



## Effect of interval running training on the results of running 800 meters students of university of suryakancana

Muhamad Guntur Gaos Sungkawa<sup>1ABCDE</sup>, Muhamad arifin<sup>2ACDE</sup>

<sup>1</sup>Faculty of Teacher Training and Education, Universitas Suryakancana, Indonesia.

<sup>2</sup>Magister Physical Education and Sport, Universitas Suryakancana, Indonesia

*Authors' Contribution: A – Study Design, B – Data Collection, C – Statistical Analysis, D – Manuscript Preparation, E – Funds Collection*

**Abstract:** This study aims to determine the effect of interval training on the results of running 800 meters. This study used an experimental method with the treatment variable of interval running, while the bound variable was 800-meter running. The research sample of 23 Penjas students was taken by stratified random sampling through the matching paired technique. The processing of this hypothesis test uses a paired samples test. The hypothesis is accepted if the significance value is less than alpha (with an alpha of 0.05). From the data above, the significance value for the experimental pretest and post-test data is 0.00 which means that the hypothesis is accepted. Likewise, the pretest and post-test data of the control group was 0.003, which means that the hypothesis was accepted. The results of this study conclude that interval training has an effect on the outcome of running 800 meters or in other words there is a significant influence of interval training on the outcome of running 800 meters. The focus of development carried out by the researcher is more focused on the strength of training to improve the ability to run 800 meters, where these endurance, speed and strength factors are very useful in improving the overall physical condition. Some of the reasons why endurance, speed and strength are very important in improving overall physical condition because they are the driving force in every physical activity, especially athletes. Strength also plays a very important role in protecting and minimizing sports practitioners, especially athletes, from the possibility of injuries that can hinder the athlete's own achievement.

**Keywords:** public interest; recreational sports; gateball; external factors; internal factors.

Corresponding author: Muhamad Guntur Gaos Sungkawa, email: [gunturgs@unsur.ac.id](mailto:gunturgs@unsur.ac.id)



Received: 2025-06-16; Accepted: 2025-06-22; Published online: 2025-06-30

Effect of interval running training on the results of running 800 meters students of university of suryakancana

**Jurnal maenpo: jurnal Pendidikan Jasmani Kesehatan dan Rekreasi**

Vol 15 No 1(2025); Volume 15 Nomor 1 Tahun 2025

## **INTRODUCTION**

Exercise is an activity that has many benefits for health as well to reduce the level of saturation for some individuals. Nowadays, sports have grown rapidly around the world and have become a prestigious necessity. In human life, sports have also become a necessity for every element of society. Both for health for themselves, entertainment and affecting the prestige of a country. Likewise with athletics which is the parent of all sports. Athletics itself comes from the Greek word Athlon which has the meaning of competing or competing. The term athletics used in Indonesia comes from English, namely athletic, which is a sport that includes walking, running, jumping, and throwing, almost all these movements we do in our daily activities, whether done intentionally or not. Therefore, movement in athletics is found in almost all sports, therefore athletics is referred to as the parent of all sports. In Indonesia itself, athletics has been known since the Dutch colonial era through schools and the military, while the first athletic organization was established was the *Nederland Indische Athletiek Unie* (NIAU) on July 21, 1917.

Athletics in Indonesia is growing with the emergence of associations in various major cities such as Jakarta, Bandung, Surabaya, Solo, Yogyakarta, Semarang and Medan. On September 3, 1950, the Indonesian Athletics Association (PASI) was established in Semarang, which was followed by holding the first national athletics championship in Bandung. It has been almost a century since the parent organization of this athletic organization was established. From there, athletic sports began to be developed and introduced to people around the world. Athletics championships, both regional and international, are held. These championships are very helpful for the progress and development of achievements. To improve high achievements, athletes must train hard and diligently, guided by professional coaches. Harsono (2005: 101) stated that training is "a systematic process rather than training or working repeatedly, with increasing the amount of training or workload".

According to Tudor O. Bompas, G. Gregory Haff (2009: 21) training is "the process by which an athlete is prepared for the highest performance". Setiawan, Harsono, Y.S. Santoso Giriwijoyo (2005: 60) "Training is a systematic process that is carried out repeatedly and the burden is increasing day by day". According to Martadinata (2005: 1) exercise is "a process of improvement that is carried out regularly and systematically based on the principles of training, such as the type of exercise, the intensity of the exercise, the duration of the exercise

and the frequency of exercise whose aim is to increase the training capacity". Meanwhile, according to Giriwijoyo (2003: 101). Training is a conscious effort that is carried out continuously and systematically to improve the functional ability of the body in accordance with the demands of the performance of the sport, to be able to display the high quality of the sport both in terms of basic abilities (physical ability) and in the aspect of its skill abilities (technical ability).

Endurance is the ability of athletes to maintain the ability of muscles to contract requires sufficient cardiovascular (endurance) and respiratory (respiratory) systems. This system must be developed so that it can produce, distribute, and use oxygen that functions to extend the time so that you do not feel tired quickly. Fatigue can prevent athletes from injury through the effective use of the muscular system or the response system to injury from situations that allow for injury. Interval training according to Marta (2005: 6) is a rest interval (sprinting interspersed with jogging or walking). There are several factors that must be met in interval training, namely the distance to be traveled, the speed to be traveled, the number or repetition, the length of the rest period, and the type or nature of rest. In interval running, there are factors that must be considered, including: running distance, intensity (workload), repetitions (reps), length of rest time per rep. If the rest lasts longer, for example 3-4 minutes, the effect of the interval training is greatly reduced and if it lasts longer than 5 minutes between each load of work, then the physiological processes are of no significance at all, so it cannot be said that the interval training method is no longer the method. Interval training influences physiological function by the occurrence of economization in the heart, circulation, respiration, muscles, and the development of aerobic endurance skills. "Interval running is a set of practice runs (sets of runs) or efforts for travel speed, distance, and rest intervals. Interval training can be divided into two types, namely extensive and intensive." Zafar and Hidayat (2010: 20). Interval training is included in general endurance training. General endurance is aerobic endurance, where the work of the heart is affected by the exercise. Therefore, in training, it needs to be supported by an interval training program so that it can increase endurance, especially 1500m runners, and help in improving the achievement of running 800m.

The exercise, which is an exercise that is usually done by athletes running medium distances and long-distance running, to increase cardiovascular endurance, is one of the physical abilities that medium and long runners must have. Related to the preliminary study,

the author intends to examine the impact of the exercise, the focus of the research study is "The Effect of Interval Running Exercise on the Result of 1500 m Running".

## MATERIAL AND METHODS

The method in this study uses *an experimental method using the Pretest-Posttest Control Group Design*. This research was carried out in 3 stages each, namely, the first was in the form of an initial test of 800 meters which was carried out on the track of the FKIP mini stadium UNSUR Cianjur, from Penjas students level 1 semester II. With a total of 45 1st level students as a research sample. To divide the 45 students into two groups, namely the control group and the experimental group using *stratified random sampling through the matching paired technique*. The implementation technique is to consider the data from the initial test results to be divided evenly between the control group and the experimental group. This means that fast and less fast will be the same for each group in a balanced manner.

## RESULTS

Normality data processing using the Shapiro Wilk test because the sample count is relatively small. From the data above, the significance value for the experimental pretest group is 0.059 which means that the experimental pretest data is normally distributed

**Table 1**  
**Tests of Normality**

|              | Group                  | Shapiro-Wilk |    |         |
|--------------|------------------------|--------------|----|---------|
|              |                        | Statistic    | df | Itself. |
| Sample Group | Pretest<br>experiment  | .917         | 23 | .059    |
|              | posttest<br>experiment | .915         | 23 | .052    |
|              | Pretest Control        | .915         | 22 | .059    |
|              | posttest control       | .935         | 22 | .153    |

\*. This is a lower bound of the true significance.  
a. Lilliefors Significance Correction

Likewise, the experimental post-test value was 0.052, the pretest control was 0.059 and the post-test control was 0.153, all of which had a value greater than alpha 0.05 which means that all data was normally distributed.

**Table 2**  
**Test of Homogeneity of Variances**

| Sample groups |     |     |         |
|---------------|-----|-----|---------|
| Levene        | df1 | df2 | Itself. |
| Statistic     |     |     |         |
| 1.463         | 3   | 86  | .230    |

From the data above, the data homogeneity value of 0.230 is greater than the alpha of 0.05, which means that the data is homogeneous.

**Table 3**  
**Paired Samples Test**

|   | Paired Differences |                    |                 |   |         | t     | df | Sig. (2-tailed) |
|---|--------------------|--------------------|-----------------|---|---------|-------|----|-----------------|
|   | Mean               | Hours of deviation | Std. Error Mean | 95% Confidence Interval of the Difference |         |       |    |                 |
|   |                    | n                  |                 | Lower                                     | Upper   |       |    |                 |
| Pretest_eksperimen<br>Posttest_eksperimen | 2.16130            | 1.76202            | .36741          | 1.39935                                   | 2.92326 | 5.883 | 22 | .000            |
| Pretest_control<br>Posttest_control       | 1.64818            | 2.33663            | .49817          | .61218                                    | 2.68419 | 3.308 | 21 | .003            |

The processing of this hypothesis test uses a paired samples test. The hypothesis is accepted if the significance value is less than alpha (with an alpha of 0.05). From the data above, the significance value for the experimental pretest and post-test data is 0.00 which means that the hypothesis is accepted. Likewise, the pretest and post-test data of the control group was 0.003, which means that the hypothesis was accepted.

The results of this study concluded that interval training influences the outcome of running 800 meters or in other words there is a significant influence of interval training on the outcome of running 800 meters.

## **DISCUSSION**

In the context of recreational sports, the motivation theory by Deci and Ryan (1985) in Self-Determination Theory explains that intrinsic and extrinsic motivation affects an individual's participation in sports activities. Intrinsic motivation comes from within the individual, such as personal pleasure and satisfaction, while extrinsic motivation comes from outside the individual, such as social rewards or recognition (Day et al., 2024). Research by (Syafuruddin et al., 2022) in the journal "The role of physical education and sports in shaping the nation's character" emphasizes the importance of physical education and sports in shaping people's character and interest in sports. They state that good physical education can increase people's interest and participation in recreational sports. In addition, research by (Muhajir, 2007) in the journal "Factors Influencing Sports Interest in Islamic High Schools" shows that factors such as social support, facilities, and knowledge have an important role in increasing sports interest among students. This is in line with your finding that social support and facilities are in the medium category. (Setiakarnawijaya et al., 2022)

(Arindra, 2019) in his survey on public interest and motivation in Car Free Day activities in Banyumas emphasized that interest in sports can increase if these activities are provided regularly, well facilitated, and supported by the government and the community. This shows the importance of the role of the government and the community in providing facilities and social support to increase public interest in recreational sports.

In addition, people's motivation to engage in recreational sports is also influenced by physiological needs, security, social needs, appreciation, and self-actualization (Kuncoro & Rahayu, 2023). These factors suggest that interest in recreational sports depends not only on physical aspects, but also on the psychological and social needs of the individual (Hafifah Rosalia, 2019).

In research on Gateball in Tabalong Regency City Park, efforts to increase community interest could focus on improving the quality and accessibility of sports facilities, as well as strengthening social support through communities or playgroups. In addition, education on the benefits of Gateball and basic skills training can help improve the knowledge and skills of the community, which in turn can increase their interest in participating. With a holistic approach, considering internal and external factors, as well as the psychological and social needs of the

community, it is expected that interest in the recreational sport of Gateball in Tabalong Regency City Park can increase significantly.

## CONCLUSION

From the results of data processing and data analysis stated above, namely regarding the effect of interval running training on the results of 800-meter running, the author draws the conclusion that Interval running training shows a significant influence on the results of 800-meter running.

## REFERENCES

- Arindra, H. K. (2019). Survei Minat dan Motivasi Masyarakat Melakukan Olahraga Rekreasi pada Kegiatan Car Free Day di Kabupaten Banyumas. *Skripsi*, 1–71.
- Day, C. F., Day, F., Sampling, P., & Day, C. F. (2024). *Survey minat dan motivasi masyarakat dalam melakukan olahraga rekreasi melalui program*. 4(2), 89–104.
- Hafifah Rosalia. (2019). Kabupaten Tegal Tahun 2019 Skripsi. *Jurnal Pendidikan Jasmani Kesehatan Dan Rekreasi*, 8.
- Budiwanto. Setyo. *Exercise Methodology*. Hapless; UM Press. 2012.
- Bambang and Jajat, (2010) *Application of Statistics in Military Education*. FPOK UPI Book
- Ballesteros, J.M. (1979) *Guidelines for Basic Athletic Training*. Translated by PB. PASI Jakarta.
- Dwi Joko Asmoro, *Development Research*, Jakarta: 2008.
- Fred Mc Mane, Art Seiden, Arvid Knudsen, *Fundamentals of Athletics*. ANGKASA Bandung
- Harjanto, *Teaching Planning*, Jakarta: Rineka Cipta. 2008.
- Husdarta, *Direct Learning Model in Physical Education and Health*, Bandung: Alfabeta. 2013.
- Komarudin, *Dictionary of Scientific Written Terms*, Jakarta: Bumi Aksara. 2000.
- Muhamad Guntur Gaos Sungkawa, (2018) *Development of Rock Climbing Strength Training Model for Adolescents*
- Muhamad Irfan, *Physiotherapy for Stroke Patients*, Yogyakarta: Graha Ilm. 2012.
- Nana Syaodih Sukmadinata. *Bandung Education Research Method: PPs UPI*. 2010
- Pate, R., Rotella, R., and Mc Clenaghan, "The Scientific Basics of Coaching". (Semarang: Translated by Dwijowinoto, K. IKIP Semarang, 1993) p.318
- Kuncoro, M. D. M., & Rahayu, S. (2023). Motivasi Masyarakat Yang Terlibat Dalam Olahraga Rekreasi. *Jurnal Olahraga Dan Kesehatan ...*, 4, 28–40.
- Muhajir, A. (2007). Faktor-Faktor Yang Mempengaruhi Minat Siswa Kelas X Dalam Mengikuti Ekstrakurikuler Olahraga Di SMA Islam Sultan Agung I Semarang Tahun Ajaran 2006/2007. *DIGILIB UNNES, Local Content Repository*, 2(1), 33.
- Syafruddin, M. A., Jahrir, A. S., Yusuf, A., Ikadarny, & Yusuf, A. (2022). Peran Pendidikan Jasmani Dan Olahraga Dalam Pembentukan Karakter Bangsa. *Jurnal Ilmiah STOK Bina Guna Medan*, 10(2), 73–83.
- Prof. Dr. James Tangkudung, Sportmed, M. Pd et al., *Guidelines for Annual Training Programs of the Center for Student Sports Education and Training*, Jakarta: Assistant Deputy of the Sports Center, 2011

Setiawan, Y.S. Santoso Giriwijoyo, *Humans and Sports*, Bandung: ITB, 2005.

Hood. James. *Sports Coaching "Sports Achievement Coaching"*. Jakarta; Cerdas Jaya. 2012

Tudor O. Bomp. G. Gregory Haff, *Periodization Translation Collection*, Jakarta: Jakarta State University. 2009