International Journal of Multidisciplinary Research and Modern Education (IJMRME)
Impact Factor: 7.315, ISSN (Online): 2454 - 6119
(www.rdmodernresearch.org) Volume 9, Issue 2, 2023

EFFECT OF INTERVAL SPRINTING ON SELECTED SPEED RELATED VARIABLES AMONG COLLEGE MEN STUDENTS

Dr. R. Thanalakshmi
Associate Professor, Dr. Sivanthi Aditanar College of Physical Education, Tiruchendur, Thoothukudi, Tamilnadu

Cite This Article: Dr. R. Thanalakshmi, "Effect of Interval Sprinting on Selected Speed Related Variables Among College Men Students", International Journal of Multidisciplinary Research and Modern Education, Volume 9, Issue 2, July - December, Page Number 108-110, 2023.

Abstract:

The purpose of the study was designed to examine the effect of interval sprinting on average speed and speed endurance among college men students. For the purpose of the study, thirty college men students from Dr. Sivanthi Aditanar College of Physical Education, Tiruchendur, Tamilnadu, India were selected as subjects. They were divided into two equal groups. Each group consisted of fifteen subjects. Group I underwent interval sprinting for three days per week for twelve weeks. Group II acted as control who did not undergo any special training programme apart from their regular physical education programme. The following variables, namely average speed and speed endurance were selected as criterion variables. All the subjects of the two groups were tested on selected dependent variables namely average speed and speed endurance by using 50 mts run and 150 mts run at prior to and immediately after the training programme.

The analysis of covariance was used to analyze the significant difference if any among the groups. The .05 level of confidence was fixed as the level of significance to test the 'F' ratio obtained by the analysis of covariance, which was considered appropriate. The results of the study showed that there was a significant difference between interval sprinting group and control group on average speed and speed endurance. And also, it was found that there was a significant improvement on selected criterion variables such as average speed and speed endurance due to interval sprinting.

Key Words: Interval Sprinting, Average Speed, Speed Endurance, College Men Students

Introduction:

Interval Sprinting, a powerful and exhilarating form of cardiovascular exercise, has gained acclaim for its efficiency in burning calories, boosting cardiovascular fitness, and improving overall athletic performance. This dynamic training method involves alternating between short, intense bursts of sprinting and periods of rest or lower-intensity activity. Whether you're an avid runner, a fitness enthusiast, or someone seeking a time-effective workout, Interval Sprinting offers a compelling approach to achieving your fitness goals. The foundation of Interval Sprinting lies in its ability to elevate heart rate and push the body to its limits during the sprinting intervals. These intense efforts are followed by brief recovery periods, allowing the body to partially recover before the next sprint.

This cycle of high-intensity effort and active recovery not only maximizes calorie burn during the workout but also triggers physiological adaptations that contribute to improved cardiovascular endurance. One of the notable advantages of Interval Sprinting is its time efficiency. With sessions typically lasting between 15 to 30 minutes, individuals can achieve significant fitness gains in a fraction of the time required for traditional steady-state cardio workouts. This makes it an appealing option for those with busy schedules who still prioritize their health and fitness. Interval Sprinting can be adapted to various fitness levels, making it accessible to beginners and challenging enough for seasoned athletes. The workouts can be performed on a track, a treadmill, or even outdoors, providing versatility and the opportunity to enjoy the invigorating experience of sprinting.

Methodology:

The purpose of the study was designed to examine the effect of interval sprinting on average speed and speed endurance among college men students. For the purpose of the study, thirty college men students from Dr. Sivanthi Aditanar College of Physical Education, Tiruchendur, Tamilnadu, India were selected as subjects. They were divided into two equal groups. Each group consisted of fifteen subjects. Group I underwent interval sprinting for three days per week for twelve weeks. Group II acted as control who did not undergo any special training programme apart from their regular physical education programme. The following variables, namely average speed and speed endurance were selected as criterion variables. All the subjects of two groups were tested on selected dependent variables namely average speed and speed endurance by using 50 mts run and 150 mts run at prior to and immediately after the training programme. The analysis of covariance was used to analyze the significant difference if any among the groups. The .05 level of confidence was fixed as the level of significance to test the 'F' ratio obtained by the analysis of covariance, which was considered appropriate.

Analysis of the Data:

Average Speed:

The analysis of covariance on average speed of the pre and post test scores of interval sprinting group and control group have been analyzed and presented in table 1.

Table 1: Analysis of Covariance of the Data on Average Speed of Pre and Post Tests Scores of Interval Sprinting and Control Groups

Test	Interval Sprinting Group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	Obtained 'F' Ratio
Pre Test							
Mean	7.52	7.49	Between	0.0053	1	0.0053	0.26
S.D.	0.15	0.09	Within	0.5733	28	0.0205	
Post Test							
Mean	7.30	7.47	Between	0.2050	1	0.2050	10.01*
S.D.	0.13	0.13	Within	0.5734	28	0.0205	
Adjusted Post Test							
Mean	7.29	7.47	Between	0.2469	1	0.2469	48.81*
			Within	0.1366	27	0.0051	

* Significant at .05 level of confidence.

(The table values required for significance at .05 level of confidence for 2 and 28 and 2 and 27 are 3.34 and 3.35 respectively). The table 1 shows that the adjusted post-test means of interval sprinting group and control group are 7.29 and 7.47 respectively. The obtained "F" ratio of 48.81 for adjusted post-test means is more than the table value of 3.35 for df 1 and 27 required for significance at .05 level of confidence on average speed. The results of the study indicated that there was a significant difference between the adjusted post-test means of interval sprinting group and control group on average speed.

Speed Endurance:

The analysis of covariance on speed endurance of the pre and post test scores of interval sprinting group and control group have been analyzed and presented in table 2

Table 2: Analysis of Covariance of the Data on Speed Endurance of Pre and Post Tests Scores of Interval Sprinting and Control Groups

Test	Interval Sprinting Group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	Obtained 'F' Ratio
Pre Test							
Mean	16.41	16.33	Between	0.04	1	0.04	0.82
S.D.	0.25	0.20	Within	1.38	28	0.05	
Post Test							
Mean	15.52	16.29	Between	4.45	1	4.45	22.07*
S.D.	0.17	0.19	Within	5.64	28	0.20	
Adjusted Post Test							
Mean	15.52	16.30	Between	4.39	1	4.39	99.98*
			Within	1.18	27	0.04	

* Significant at .05 level of confidence.

(The table values required for significance at .05 level of confidence for 2 and 28 and 2 and 27 are 3.34 and 3.35 respectively). The table 2 shows that the adjusted post-test means of interval sprinting group and control group are 15.52 and 16.30 respectively. The obtained "F" ratio of 99.98 for adjusted post-test means is more than the table value of 3.35 for df 1 and 27 required for significance at .05 level of confidence on speed endurance. The results of the study indicated that there was a significant difference between the adjusted post-test means of interval sprinting group and control group on speed endurance.

Conclusion:

- There was a significant difference between interval sprinting group and control group on average speed and speed endurance.
- And also it was found that there was a significant improvement on selected criterion variables such as average speed and speed endurance due to interval sprinting.

References:

1. Buchheit, M., & Laursen, P. B. (2013). High-intensity interval training, solutions to the programming puzzle: Part I: Cardiopulmonary emphasis. Sports Medicine, 43(5), 313-338.
2. Buchheit, M., & Laursen, P. B. (2013). High-intensity interval training, solutions to the programming puzzle: Part II: Anaerobic energy, neuromuscular load and practical applications. Sports Medicine, 43(10), 927-954.

3. Burgomaster, K. A., Hughes, S. C., Heigenhauser, G. J., Bradwell, S. N., & Gibala, M. J. (2005). Six sessions of sprint interval training increases muscle oxidative potential and cycle endurance capacity in humans. Journal of Applied Physiology, 98(6), 1985-1990.
4. Gibala, M. J., Little, J. P., Macdonald, M. J., & Hawley, J. A. (2012). Physiological adaptations to low-volume, high-intensity interval training in health and disease. The Journal of Physiology, 590(5), 1077-1084.
5. Gist, N. H., Fedewa, M. V., Dishman, R. K., & Cureton, K. J. (2014). Sprint interval training effects on aerobic capacity: a systematic review and meta-analysis. Sports Medicine, 44(2), 269-279.
6. Metcalfe, R. S., Tardif, N., Thompson, D., & Vollaard, N. B. (2015). Changes in aerobic capacity and glycaemic control in response to reduced-exertion high-intensity interval training (REHIT) are not different between sedentary men and women. Applied Physiology, Nutrition, and Metabolism, 41(11), 1117-1123.
7. Sloth, M., Sloth, D., Overgaard, K., & Dalgas, U. (2013). Effects of sprint interval training on VO2max and aerobic exercise performance: A systematic review and meta-analysis. Scandinavian Journal of Medicine & Science in Sports, 23(6), e341-e352.
8. Stöggl, T., & Sperlich, B. (2015). The training intensity distribution among well-trained and elite endurance athletes. Frontiers in Physiology, 6, 295.