Impact of Circuit Training on Breath Holding Time in Agricultural College Swimmers

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Abstract

The reason of the study was to discover the Impact of Circuit Training on Breath Holding Time in Agricultural College Swimmers. Thirty subjects were selected from Government agricultural college, Madurai. The subject's aged between 18 to 24 years. The selected subjects were divided into two groups with fifteen subjects in each group selected randomly Circuit Training and control group. The six weeks training periods of experimental group are involved five days per week. Control group did not undertake any training other than their regular work. To attain the significance difference in between the means on the criterion variables of correlated `t' ratio was apply. This study it processes with proper statistical technique. The data result is obtained `t' values are tested at 0.05 levels.

***Keywords**: 1. Circuit Training 2. Breath Holding Time*

Introduction

Swimming is a low-impact, full-body aquatic activity with a rich history dating back to prehistoric times, with cave paintings from the Stone Age showing it was used for survival. Recorded in ancient Egypt, Greece, and Rome, swimming evolved from a necessary skill and military training into a competitive sport in the 19th century. It became an Olympic sport in 1896, with modern competitive strokes like the freestyle growing from earlier, traditional techniques.

Early History and Origins

- **Prehistoric & Ancient Times:** The earliest evidence of swimming dates back 7,000 to 10,000 years, with cave paintings found in the "Cave of Swimmers" in Egypt.

- **Ancient Civilizations:** Egyptians, Greeks, and Romans used swimming for daily tasks, military training, and, by the 1st century BCE, for leisure, with the Romans constructing heated pools.
- **Cultural Significance:** In ancient Japan, swimming races were held in the 1st century BCE, and it was a respected skill.

  Evolution of Competitive Swimming
- **19th Century:** Swimming as a competitive sport began in the 1830s in England, with the National Swimming Society of Great Britain organizing early competitions, largely featuring the breaststroke.
- **The Crawl:** In the late 1800s, Frederick Cavill, an Englishman, observed the flutter kick in the South Seas and introduced the "Australian Crawl" to the world.
- **Governing Bodies:** The Amateur Swimming Association was formed in England in 1869, and FINA (now World Aquatics) was established in 1908 to govern international competition.
- **Olympic Inclusion:** Swimming has been part of the modern Olympic Games since their inception in 1896.

Circuit training

Circuit training is a high-intensity, time-efficient workout method designed to improve cardiovascular fitness and muscular endurance simultaneously. Developed in 1953 by R.E. Morgan and G.T. Anderson at the University of Leeds, England, it involves performing a series of 8–12 exercises (stations) consecutively with minimal rest in between. A full "circuit" is completed when all stations are finished, usually repeated multiple times.

Methodology

Selection of Subject

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criterion variables of correlated `t' ratio was apply. This study it processes with proper statistical technique. The data result is obtained `t' values are tested at 0.05 levels.

Selection of Variables

Breath Holding Time - BHT Stop Watch (Minutes)

Statistical Techniques

The collected data on Flexibility were statistically examined to the test. The various hypothesis formulated by the researcher for comparison 't' ratio was used. 't' ratio was the difference between the mean, standard deviation and standard error of the difference between the means.

Level of Significance

For testing the significance of the differences between pre and posttest means of the control and experimental group, 0.05 level of significance was fixed.

Computation of 't' Ratio between the Pre and Post Test Means of Breath Holding Time

Variable	Group	Mean		SD		Sd Error	df	't' ratio
		Pre	Post	Pre	Post			
Breath holding time	Control	15.53	15.93	0.94	1.38	0.87	14	1.80
	Experimental	15.19	16.85	0.56	0.91	0.15		**10.95***

*** Significance at 0.05 level of confidence df (14) is = 2.14**

The table shows that the obtained control group of breath holding time mean values of pretest and posttest were 15.53, 15.93 respectively. The obtained 't' ratio is 1.80 the required table value is 2.14 at 0.05 level significance. The obtained 't' ratio is lesser than the required table value. It is found to be insignificant.

The table shows that the obtained experimental group of breath holding time mean values of pretest and posttest were 15.19, 16.85 respectively. The standard deviation was 0.56

and 0.91. The obtained ‘t’ ratio is the required table value is 2.14 at 0.05 level significance. The obtained ‘t’ ratio 10.95 is greater than the required table value. It is found to be significant.

An examination of table shows that the obtained experimental group of breath holding time mean values of pretest and posttest were15.19,16.85 respectively. The standard deviation was 0.56 and 0.91. The obtained ‘t’ ratio is 10.95 the required table value is 2.14 at 0.05 level significance. The obtained ‘t’ ratio is better than the required table value. It is found to be significant.

Discussion on the Findings

The result of the study indicated the experimental group circuit training had significantly improved the breath holding time when compared to the control group.

From the result of the present investigation, it is also concluded that the significant difference exits between experimental and control group in developing all the variables.

The outcome of this study result with the hypothesis of the analysis. Interest on the part of the subject used in this study to improve their circuit training might also account for the result and this inference is supported by the further fact that all previous studies of similar nature were conducted on circuit training. The six weeks period for the experimental group seen to be generate applicable result.

The results of the study reveal that there was a significant difference found among agriculture college swimmers on breath holding time also when comparing the mean values.

Conclusions

On the basis of the limitations and the statistical analysis of the data, the following conclusions were drawn from the result.

1. After six weeks of training, it was observed that a significant improvement in swimmers in breath holding time.
2. The control group shows and insignificant improvement of 0.05 level of confidence.

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