

INFLUENCES OF AEROBIC TRAINING AND AQUATIC TRAINING ON SELF EFFICACY OF WORKING WOMEN

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ABSTRACT

The purpose of the study was to find out the influences of aerobic training and aquatic training on self-efficacy of working women. To achieve the purpose of the present study, eighty working women from Tiruchirappalli district, Tamilnadu, India were selected as subjects at random and their ages ranged from 30 to 40 years. The subjects were divided into four equal groups of twenty each. This initial test scores formed as pre test scores of the subjects. Experimental Group I was exposed to aerobic training, Experimental Group II was exposed to aquatic training, Experimental Group III was exposed to combined training and Control Group was not exposed to any experimental training other than their regular daily activities. The duration of experimental period was 12 weeks. The pre test and post test scores were subjected to statistical analysis using Analysis of Covariance (ANCOVA) to find out the significance among the mean differences, whenever the 'F' ratio for adjusted test was found to be significant; Scheffe's post hoc test was used. In all cases 0.05 level of confidence was fixed to test hypotheses. The combined training had shown significant improvement on self-efficacy among working women than the other experimental and control groups.

KEYWORDS: Aerobic Training, Aquatic training, Self-efficacy, Working Women.

INTRODUCTION

Aerobics is a form of physical exercise that combines rhythmic aerobic exercise with stretching and strength training routines with the goal of improving all elements of fitness such as flexibility, muscular strength, and cardio-vascular fitness. It is usually performed to music and may be practiced in a group setting led by an instructor (fitness professional), although it can be done solo and without musical accompaniment. With the goal of preventing illness and promoting physical fitness, practitioners perform various routines comprising a number of different dance-like exercises (Collins et al. 2021). The buoyancy of water almost removes gravity's effects, sustaining 90 percent of the body's weight for less impact and better flexibility. In water, for example, a 140-pound lady weights only 14 pounds. Water relieves tension on muscles, tendons, and ligaments by acting as a cushion for the body's weight-bearing joints. As a result, water workouts are low-impact and can significantly lower the risk of injury and strain associated with most land-based activities. Water produces a resistance that is proportionate to the effort exerted against it due to viscosity, drag forces, and frontal resistance. Water has a resistance that varies between 4 and 42 times that of air, depending on the speed of movement (Vakilian et al. 2021).

METHODOLOGY

The purpose of the study was to find out the influences of aerobic training and aquatic training on self-efficacy of working women. To achieve the purpose of the present study, eighty working women from Tiruchirappalli district, Tamilnadu, India

were selected as subjects at random and their ages ranged from 30 to 40 years. The subjects were divided into four equal groups of twenty each. This initial test scores formed as pre test scores of the subjects. Experimental Group I was exposed to aerobic training, Experimental Group II was exposed to aquatic training, Experimental Group III was exposed to combined training and Control Group was not exposed to any experimental training other than their regular daily activities. The duration of experimental period was 12 weeks. The pre test and post test scores were subjected to statistical analysis using Analysis of Covariance (ANCOVA) to find out the significance among the mean differences, whenever the 'F' ratio for adjusted test was found to be significant; Scheffe's post hoc test was used. In all cases 0.05 level of confidence was fixed to test hypotheses.

RESULTS

TABLE I
THE SUMMARY OF MEAN AND PAIRED 'T' TEST FOR THE
PRE AND POST TESTS ON SELF EFFICACY OF EXPERIMENTAL
GROUPS AND CONTROL GROUP

Mean	Aerobic training Group Group-I	Aquatic training Group Group-II	Combined training Group Group-III	Control Group Group-IV
Pre- test mean	20.11	20.87	20.28	20.55
Post-test mean	26.65	27.44	30.31	20.87
't'-test	2.58*	2.30*	7.33*	0.12

* Significant at 0.05 level.

(Table value required for significance at .05 level for 't'-test with df 19 is 2.09)

Table – I shows that the pre-test mean on Self efficacy of Aerobic training group, Aquatic training group, Combined training group and Control group were 20.11, 20.87, 20.28 and 20.55 respectively. The post-test mean are 26.65, 27.44, 30.31 and 20.87 respectively. The obtained paired t-ratio's for Aerobic training group, Aquatic training group and Combined training group were 2.58, 2.30 and 7.33 respectively which were greater than the table value 2.09 of the degrees of freedom (19) and it was found to be statistically significant at 0.05 level of confidence. The obtained paired t-ratio for control group was 0.12, which was lesser than the table value 2.09 of the degrees of freedom (19) it was found to be statistically insignificant.

TABLE II
ANALYSIS OF COVARIANCE ON SELF EFFICACY OF EXPERIMENTAL
GROUPS AND CONTROL GROUP

Test	Aerobic training Group -I	Aquatic training Group -II	Aerobic training and Aquatic training Group-III	Control Group - IV	Source of Variance	Sum of Squares	df	Mean Squares	F ratio
Pre Test Mean	20.11	20.87	20.28	20.55	Between	0.80	3	0.27	0.08
					Within	190.80	76	3.41	
Post Test Mean	26.65	27.44	30.31	20.87	Between	279.25	3	93.08	25.44*
					Within	204.93	76	3.66	
Adjusted Post Test Mean	26.61	27.40	30.30	20.86	Between	295.04	3	98.34	49.44*
					Within	109.41	75	1.99	

* Significant at 0.05 level of confidence (Self efficacy Scores in Points)

Table value for $df(3, 76)$ at 0.05 level = 2.72 Table value for $df(3, 75)$ at 0.05 level = 2.72

The above table-II shows that the pre-test mean values on Self efficacy of Aerobic training group, Aquatic training group, Combined training group and Control group were 20.11, 20.87, 20.28 and 20.55 respectively. The obtained 'F' ratio of 0.08 for pre-test scores was lesser than the table value of 2.72 for degrees of freedom 3 and 76 required for significance at 0.05 level of confidence. The post test mean values on Self efficacy of Aerobic training group, Aquatic training group, Combined training group and Control group were 26.65, 27.44, 30.31 and 20.87 respectively. The obtained 'F' ratio of 25.44 for post-test scores was greater than the table value of 2.72 for degrees of freedom 3 and 76 required for significance at 0.05 level of confidence. The adjusted post-test means on Self efficacy of Aerobic training group, Aquatic training group, Combined training group and Control group were 26.61, 27.40, 30.30 and 20.86 respectively. The obtained 'F' ratio of 49.44 for adjusted post-test scores was greater than the table value of 2.72 for degrees of freedom 3 and 75 required for significance at 0.05 level of confidence.

TABLE III
THE SCHEFFE'S TEST FOR THE DIFFERENCES BETWEEN
THE ADJUSTED POST TEST PAIRED MEANS ON
SELF EFFICACY

Adjusted Post-test Means				Mean Difference	Confidence Interval
Aerobic training Group -I	Aquatic training Group -II	Combined training Group-III	Control Group -IV		
26.61	27.40	--	--	0.79	2.23
26.61	--	30.30	--	3.69*	2.23
26.61	--	--	20.86	5.75*	2.23
--	27.40	30.30	--	2.90*	2.23
--	27.40	--	20.86	6.54*	2.23
--	--	30.30	20.86	9.44*	2.23

* Significant at 0.05 level of confidence

Table-III shows that the adjusted post test mean differences on self efficacy between Aerobic training group and Combined group, Aerobic training group and Control group, Aquatic training group and Combined group, Aquatic training group and Control group, Combined group and Control group were 3.69, 5.75, 2.90, 6.54 and 9.44 respectively, which are greater than the confidence interval value of 2.23 at 0.05 level of confidence. Further the table explains that the adjusted post test mean differences between Aerobic training group and Aquatic training group was 0.79, which was lesser than the confidence interval value of 2.23.



FIGURE I
THE PRE AND POST TEST MEAN VALUES OF AEROBIC TRAINING GROUP, AQUATIC TRAINING GROUP, COMBINED GROUP, AND CONTROL GROUP ON SELF EFFICACY

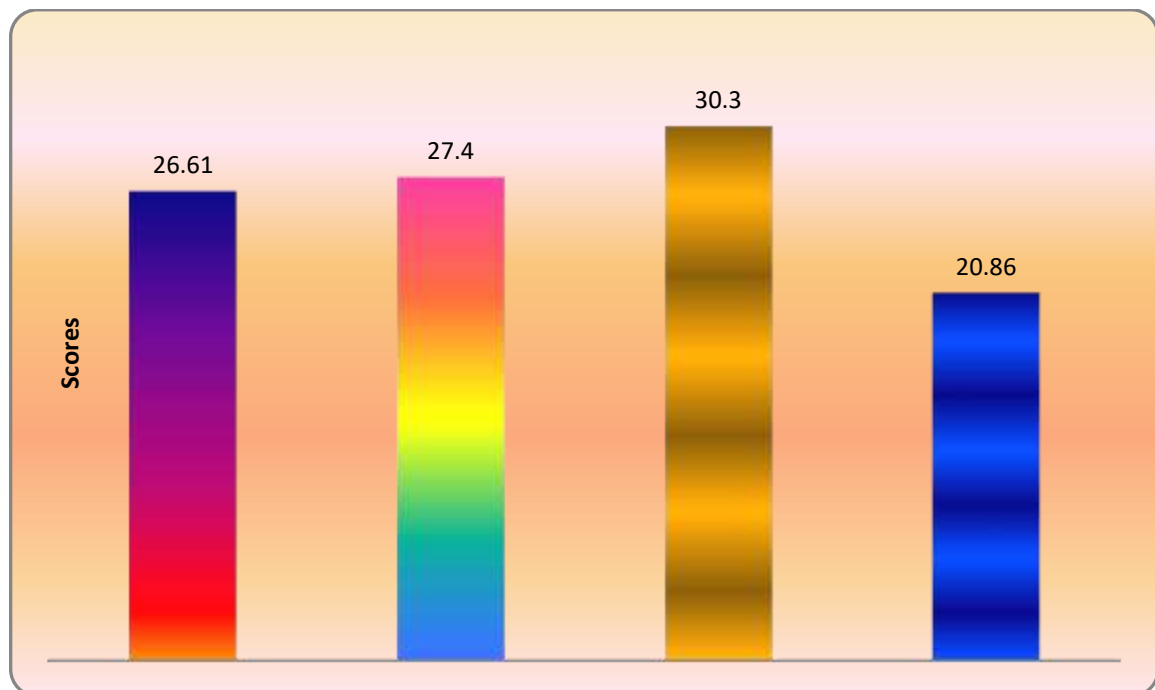


FIGURE II
**THE ADJUSTED POST MEAN VALUES OF AEROBIC TRAINING GROUP,
AQUATIC TRAINING GROUP, COMBINED GROUP, AND CONTROL
GROUP ON SELF EFFICACY**

CONCLUSION

1. The combined training had shown significant improvement on self-efficacy among working women than the other experimental and control groups.

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