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## Effect of music and aerobic exercises on selected physiological parameters of football players of Degree College Kulgam J&K

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### Abstract

The purpose of the study was to study the Effect of Music and Aerobic Exercise programme on selected physiological parameters of Football Players of J & K State. The subjects of the study were selected from the Football Players of J & K State. The subject of study were selected randomly. 40 subjects 20 for control group and 20 for experimental group. The age of the subjects were ranged between 18 to 25 years. The criterion measures of selected physiological parameter were chosen for the purpose of the study were resting pulse rate which was measured by feeling the palpation of radial artery, chest expansion which was measured with the help of metallic tape and cardiovascular endurance which was measured by 600 yard run/walk test. The necessary data on the selected physical parameters were collected at different time of day by administrating the specific test at the play field of Govt. College of Physical Education, Ganderbal J & K. For testing the statistical significance on selected physiological parameters of Football Players 't' test was employed. The level of significance of test the obtained 't' Ratio was fixed at 0.05 level of confidence. By using 't' Ratio significance difference was found in pre-test and post-test scores of experimental group Football Players in selected physiological parameter such as cardiovascular endurance.

**Keywords:** Music, aerobic, physiological parameters and cardiovascular endurance

### Introduction

Physical Education has been prevalent in the society during ancient times. As the civilization of the world progressed, Physical Education too progressed. Modern age is also known as machine age. In this age man is part of a puzzled society. These days 'machines' are taking over from man in almost every field, an individual therefore utilizes very little physical energy, he does maximum utilization of 'mental energy'. He now lives away from natural environments. Machine age has made muscles of man loose and weak because of disease under these circumstances. Physical Education has gained more importance. The word training in its broad sense, referred to any organized and systematic instructional process which aims at enhancing man's ability with regard to physical psychological and intellectual aspects. One of the most rapidly growing fields of specialization in physical education is that of exercise physiology. Exercise physiology is the study of the effects of exercise on the body. Specifically exercise physiology is concerned with the system as well as the sub cellular level. These modifications can be short-term that is lasting only for the duration of the activity or long term present as long as the activity is continued on the regular basis. Knowledge of exercise physiology is essential to the practitioner. It is critical that the practitioner understand the effects of exercise on the individual's body to plan programs to achieve the desired outcomes and to monitor the effects of such programs on the individual.

Aerobic exercise is essential to a healthy cardiovascular system. Aerobic exercise is activity that can be sustained for an extended period of time without building on oxygen debt in muscles. It is a type of exercise that overloads the heart and lungs and causes them to work harder than they do when a person is at rest. Some of the benefits of aerobic exercise include the ability to utilize more oxygen during strenuous exercise, a lower heart rate at rest, the production of less lactic acid and greater endurance.

Music is an art form whose medium is sound. Common elements of music are pitch (which governs melody and harmony), rhythm (and its associated concepts tempo, meter, and articulation), dynamics, and the sonic qualities of timbre and texture. The word derives from Greek " (mousike) (art) of the Muses", To many people in many cultures music is an important part of their way of life. Greek Philosophers and ancient Indian Philosophers defined music as tones ordered horizontally as melodies and vertically as harmonies. Common sayings such as "the harmony of the spheres" and "it is music to my ears" point to the notion that music is often ordered and pleasant to listen to.

Aerobic dance is appealing, particular to women, because it is performed to music involves as a variety of relatively simple movement forms and is enjoyable. Investigators have found that it requires a moderately high rate of energy expenditure and it appears to have the potential to provides the quality and quantity of exercise necessary for the developing and to maintain cardio-respiratory fitness and modifying body composition. Aerobic dancing involves a series of specially choreographed routines which are a combination of various dance steps and other whole body movements including running, walking and skipping. Aerobic dance exercise is a choreographed routine of movements from various types of dance (do zz1, ball room modern, ballet, musical comedy and rock) combined with other rhythmic movements such as happing, skipping, jumping and stretching continuously performed to rilusic. In recent years, it has become an extremely popular farm of exercise.

**Statement of the problem:** The purpose of the study was evaluate the effects of music and Aerobic Exercise Programme on selected physiological parameters of Football players of J & K State.

**Objective of the study:** The study may help to find out the comparative effects of music and aerobic exercise programme on selected physiological parameters of football players of – J & K State only

1. Further this study may provide guidelines for preparing scientific training schedules or modifying the old ones for training football players by the physical education teachers and coaches.
2. The result of the study was significance with regards to examine the differences in the effects of music and aerobic exercise.
3. The study was provide guidelines for preparing scientific schedule/modifying the old ones for training sportsman with special reference to explosive of music and aerobic exercise programme on selected physiological parameters of football players.
4. The finding of this study might add to the existing hands of knowledge and understanding of different training method for the development of music and aerobic exercise programme.

#### **Review of related literature**

Blaine conducted a study on the effects of dance on selected physiological variables on sixty two women subjects from beginning sessions of modern dance, ballet and jazz to participate in pre and post test of 4 parameters. A twelve week treatment was given to them, twice a week for 45 minutes. A control group from a health class was also taken with no physical activity for the treatment period. The 4 parameters were percent body fat, trunk flexibility, power and cardio-

vascular variables and all were found to be significant and that the beginning level dance class can contribute significantly toward specific fitness parameters. A second part of the study was to compare the fitness components of advanced women dancers to that of variety women.

Chakravorty undertook a study to find out the effect of Bratachari ances on physical fitness of 20 students of middle to high school level. It was found out that there was a significant increase in the muscular strength, agility after eight weeks with a daily work of 45 minutes.

Belle his purpose of study was to determine the effects of aerobic dance on physical work capacity cardiovascular function, and body composition of middle aged women. Maximum oxygen uptake, heart rate during sub-maximal treadmill walking, resting heart rate and blood pressure and body composition assessed using hydrostatic weighing and skin-fold and circumference measure were determined before and after a 10 week aerobic dance conditioning program in 28 woman (18 experimental 10 control), aged.

Hagan and Upton investigated the comparison of the physiological profiles of middle aged distance runners and sedentary women. Seventy Physical performance, measured as time to exhaustion. The result point that total amount of Hb reduced concomitantly with an elevated blood volume, may result in an unchanged V02 max but reduced performance time.

#### **Methodology**

**Selection of Subjects:** For the purpose of this study 40 football players of J & K State. Were selected randomly as subjects were belonging to different socio economic status. The age of subjects were varied between 18 to 25 years. The subjects were randomly two groups. The subjects involved in regular training in sprinting during their match practice period. The subjects were randomly assigned two groups. One experimental groups and one control group consisting of 20 subjects each.

#### **Criterion Measures**

**Physiological Parameter:** The criterion measure of selected physiological parameters which were adopted for purpose of the study is as below:

1. Resting Pulse Rate It Was Measured By Feeling The Palpation Of Radial Artery.
2. Chest Expansion It Was Measured With the Help of Metallic Tape.
3. Cardio-Vascular Endurance 600 Yards Run-Walk Test

Experimental design Random groups design was adopted for the purpose of the study. The subjects was randomly divided into two groups, one experimental and one control group, consisting of 20 subjects each.

Administration of test before administration of test, a meeting of all subjects and tester was held at the Govt College of Physical Education Ganderbal J and K ground. The requirement of testing procedure was explained to them in detailed so that there was no doubt in their mind, regarding the effort and strain that they have to endure in addition to their participation in the daily schedule of the ground. No motivational technique was used in this study.

#### **Procedure for experimental treatment**

Experimental group as practice for music and aerobic exercise in the Sports rule of specially allowed for experiment of Govt. College of physical Education Ganderbal J and K State. The

practice programme was finalized in the consultation of physical education experts. The practice session was conducted Friday in a week for a period of 45 minutes.

**Collection of data:** The data was collected by administering physiological parameters. The test was administered in the pre test data was collected in the month of may 2016 and the post test data was collected on Sept. 2016 of training programme. The test which was used in collecting the data was explained to the subjects prior to the administration of the test. The subjects were given a chance to practice the test so as to make them familiar with test as far as possible.

**Statistical technique to be used**

To find the comparative effects of music and aerobic exercise programme on selected physiological parameters of Football

players of J & K State. The “t” ratio and analysis of covariance (ANCOVA) was used to 0.05 level of significance.

**Analysis of the data and result of the study**

The analysis of data collected on selected physiological parameters of Football Players of J & K State after the Music and Aerobic Exercise. The data pertaining to each of the selected physiological parameter i.e. Resting pulse rate, chest expansion and cardiovascular endurance was examined by 't' ratio to find out the significant difference between pre test for control group and post test for experimental group.

**Findings:** The findings of each of the selected physiological parameter i.e. resting pulse rate, chest expansion and cardiovascular endurance are presented in Table-2.

**Table 1:** Comparison Between The Means Of Pre-Test And Post-Test Of The Control Group And Experimental Group On The Basis Of 'T' Ratio For Pulse rate Physiological Parameters Of Foot Ball Players Of J & K State

Group	M <sub>1</sub>	M <sub>2</sub>	MD	SE	'T' Ratio	Required 't' Ratio
Control Group	71.8	71.6	0.2	0.887	0.23	1.98
Experimental Group	72	69.60	2.4	0.929	2.58	

Significant at 0.05 level of confidence.

M<sub>1</sub> = Mean of Pre-test.

M<sub>2</sub> = Mean of Post-test.

Table - 2 reveals that the mean of Pulse rate for pre-test and post-test of control group are 71.8 and 71.6 and the mean of pre-test and post-test of experimental group are 72 and 69.60. There is a significant difference in the value of 't' Ratio in experimental group and there is a no significance difference in

the value of 't' Ratio in control group. The obtained value of 't' Ratio of control group 0.23 less than the required 't' Ratio 1.98 and it is found below the level of confidence. And the obtained value of T Ratio of experimental group is 2.58 and it is found 0.05 level of confidence.

**Table 2:** Comparison Between The Means of Pre-Test and Post-Test of The Control Group and Experimental Group on the Basis of 'T' Ratio for Chest Expansion Physiological Parameters of Foot Ball Players of J & K State

Group	M <sub>1</sub>	M <sub>2</sub>	MD	SE	'T' Ratio	Required 't' Ratio
Control Group	6.37	5.96	0.41	0.637	0.64	1.98
Experimental Group	7.25	6.47	0.78	0.719	1.07	

Significant at 0.05 level of confidence.

M<sub>1</sub> = Mean of Pre-test.

M<sub>2</sub> = Mean of Post-test.

Table - 3 reveals that the mean of Chest Expansion for pre-test and post-test of control group are 6.37 and 5.96 and the mean of pre-test and post-test of experimental group are 7.25 and 6.47. There is a no significant difference in the value of Ratio in control group and experimental group and there is a no significance difference in the value of 't' Ratio in control

group. The obtained value of 't' Ratio of control group 0.643 less than the required 't' Ratio 1.98 and it is found below the level of confidence and the obtained value of 't' Ratio of experimental group is 1.07 is found below the level of confidence.

**Table 3:** Comparison Between The Means Of Pretest And Post-Test Of The Control Group And Experimental Group On The Basis Of 'T' Ratio 600 Yards Run Physiological Parameters Of Foot Ball Players Of J & K State

Group	M <sub>1</sub>	M <sub>2</sub>	MD	SE	'T' Ratio	Required 't' Ratio
Control Group	2.05	1.97	0.08	0.089	0.92	1.98
Experimental Group	2.18	1.94	0.24	0.077	3.15	

Significant at 0.05 level of confidence. M<sub>1</sub> = Mean of Pre-test. M<sub>2</sub> = Mean of Post-test.

Table - 4 reveals that the mean of 600 Yards Run for pre-test and post-test of control group are 2.05 and 1.97 and the mean of pre-test and post-test of experimental group are 2.18 and 1.94. There is a significant difference in the value of T Ratio in experimental group and there is a no significance difference in the value of 't' Ratio in control group. The obtained value of 't' Ratio of control group 0.92 less than the required 't' Ratio 1.98 and it is not level of confidence. The obtained value of t Ratio of experimental group is 3.15 found 0.05 level of confidence.

**Discussion of Findings**

The finding of the study showed that there is a significance difference in pre-test and post-test scores of control group and experimental group as of the effect of music and aerobic exercise on selected physiological parameter i.e. cardiovascular endurance as revealed through the analysis of data indicated a significant change. The findings of the study are inconsonance with the findings of saltin.

The findings of study also showed that there is a significant difference in the mean value of resting pulse rate and chest

expansion. But it was not sufficient to show statistical significance. It may be due to reason that resting pulse rate is the distinction of the radial walls at the beginning of the systolic ejection of blood and is not confined to the aorta but travels down the arteries as a wave followed by a wave of recoil which surely change as a result of the effect of music and aerobic exercises training hence the above findings might have occurred.

Similarly, significant difference was found in chest expansion, it may be due to the reason that as the post-test was conducted in the month of May 2016. The subject might have shown there knee interest in testing procedure which might have resulted in the above findings.

### Conclusion

With in limitation of the present study and on the basis of findings the following conclusions are drawn:

1. In resting pulse rate significant difference was found between pre-test and post-test of experimental group of Football Players as a result of music and aerobic exercises. Though there is a negligible decrease in resting pulse rate in post test of control group scores it was not found statistically significant.
2. In chest expansion no significant difference was found between pretest and post-test of control group of Football players as a result of the effect of music and aerobic exercise. Though there is a negligible. Decrease in chest expansion in post-test of experimental group which was not found statistically significant.
3. No significant difference was found in cardiovascular endurance of control group of Football players as a result of effect music and aerobic exercise. Significant difference was fund in the cardiovascular endurance of experimental group Football players. And it is 0.05 level of confidence.

### Recommendations

1. From the finding of the study, it is recommended that the training of music and aerobic exercise effects the performance of the players.
2. A similar study may be conducted by taking different duration of music and aerobic exercise than the one selected for the purpose of the study.
3. Similar study may be conducted by taking different variable than these which are selected for the purpose of the study.
4. To make the study more authentic and valid the study may be repeated on large sample.

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