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SECLUDED AND COMBINED EFFECT OF MENTAL TOUGHNESS AND TABATTA TRAINING ON SELECTED PSYCHOLOGICAL AND PHYSIOLOGICAL PARAMETERS IN YOUTH



Solanki Harendrasinh P1*

¹Assistant Professor, NS Patel Arts Autonomous College, Anand, (G.J)-INDIA.E. Mail: hpsolanki77@yahoo.com

*Corresponding Author: Solanki Harendrasinh P

ABSTRACT

The purpose of the study was to find out the isolated and combined Mental Toughness and Tabatta Training on selected physical and physiological variables among college students. To achieve the purpose of this study, 45 male college students were randomly selected as subjects from Anand District, Gujarat, India. The age of subject's were ranged from 19 to 25years. They were randomly divided into four equal groups, and each group consisted of fifteen(n=15) subjects, in which, Group I underwent Mental Toughness Training, Group II underwent Tabatta Training, Group IV underwent combined(Mental Toughness Training and Tabatta Training) and Group III acted as control. All the subjects in the experimental groups (I, II & III) were given their respective training programme was performed three days/wk training for three months duration. The study was restricted to the following selected dependent variables namely Psychological and physiological variables such as positive energy and anaerobic capacity; they were tested by standardized test items such as PPI questionnaire and Tabatta Test. Pre and post-test randomized design was employed for this investigation. The collected data were statistically analyzed by means of dependent-'t' test and ANCOVA. The Scheffe's test was used as post-hoc test to determine which of the paired means differed significantly where the differences in adjusted post-test means resided in univariate ANCOVA of four groups. All the above statistical analysis tests were computed at 0.05 level of significance (P<0.05). It was concluded that combined group had significant improvement in participant's psychological and physiological parameters such as Positive Energy and Anaerobic Capacity when compared too there experimental group and control group. The combined group had significantly outperformed than the Mental Toughness and Tabatta Training group on selected Psychological and physiological variables.

Keywords: Mental Toughness Training, Tabatta Training, Flexibility & Breath Holding Time.

Curiosity is the best Quality of a Good Researcher

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INTRODUCTION

Training is the planned and systematic realization of measure for the durable attainment of goal in and through sport. Training load can be increased gradually or step by step is result in strong and faster adaptation process and more effective reaction from the organism. Step by step of increase of load gives time to the organism to adapt to the increased demands. Beginning lesser load is greater improvement but latter higher load is necessary to produce even a small increase in performance.

An important part of psychological preparation is the development ability to cope up with psychological stress faced them during the training and tournaments they play. One factor that should be taken care about sports which they are going to take part will determine the specific psychological skill that they will need in their quest for better performance.

Tabata training is a training method brought in to effect by Prof. Izumi Tabata, he concluded that the method can improve physical ability, aerobic, and anaerobic. Basically, Tabata training. Method is a method of High Intensity Interval Training workout or interval training with high intensity. Meanwhile, the execution was Tabatta training method takes four minutes with eight intervals. Each interval takes 20 seconds with high intensity.

Cardiovascular exercises are a popular brand of exercise designed to improve endurance and stimulate fat loss. Cardio exercises can be anything from long distance running, skipping, biking, or even power walking.



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Website: www.sportjournals.org.in**OBJECTIVE OF THE STUDY**

The main objective of the study was to find out the secluded and combined effect of Mental Toughness Training and Tabatta Training on selected Psychological and Physiological variables among youth.

DESIGN OF THE STUDY

To achieve the purpose of this study, 45 male college students were randomly selected as subjects from the Gujarat, India. The age of subject's were ranged from 19 to 25 years. They were randomly divided into four equal groups, and each group consisted of fifteen (n=15). Subjects, in which, Group I underwent Mental Toughness Training, Group II underwent Tabatta Training, Group III underwent combined (Mental Toughness Training and Tabatta Training) and Group IV acted as control. All the subjects in the experimental groups (I, II & III) were given their respective training schedule for three days/week for three months duration to get better data. The study was restricted to the following selected dependent variables namely psychology and physiological variables such as positive energy and anaerobic; they were tested by standardized test items such as *PPI* questionnaire and Tabatta test which consist of (8 intervals of 20 seconds all-out intensity exercise, followed by 10 seconds of rest, 1 minute rest after one set of exercise, 2 minutes cool-down). The participants were trained for three months of three days a week (alternate days). A pre and post-test randomized design was employed forth is investigation. The collected data were statistically analyzed by using dependent-‘t’ test



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and ANCOVA. The Scheffe's test was used as post-hoc test to determine which of the paired means differed significantly where the differences in adjusted post-test means resided in univariate ANCOVA of four groups. All the above statistical analysis tests were computed at 0.05 level of significance ($P < 0.05$).

STATISTICAL ANALYSIS, RESULTS AND DISCUSSION**TABLE NO: I**

MEANS, STANDARD DEVIATION AND DEPENDENT-'T'TEST VALUES ON SELECTED VARIABLES OF EXPERIMENTAL AND CONTROL GROUPS

Variable Name	Test	YPG	MPG	CPG	CG
Positive Energy	Pre Test	27.11	26.93	27.45	27.93
	Post Test	38.46	34.18	41.02	28.46
	t-test	12.81*	9.04*	15.38*	1.01
Anaerobic capacity	Pre Test	39.42	39.12	40.06	39.45
	Post Test	47.92	44.86	49.98	40.02
	t-test	12.34*	10.45*	13.28*	1.44

*Significant at .05 level. The Table Value required at .05 levels with df 9 is 2.26.

MTG-Mental Toughness Training Group, TTG-Tabatta Training Practices Group CPG Combined Practices Group (Mental Toughness Training & Tabatta) CG- Control Group.

From the table-I, the Mental Toughness Training, Tabatta Training practices and combined (Mental Toughness Training & Tabatta Training practices) groups had significantly improved on selected psychological and physiological variables while compared than the control group.



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TABLE NO: II
ANALYSIS OF COVARIANCE ON SELECTED PERFORMANCE VARIABLES
OF EXPERIMENTAL & CONTROL GROUPS

Test	YPG	MPG	CPG	CG	SOV	SS	Df	MS	F-ratio
Adjusted Post-Test Mean									
Positive Energy	39.01	34.85	41.73	28.93	B.M	155.34	3	51.78	26.15*
					W.G	69.30	35	1.98	
Anaerobic capacity	48.11	45.08	50.19	40.31	B.M	258.76	3	86.25	34.92*
					W.G	86.45	35	2.47	

* Significant at 0.05 level. Table value for df 3,35 was 2.87.

From the table-II shows that the adjusted post-test means values on selected psychological and physiological variables such as positive energy and anaerobic capacity. The obtained f- ratio for selected psychological and physiological variables was 26.15 and 34.92 but the required table value of df 3 and 35 was 2.87. It shows that three training groups of adjusted post test mean value was greater than the required table value at 0.05 level of confidence. This results of the study indicated that there was a significant mean difference exist between the adjusted post-test means of Mental Toughness Training, Tabatta Training practices and combined (Mental Toughness Training &Tabatta Training practices) groups and control group on selected Mental Toughness and physiological parameters among youth. To find out which of the two paired means had a considerable difference, the Scheffe's post-hoc test was applied and the results are presented in Table III.



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TABLE NO: III
THE SCHEFFE’S TEST FOR DIFFERENCES ON SELECTED
PSYCHOLOGICAL AND PHYSIOLOGICAL VARIABLES BETWEEN
THE ADJUSTED POST-TEST PAIREDMEANS

Variables	YPG	MPG	CPG	CG	MD	CI
Positive Energy	39.01	34.85	-	-	4.16*	1.85
	39.01	-	41.73	-	2.72*	
	39.01	-	-	28.93	10.08*	
	-	34.85	41.73	-	6.88*	
	-	34.85	-	28.93	5.92*	
	-	-	41.73	28.93	12.80*	
Anaerobic capacity	48.11	45.08	-	-	3.03*	2.06
	48.11	-	50.19	-	2.08*	
	48.11	-	-	40.31	7.80*	
	-	45.08	50.19	-	5.11*	
	-	45.08	-	40.31	4.77*	
	-	-	50.19	40.31	9.88*	

*Significant at 0.05 level of confidence

From the table III shows that, there was a significant difference on selected psychological and physiological variables between four groups. It was concluded that the combined group (Mental Toughness Training and Tabatta Training) was better than yogic practices and Tabatta Training.



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The Mental Toughness Training group had significantly outperformed than and Tabatta Training group among college students while compared than the control group.

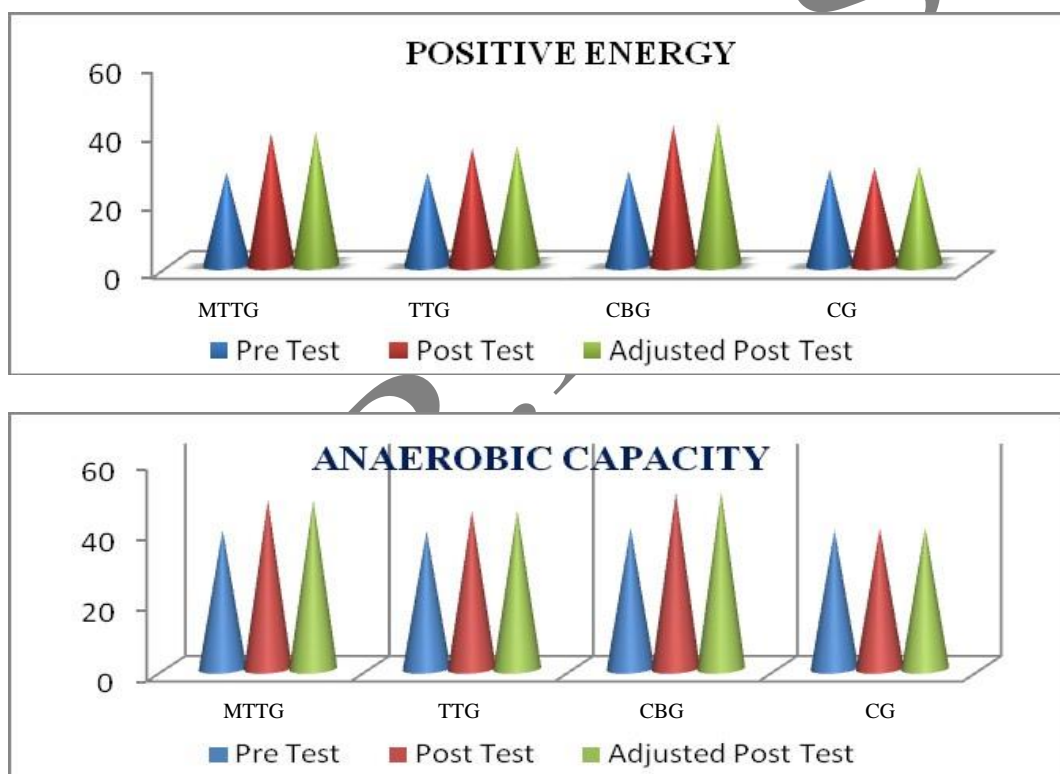


Figure 1: Mean value of Mental Toughness Training group (SAQG), Tabatta Training group (TTG), combined group (CPG) and control group (CG) on Positive Energy and anaerobic capacity among college students.



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Website: www.sportjournals.org.in**DISCUSSION ON FINDINGS**

The results of study indicate that there were significant differences on Positive Energy and anaerobic capacity on Mental Toughness Training, Tabatta Training, combined (Mental Toughness Training and Tabatta Training) and control groups among college students. The following studies are supported to the result of this investigation from Dr. G Balasundar et.al.(2019), Said Mekari, et.a.,(2020) , Soo-Yong Park ,et.al., (2021)., Dr. Babu.P (2019). Ana R. Alves, et. al., 2021. P Babu., et.al(2015).

In conclusion, perceptual–psychological training may play a crucial role in getting better result from athlete’s by using sports-specific information to facilitate sports-specific skills such as prediction and decision making.

The present study was exposed that significant difference was found in the mean of Mental Toughness Training, Tabatta Training, combined training and control groups. The combined group had significantly outperformed than Mental Toughness Training and Tabatta Training groups on the participant’s psychological and physiological variables among college students. However the control group had not shown any significant improvement on selected dependent variables.

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