



## Study on Yogic Practice and Physical Exercises on Selected Psychological Variables among Male College Cricket Players

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### Abstract

The purpose of the study was to determine the impact of training in yogic practice and physical exercises on selected psychological variables among male college cricket players. To achieve the purpose of this study, forty eight college cricket players studying in various colleges affiliated to Bharathidasan University were randomly selected as subjects. Their age ranged from seventeen to twenty years. The selected subjects (N=48) were divided into three equal groups of sixteen and named Group-I as yogic practice group, Group-II as physical exercises group and Group-III as control group. Subjects in the Group-I underwent the yogic practice, subjects in the Group-II underwent the physical exercises and subjects in the Group-III did not go through any specific yogic (or) physical exercises but their regular practice. During the training period, both the yogic practice and physical exercise were given for both the experimental groups, for a duration of twelve weeks. The practice was for forty five minutes a day on five days per week under the supervision of the investigator. The psychological variables were cognitive, somatic and self confidence. The psychological factors were measured by standardized questionnaire namely competitive state anxiety questionnaire-II (CSAI-2) developed by Martens, Burton, Vealey, Bump and Smith (1990). To make the study more scientific, the subject reliability, reliability of data, instrument reliability and tester reliability were established. The data was collected before and after the experimental treatment. Analysis of Covariance (ANACOVA) was used to analyze the collected data. Scheffe's test was followed as a post hoc test to determine the level of significant difference between the paired means. All the statistical analysis tests were computed at 0.05 level of significance. The cricket players in the yogic practice group and physical exercises group had shown significant changes in all the selected psychological variable when compared to control group. The control group did not show significant change in any of the selected variables.

**Keywords:** Yogic Practice, Physical Exercise, Cricket, Anxiety, Self Confidence.

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### Introduction

The game of cricket is widely played in three formats. The test match, fifty over's one day international and twenty-20 (T-20). The game of cricket is a high energy team sport. It is attractive and at the same time very agile. Performance in cricket is determined by several factors like skill, technique, fitness, and training. In sports, training is generally understood to be synonym of doing exercise. In a narrow sense training is physical exercise for the improvement of performance. Training involves constructing an exercise programme to develop an athlete for a particular event. Many studies have reported that physical exercises would improve physical, physiological, psychological parameters in most of the sports. Mal (1979) opined that training is a programme of exercise designed to improve the skills

and increase the energy capacity of an athlete for a particular event. The main aim of training in sports is to achieve high level of performance. This aim relates to different factors. The sports performance depends largely on physical fitness. Sports activity is a physical activity, which is not possible without motor abilities. Therefore, the improvement of physical fitness or motor abilities is the principal aim of sports training. Physical fitness is the ability to perform daily tasks with sufficient strength and vigor without experiencing undue fatigue, and to have enough strength and stamina left over to enjoy recreational pursuits and be able to meet unforeseen emergencies (Bucher, 1985).

### Methodology

The purpose of the study was to determine the effect of training in yogic practice and physical exercises on selected psychological variables among male college cricket players. To achieve the purpose of this study, forty eight college cricket players

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studying in various colleges in and around Tiruchirappalli, affiliated to Bharathidasan University were randomly selected as subjects. Their age ranged from seventeen to twenty years. The subjects had past playing experience of at least four years in cricket and only those who represented their respective college teams were taken as subjects. A qualified physician examined the subjects medically and declared that they were fit for the study. This study was conducted to determine possible cause and effect relationship of twelve weeks field training and yogic practice on cricket players. A pre and post test randomized design was employed for this investigation. The selected subjects (N=48) were randomly divided into three equal groups and named group-I as yogic practice group, group-II as physical exercises group, group-III as control group thus each group consisting of sixteen subjects. Subjects in the group-I underwent the yogic practice, subjects in the group-II underwent the

physical exercises and subjects in the group-III went off from any specific yogic practice (or) physical exercises other than their regular practices. The psychological variables were cognitive, somatic and self confidence. The psychological factors were measured by standardized questionnaire namely competitive state anxiety questionnaire-II (CSAI-2) developed by Martens, Burton, Vealey, Bump and Smith (1990). During the training period, training was given to both experimental groups. Yogic practice and physical exercises were given for twelve weeks, five days per week for forty five minutes each day in the morning session under the supervision of the investigator. Analysis of covariance (ANCOVA) was used and scheffe's test was used as post-hoc test to determine which of the paired means differed significantly. All of the statistical analysis tests were computed at 0.05 level of significance ( $P < 0.05$ ).

## Results

**Table I.** Analysis of covariance of pre, post and adjusted post test means of yogic practice, physical exercises and control groups on cognitive anxiety

Test	Yogic practice group	Physical exercises group	Control group	SOV	SS	df	MS	F-ratio
<b>Pretest</b>								
Mean	25.68	25.62	24.68	B.M.	10.04	2	5.02	0.84
SD(±)	2.15	2.09	2.98	W.G.	268.62	45	5.96	
<b>Posttest</b>								
Mean	20.43	22.06	24.50	B.M.	133.79	2	66.89	25.32*
SD(±)	1.09	1.43	2.16	W.G.	188.87	45	2.64	
<b>Adjusted post test</b>								
Mean	20.43	22.07	24.47	B.S.	126.61	2	63.30	23.53*
				W.S.	118.34	44	2.69	

The table I shows that the pre-test mean values on cognitive anxiety of yogic practice, physical exercises and control groups are 25.68, 25.62 and 24.68 respectively. The obtained 'F' ratio 0.84 for pre-test means was less than the table value, 3.20 for df2 and 45 required for significance at 0.05 level of confidence on cognitive anxiety. The post-test mean

values on cognitive anxiety of yogic practice, physical exercises and control groups are 20.43, 22.06 and 24.50 respectively. The obtained 'F' ratio 25.32 for post-test means was greater than the table value 3.20 for df2 and 45 required for significance at 0.05 level of confidence on cognitive anxiety. The adjusted post-test means of yogic practice, physical exercises and

control groups are 20.43, 22.07 and 24.47 respectively. The obtained 'F' ratio of 23.53 for adjusted post-test means was greater than the table value of 3.21 for df 2 and 44 required for significance at 0.05 level of confidence on cognitive anxiety. The results of the study indicated that there was a

significant difference among the adjusted post-test means of yogic practice, physical exercises and control groups on cognitive anxiety. Since the obtained 'F' ratio value was significant further to find out the paired mean difference, the Scheffe's post hoc test was applied and presented in table II.

**Table II.** The scheffe's post hoc test for the difference between paired means of yogic practice, physical exercises and control groups on cognitive anxiety

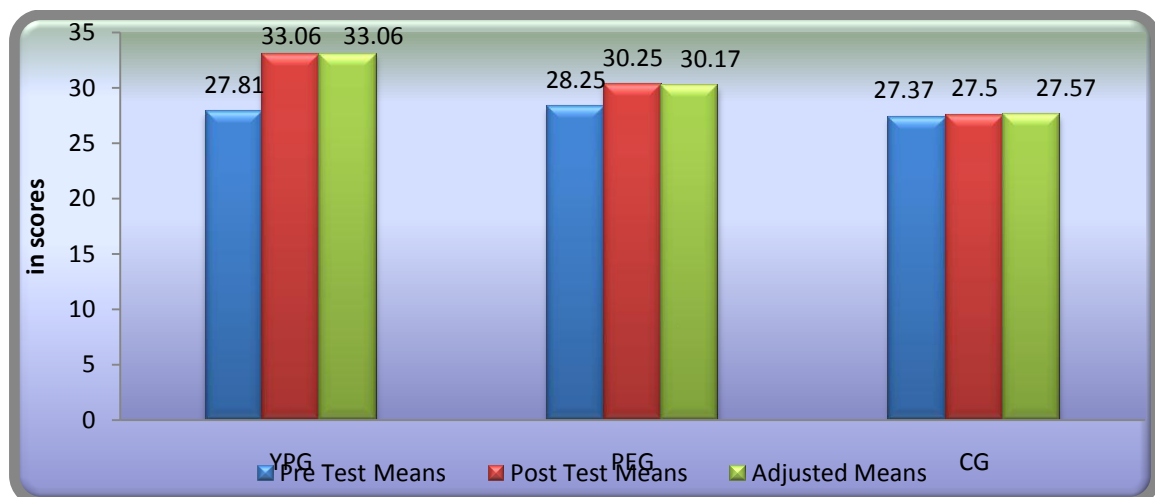
Yogic practice group	Physical exercises group	Control group	MD	CI
20.43	22.07	-	1.64*	1.41
20.43	-	24.47	4.04*	
-	22.07	24.47	2.4*	

\*Significant at 0.05 level of confidence.

The table shows that the mean difference values between yogic practice group and physical exercises group, yogic practice group and control group and physical exercises group and control group are 1.64, 4.04 and 2.40 respectively which are greater than the confidence interval value 1.41 at 0.05 level of confidence. The results of the study showed that there was a significant difference between yogic practice

group and physical exercises group, yogic practice group and control group and physical exercises group and control group on cognitive anxiety. The pre, post and adjusted post test mean values of yogic practice group, physical exercises group and control group on cognitive anxiety are graphically represented in the Figure I.

**Figure I.** Bar diagram showing the mean values of cognitive anxiety



**Table III.** Analysis of covariance of pre, post and adjusted post test means of yogic practice, physical exercises and control groups on somatic anxiety

Test	Yogic practice group	Physical exercises group	Control group	SOV	SS	df	MS	F-ratio
<b>Pretest</b>								
Mean	17.25	17.06	18.62	B.M.	23.29	2	11.64	0.72
SD(±)	0.85	0.99	6.83	W.G.	727.68	45	16.17	
<b>Posttest</b>								
Mean	14.56	15.93	17.31	B.M.	60.50	2	30.25	21.84*
SD(±)	1.09	1.38	1.01	W.G.	62.31	45	1.38	
<b>Adjusted post test</b>								
Mean	14.53	15.89	17.38	B.S.	63.78	2	31.89	24.08*
				W.S.	58.25	44	1.32	

The table III shows that the pre-test mean values on somatic anxiety of yogic practice, physical exercises and control groups are 17.25, 17.06 and 18.62 respectively. The obtained 'F' ratio 0.72 for pre-test means was less than the table value, 3.20 for df2 and 45 required for significance at 0.05 level of confidence on somatic anxiety. The post-test mean values on cognitive anxiety of yogic practice, physical exercises and control groups are 14.56, 15.93 and 17.31 respectively. The obtained 'F' ratio 21.84 for post-test means was greater than the table value 3.20 for df 2 and 45 required for significance at 0.05 level of confidence on somatic anxiety. The adjusted post-

test means of yogic practice, physical exercises and control groups are 14.53, 15.89 and 17.38 respectively. The obtained 'F' ratio of 24.08 for adjusted post-test means was greater than the table value of 3.21 for df 2 and 44 required for significance at 0.05 level of confidence on somatic anxiety. The results of the study indicated that there was a significant difference among the adjusted post-test means of yogic practice, physical exercises and control groups on somatic anxiety. Since the obtained 'F' ratio value was significant further to find out the paired mean difference, the Scheffe's post hoc test was applied and presented in table IV.

**Table IV.** The scheffe's post hoc test for the difference between paired means of yogic practice, physical exercises and control groups on somatic anxiety

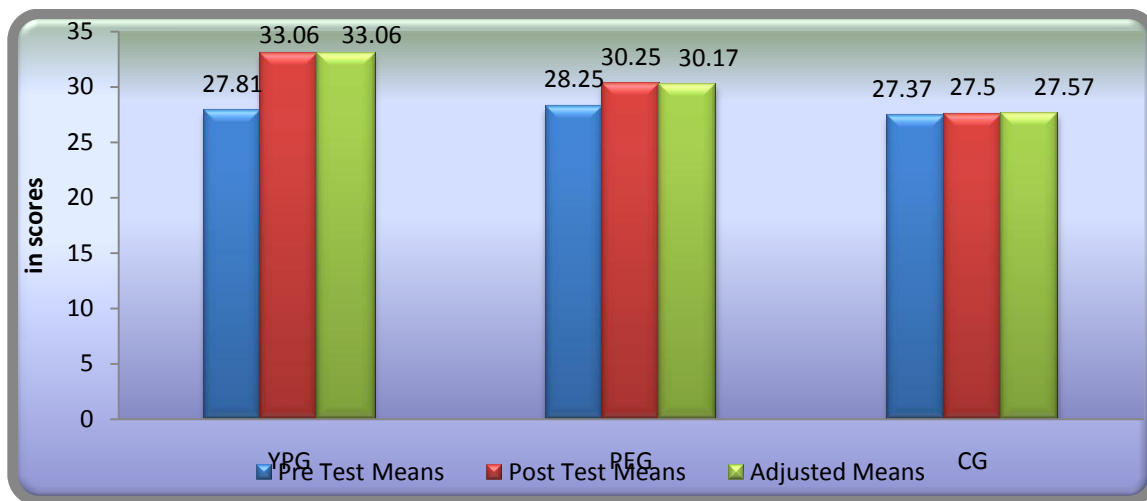
Yogic practice group	Physical exercises group	Control group	MD	CI
14.53	15.89	-	1.36*	0.96
14.53	-	17.38	2.85*	
-	15.89	17.38	1.49*	

\*Significant at 0.05 level of confidence.

The table shows that the mean difference values between yogic practice group and physical exercises group, yogic practice group and control group and physical exercises group and control group are 1.36, 2.85 and 1.49 respectively which are greater than the confidence interval value 0.96 at 0.05 level of confidence. The results of the study showed that there was a significant difference between yogic practice

group and physical exercises group, yogic practice group and control group and physical exercises group and control group on somatic anxiety. The pre, post and adjusted post test mean values of yogic practice group, physical exercises group and control group on somatic anxiety are graphically represented in the Figure II.

**Figure II.** Bar diagram showing the mean values of somatic anxiety



**Table V.** Analysis of covariance of pre, post and adjusted post test means of yogic practice, physical exercises and control groups on self confidence

Test	Yogic practice group	Physical exercises group	Control group	SOV	SS	df	MS	F-ratio
<b>Pretest</b>								
Mean	27.81	28.25	27.37	<b>B.M.</b>	6.12	2	3.06	0.45
SD(±)	2.58	3.02	2.06	<b>W.G.</b>	301.18	45	6.69	
<b>Posttest</b>								
Mean	33.06	30.25	27.50	<b>B.M.</b>	247.54	2	123.77	19.61*
SD(±)	3.08	2.24	2.12	<b>W.G.</b>	283.93	45	6.31	
<b>Adjusted post test</b>								
Mean	33.06	30.17	27.57	<b>B.S.</b>	240.33	2	120.16	19.13*
				<b>W.S.</b>	275.90	44	6.27	

The table V shows that the pre-test mean values on self confidence of yogic practice, physical exercises and control groups are 27.81, 28.25 and 27.37 respectively. The obtained ‘F’ ratio 0.45 for pre-test means was less than the table value, 3.20 for df 2 and 45 required for significance at 0.05 level of confidence on self confidence. The post-test mean values on cognitive anxiety of yogic practice, physical exercises and control groups are 33.06, 30.25 and 27.50 respectively. The obtained ‘F’ ratio 19.61 for post-test means was greater than the table value 3.20 for df2 and 45 required for significance at 0.05 level of confidence on self confidence. The adjusted post-

test means of yogic practice, physical exercises and control groups are 33.06, 30.17 and 27.57 respectively. The obtained ‘F’ ratio of 19.13 for adjusted post-test means was greater than the table value of 3.21 for df 2 and 44 required for significance at 0.05 level of confidence on self confidence. The results of the study indicated that there was a significant difference among the adjusted post-test means of yogic practice, physical exercises and control groups on self confidence. Since the obtained ‘F’ ratio value was significant further to find out the paired mean difference, the Scheffe’s post hoc test was applied and presented in table VI.

**Table VI.** The scheffe’s post hoc test for the difference between paired means of yogic practice, physical exercises and control groups on self confidence

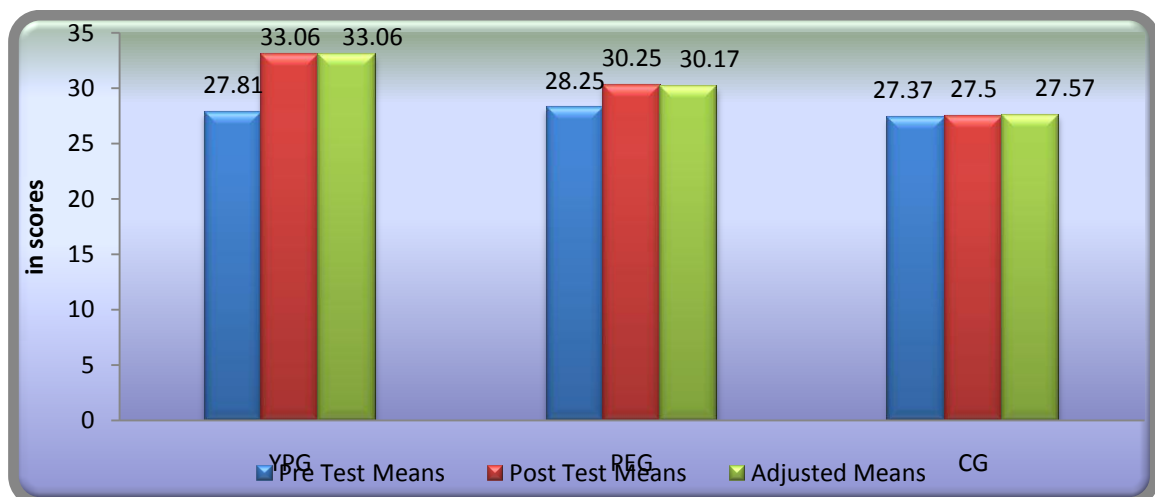
Yogic practice group	Physical exercises group	Control group	MD	CI
33.06	30.17	-	2.89*	2.17
33.06	-	27.57	8.49*	
-	30.17	27.57	2.60*	

\*Significant at 0.05 level of confidence.

The table shows that the mean difference values between yogic practice group and physical exercises group, yogic practice group and control group and physical exercises group and control group are 2.89, 8.49 and 2.60 respectively which are greater than the confidence interval value 2.17 at 0.05 level of confidence. The results of the study showed that there was a significant difference between yogic practice

group and physical exercises group, yogic practice group and control group and physical exercises group and control group on self confidence. The pre, post and adjusted post test mean values of yogic practice group, physical exercises group and control group on self confidence are graphically represented in the Figure III.

**Figure III.** Bar diagram showing the mean values of self confidence



## Conclusions

From the analysis of the data, the following conclusions were drawn,

1. The cricket players of the yogic practice and physical exercises groups had shown significant changes in all the selected psychological variables when compared to control group among male cricket players.
2. The control group had not shown significant change in any of the selected variables.

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