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RESEARCH ARTICLE

EFFECT OF SLOW CONTINUOUS RUN SPEED CONTINUOUS RUN AND EXTENSIVE INTERVAL RUN TRAINING ON SPEED FOR 16-18 YEARS BOYS

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ABSTRACT

The purpose of the study was to find out the effect of slow continuous run, speed continuous run and extensive interval run training on speed performance of post adolescence boys. For this study 80(Eighty) healthy untrained subjects were selected randomly and divided into four groups. Group 'A' underwent slow continuous running (SLCRG) Group 'B' underwent the speed of continuous running (SPCRG), Group 'C' underwent extensive interval training (EIRTG). Group 'D' acted the control group (CG) did not undergoes any special training program in addition to their regular program. Training was provided for three days a week in the morning and evening only. The training was for a period of 12 weeks. The speed performance was measured in a standard track. Prior to and after the end of practice period all the subjects were tested on 50 meter dash performance. The data for training periods (pre-test) were obtained before and after the training period of 12 weeks (post-test). The obtained 'F' value of 2.98 for post test scores on speed, which was greater than the table value of 2.72 for significance with df 3 and 76 at 0.05 level of confidence. The result of the study reveals that there was significant improvement in speed continuous running group and extensive interval run training group compared with the other groups significantly.

INTRODUCTION

Speed is the ability or capacity of an individual to perform successive movements of the same pattern at a faster rate (Marget, 1986). In sprinting speed endurance becomes important force, the point where the development of pure speed begins to slow down to reach its maximum at about 40 seconds, when the main sources of glycogen reserve have been used. As this combines with the production of large quantities of lactic acid, speed endurance is closely related to the ability to tolerate a high level of waste products. Improving tolerance requires besides performing runs exceeding 40 seconds repetition of shorter workloads with reduce recoveries to allow the accumulation of oxygen dept as lactic acid (Jess Jarver, 1978). Extensive Internal training is the programme of frequent running with a set of interval after each frequent run or activity. The two phases between runs or activity must have adequate time to permit the athlete or performer to recover from the preceding run but long adequate to meet the expense of him complete recovery extensive Interval training is a workout or physical activity followed by possessions of permitted relief interval (Tom Backer, 1993).

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Slow continuous running method of training based on the running speed or fast heartbeat. During the exercise, the heart rate should be 140-160 beats per minute for the training of the athlete. The duration of the period of the total amount should not be less than 30 minutes, and endurance athletes can go for 2 hours or more. Interval training is a type of training that involves a series of low-to high-intensity workouts interspersed with rest or relief periods (Baekkerud, 2016). The high-intensity periods are typically at or close to anaerobic exercise, while the recovery periods involve activity of lower intensity (Rev up your workout with interval training, 2014). Varying the intensity of effort exercises the heart muscle, providing a cardiovascular workout, improving aerobic capacity and permitting the person to exercise for longer and/or at more intense levels (Gist *et al*., 2013). Interval training can refer to the organization of any cardiovascular workout. In overweight and obese individuals, high intensity interval training employing 4 sets of 4-minute intervals has been shown to improve VO2max to a greater extent than isocaloric moderate continuous training, as well as to a greater extent than with a protocol using shorter, 1-minute intervals (Cornish, 2010) Some exercisers find interval training less monotonous than continuous-intensity exercise (Giala *et al*., 2014). A number of studies confirm that in young and healthy individuals, sprint interval training appears to be as effective as continuous endurance training of moderate intensity, and

has the benefit of requiring a reduced time commitment (Osawa *et al*., 2014). There is some evidence that interval training is also beneficial for older individuals and for those with coronary artery disease, but further study is required (Mazurek *et al*., 2014; Lee, 2008). Interval training can improve many aspects of human physiology. In athletes, it can enhance lactate threshold and increase VO2max. Lactate threshold has been shown to be a significant factor in determining performance for long distance running events. An increase in an athlete's VO2max allows them to intake more oxygen while exercising, enhancing the capability to sustain larger spans of aerobic effort (Roxburgh, 2014). Studies have also shown interval training can induce endurance-like adoptions, corresponding to increased capacity for whole body and skeletal muscle lipid oxidation and enhanced peripheral vascular structure and function. A combination of interval training and continuous exercise increases cardiovascular fitness and raises HDL-cholesterol, which reduces the risk of cardiovascular disease. This type of training also decreases waist circumference, waist-to-hip ratio (WRH), and the sum of skin folds on the body. This method of training may be more effective at inducing fat loss than simply training at a moderate intensity for the same duration.

De-limitations

- The study had delimited eighty state level middle and long distance runners' school boys from Pondicherry.
- The age of the subjects were ranged between 16 to 18 years.
- The Speed variable was delimited
- Training period was fixed for twelve weeks.

Limitations

The following were limitations of the study

- The subject's previous training, health habits, rest period, life-style, day-to-day activities and other factors were not considered.
- The uncontrollable factors in climatic conditions such as atmospheric temperature and humidity were not taken into consideration during the testing period.

Hypothesis

It was hypothesized that influence of slow continuous run, speed continuous run and extensive interval run training on speed performance of post adolescence boys(16-18 years boys).

METHODOLOGY

The purpose of the study was to find out the effect of slow continuous run, speed continuous run and extensive interval run training on speed performance of post adolescence boys. For this study 80(Eighty) healthy untrained subjects were selected randomly and divided into four groups. Group 'A' underwent slow continuous running (SLCRG) Group 'B' underwent the speed of continuous running (SPCRG), Group 'C' underwent extensive interval training (EIRTG). Group 'D' acted the control group (CG) did not undergoes any special training program in addition to their regular program. Training was provided for three days a week in the morning and evening only. The training was for a period of 12 weeks. The speed performance was measured in a standard track. Prior to and after the end of practice period all the subjects were tested on 50 meter dash performance. The data for training periods (pre-test) were obtained before and after the training period of 12 weeks (post-test).

Analysis of data and interpretation

Analysis of co-variance was used to determine the differences, if any, among the adjusted post test means on each selected criterion variables separately. Whenever the 'F' ratio for adjusted post-test was found to be significant, the Scheff's test was applied as post-hoc test to determine the paired mean differences. The level of significance was fixed at 0.05 level of confidence to test the 'F' ratio obtained by analysis of covariance

Analysis of Covariance on of Slow Continuous running group, Fast Continuous Running group, Extensive Interval training group and control group for speed

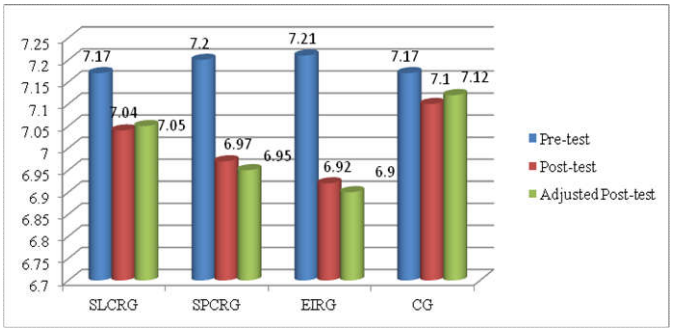
The table shows that the pre test mean values on speed for slow continuous running group (SLCRG), speed continuous running group (SPCRG), extensive interval running training group (EIRTG) and control groups (CG) were 7.17, 7.20, 7.21 and 7.17 respectively. The obtained 'F' value of 0.19 for pre test scores on speed, which was lesser than the table value of 2.72 for significance with df 3 and 76 at 0.05 level of confidence. The post test mean values on speed for slow continuous running group (SLCRG), speed continuous running group (SPCRG), Extensive interval running training group (EIRTG) and control groups (CG) were 7.04, 6.97, 6.92 and 7.10 respectively. The obtained 'F' value of 2.98 for post test scores on speed, which was greater than the table value of 2.72 for significance with df 3 and 76 at 0.05 level of confidence. The adjusted post test mean values on agility for slow continuous running group

	SLCRG	SPCRG	EIRTG	CG	S.V	Sum of square	df.	Mean Square	'F' ratio
Pre test mean	7.17	7.20	7.21	7.17	B	0.020	3	0.007	0.19
SD	0.18	0.18	0.19	0.17	W	2.646	76	0.035	
Post- test Mean	7.04	6.97	6.92	7.10	B	0.406	3	0.135	2.98*
SD	0.17	0.18	0.18	0.28	W	3.446	76	0.045	
Adjusted post-test Mean	7.05	6.95	6.90	7.12	B	0.585	3	0.195	13.79*
					W	1.061	75	0.014	

Significant at 0.05 level of confidence

SLCRG	SPCRG	EIRTG	CG	MD	CI
7.05	6.95			0.10	
7.05		6.90		0.15*	
7.05			7.12	0.07	
	6.95	6.90		0.05	0.12
	6.95		7.12	0.17*	
		6.90	7.12	0.22*	

(SLCRG), speed continuous running group (SPCRG), extensive interval run training group (EIRTG) and control groups (CG) were 7.05, 6.95, 6.90 and 7.12 respectively. The obtained 'F' value of 13.79 for adjusted post test scores on speed, which was higher than the table value of 2.72 for significance with df 3 and 75 at 0.05 level of confidence. The result of the study showed that there was a significant difference among slow continuous running group (SLCRG), speed continuous running group (SPCRG), Extensive Interval running training group (EIRTG) and control group (CG) on speed. Since four groups were involved the Scheffe's post hoc test was applied to find out the paired mean differences.



Graphical Representation

Scheffe's post hoc test for the differences between paired adjusted post test means of speed

The shows that the adjusted post test mean differences of, Slow Continuous running (SLCRG) and Extensive Interval training group (EIRTG), speed continuous running group (SPCRG) and control group (CG) and extensive interval running training group (EIRTG) and control group (CG) Were 0.15, 0.17 and 0.22 respectively. They were greater than the confidence interval value 0.12 at 0.05 levels, which indicate that there was a significant difference among the group of slow continuous running (SLCRG) and extensive interval running training group (EIRTG), speed continuous running group (SPCRG) and control group (CG) and extensive interval running training group (EIRTG) and Control group (CG).

The adjusted mean difference of slow continuous running (SLCRG) and speed continuous running group (SPCRG), slow continuous running (SLCRG) and control group (CG) and speed continuous running group (SPCRG) and extensive interval running Training group (EIRTG) 0.10, 0.07 and 0.05 respectively. They were lesser than the confidence interval value 0.12 at 0.05 levels, which indicate that there was significant differences exist among the group of slow continuous running (SLCRG) and speed continuous running group (SPCRG), slow continuous running (SLCRG) and control group (CG) and speed continuous running group (SPCRG) and extensive interval running training group (EIRTG).The Comparison of pre, post and adjusted post mean values of explosive power for slow continuous running group (SLCRG), fast continuous running group (SPCRG), extensive interval run training group (EIRTG).

RESULTS AND CONCLUSION

The result of the study reveals that there was significant improvement in selected variables of speed has been significantly improved through speed continues running and extensive interval run training.

Hence the research hypotheses are partially accepted. It was concluded that the speed continues running group and the extensive interval training group shows the significant improvement in speed when compare with the control group. The extensive interval training group shows the significant improvement in speed when compare with the control and the slow continuous running group.

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