



Effect Of Training Methods On Physical Fitness And Physiological Variables Of Athletes Among APTWR Sports School Students In Visakhapatnam District

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ABSTRACT

The purpose of the study is to find out whether or not any significant difference found on physical fitness and physiological variables of Athletes in relation to their circuit training. The study was formulated based on the simple random sampling. The samples were collected from the 50 Athletes of APTWR Sports School Boys , ArakuVally, Visakhapatnam district, in the age group of 12–16 years which were considered for the study. Fifty Athletes players have been selected for the study and they have undergone circuit training for 45 days. The pre-test was taken, and then, the post-test was administrated after the systematic training of circuit training. The following test was administrated on Athletes which are physical fitness variables that are speed and agility. Physiological variables pulse rate and breathing holding time. Moreover, it is finally concluded that circuit training have yielded significant differences on the physical fitness and physiological variables of high school Athletes it have scientifically proved better that the Athletes have major role to prove their physical fitness in the performance of the game the physical fitness variables, namely, speed, explosive power, agility, and endurance.

Keywords: Circuit training, Endurance, Physical fitness, Athletes.

INTRODUCTION

Circuit training is an excellent means to improve endurance, speed, and strength. Circuit training involves 6–12 exercise stations with exercises for various muscle groups of the abdomen, back, legs, and arms arranged in a circle. Circuit training is based on the principle of easy to severe, simple to complicated, and general to specific exercises. In addition to endurance, speed, and strength, circuit training can also help develop resistance power with the help of a partner. Circuit training is a type of exercise also known as interval training. It combines resistance exercise with aerobic exercise that is performed in intervals. Circuit training gyms have stations set up in an alternating fashion from a resistance machine to a jogging platform or bike for cardio exercise. This type of exercise can be done outside of a circuit training gym by simply alternating between resistance and cardiovascular exercise.

Physical fitness is a multifaceted continuum extending from birth to death, affected by physical activity; it ranges from optimal activities in all aspects of life through high and low levels of different physical fitness to serve disease and dysfunction. A fit nation can be economically progressive if the citizens have sufficient capacity to work efficiently and gain in productivity. Hence, health must be regarded as a normal and primary need of the community. It is a primary factor it helps the growth and development of the body. An

optimum growth is important for efficient existence in a biologically adverse and economically competitive world. Health is a basic need for the development of physical skills, agility, strength, and endurance necessary to execute the daily routine work. Health is required to plan a daily program of healthful physical activities so that people develop vitality and skills for an efficient and economic adult life.

PHYSIOLOGY

Human physiology is the science of the mechanical, physical, and biochemical functions of humans in good health, their organs, and the cells of which they are composed. The principal level of focus of physiology is at the level of organs and systems. Most aspects of human physiology are closely homologous to corresponding aspects of animal physiology, and animal experimentation has provided much of the foundation of physiological knowledge.

SIGNIFICANCE OF THE STUDY

The various actions in Athletics are so fast that it is difficult to justify the performance of a player without analyzing them. It is also essential to ascertain development of players in various factors affecting performance. The top most teams in national or international have come up because they have evaluated performance of their players in training and competitions and worked hard to reach world level through long-term systematic and scientific training. This study is to analysis the effect of circuit training on physical fitness and physiological variables on Athletes .

OBJECTIVES OF THE STUDY

The purpose of the study is to find out whether or not any significant difference found on physical fitness and physiological variables of Athletes in relation to their circuit training.

SAMPLE OF THE STUDY

The study was formulated based on the simple random sampling. The samples were collected from the 50 Athletes of APTWR Sports School Boys, ArakuVally, Visakhapatnam District, in the age group of 12–15 years which were considered for the study.

METHODOLOGY

Data Collection Procedure

Fifty Athletes players have been selected for the study and they have undergone circuit training for 45 days. The pre-test was taken, and then, the post-test was administrated after the systematic training of circuit training. The following test was administrated on Athletes players which are physical fitness variables that are speed and agility. Physiological variables pulse rate and breathing holding time.

There were six stations in the circuit training program. In the first station, high knee action was performed, pushups in the

Table 1: Mean values, SD, df, “t” value, and P value between pre-test and post-test of Athletes players in relation to their speed.

Subjects	N	Mean	S.D.	df	“t” ratio	P-value
Pre-test	50	8.74	0.518	98	3.067	0
Post-test	50	11.02	0.584			

Table 2: Mean values, SD, df, “t” value, and P value between pre-test and post-test of Athletes players in relation to their agility

Subjects	N	Mean	S.D.	df	“t” ratio	P-value
Pre-test	50	9.36	1.212	98	4.23	1.563
Post-test	50	10.26	1.865			

Table 3: Mean values, SD, df, “t” value, and P value between pre-test and post-test of Athletes players in relation to their pulse rate.

Subjects	N	Mean	S.D.	df	“t” ratio	P-value
Pre-test	50	101.88	1.36	98	2.461	0
Post-test	50	126.56	2.12			

Table 4: Mean values, SD, df, “t” value, and P value between pre-test and post-test of Athletes players in relation to their breathing holding time

Subjects	N	Mean	S.D.	df	“t” ratio	P-value
Pre-test	50	34.98	3.79	98	2.685	0.01
Post-test	50	32.67	1.62			

ups in the sixth station. Pre-test was conducted in the selected physical and physiological variables. After 6 weeks of training program, post-tests were conducted. The training program was scheduled from 3:30 pm to 4:30 pm on all week days.

CONCLUSION

Moreover, it is finally concluded that circuit training have yielded significant differences on the physical fitness and physiological variables of Sports school Athletes it have scientifically proved better that the Athletes have major role to prove their physical fitness in the performance of the game the physical fitness variables, namely, speed, explosive power, agility, and endurance. In the present scenario, the tactical standards in Athletics have been playing a significant role in the creeping performance of the modern Athletics.

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