



## Effects of Sports Loading Program on Speed Endurance Related Parameters in Football Players

**Dr. G. Suresh Kumar**

Assistant Professor, Department of Physical Education, Thanthai Hans Roever College, Perambalur, Tamil Nadu, India.

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### Abstract

*The purpose of the study was to find out the effects of sports loading program on speed endurance related parameters in football players. To achieve this purpose of the study twenty men football players were selected studying Bachelor's degree in the Department of Physical Education, Thanthai Hans Roever College from Perambalur, Tamil Nadu, India were put under tested. They were divided into two equal groups of each ten subjects each namely sports loading programme and control group. Group I underwent sports loading programme in football for three days per week for eight weeks and Group II acted as control who did not participate any special training programme apart from their regular day – today activities physical education curriculum. The following variables such as speed and speed endurance were selected as criterion variables. The speed rate was assessed by 50 meters dash and speed endurance was assessed by using 110 meters. All the subjects of two groups were tested on selected criterion variables at prior to and immediately after the training programme. Analysis of covariance (ANCOVA) was used to find out the significant difference if any, among the groups on each selected criterion variables separately. In all the cases .05 level of confidence was fixed to test the significance, which was considered as appropriate. The results of the study revealed that there was a significant difference between sports loading programme and control group on selected criterion variables such as speed and speed endurance. And there was an significant improvement as per selected criterion variables namely speed and speed endurance with respect to sports loading programme.*

**Keywords:** Sports Loading, Speed Endurance, Football.

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### Introduction

As knowledge and information proliferated through experience, scientific research and philosophical enquiry, an identifiable body of knowledge evolved in physical education. Defines physical education as a system of education where the educative values are being acquired through participation in a planned physical activity programme conducive to the society resulting in physical, mental and social development of the participants. The physical work done by an individual depends upon the duration, nature and the purpose of activity. The physiological systems switch over from one energy source to another as the activity changes. If the activity is highly intensive and performed under anaerobic conditions, glucose is the main source of energy, but this may not be continued to supply energy for a prolonged period due to the accumulation of lactic acid which could not be removed from the muscle due to lack of adequate oxygen. Accumulation of lactic acid causes feeling of uneasiness and fatigue in the muscle. If the activity is aerobic, there will be constant supply of oxygen and the energy for the working muscles will be supplied by the lactic acid system, the 'Kreb's cycle' and

ultimately fat will also be used as energy. Exercise is not a single entity, there are many kinds of exercises which vary in intensity, frequency and duration and having variable effects on the body systems. Exercise may favourably modify the natural history of a number of chronic diseases. It confers increased physical abilities and improves the quality of life.

### Methodology

The purpose of the study was to find out the effects of sports loading program on speed endurance related parameters in football players. To achieve this purpose of the study twenty men football players were selected studying Bachelor's degree in the Department of Physical Education, Thanthai Hans Roever College from Perambalur, Tamil Nadu, India were tested. They were divided into two equal groups of each ten subjects each namely sports loading programme and control group. Group I underwent sports loading programme in football conducted test for three days per week for eight weeks and Group II acted as control who did not participate any special training programme apart from their regular day – today activities physical education curriculum. The following variables such as speed and speed endurance were selected as criterion variables. The speed rate was assessed by 50 meters dash and speed endurance was assessed by using 110 meters. All the subjects of two

### Correspondence

Dr.G.Suresh Kumar,  
E-mail: gnsk290@gmail.com, Ph. +9197885 97588

groups were tested on selected criterion variables at prior to and immediately after the training programme. Analysis of covariance (ANCOVA) was used to find out the significant difference if any, among the groups on each selected criterion variables separately. In all the cases .05 level of confidence was fixed to test the significance, which was considered as appropriate.

### Training Programme

During the training period, group I underwent sports loading programme in football conducted test for three days per week for eight weeks in addition to their regular day – today activities physical education activity, every day workout lasted about 45-60 minutes including

warm-up and warm down exercises. Group II acted as control who did not participate any special training programme apart from their regular day – today activities physical education programme.

### Statistical Analysis

The data was collected from two groups at prior to and after completion of the training period on selected criterion variables and were statistically examined for significant difference if any, by applying analysis of covariance (ANCOVA) if they obtained 'F' ratio was also significant, In all cases .05 level of confidence was utilized to test the significance.

### Results

**Table I.** Analysis of covariance on speed of sports loading programme group and control group

Test	Experimental Group	Control Group	Sources of Variance	Sum of Square	df	Mean Squares	'F' Ratio
Pre Test Mean	7.267	7.244	Between	0.003	2	0.003	1.697
S.D	0.04473	0.0334	Within	0.028	42	0.002	
Post Test Mean	7.238	7.260	Between	0.002	2	0.002	1.581*
S.D	0.04158	0.03651	Within	0.028	42	0.002	
Adjust Post Mean	7.228	7.270	Between	0.008	2	0.008	21.91*
			Within	0.006	41	0.00004	

\* Significant at .05 level of confidence.

(The table values required for significance at .05 level of confidence for 1 and 18 and 1 and 17 are 4.45 and 4.41 respectively).

Table I shows that the pre test scores of speed for experimental group and control group are 7.267 and 7.244 respectively and the obtained F ratio of 1.697 for pre-test scores is less than the required table value of 4.41 for df 2 and 18 required for significance at .05 level of confidence on speed. The post test scores for speed for experimental group and control group are 7.238 and 7.260 respectively and the obtained F-ratio of 1.581 for post-test scores is more than the required table value of 4.41 for df 2 and 18 required for significance at .05 level

of confidence on speed. The adjusted post-test means on speed of experimental group and control group are 7.228 and 7.270 respectively and the obtained F ratio of 21.91 for adjusted post-test means scores is more than the required table value of 4.41 for df 2 and 18 required for significance at .05 level of confidence speed. The result of the study indicates that there is statistically significant difference between the adjusted post-test means of experimental group and control group on speed.

**Table II.** Analysis of covariance on speed endurance of sports loading programme group and control group

Test	Experimental Group	Control Group	Sources of Variance	Sum of Square	df	Mean Squares	'F' Ratio
Pre Test Mean	15.487	15.373	Between	0.065	2	0.065	2.058
S.D	0.18667	0.16826	Within	0.568	42	0.032	
Post Test Mean	15.279	15.465	Between	0.173	2	0.173	4.354*
S.D	0.19655	0.20206	Within	0.715	42	0.040	
Adjust Post Mean	15.260	15.484	Between	0.225	2	0.225	5.847*
			Within	0.653	41	0.038	

\* Significant at .05 level of confidence.

(The table values required for significance at .05 level of confidence for 1 and 18 and 1 and 18 are 4.41 and 4.45 respectively).

Table II shows that the pre test scores of speed endurance for experimental group and control group are 15.487 and 15.373 respectively and the obtained F ratio of 2.058 for pre-test scores is less than the required table value of 4.41 for df 2 and 18 required for significance at .05 level of confidence on speed endurance. The post test scores for speed of experimental group and control group are 15.279 and 15.456 respectively and the obtained F-ratio of 4.354 for post-test scores is more than the required table value of 4.41 for df 2 and 18 required for significance at .05 level of confidence on speed endurance. The adjusted post-test means on speed of experimental group and control group are 15.260 and 15.484 respectively and the obtained F ratio of 5.847 for adjusted post-test means scores is more than the required table value of 4.41 for df 2 and 18 required for significance at .05 level of confidence speed endurance. The result of the study indicates that there is statistically significant difference between the adjusted post-test means of experimental group and control group on speed endurance.

### Conclusions

The following conclusions were drawn based on the analysis of the study,

1. There was a significant improvement in the performance of speed after the sport loading programme when compared with the control group.

2. There was a significant improvement in the performance of speed endurance after the sport loading programme when compared with the control group.
3. There was a significant difference between the sport loading programme group and control group on selected speed and speed endurance.

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