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Effect of specific yoga and aerobic exercises on selected motor abilities among cricket players

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Abstract
The Purpose of the study is to assess the effect of Yoga and Aerobic exercises among the cricket players. The subjects for the study were 30 cricket players who had participated in intercollegiate competitions. Three groups were formed, each with 10 players. Group A and Group B was experimental group whereas Group C was control group. The variables selected for the study was Speed, Agility and Leg strength. For the study the Group A and B had to undergo a training of Yoga and Aerobic exercise for a stipulated period respectively. The statistical procedure used for the study was analysis of co-variance and find out the paired mean significant different Scheffe's Post-Hoc Test was used. The test followed by a training showed significant improvement in the selected variables- speed, agility and leg strength for cricket players to come out with flying colours.

Keywords: specific yoga, aerobic exercise, motor ability, speed, agility, leg strength

Introduction
Today, is the modern competitive cricket era, every cricket player is in a race to excel others, and cricket competition have become fundamental mode of human expression as they are one of the very important functions by which National and International recognition and prestige is gained. From its very simple form, cricket has emerged itself highly organized activity of Indian Society and it has become a complex social and cultural phenomenon. As cricket has earned its popularity, the players are also in the lime light.

In recent days' cricket training has become more efficient and effective as a result of the applied and fundamental research in the area of mechanics, physiology, physical fitness, psychology, nutrition and sports medicine besides understanding of the Cricket player in its totality. Competitions in cricket at all levels are so keen that no cricket coach or a cricketer can afford to neglect the application of scientific training principles that can give him an advantage over or at least keep him in pace with his opponent.

Competitive cricket attains its greatest effectiveness when it moulded with physiological and physical perfection of a cricketer through organized training and healthy competitions. There variables either individually or in combination with different proportions are of outmost significance in order to exhibit an excellent performance. Any promising cricket player at any level of competition must possess ideal characteristics with regard to physiological and physical variables in any specialized department of the game in order to exhibit not only noteworthy performance but to create records as well.

Yoga is simply the most established known science advancement started in antiquated India. Yogic practice is a physical and mental activities honed all through the world. Many research investigations of the past report that yogic preparing enhances the physical and mental wellness level and additionally the execution of games guardians in different games disciplines. Utilization of yogic exercise has significant degree in the advancement of games. It relies upon essential wellness factor, particular games expertise and mental variables. Yoga practices are based on the formula of stretching, relaxation, deep breathing, increasing circulation and concentration which help the cricketers to perform in their peak level.

Vigorous exercise is the movement that can be supported for a broadened timeframe without building an oxygen obligation in the muscles. It is a sort of activity that over-burdens the heart and lungs, and cause man makes them work harder than they do when a man is very still. Vigorous exercise actually implies with air. Vigorous exercise is the sort in which the measure of oxygen taken in to the body is somewhat more than or equivalent to the measure of oxygen utilized by the body.

The way toward expanding high-impact wellness included expanding the rate at which oxygen can be conveyed from the lungs to the practicing muscles. This clearly depends somewhat upon the lungs and upon the heart itself, yet it likewise relies on expanding the blood supply to the muscle tissue, and expanding their capacity to remove oxygen from the blood. Oxygen consuming activity is additionally the kind that guides weight reduction.

Methods and Materials
Subjects
Thirty male cricket players were chosen as subjects in random method. Twenty cricket players were selected as experimental group A and B. Ten cricket players were selected as control group C. Each group comprised of ten cricket players. The players who participated intercollegiate competitions were selected as subjects.

Table 1

Sl. No.	Group	Subject
1	Experimental Group A- Yoga	10
2	Experimental Group B – Aerobic Exercise	10
3	Control Group C	10
Total		30

Variables

The variables selected for the study was Speed, Agility and Leg strength.

Table 2: Tester's Competency Test in Selected variables

Sl. No.	Variable	Co-efficient correlation
1	Speed	0.92
2	Agility	0.94
3	Leg Strength	0.92
Total Value at 0.05 level = 0.632, df = N-2 =10 -2=8		

Aim of the Study

The study aims at assessing the "Effect of specific yoga and Aerobic Exercises on selected Motor abilities among cricket players".

Procedure of the study

The subjects of the study were selected at random and divided in to three homogeneous groups namely A, B and C. The experimental group A and B were subjected to the experimental treatment. The control group C was strictly under control without undergoing any special activity. Group A was considered as Yoga group and they had undergone a training of 3 days (Monday, Wednesday and Friday) at early morning from 6 am to 7am for 6 weeks. Groups B was considered a aerobic exercise group and they too had undergone a training weekly 3days (Tuesday, Thursday and Saturday) from 6 am to 7am for 6 weeks. Two experimental Groups were well acquired with their allotted techniques and did only the exercises given to them from a period of 6 weeks under the personal supervision of the scholar. The data were collected on the selected motor ability variables namely, speed, agility, andleg strength respectively before training as well as immediately after 6 six weeks training.

Statistical procedure

The statistical procedure used to find out the effect of specific yoga and aerobic exercises on selected motor abilities among cricket players were analysis of covariance, for interpreting the results as recommended by Clark and Clark. In order to find out the paired mean significant different Scheffe's Post-Hoc Test was used, when adjusted F ratio was significant.

Result and Discussions of the study

The analyzed data on speed, the pretest means of control group, yoga group and aerobic exercise group were 7.458 seconds, 6. 768 seconds and 6.760 seconds, respectively. The obtained F-ratio 9.525 seconds was significant at 0.05 level. The post-test means of 7. 457 seconds, 6.758 seconds, 6.758 seconds and 6.739 seconds for the same group respectively. The F-ratio obtained for post-test 9.835 was significant at 0.05 level. The adjusted post-test mean of 6. 992 seconds, 6.986 seconds and 6.975 seconds for the same group respectively. The F-ratio obtained for adjusted post mean 3.505 is more than the table value 3.37 for df 2 and 26 required for significant at 0.05 level.

Table 3: Computation of Analysis of Covariance of Pre Test and Post Test of Control, Yoga and Aerobic Exercise Groups in Speed (Speed in Seconds)

Test	Control Group	Yoga Group	Aerobic Exercise Group	Source of Variance	Sum of Squares	df	Mean Squares	F Ratio
Pre-test Mean	7.458	6.768	6.760	Between	3.211	2	1.605	9.525*
S.D	0.494	0.323	0.326	Within	4.500	27	0.168	
Post-test Mean	7.457	6.758	6.739	Between	3.348	2	1.674	9.835*
S.D	0.502	0.322	0.326	Within	4.595	27	0.170	
Adjusted Post-test Mean	6.992	6.896	6.975	Between	0.001	2	0.0006	3.505*
				Within	0.004	26	0.0002	

*Significant at 0.05 level. Table value at 0.05 level = 3.37
df – degrees of freedom. Table value at 0.01 level = 5.53

The above analysis shows that there was a significant variance among the adjusted post test means of control group, yoga group and aerobic exercise group. Further inorder to determine which of the three paired means had a greater significant difference, Scheffe's test was applied.

Table 3A: Scheffe's Post-Hoc Test for the Differences Between the Adjusted Post Test Paired Means of Speed (Speed in Seconds)

Adjusted Post Test Mean				
Control Group	Yoga Group	Aerobic Exercise Group	Mean Differences	Confidence Interval
6.992	6.986	---	0.006	0.016
6.992	---	6.975	0.017*	0.016
---	6.986	6.975	0.011	0.016

The Scheffe's post hoc test shown the mean difference of 0.006 for control group and yoga group, which was insignificant at 0.05 level since the mean difference of 0.017 for control group and aerobic exercise group, which was significant at 0.05 level. As the difference between the means of yoga group and aerobic exercises group 0.011which was insignificant at 0.05 level.

This result indicated that the aerobic exercise group had significantly improved speed when compared to the control group and yoga group in terms of mean gains.

The analyzed data of agility, the pre-test means of agility were 10.554 seconds, for control group, 9.840 seconds for yoga group and 9.760 seconds for aerobic exercise group. The obtained F-ratio 7. 133 seconds which was significant at 0.05

level. The obtained post-test means of 10.557 seconds, 9.816 seconds, and 9.700 seconds for the same group respectively. The obtained F-ratio 8.067 which was significant at 0.05 level. The adjusted post-test means of 10.055 seconds, 0.027 seconds and 9.991 seconds for the same group respectively. The F-ratio obtained for adjusted post-test mean 5.913 is more than the table value 3.37 for df 2 and 26 required for significant at 0.05 level.

Table 4: Computation of Analysis of Covariance of the Pre Test and Post Test of Control, Yoga and Aerobic Exercise Groups in Agility (Scores In Seconds)

Test	Control Group	Yoga Group	Aerobic Exercise Group	Source of Variance	Sum of Squares	df	Mean Squares	F Ratio
Pre-test Mean	10.554	9.840	9.760	Between	3.822	2	1.911	7.133*
S.D	0.469	0.378	0.600	Within	7.233	27	0.167	
Post-test Mean	10.557	9.816	9.700	Between	4.323	2	2.161	8.067*
S.D	0.476	0.374	0.597	Within	7.234	27	0.267	
Adjusted Post-test Mean	10.055	10.027	9.991	Between	0.015	2	0.007	5.913*
				Within	0.034	26	0.001	

*Significant at 0.05 level. Table value at 0.05 level = 3.37
df – degrees of freedom. Table value at 0.01 level = 5.53

The Scheffe's post hoc test shown the mean difference of 0.028 for control group and yoga group which was in significant at 0.05 level. Since the mean difference of 0.064 for control group and aerobic exercises groups which was significant at 0.05 level. As the difference between the adjusted post- test means of yoga group and aerobic exercises group, 0.036 which was insignificant at 0.05 level.

Table 4A: Scheffe's Post-Hoc Test for the Differences Between the Adjusted Post Test Paired Means of Agility (Scores in Seconds)

Adjusted Post Test Mean				
Control Group	Yoga Group	Aerobic Exercise Group	Mean Differences	Confidence Interval
10.055	10.027	---	0.028	0.042
10.055	---	9.991	0.064*	0.042
---	10.027	9.991	0.036	0.042

The analysis of agility data reveals that during the experimental period, the aerobic exercises group significantly increases the agility when compared with yoga group and controlled group.

The analyzed data of leg strength. The pretest means of leg strength were 1.662 min, for control group, 3.167 min for yoga group and 3.113 min for Aerobic exercise group. The obtained F-ratio 4.547 which was significant at 0.05 level. The obtained post-test means of 1.664 min, 3.590 min. and 3.582 min, for the same group respectively. The obtained F-ratio 6.527 which was significant at 0.05 level. The adjusted post first means 2.716 min, 3.035 min, and 3.085 min, for the same group respectively. The F-ratio obtained for adjusted post-test mean 4.894 as more than the table value 3.37 for df 2 and 26 required for significance at 0.05 level.

Table 5: Computation of Analysis of Covariance of the Pre Test and Post Test of Control, Yoga and Aerobic Exercise Groups in Leg Strength (Scores in Minutes)

Test	Control Group	Yoga Group	Aerobic Exercise Group	Source of Variance	Sum of Squares	df	Mean Squares	F Ratio
Pre-test Mean	1.662	3.167	3.113	Between	14.577	2	7.288	4.547*
S.D	0.441	1.606	1.246	Within	43.273	27	1.602	
Post-test Mean	1.664	3.590	3.582	Between	24.627	2	12.310	6.527*
S.D	0.443	1.718	1.395	Within	50.931	27	1.886	
Adjusted Post-test Mean	2.716	3.038	3.085	Between	0.604	2	0.302	4.894
				Within	1.604	26	0.061	

*Significant at 0.05 level. Table value at 0.05 level = 3.37
df – degrees of freedom. Table value at 0.01 level = 5.53

The Scheffe's post hoc test shown the mean difference of 0.319 for control group and yoga group, 0.369 for control group and aerobic exercises group which was significant at 0.05 level. As the difference between the means of yoga group and aerobic exercises group which was insignificant at 0.05 level.

Table 5A: Scheffe's Post-Hoc Test for the Differences Between the Adjusted Post Test Paired Means of Leg Strength (Scores in Minutes)

Adjusted Post Test Mean				
Control Group	Yoga Group	Aerobic Exercise Group	Mean Differences	Confidence Interval
2.716	3.035	---	0.319*	0.288
2.716	---	3.085	0.369*	0.288
---	3.035	3.085	0.050	0.288

The analysis of leg strength data reveals that during the experimental period, the yoga group and aerobic exercises group had significantly increased the leg strength when compared with control group. There was no significant difference between yoga group and aerobic exercises group in leg strength.

Conclusion

The study is concluded that specific Yoga and Aerobic Exercises had significantly improved in speed, agility and leg Strength. The experimental group A (Yoga) was compared with control group C, there was significant improvement in leg strength due to specific yoga. The experimental Group B (Aerobic Exercises) was compared with control group, there was significant improvement in speed, agility and leg strength due to aerobic exercise. The experimental group A (yoga) compared with experimental group B (Aerobic Exercise) there was significant improvement in leg strength due to aerobic exercise than specific yoga.

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