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## Effect of aerobic exercise on physical variable of school children

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### Abstract

The purpose of the study was to find out the effect of aerobic exercise on selected physical variable of secondary school children. It was hypothesized that there would be significant differences on selected physical variables due to the effect of aerobic exercise of school children. For the present study the 60 secondary girls from Maganoor Basappa School, Davanagere district, Karnataka were selected at random and their age ranged from 14 to 16 years. The present study pre-test post-test random group design which consists of control group and experimental group was used. The subjects were randomly assigned to two equal groups of thirty each and named as Group 'A' and Group 'B'. Group 'A' underwent aerobic exercise and Group 'B' has not undergone any training. The level of significance was set at 0.05. Flexibility was assessed by sit and reach test. The data was collected before and after sixteen weeks of training. The aerobic exercise had positive impact on flexibility among school children.

**Keywords:** aerobic exercise, school (girls) children, flexibility

### 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 (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. Formal aerobics classes are divided into different levels of intensity and complexity. A well-balanced aerobics class will have five components: warm-up (5–10 minutes), cardio vascular conditioning (25–30 minutes), muscular strength and conditioning (10–15 minutes), cool-down (5–8 minutes) and stretching and flexibility (5–8 minutes). Aerobics classes may allow participants to select their level of participation according to their fitness level. Many gyms offer a variety of aerobic classes. Each class is designed for a certain level of experience and taught by a certified instructor with a specialty area related to their particular class. (Wikipedia).

### Methodology

The purpose of the study was to find out the effect of aerobic exercise on physical variable of school children.

It was hypothesized that there would be significant differences on physical variable due to the effect of aerobic exercise on physical variable of school children. For the present study the 60 school girls from Maganoor Basappa School, Karnataka were selected at random and their age ranged from 14 to 16 years. For the present study pre-test–post-test random group design which consists of control group and experimental group was used. The subjects were randomly assigned to two equal groups of thirty each and named as group 'A' and Group 'B'. Group 'A' underwent aerobic exercise and Group 'B' has not undergone any training. The data was collected before and after sixteen week of training. The data was analyzed by applying dependent t test. The level of significance was set at 0.05.

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**Table 1:** Variables and Test

| Sl. No. | Variables   | Test          |
|---------|-------------|---------------|
| 1       | Flexibility | Sit and Reach |

**Results**

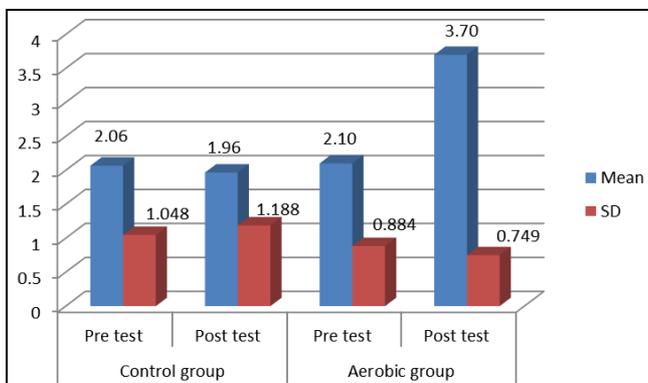
The finding pertaining to analysis of dependent t test between experimental group and control group on selected physical variable among school children for pre-post-test respectively have been presented in table II.

**Table 2:** Results of Paired t-test between Pre-test and Physical Variable Flexibility Scores of Secondary School Children in Control, and Aerobic Group.

| Groups        | Time      | Mean   | SD      | Mean diff | SD diff | %of change | Paired t –test | p-value |
|---------------|-----------|--------|---------|-----------|---------|------------|----------------|---------|
| Control group | Pre test  | 2.0667 | 1.04826 | .10000    | .80301  | 4.84       | .682           | .903    |
|               | Post test | 1.9667 | 1.18855 |           |         |            |                |         |
| Aerobic group | Pre test  | 2.1000 | .88474  | -1.6000   | .72397  | 76.19      | 12.105         | .000    |
|               | Post test | 3.7000 | .74971  |           |         |            |                |         |

\*Significant at 0.05 level

Table II shows the obtained mean difference in the selected variable flexibility control group (.10000) aerobic group (-1.6000). The percentage of change control group (4.84), aerobic group (76.19) and ‘p’ value aerobic group is (.000) it was found to be statistically significant at t0.05 level of confidence. The flexibility performance (-1.60  $p < 0.05$ ) thus the alternative hypothesis is accepted.



**Fig 1:** Results of Paired t-test between Pre-test and Physical Variable Flexibility Scores of Secondary School Children in Control, and Aerobic Group

Fig 1: comparisons of pre-test means- post-test means and pre-test SD- post-test SD for control group and experimental group in relation to physical variables.

**Discussions on findings**

In case of physical variables i.e. Flexibility the result between pre and post-test has been found significantly higher in experimental group in comparison to control group. This is possible because due to regular aerobic exercise which may also bring sudden spurt in physical variables in school children. The findings of the present study have strongly indicates that aerobic exercise of sixteen weeks have significant effect on selected physical variables i.e. flexibility of school children. Hence the hypothesis earlier set that aerobic exercise programme would have been significant effect on selected physical variables in light of the same the hypothesis was accepted.

**Conclusions**

On the basis of finding and within the limitation of the study the following conclusions were drawn:

1. The aerobic exercise had positive impact on flexibility among school children
2. The experimental group showed improvement on flexibility of school girls then the control group.

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