. Viju S[6]

[1]Associate Professor, [2] ,[6] Assistant Professor , Saveetha school of Physical Education, Saveetha University, [3,4] Physical Director, SIMATS Engineering, Saveetha University, Chennai, [5] Research Scholar, Alagappa University College of Physical Education, Karaikudi.

sundarsspe@gmail.com, jamalsherifgf.sspe@saveetha.com

Cite this paper as: N. Sundar Raj ,Jamal Sherif G F, Jai Ramji A ,Kasimayan K , Jayabal M ,Viju S (2024) Effects Of Specific Sports Training In Combination Of Resistance Training On Selected Motor Fitness Components And Skill Performance Variables Of Saveetha University Men Cricket Players *Frontiers in Health Informatics, 13* (3), 9757-9767

ABSTRACT

This study aimed to evaluate the effects of specific sports training and combined resistance training on motor abilities among male cricket players from Saveetha University with inter-collegiate representation. Sixty participants were randomly divided into three groups: Group I (Specific Sports Training Group - SSTG), Group II (Combination of Resistance Training Group - CRTG), and Group III (Control Group - CG), with twenty players in each group. A pre-test was conducted to establish baseline measurements for performance variables. Group I received only specific sports training, Group II received a combination of specific sports and resistance training, and Group III continued regular activities without additional training for twelve weeks. After the training period, all participants were re-evaluated using the same performance metrics in a post-test. No participants withdrew from the study. The results compare the effects of specific and combined training on the motor abilities of university-level cricket players, contributing to optimized training methodologies in sports.

KEYWORDS: *Training, Learning, Resistance, Design, Experimental, Combination*

INTRODUCTION

Recreation is a bodily activity which tend to test our athletic competencies. It's the type of bodily workout wherein we compete with the opponents completely for entertainment. Basketball, football, cricket, volleyball, hockey are a number of the most well-known sports activities. Sports have many physical, physiological, and mental advantages on the contributors as well as the visitors. They result in higher bodily stamina and progressed reflexes alongside in different benefits. Sports also develop social skills as we interact along with our combatants as well as team mates. It improves one's potential to work in a team giving him/her publicity to the team culture, which is beneficial in professional existence as well. Even the mere spectators of a recreation engage with each other and support their respective teams through shouting and cheering; resulting in ultimate happiness and good social behavior. Sports activities play a significant role in each person's busy lifestyle, especially the students who are studying in colleges. Sports and games are important as it brings physical and intellectual

health to all who involved in this on everyday basis. As we all know that is lead a comfortable life one should have a sound mind in a sound body. Within the identical manner, getting a valid mind and frame, everybody has to take part few forms of physical activities in our life. Sports are excellent bodily exercise that offer freedom from pressure and stress. It has great scope and professional career for the players. It can help a sportsman to acquire name, fame and financial stability.

HISTORY OF THE GAME CRICKET

Cricket history is particularly hazy and ambiguous when it comes to the game's specific roots; it is thought to have originated in England during the late Middle Ages. In 1369, Edward III banned a sport similar to cricket called 'pilabaculorea' or 'club ball,' because he considered it as a diversion from his war effort. In, 'A sociological History of English cricket,' Derek Birley claims that the game came to England with the French during the Norman invasion, that their word 'criquet' was the dialect for a variety of club ball, that Edward the III tried to ban the game.

Batting

The first and foremost thing for a player to hold the bat properly. The player should be able to sway the bat forward towards cover or Midwicket, or towards the direction of fine leg in a comfortable way. The player should be able to keep the eye on the ball clearly and gauge the speed, bounce and direction accurately for playing it properly. In addition, the player has to improve the skills for running in between wickets comfortably and quickly. Placing the ball in between fielders or out to reach of fielders is a unique talent and skill.

Bowling

A player has to recognize the way to hold a ball. A player must be able to bowl at a suitable velocity for swinging the ball or spinning the ball in the proper direction. Skills should be acquired specially for bowling into the field to the temperament of the batsman. The bowling skills include also bowling with full pace, altering line and length, bowling bouncers, and slicing the ball in either manner. Skills are also needed to avoid running at the vital portion of the pitch.

Agility

It is a skill-related component of physical fitness. Agility relates to the ability of a person to rapidly change the position or directions of the entire body in space with speed and accuracy.

ASSESSMENT: Agility is typically measured using a shuttle zigzag run. Tests of agility are common as screening tests among sports teams.

STATEMENT OF THE PROBLEM

The purpose of the study was to find out the “Effects of specific sports training in combination of resistance training on selected motor fitness components and skill performance variables of Saveetha university Men cricket players”.

OBJECTIVES OF THE STUDY

The present study is formulated with following objectives

The main objective of the present study is to find out the effect of specific sports training in combination of resistance training on selected motor fitness components such as Batting, Bowling, agility of Saveetha university Men cricket players.

To study the effect of specific sports training in combination of resistance training on selected skill performance variables such as Batting, Bowling, of Saveetha university Men cricket players.

DELIMITATIONS

The study were delimited in the following aspects.

1. The study was delimited to sixty Saveetha university Men cricket players only.
2. In this study, the subjects were selected from Saveetha University Chennai, Tamilnadu.
3. A total number of 150 players out of represented University were randomly selected for the purpose of the study out of 150, 60 players were selected on the bases of regularity fitness level and enthusiastic to participate in the training program throughout this study.
4. In distribution of samples to experimental group used in the study, the present study was confined to equal number of samples. Thus, each group consisted of 20 subjects. The age of the subject was confined to the range from 18 to 25 years.
5. The duration of training program for the present study was confined to 6 days a week with about 12 weeks a total period.
6. The variables were delimited on motor fitness variables namely Agility.
7. The variables were delimited on skill performance variables namely Batting, Bowling.

SELECTION OF TEST ITEMS

Having the expert's consultation in the field of physical education and adequate scanning of various literatures related to specific training and resistance training programme, the investigator has selected the following test items as criterion measures. The chosen tests are highly standardized, appropriate and ideal for the selected variables. The following criterion measures were chosen for this study.

Table Intra class Correlation Co-Efficient Values on Selected Criterion Variables

Sl.No	Tests	Co-efficient of reliability
1.	Agility	0.96*
2.	Batting	0.96*
3.	Bowling	0.91*

***Significance at 0.05 level of confidence**

Agility

Agility is the ability to move quickly and change directions while maintaining control and balance. Good agility requires a combination of speed, acceleration, balance, power and coordination, plus good reflexes.

Start by lying face down on the ground at the start point. On the command, jump to your feet and negotiate around the cones to the finish. The assistant records the total time taken

Equipment

Taking the test at regular intervals will allow you to assess the effectiveness of your agility training.

Training Programme for Experimental Groups

Sl.No	Name of the group	Duration	Frequency	Sessions
1	Experimental group-I Specific Sports Training Group (SSTG)	12 weeks	Six days per week	One
2	Experimental group-II Combination of Resistance Training Group (CRTG)			

STATISTICAL ANALYSIS OF DATA

The data obtained from the experimental groups and control group were statistically analysed with dependent t-test and Analysis of Covariance (ANCOVA).Whenever the F- ratio for adjusted post-test means was found to be significant, the Scheffe's post hoc test was administered to find out the paired mean differences. The level of confidence was fixed at 0.05 level. Further, the group mean gains pre and post-test recorded by three groups during the experimental period of twelve weeks to the criterion measures were tested for significance by applying students 't' –test.

Pre Test and Post Test Mean Values of Specific Sports Training Group on Selected Motor Fitness Components and Skill Variables of Saveetha University Men Cricket Players

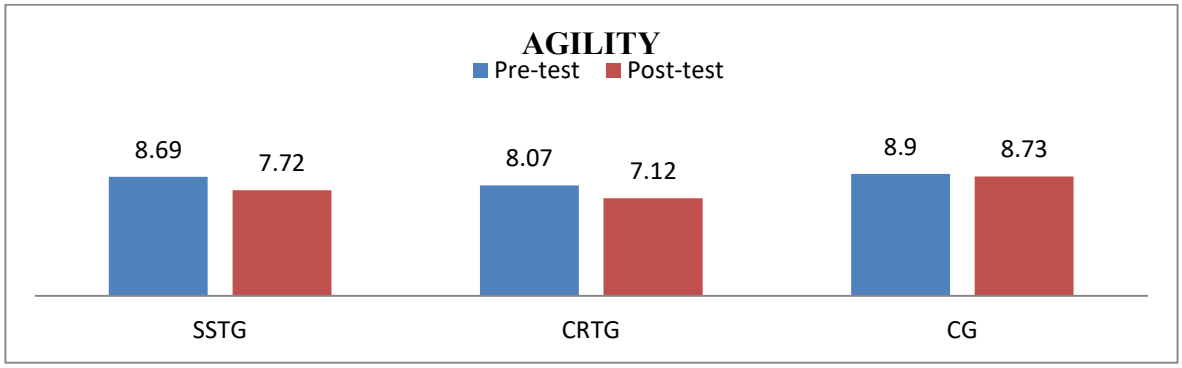
S.No	Variables	Pre-test mean ±SD	Post-test mean ±SD	Diff	SE	't' – ratio
1.	y	8.69 ±2.14	7.72±2.09	.97	.15	6.53*
3.	Batting	36.55±2.54	38.95 ±2.50	2.40	.26	9.40*
4.	Bowling	35.65 ±2.06	38.35 ± 2.60	2.70	.25	10.70*

*Significant at 0.05 level of confidence (2.09)

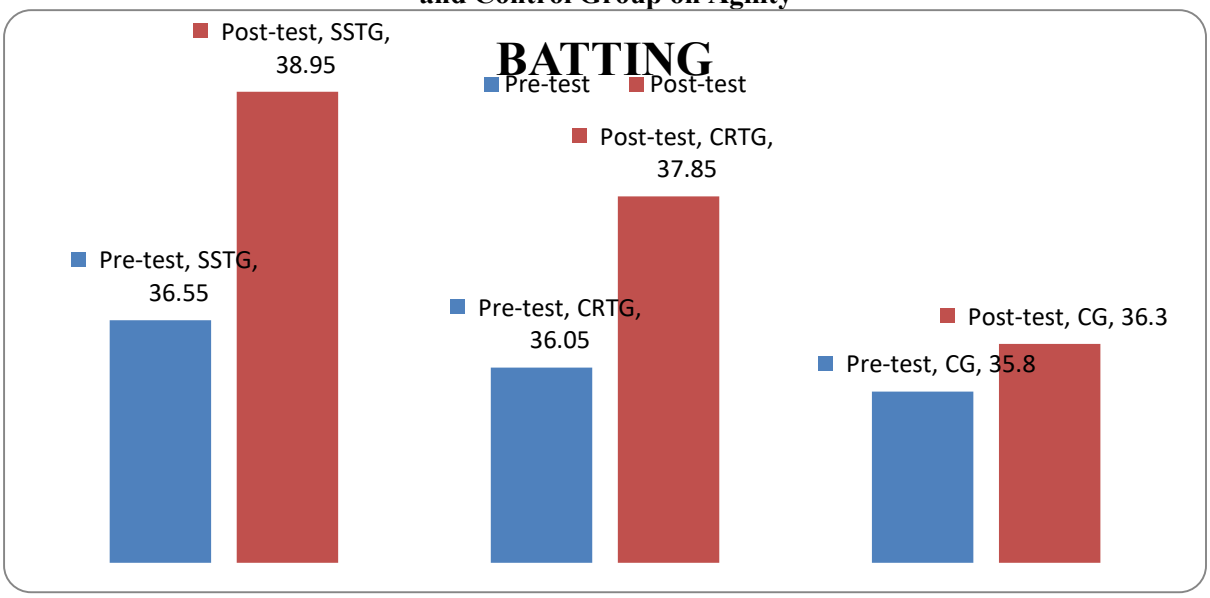
Pre Test and Post Test Mean Values Combination of Resistance Training Group on Selected Motor Fitness Components and Skill Performance Variables of Saveetha University Men Cricket Players

S.No	Variables	Pre-test mean ±SD	Post-test mean ±SD	Diff	SE	't' – ratio
1.	y	8.07±1.04	7.12±1.12	.95	.05	19.0*
2.	Batting	36.05±1.67	38.70±1.98	.33	2.65	8.11*
3.	Bowling	35.25±2.53	37.85±2.58	.27	2.60	9.79*

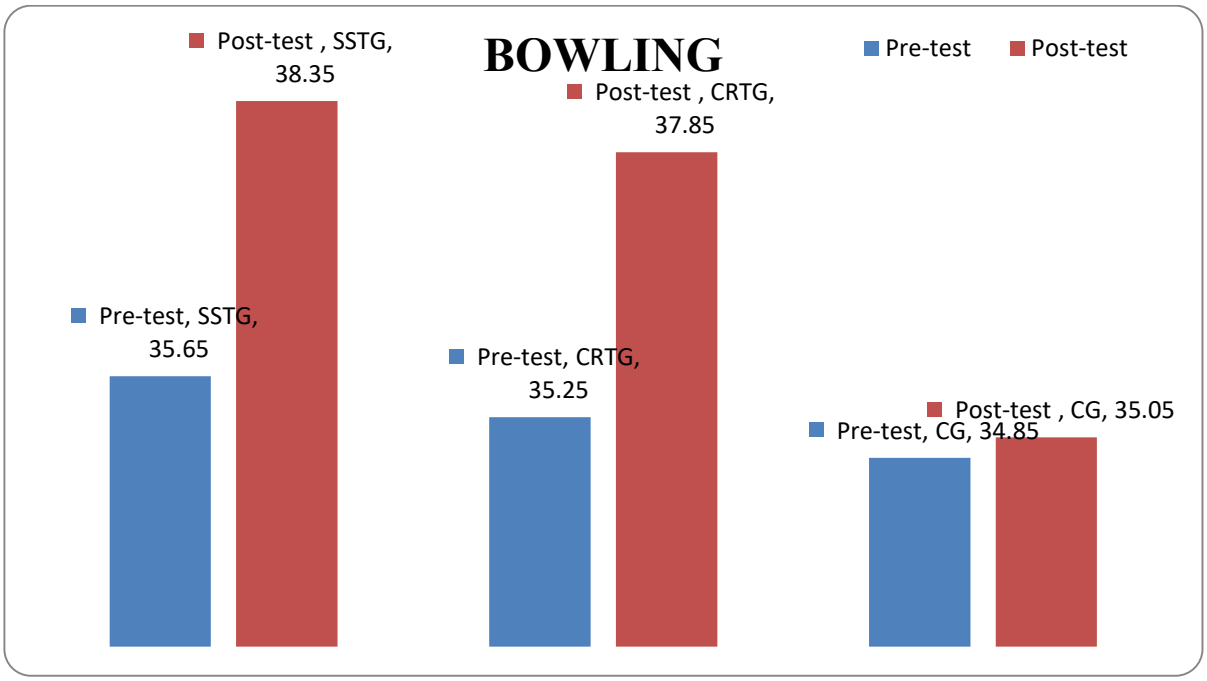
*Significant at 0.05 level of confidence (2.09)



Graphical Representation showing the Pre Test and Post Test Mean Values of Experimental Groups and Control Group on Agility



Graphical Representation Showing the Pre Test and Post Test Mean Values of Experimental Groups and Control Group on Batting



Graphical Representation Showing the Pre Test and Post Test Mean Values of Experimental Groups and Control Group on Bowling

Analysis of Co Variance between Specific Sports Training, Combination of Resistance Training Groups and Control Group on Agility

Test	Specific Sports Training (SSTG)	Combination of Resistance Training (CRTG)	Control Group (CG)	Source of variance	df	Sum of Square	Mean Square	F-ratio
Pre-test Mean	5.07	5.00	5.4	B / S	2	80.17	40.09	2.79
				W / S	57	396.78	4.56	
Post-test Mean	5.37	5.86	5.1	B / S	2	7.52	3.76	14.58
				W / S	57	22.44	0.26	
Adjusted Post-test Mean	5.32	5.89	4.66	B / S	2	7.95	3.97	15.59
				W / S	57	21.91	0.25	

*Significant at 0.05 level of confidence (2.71)

Scheffee's Post Hoc Values of Paired Mean Differences among Experimental Groups and Control Group on Agility

Specific Sports Training (SSTG)	Combination of Resistance Training (CRTG)	Control Group (CG)	Mean difference	Confidence Interval
5.32	5.89		0.57*	0.31
	5.89	4.66	0.69*	
5.32		4.66	0.12	

*Significant at 0.05 level of confidence

Analysis of Co Variance between Specific Sports Training, Combination of Resistance Training Groups and Control Group on Batting

Test	Specific Sports Training (SSTG)	Combination of Resistance Training (CRTG)	Control Group (CG)	Source of variance	df	Sum of Square	Mean Square	F-ratio
Pre-test Mean	36.55	36.05	35.80	B / S	2	5.83	2.917	.579
				W / S	57	287.100	5.037	
Post-test Mean	38.95	38.70	36.30	B / S	2	85.63	303.350	8.045*
				W / S	57	42.817	5.322	
Adjusted Post-test Mean	37.22	43.67	38.36	B / S	2	353.46	176.73	6.39*
				W / S	57	1133.04	27.63	

Specific Training (STG)	Resistance Training(RTG)	Control Group (CG)	Mean difference	Confidence Interval
38.95	43.67		4.72*	2.50
	43.67	38.36	5.31*	

38.95		38.36	0.59	

*Significant at 0.05 level of confidence (2.71)

Scheffee's Post Hoc Values of Paired Mean Differences among Experimental Groups and Control Group on Batting

*Significant at 0.05 level of confidence

Analysis of Co Variance between Specific Sports Training, Combination of Resistance Training Groups and Control Group on Bowling

Test	Specific Training (STG)	Resistance Training (RTG)	Control Group (CG)	Source of variance	df	Sum of Square	Mean Square	F-ratio
Pre-test Mean	35.65	35.25	34.85	B / S	2	6.40	3.20	.576
				W / S	57	316.85	5.559	
Post-test Mean	38.95	38.70	36.30	B / S	2	126.533	63.267	8.925*
				W / S	57	404.050	7.089	
Adjusted Post-test Mean	41.66	44.60	39.26	B / S	2	517.91	258.95	4.05*
				W / S	57	2682.40	63.86	

*Significant at 0.05 level of confidence (2.71)

Scheffee's Post Hoc Values of Paired Mean Differences Among Experimental Groups and Control Group on Bowling

Specific Sports Training (SSTG)	Combinatin of Resistance Training(CRTG)	Control Group (CG)	Mean difference	Confidence Interval
44.60	41.66		2.94*	2.88
	41.66	39.26	2.4	
44.60		39.26	5.34*	

*Significant at 0.05 level of confidence

RESULTS

i. In testing the individualized effects of three groups namely Specific sports training group (SSTG-Experimental group-I), Combination of Resistance training group (CRTG- Experimental group-II), it was observed that Specific sports training group (SSTG-Experimental group-I), Combination of Resistance training group (CRTG- Experimental group-II) produced significant development effect on variables used in the study whereas in the case of Control group (CG) it was found to be insignificant.

In testing the significance of mean difference on pre-test among the three groups namely Specific sports training group (SSTG-Experimental group-I), Combination of Resistance Training Group (CRTG-Experimental group-II) and Control group (CG-Group III).The result indicates that the mean differences on selected motor fitness components namely Agility, and skill performance variables namely Batting, Bowling of university cricket players used in the study before the respective treatment was insignificant. Thus, this analyses confirms that the random assignment of subjects into three groups were successful.

ii. In testing the significance of mean difference on post-test among the three groups namely Specific sports training group (SSTG-Experimental group-I),Combination of Resistance Training Group (CRTG-Experimental group-II) and Control group (CG-Group III).The result indicates that the mean differences on criterion variables used in the study at the end of the treatment was found to be statistically significant. Thus it was found that there was a significant mean difference among the three groups in the variables used in the study.

iii. In testing the significance of mean difference on adjusted pre-test among the three groups namely Specific sports training group (SSTG-Experimental group-I), Combination of Resistance Training Group (CRTG-Experimental group-II) and Control group (CG-Group III).The result indicates that the mean differences on criterion variables used in the study at the end of the treatment was found to be statistically significant. Thus it was found that there was a significant mean difference among the three groups in the variables used in the study.

iv. From the results on comparing the adjusted post-test mean differences between the groups of Specific sports training group (SSTG-Experimental group-I), Combination of Resistance training group (CRTG-Experimental group-II), it was found that Specific sports training group (SSTG-Experimental group-I), produced a significant development than that of the Combination of Resistance training group (CRTG-Experimental group-II), on selected motor fitness components namely Agility and skill performance variables namely Batting, Bowling. Further it was found that the Specific sports training group (SSTG-Experimental group-I), produced a significant development than the Specific sports training group (SSTG-Experimental group-I) on selected variables namely

CONCLUSIONS

In light of the above findings of the present study the following conclusions have been made

i. It was concluded that the Specific sports training group (SSTG) has produced a significant improvement on selected motor fitness components namely Agility and skill performance variables namely Batting, Bowling of Saveetha university Men cricket players.

ii. It was concluded that the Combination of Resistance training group (CRTG) has produced a significant improvement on selected motor fitness components namely Agility and skill performance variables namely Batting, Bowling of Saveetha university Men cricket players.

iii. Further it comparative effect of that the Specific Sports training group (SSTG) had better improvement on the selected motor fitness components namely Agility and skill performance variables namely Batting, Bowling of Saveetha university Men cricket players.

iv. Further it comparative effect of that the Combination of Resistance training group (CRTG) had better improvement on the selected motor fitness components namely Agility and skill performance variables namely Batting, Bowling of Saveetha university cricket Men players.

REFERENCES

Arumugam, A., Subramani, R., Nandy, S. B., Terreros, D., Dwivedi, A. K., Saltzstein, E., & Lakshmanaswamy, R. (2019). Silencing growth hormone receptor inhibits estrogen receptor negative breast cancer through ATP-binding cassette sub-family G member 2. *Experimental & molecular medicine*, *51*(1), 1-13.

Arumugam, S., & Kumar, V. V. (2019). Effect of Game Specific Training on Breath Holding Time and Resting Heart Rate among Kabaddi Players. *Pramana Research Journal, 9 (4):* 432, 437.

Aschendorf, P. F., Zinner, C., Delextrat, A., Engelmeyer, E., & Mester, J. (2019). Effects of basketball-specific high-intensity interval training on aerobic performance and physical capacities in youth female basketball players.
The Physician and sportsmedicine, *47*(1), 65-70.

Balamurugan, M. D. Effect of Nine Weeks Resistance Training program on Physical Fitness Variables–A study. *Editorial Board Chief Editor*.

Brigatto, F. A., Braz, T. V., da Costa Zanini, T. C., Germano, M. D., Aoki, M. S., Schoenfeld, B. J., ... & Lopes, C. R. (2019). Effect of resistance training frequency on neuromuscular performance and muscle morphology after 8 weeks in trained men. *The Journal of Strength & Conditioning Research*, *33*(8), 2104-2116.

Christou, M., Smilios, I., Sotiropoulos, K., Volaklis, K., Pilianidis, T., & Tokmakidis, S. P. (2006). Effects of resistance training on the physical capacities of adolescent soccer players. *The Journal of Strength & Conditioning Research*, *20*(4), 783-791.