



# EFFECT OF EXERCISE PROGRAMME ON THE AGILITY OF SCHOOL BOYS OF DIFFERENT AGE GROUPS

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## Abstract

One hundred forty schoolboys belonging to the age of 12-17 years without having any participation in competition were selected randomly from different public schools of Delhi. Out of the target group of 140 students, 70 boys belonged to the age group of 12-14+ years and the rest 70 boys were in the of the age group of 15 – 17 years. In each age group, 35 boys formed the control group where as the remaining 35 boys formed the experimental group. After the pre test, the exercise training programme of 6 days a week and of one hour duration was administered to the subjects of the experimental groups and after five weeks mid test scores of all the four groups was recorded. Then again, the two experimental groups were administered exercise programme for another five weeks and the post test scores of all the four groups were recorded after ten weeks. The subjects of the control groups were instructed to do their routine works during this ten weeks period and were asked to appear only for the pre test, mid test and post test. The data collected was analyzed statistically to find out the differences in the pre, mid and post test scores of the subjects. The least significance difference test was applied to find the significance difference in the means of each group and for each variable. In the beginning there was no significant difference between the control and experiment groups in the two age groups i.e. 12-14+ yrs. and 15-17 yrs. In 12-14+ yrs. age group the agility of the subjects improved significantly only after 5 weeks of training. On the other hand, significant improvement was not found in the subjects of 15-17 yrs. of age group after 5 weeks of training. After 10 weeks of training significant improvement was observed between the subjects of experiment groups of both the age groups. In the 12-14+ yrs. of age group the means score decreased from 12.57 to 12.36 and in the other age group the means score reduced from 12.08 to 11.81 showing an improvement in the timing. The effect of exercise on agility of the subjects between the two age groups under study showed significant improvement in agility in all the levels of time intervals as the differences of means score were higher than the LSD values.

## Introduction

Physical fitness is not only an important aspect but also the foundation of healthy life style. Fitness cannot be sacrificed in favour of skill and technique. In modern days an athlete has to be physically extra fit so as to withstand the tough competitions.

The blessings of life can only be enjoyed if one possesses a healthy body. The body a 'gift of nature' is a visible and solid part of the human personality but in our educational system it is highly neglected. The physique gives the first impression of a persons' existence. Plato was of the considered opinion that human beings should be "physically fit, robust, very attractive, having good musculature and good bearings" which contribute to the development of 'good' personality.

In India we try to provide all facilities to selected sports persons of international/national level mainly during the coaching camps. As a result of this, the major portion of our population do not get the infra- structure and facilities to develop fitness and other components essential for the improvement of games and sports. The fitness programme and sport activities should be started at an early age i.e. when the child enters the school. In the absence of minimum facilities at the school level the talent goes unnoticed. Moreover no education is complete without reference to the development of the body, mind and spirit but introduction of physical education in the school and college levels can develop these.

## PROCEDURE

One hundred forty schoolboys belonging to the age of 12-17 years without having any participation in competition were selected randomly from different public schools of Delhi. These boys were classified into the following two age groups on the basis of their date of births obtained from their school records.

- i) 12 – 14+ years
- ii) 15 – 17 years

Out of the target group of 140 students, 70 boys belonged to the age group of 12 – 14+ years and the rest 70 boys were in the of the age group of 15 – 17 years. In each age group, 35 boys formed the control group where as the remaining 35 boys formed the experimental group.

## Research design:

All the subjects were asked to assemble at the \_\_\_\_\_ ground and were given 6 days of practice so that they could give their best performance in the pre test. The pre test performance of all the subjects of the four groups was recorded.

After the pre test, the exercise training programme of 6 days a week and of one hour duration was administered to the subjects of the experimental groups and after five weeks mid test scores of all the four groups was recorded. Then again, the two experimental groups were administered exercise programme for another five weeks and the post test scores of all the four groups were recorded after ten weeks. The subjects of the control groups were instructed to do their routine works during this ten weeks period and were asked to appear only for the pre test, mid test and post test.

The data collected was analyzed statistically to find out the differences in the pre, mid and post test scores of the subjects. The least significance difference test was applied to find the significance difference in the means of each group and for each variable.

## Selection of variables:

Strength (arms and shoulders) Power (Legs) Speed (Legs), Flexibility (Trunk), Agility (General Body), Cardio-vascular endurance motor fitness components were taken for the study.

## Tools used:

The following tools were used to collect the required data of motor fitness components:

- |                              |   |                              |
|------------------------------|---|------------------------------|
| 1. Strength                  | : | Push-ups on floor            |
| 2. Power                     | : | Standing broad jump          |
| 3. Speed                     | : | 50 meters dash               |
| 4. Flexibility               | : | Sit and reach test           |
| 5. Agility                   | : | 4 x 10 meters shuttle run    |
| 6. Cardio-vascular endurance | : | 12 minutes run and walk test |

### Analysis of Data and Result of Study

To find out the effect of exercise on the motor fitness components of 140 schoolboys in the two age groups i.e. 12-14+ yrs. and 15-17 yrs. (70 in each age group), the means and standard error were computed and to determine the differences in the selected motor fitness components between the groups and to access the significant difference in the means of each variable, one way analysis of variance (ANOVA) and least significant difference (LSD) test were applied.

The level of significance was set at 0.05 in order to check the significance of the calculated F value.

**Table 1**  
**Effect of exercise on agility (sec.) of subjects of 12-14+ and 15-17 years of age groups**  
**(n=35, mean± S.E.)**

Agility	12-14+ years			15-17 years		
	0 day	5 weeks	10 weeks	0 day	5 weeks	10 weeks
Control	12.59±0.02	12.58±0.02	12.57±0.02	12.09±0.03	12.08±0.03	12.08±0.03
Experiment	12.54±0.04	12.46±0.04	12.36±0.04	12.15±0.04	12.05±0.05	11.81±.04
F value	0.97	5.51	15.55	0.86	0.21	18.09
LSD	0.10	0.10*	0.10*	0.12	0.13	0.12*

\*Significance at ( $P \leq 0.05$ ).

F value (1,68)=3.98

Effect of exercise on the agility of the subjects of the two groups is presented in table 1. The table depicts that in the beginning there was no significant difference between the control and experiment groups in the two age groups i.e. 12-14+ yrs. and 15-17 yrs.

In 12-14+ yrs. age group the agility of the subjects improved significantly only after 5 weeks of training, which was determined by the difference between the two means scores. On the other hand, significant improvement was not found in the subjects of 15-17 yrs. of age group after 5 weeks of training.

After 10 weeks of training significant improvement was observed between the subjects of control and experiment groups of both the age groups. In the 12-14+ yrs. of age group the means score decreased from 12.57 to 12.36 and in the other age group the means score reduced from 12.08 to 11.81 showing an improvement in the timing.

**Table 2**  
**Effect of exercise on agility of subjects between 12-14+ and 15-17 years of age groups (n=35, mean± S.E)**

Agility	Control			Experiment		
	0 day	5 weeks	10 weeks	0 day	5 weeks	10 weeks
<b>12-14+ years</b>	12.59±0.02	12.58±0.02	12.57±0.02	12.54±0.04	12.46±0.04	12.36±0.04
<b>15-17 years</b>	12.09±0.03	12.08±0.03	12.08±0.03	12.15±0.04	12.05±0.05	11.81±0.04
<b>F value</b>	103.58	101.57	101.14	37.13	32.44	73.06
<b>LSD</b>	0.09*	0.09*	0.09*	0.13*	0.14*	0.12*

\*Significance at ( $P \leq 0.05$ ).

F value (1,68)=3.98

Table 2 depicts the effect of exercise on agility of the subjects between the two age groups under study.

There was a significant difference in the agility component of the subjects of the control groups between 12-14+ yrs. and 15-17 yrs. of age groups at all the time intervals i.e. 0 day, 5 and 10 weeks.

The experimental groups of the two age groups also showed significant improvement in agility in all the levels of time intervals as the differences of means score were higher than the LSD values.

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