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A comparative study of reaction ability of track athletes and field athletes

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Abstract

During the past some decades or so, the concept of scientific training has been very important role in sports and physical Education. Many studies have been completed on scientific training literature. Many studies also have proved the effects of scientific training on performance of sports persons. Reaction ability is the deciding factor in achieving the top performance in athletics, therefore the researcher took reaction ability test for their study.

40 junior track and field athletes of Sirsa and Fatehabad District were randomly selected for the study and were compare their reaction ability. The reaction ability was tested with Nelson reaction test manual. The study showed that the track athletes has more reaction ability in both category hand-eye and leg-eye reaction ability, and it was significantly different at 05 level of significance.

Keywords: Hand-eye reaction, leg-eye reaction, nelson reaction test

Introduction

The performance at high level or outstanding performances are based upon the foundation of sports persons, which should also be strong and potential. The foundation of sports persons starts from their initial development phase. The development stage starts with the type of training or with the methods of initial training to the sportsperson. The methods of training the motor qualities by understanding the importance of specificity of the event, the recruitment of different methods, means and forms of training in games and sports and intervals training programmed to designed to develop physical fitness elements such as strength, endurance, general and basic endurance along with circuit training. Further station training, set training are used to develop the maximum strength and explosive strength with the help of repetition method.

Johnson & nelson (1982) Reaction time is affected by a number of variables. It is greatly affected by the type of sensory stimulus such as visual, auditory, touch; intensity of stimulus fatigue; motivation; muscular tension; one's general state of health; age; physique etc.

At the present time children are more involved in video games, watching TV, movies and exploring internet. Sports like table tennis, volleyball, badminton, cricket, football, etc are preferred less with modernisation. These sports not only make them physically healthy but would also improve their alertness, concentration. Reaction time is duration between applications of a stimulus to onset of response. Visual reaction time is time required to response to visual stimuli. Reaction time acts as a reliable indicator of rate of processing of sensory stimuli by central nervous system and its execution in the form of motor response. Reaction time can be broken down into three parts. The first is perception time, which is time for the application and perception of the stimulus and giving the necessary reaction to it. The second is decision time, which signifies the time for giving an appropriate response to the stimulus. The third is motor time, which is the time for compliance to the order received. Reaction time can be described into three types (1) Simple reaction time: – here there is one stimulus and one response (2). Recognition reaction time: – here there are some stimulus that should be responded to and other that should not get response (3). - here there are multiple stimulus and multiple responses.

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Objective

To compare the reaction ability of male track and field athletes.

Methodology

40 junior athletes of Sirsa and Fatehabad district were randomly selected for the study out of these 20 were track athletes and 20 were fields athletes included. The age of athletes was 16 to 18. The Nelson reaction test was applied for measurement of reaction ability. In the track athletes only sprint races included whereas in field events only throws included.

The t-test were applied for statistical treatment and after the statistical analysis, the results were presented in the tables. The means difference was test at 05 level of confidence.

Table 1: comparison of hand-eye reaction ability of track athletes and field athletes

Variables	Mean value of Track athletes	Mean value of field athletes	Mean difference	t-value
Hand -Eye reaction test	32.7	30.3	2.4	3.7*

* 05 (level of significance)

According to the table-1, the means value of track athletes and field athletes were 32.7 and 30.3 respectively, and the t-value 3.7 were found, so we can say that the difference was significant at the level of 05 which proved that there is significant difference between track athletes and fields athletes.

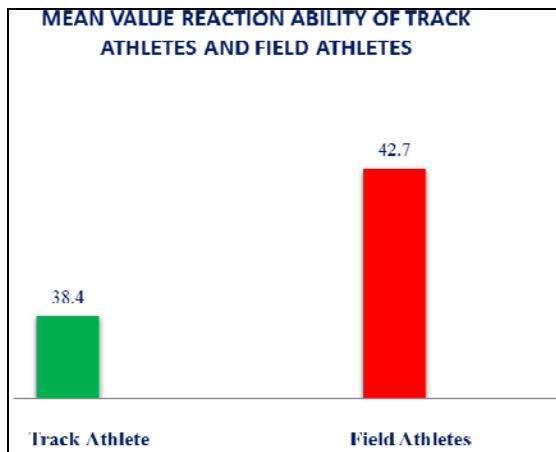


Fig 1

Table 2: comparison of Leg-eye reaction ability of track athletes and field athletes

Variables	Mean value of Track athletes	Mean value of field athletes	Mean difference	t-value
Leg-Eye reaction test	38.4	42.7	43	2.9*

* 05 (level of significance)

According to the table-1, the means value of track athletes and field athletes were 38.4 and 42.7 respectively, and the t-value 2.9 were found, so we can say that the difference was significant at the level of 05 which proved that there is significant difference between track athletes and fields athletes.

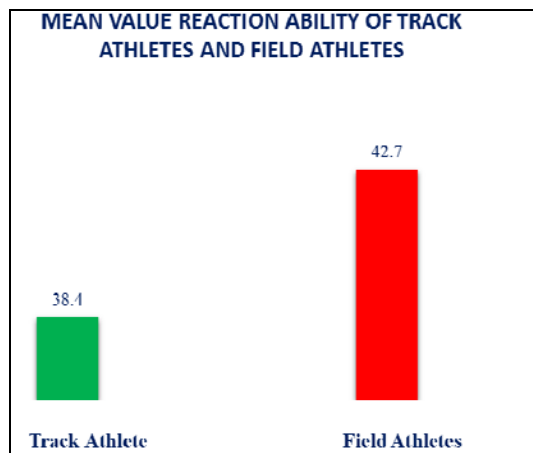


Fig 2

Result

On the basis of analysis and interpretation of the data showed that the track athletes has more reaction ability in both category hand-eye and leg-eye reaction ability, and it was significantly different at 05 level of significance.

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