

## Research Paper

**EFFECT OF PSYCHOLOGICAL AND RECREATIONAL INTERVENTIONS ON  
SELECTED HEALTH RELATED FITNESS VARIABLES AMONG INFORMATION  
TECHNOLOGY PROFESSIONALS****A.Murugan <sup>1</sup>, Dr.A.Praveen <sup>2</sup>**

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[murugaaruna@yahoo.co.in](mailto:murugaaruna@yahoo.co.in)**Abstract:**

To achieve the purpose of the study, 60 male IT professionals working in different business centers in Tidal Park, Chennai were selected as subjects and their age were ranging from 25 to 35 years. All the subjects were residing in Chennai and participated in the experiments after their working hours. The following variables were selected. For the purpose of the study, random group design was employed. The randomly selected sixty IT professionals were divided into three groups, consisting of twenty in each group. Group I was placed in experimental group I which practiced psychological interventions consisting of meditation, relaxation and autogenic techniques for 12 weeks. Group II was placed in experimental group II which practiced recreational interventions consisting of minor games, swimming and any one major game for 12 weeks. The third group was placed as control group, which did not participate in any of the special treatment. Prior and After 12 weeks to experimental treatments all the subjects were tested of their physical fitness on cardiovascular endurance, body composition and flexibility which formed the initial scores. The analysis of covariance (ANCOVA) was used to find out the significant difference if any, among the groups on selected criterion variables separately. In all the cases, 0.05 level of confidence was fixed to test the significance, which was considered as appropriate.

**Key words:** meditation, relaxation, physical fitness, psychological and autogenic techniques

**Interdiction:**

A significant association was shown between low tension and the results in the test shootings Meditation may enhance competitive shooting performance. (Solberg E.E1996). The use of psychological interventions in sports has become increasingly popular (Weinberg, 1994), and has been described in several

publications (Renz, 1986). The efficacy of such interventions has been poorly documented. Recent reviews, however, suggest that more than 85% of studies addressing the issue have reported significant improvement of performance after mental training (Greenspan, 1989). On the other hand, the validity of these studies has been questioned. Causality between the

psychological intervention and performance could be inferred in fewer of the studies. The lack of manipulation checks, appropriate controls, and clearly described (Solberg E.E1996). An intervention has been pointed out as other major research problems. (Vealy, 1994). A variety of psychological interventions has been used, and meditation-not the most frequently used technique-may be classified as relaxation based (Weinberg, 1994), the technique is normally used in sports for the purpose of upgrading the Rate of recovery or enhancing performance by improving the Handling of anxiety pressure. Its possible effect on sports performance, however, has not been well investigated. Among non-athletes, different types of meditation are widespread. Some effects related to relaxation and anxiety have been described (Shapiro, 1982).which can explain in part the beneficial effects hypothesized in sports. Relevant relaxation and arousal indices such as blood lactate, heart rate, and oxygen uptake are all considerably lowered after meditation (Murphy, 1988).Meditation may relieve tension and anxiety. (Shapiro, 1982., Murphy, 1988).

### **Methodology:**

To achieve the purpose of the study, 60 male IT professionals working in different business centres in Tidal Park, Chennai were selected as subjects and their age were ranging from 25 to 35 years. All the subjects were residing in Chennai and participated in the experiments after their working hours. The following variables were selected. Health Related Fitness Variables: Cardiovascular Endurance, Body Composition, Flexibility. For the purpose of the study, random group design was employed. The randomly selected sixty IT professionals were divided into three groups, consisting of twenty in each group. Group I was placed in experimental group I which

practiced psychological interventions consisting of meditation, relaxation and autogenic techniques for 12 weeks. Group II was placed in experimental group II which practiced recreational interventions consisting of minor games, swimming and any one major game for 12 weeks. The third group was placed as control group, which did not participate in any of the special treatment. Prior to experimental treatments all the subjects were tested of their health related physical fitness on cardiovascular endurance, body composition and flexibility and which formed the initial scores. After 12 weeks experimental treatments, all the subjects were measured of their health related physical fitness variables, which formed final scores. The difference between initial and final scores was considered as the effect of respective treatments among the subjects.

### **Results:**

The statistical analysis comparing the initial and final means of Cardiovascular Endurance due to psychological and recreational interventions among Information Technology professionals is presented in Table I As shown in Table I, the obtained pre test means on Cardiovascular Endurance on Psychological intervention Training group was 1933.50, Recreational interventions Training group was 1973.50 was and control group was 1878.50. The obtained pre test F value was 0.76 and the required table F value was 3.16, which proved that there was no significant difference among initial scores of the subjects. The obtained post test means on Cardiovascular Endurance on Psychological intervention Training group was 2065.00, Recreational interventions Training group was 2081.00 was and control group was 1887.00. The obtained post test F value was 4.33 and the required table F value was 3.16, which proved that there was significant

difference among post test scores of the subjects. Taking into consideration of the pre test means and post test means adjusted post test means were determined and analysis of covariance was done and the obtained F value 44.62 was greater than the required value of 3.16 and hence it was accepted that there was significant differences among the treated groups. Since significant differences were recorded, the results were subjected to post hoc analysis using Schaffer's Confidence Interval test. The results were presented in Table II.

The post hoc analysis of obtained ordered adjusted means proved that there was significant differences existed between Psychological intervention Training group and control group (MD: 126.94). There was significant difference between Recreational interventions Training group and control group (MD: 105.80). There was no significant difference between treatment groups, namely, Psychological intervention Training group and Recreational interventions Training group. (MD: 21.14).

The ordered adjusted means were presented through bar diagram for better understanding of the results of this study in Figure I. The statistical analysis comparing the initial and final means of Body Composition, as measured through percent body fat, due to psychological and recreational interventions among Information Technology professionals is presented in Table III. As shown in Table III, the obtained pre test means on Body Composition on Psychological intervention Training group was 25.84, Recreational interventions Training group was 26.07 and control group was 26.29. The obtained pre test F value was 0.41 and the required table F value was 3.16, which proved that there was no significant difference among initial scores of the subjects. The obtained post test means on Body Composition on Psychological intervention Training group

was 25.61, Recreational interventions Training group was 25.93 and control group was 26.31. The obtained post test F value was 0.94 and the required table F value was 3.16, which proved that there was no significant difference among post test scores of the subjects. Taking into consideration of the pre test means and post test means adjusted post test means were determined and analysis of covariance was done and the obtained F value 11.28 was greater than the required value of 3.16 and hence it was accepted that there was significant differences among the treated groups.

Since significant differences were recorded, the results were subjected to post hoc analysis using Scheffe's Confidence Interval test. The results were presented in Table VI. The post hoc analysis of obtained ordered adjusted means proved that there was significant differences existed between Psychological intervention Training group and control group (MD: 0.24). There was significant difference between Recreational interventions Training group and control group (MD: 0.15). There was no significant difference between treatment groups, namely, Psychological intervention Training group and Recreational interventions Training group. (MD: 0.08).

The ordered adjusted means were presented through bar diagram for better understanding of the results of this study in Figure II. The statistical analysis comparing the initial and final means of Flexibility due to psychological and recreational interventions among Information Technology professionals is presented in Table V. As shown in Table V, the obtained pre test means on Flexibility on Psychological intervention Training group was 24.30, Recreational interventions Training group was 25.10 and control group was 24.50. The obtained pre test F value was 1.17 and the required table F value was 3.16, which proved that there was

no significant difference among initial scores of the subjects. The obtained post test means on Flexibility on Psychological intervention Training group was 26.60, Recreational interventions Training group was 27.80 and control group was 25.85. The obtained post test F value was 5.61 and the required table F value was 3.16, which proved that there was significant difference among post test scores of the subjects. Taking into consideration of the pre test means and post test means adjusted post test means were determined and analysis of covariance was done and the obtained F value 6.04 was greater than the required value of 3.16 and hence it was accepted that there was significant differences among the treated groups. Since significant differences were recorded, the results were subjected to

post hoc analysis using Scheffe's Confidence Interval test. The results were presented in Table VI. The post hoc analysis of obtained ordered adjusted means proved that there was no significant differences existed between Psychological intervention Training group and control group (MD: 0.90). There was significant difference between Recreational interventions Training group and control group (MD: 1.51). There was no significant difference between treatment groups, namely, Psychological intervention Training group and Recreational interventions Training group. (MD: 0.61). The ordered adjusted means were presented through bar diagram for better understanding of the results of this study in Figure III.

**Table -1**

**Computation of analysis of covariance of cardiovascular endurance**

	psychological intervention training	recreational interventions training	control group	source of variance	sum of squares	df	mean squares	obtained f
Pre Test Mean	1933.50	1973.50	1878.50	Between	91000.00	2	45500.00	0.76
				Within	3411965.00	57	59859.04	
Post Test Mean	2065.00	2081.00	1887.00	Between	463840.00	2	231920.00	4.33*
				Within	3055100.00	57	53598.25	
Adjusted Post Test Mean	2060.36	2039.22	1933.42	Between	181694.95	2	90847.48	44.62*
				Within	114010.78	56	2035.91	
Mean Diff	131.50	107.50	8.50					

Table F-ratio at 0.05 level of confidence for 2 and 57 (df) =3.16, 2 and 56 (df) =3.16.

\*Significant

**Table-2**  
**Scheffe's Confidence Interval Test Scores on Cardiovascular Endurance**

MEANS				Reqd . C I
Psychological intervention Training Group	Recreational interventions Training Group	Control Group	Mean Difference	
2060.36	2039.22		21.14	35.81
2060.36		1933.42	126.94*	35.81
	2039.22	1933.42	105.80*	35.81

\* Significant

**Table-3**  
**Computation of analysis of covariance of body composition**

	psychological intervention training	recreational interventions training	control group	source of variance	sum of squares	df	mean squares	obtained f
Pre Test Mean	25.84	26.07	26.29	Between	2.05	2	1.02	0.41
				Within	142.16	57	2.494	
Post Test Mean	25.61	25.93	26.31	Between	4.93	2	2.47	0.94
				Within	150.17	57	2.63	
Adjusted Post Test Mean	25.84	25.92	26.08	Between	0.58	2	0.29	11.28*
				Within	1.43	56	0.03	
Mean Diff	-0.23	-0.15	0.01					

Table F-ratio at 0.05 level of confidence for 2 and 57 (df) =3.16, 2 and 56 (df) =3.16.

\*Significant

**Table-4**  
**Scheffe's confidence interval test scores on body composition**

MEANS				Reqd . C I
Psychological intervention Training Group	Recreational interventions Training Group	Control Group	Mean Difference	
25.84	25.92		0.08	0.13
25.84		26.08	0.24*	0.13
	25.92	26.08	0.15*	0.13

\* Significant

**Table-5**  
**Computation of analysis of covariance of flexibility**

	psychological intervention training	recreational interventions training	control group	source of variance	sum of squares	df	mean squares	obtained f
Pre Test Mean	24.30	25.10	24.50	Between	6.93	2	3.47	1.17
				Within	169.00	57	2.96	
Post Test Mean	26.60	27.80	25.85	Between	38.70	2	19.35	5.61*
				Within	196.55	57	3.45	
Adjusted Post Test Mean	26.85	27.46	25.95	Between	22.66	2	11.33	6.04*
				Within	105.13	56	1.88	
Mean Diff	2.30	2.70	1.35					

Table F-ratio at 0.05 level of confidence for 2 and 57 (df) =3.16, 2 and 56 (df) =3.16.

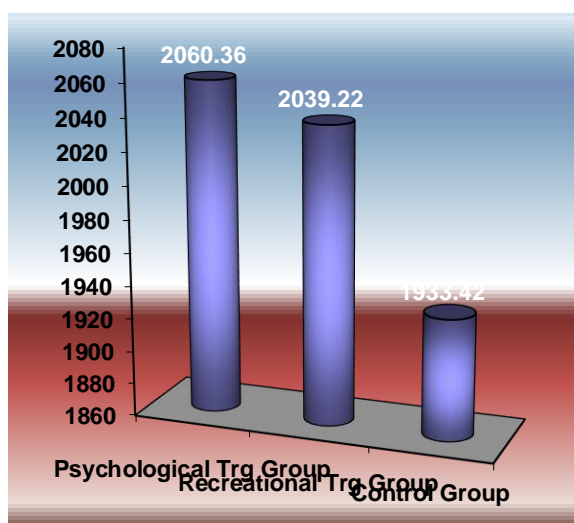
\*Significant

**Table-6**  
**Scheffe's confidence interval test scores on flexibility**

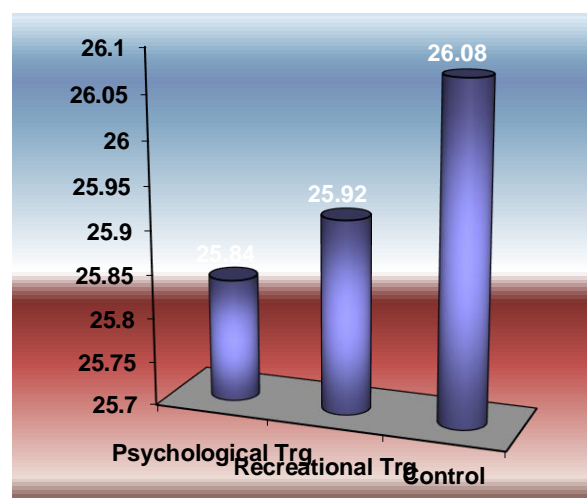
MEANS				Requd . C I
Psychological intervention Training Group	Recreational interventions Training Group	Control Group	Mean Difference	
26.85	27.46		0.61	1.09
26.85		25.95	0.90	1.09
	27.46	25.95	1.51*	1.09

\* Significant

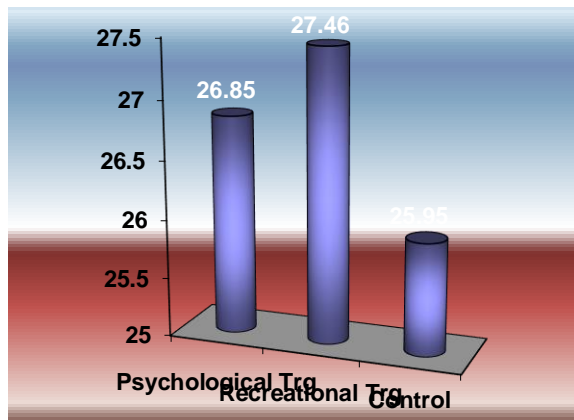
**Figure -1**  
**Bar diagram on ordered adjusted means on cardiovascular endurance**



**Figure-2**  
**Bar diagram on ordered adjusted means on body composition**



**Figure-3**  
Bar diagram on ordered adjusted means on flexibility



### Conclusions:

Within the limitations and delimitations of the study, the following conclusions were drawn. It was concluded that psychological and recreational interventions significantly improved health related physical fitness variable, such as, cardiovascular endurance, body composition and flexibility of the IT professionals, comparing to control group. Comparisons between treatment groups, namely, psychological interventions and recreational interventions proved there was no significant difference.

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