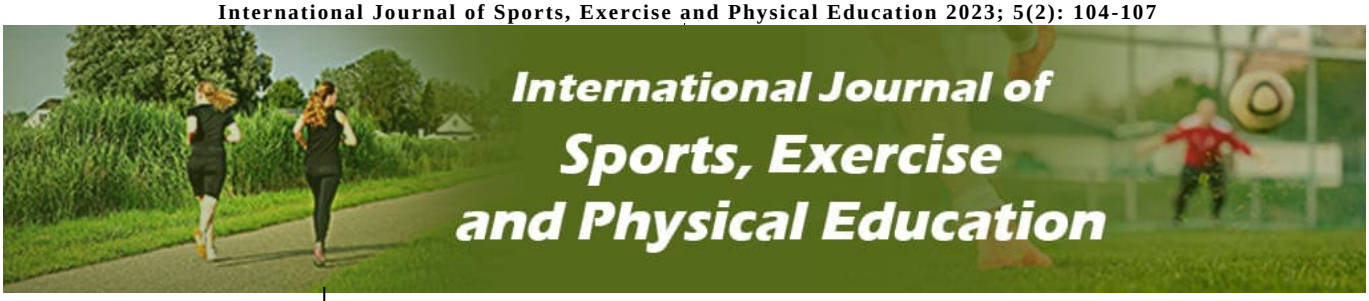

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Effect of varied explosive training with training aids on selected locomotor abilities of school students

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Abstract
The purpose of the study was to find out the effect of explosive training using various training aids selected locomotor abilities of school students. To achieve the purpose of the study 30 school children were selected from TAT Kalanilayam School Periyanaickenpalayam. The subject's age ranged from 10 to 14 years. The selected subjects (N=30) were one group was underwent explosive training for 6 weeks in a week 5 days they performed explosive training for 60 minutes. For this study, locomotor abilities (Running, Jumping, Throwing, and Kicking) were selected as variables. Pre-test was conducted before the training period and after the 6 weeks of training the post-test was conducted on all the variables. The collected data are statistically analyzed to find out whether the training programme improves locomotor abilities. In this study, the investigator used the dependent 't' test to find out the significant difference between pre and post-tests. In all the cases 0.05 level of confidence was fixed to test the hypotheses. And it was concluded that the selected locomotor abilities were significantly increased due to the effect of varied explosive training with training with training aids.

Keywords: Explosive training, training aids, fitness training locomotor abilities, physical education

Introduction
Explosive training is a concept that appeals to a great number of strength and conditioning professionals, athletic trainers, athletes, and non-athletes alike. Performing exercises in an explosive. The neural adaptations which occur during explosive training provide the greatest explanation for their effectiveness. Improved motor unit recruitment may account for the most important adaptation encountered during explosive training regimens. Since larger motor units (Composed predominantly of Type II muscle fibres, or fast twitch) have higher neural thresholds than do smaller motor units, therefore they are stimulated only under greater intensity training.

Explosive training achieves this demand, resulting in the recruitment of the larger more powerful motor units. Training explosively may result in adaptations that allow the athlete the ability to recruit larger motor units sooner or more efficiently. Another neural adaptation that occurs during explosive training is the rate coding mechanism. Rate coding is defined as the frequency of neural impulses sent to motor neurons. In this way, force is increased without the recruitment of additional motor units. Explosive training stimulates an increase in rate coding, which may work in conjunction with motor unit recruitment to provide optimal neural adaptations for increased power production.

Explosive training generally results in very high power outputs, which is why they have a large effect on performance in activities and sports requiring high-speed movements. A recent study demonstrated that subjects performing Olympic lifts (explosive training) produced superior performance outcomes when compared with subjects who did not perform the same lifts. In addition, previous studies have found greater improvements in power performance due to explosive training when compared to heavier, slower-weight training. Increasing power is certainly an attractive reason for performing explosive exercises as part of a training regimen. Since the absolute weight lifted is less during explosive training, it must be noted here that increased power does not necessarily translate to increased strength. This concept should be considered when designing any training program, as maximum strength has been shown to have a strong correlation to sports performances which rely on speed and power Program Design.

One point of contention when discussing explosive training is the movement velocity of the apparatus. It has been demonstrated by some researchers that the actual velocity of training is far less important than the intended velocity their results indicate that as long as one attempts to move as quickly as possible, adaptations related to explosive training will occur regardless of whether the actual training is fast or slow. These studies would appear to conclude that there is no velocity-specific effect when performing explosive training.

Materials and Methods

The purpose of the present study was to find out the effect of explosive training selected on variables of locomotor abilities. To achieve the purpose of this study, the investigator selected 30 school students from nearby Kalanilayam school to research at Periyanaickenpalayam. The ages of the subjects ranged from 10 to 14 years. The selected subjects (N=30) were one group was underwent the modified drill training. The pre-test and post-test were conducted before and after the training period.

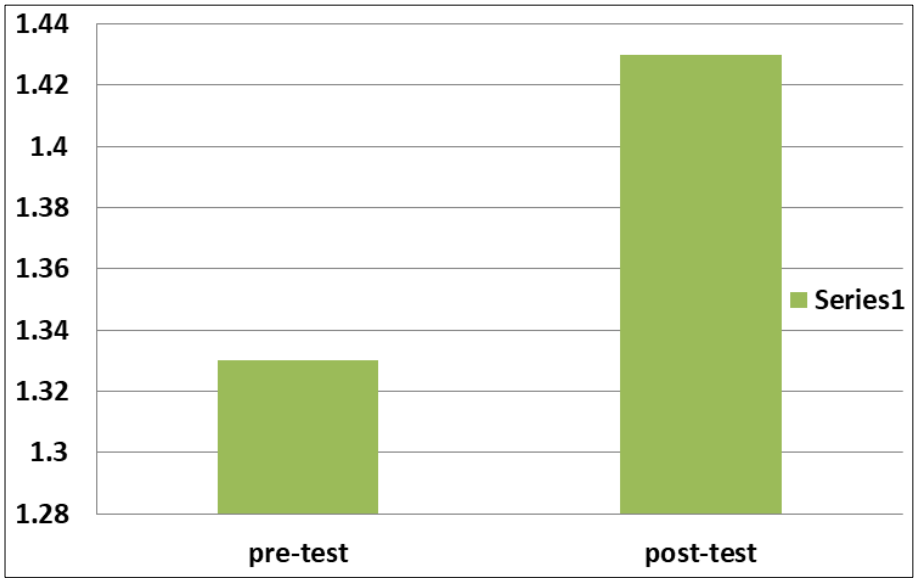
Results of the study

Results of Throwing

The data obtained on throwing of the group have been analyzed by using the 't' ratio is present in Table -1.

Table 1: Table showing the mean difference, standard deviation and 't' value of throwing

Group	Mean	MD	SD	Std. Error of the mean	DF	't'	Table value
Pre-test	4.07	0.09	1.42	2.60	29	3.109*	2.04
Post-test	4.16		1.44	2.63			



Signification at 0.05 level of confidence

Fig 1: Figure showing the mean values of throwing

To find out the significant difference between the pre-test and post-test on throwing 't' ratio was employed and the level of significance was set at 0.05. The varied explosive training group pre-test value was 4.07 and the post-test value was 4.16 respectively. The mean difference value was 0.09 and the varied explosive training group obtained a 't' ratio of 3.109 was greater than the table value of 2.04. It shows that the varied explosive training group had significant improvement in throwing.

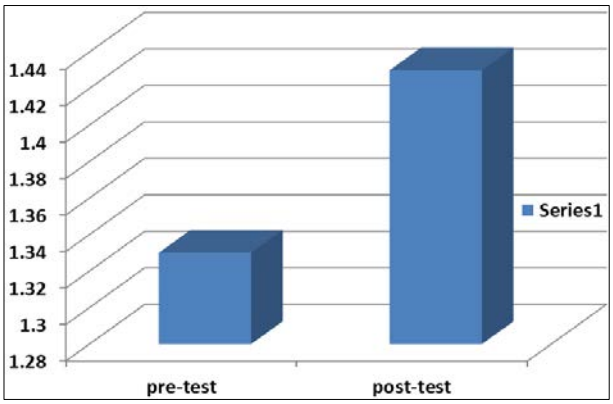
Pre-test and post-test mean values of varied explosive training group throwing are shown in figure-1.

Results of Running

The data obtained on running of the group have been analyzed by using 't' ratio is present in Table -2.

Table 2: Table showing the meabn difference, standard deviation and 't' value of running

Group	Mean	MD	SD	Std. Error of the mean	DF	't'	Table value
Pre test	3.82	0.14	5.11	0.9342	29	4.004*	2.04
Post -test	3.68		5.12	0.9353			



Signification at 0.05 level of confidence

Fig 2: Figure showing the mean values of running

To find out the significant difference between the pre-test and post-test on running 't' ratio was employed and the level of significance was set at 0.05. The varied explosive training group value pre-test was 3.82 and the post-test value was 3.68 respectively. The mean difference value was 0.14 and the varied explosive training group obtained a 't' ratio of

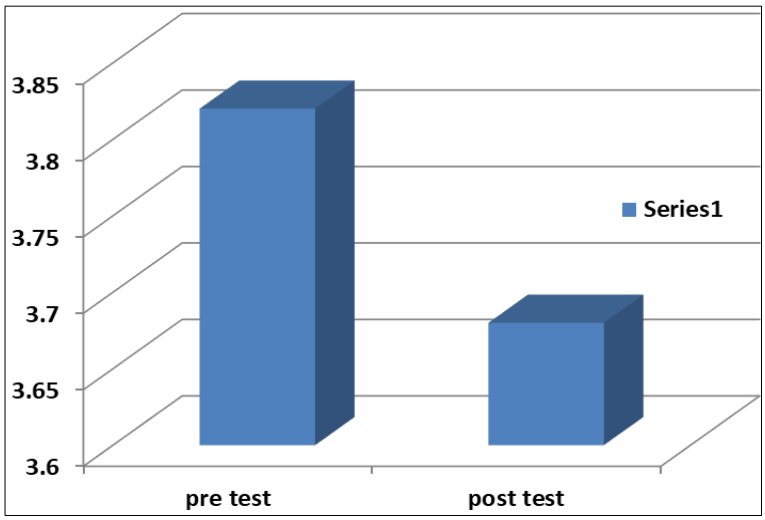
4.004 was greater than the table value of 2.04. It shows that the varied explosive training group had significant improvement in running. Pre-test and post-test mean values of varied explosive training on running are shown in figure-2.

Results of Kicking

The data obtained on kicking of the group have been analyzed by using 't' ratio is present in Table -3.

Table 3: Table showing the mean difference, standard deviation and 't' value of kicking

Group	Mean	MD	SD	Std. Error of the mean	DF	't'	Table value
Pre test	2.46	0.5	9.73	1.77	29	3.04*	2.04
Post-test	2.96		8.89	8.89			



Signification at 0.05 level of confidence

Fig 3: Figure showing the mean values of kicking

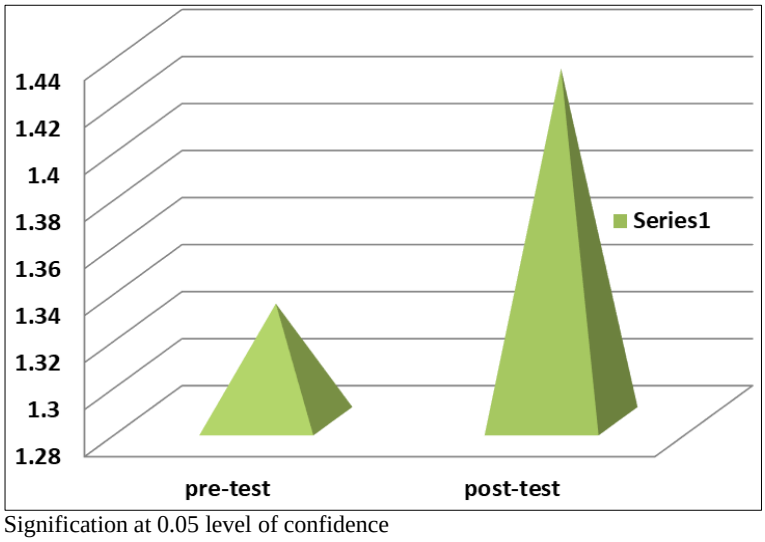
To find out the significant difference between the pre-test and post-test on kicking 't' ratio was employed and the level of signification was set at 0.05. The varied explosive training group value pre-test was 2.46 and the post-test value was 2.96 respectively. The mean difference value of 0.5 was and the varied explosive training group obtained 't' ratio 3.04 was greater than the table value 2.04. It shows that the varied explosive training group had significant improvement in kicking. Pre-test and post-test mean values of varied explosive training groups on kicking are shown in figure-3.

Results of Jumping

The data obtained on jumping of the group have been analyzed by using 't' ratio is present in Table-4.

Table 4: Table showing the mean difference, standard deviation and 't' value of jumping

Group	Mean	MD	SD	Std. Error of the mean	DF	't'	Table value
Pre-test	1.33	0.1	2.96	0.54	29	3.89*	2.04
Post-test	1.43		3.30	0.60			



Signification at 0.05 level of confidence

Fig 4: Figure showing the mean values of jumping

To find out the significant difference between the pre-test and post-test on jumping 't' ratio was employed and the level of significance was set at 0.05. The varied explosive training group value pre-test was 1.33 and the post-test value was 1.43 respectively. The mean difference value was 0.1 and the varied explosive training group obtained a 't' ratio of 3.89 was greater than the table value of 2.04. It shows that the varied explosive training group had significant improvement in jumping.

Pre-test and post–test mean values of varied explosive training groups on jumping are shown in figure-4.

Conclusions

It is concluded that the selected locomotor abilities were significantly increased due to the effect of varied explosive training with training with training aids.

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