

## Special endurance and its relation to the years of training experience of middle distance sprinters

Kadraoui brahim <sup>1</sup>, harbi salim <sup>2</sup>

<sup>1</sup>staps , University of Ziane Achour djelfa , Algeria [kadraoui17@gmail.com](mailto:kadraoui17@gmail.com)

<sup>2</sup>staps , University of Ziane Achour djelfa

### ARTICLE INFORMATION

Original Research Paper

Received :16/03/2018

Accepted :04/05/2019

Published :01/06/2019

#### Keywords:

special endurance,  
years of training expérience ,  
middle distance sprinters

### Abstract

The study aimed at finding out the relationship between the special endurance and the years of training experience for the half-distance athletes for the athletics stars club Hassi Bah bah. The sample of the research was randomly selected from the Stars of Athletics Club as many as (14) Between (04) and (05) years, a series of physical tests were conducted as a data collection tool in this study.

The results concluded that there was a statistically significant relationship between spécial endurance and the years of training experience for middle distance sprinters.

Corresponding author :

Kadraoui brahim

[kadraoui17@gmail.com](mailto:kadraoui17@gmail.com)

## 1. Introduction

The sport of athletics is one of the most basic and useful forms of sport to enhance the physical, physical, and scientific efficiency and health of the individual, It is one of the oldest sports and is the bride of the modern Olympic Games, which includes several different disciplines, which are divided into running, walking, throwing and jumping competitions. (Mokhtari, 2014, p. 43). And if we look at the importance of athletics from the physical side it combines the strength, speed and endurance, and imagine that these are essential elements in the formation of fitness, and if the athlete to excel in athletics should be enjoyed in one way or another, and this is only exercises Daily, without neglecting other physical elements such as flexibility and agility, It is noted that progress in the digital achievement of all competitions in the world of sports and in particular athletics competitions reflects the enormous amount of knowledge and scientific information by scientists, researchers and trainers in various disciplines, Motivation and high motivation for the training process.

The middle distance competitions are one of the most vital activities for athletes. We have recently sought a continuous contraction of the record for this specialization in Algeria, High sports results can't be achieved by increasing the size and intensity of the training load alone, and without accompanying the recovery operations to eliminate the fatigue resulting from training. In many cases, the athlete performs a training exercise even though he or she does not get enough of the fatigue resulting from the previous physical pregnancy. This often causes the athlete to reach the stress stage of the device (neurological, musculoskeletal.... etc.) The training years spent regularly by the team, where we observe the secrets of the less experienced runners to compete with their peers in the team who have the greatest training age in the group, Thus ensuring the prestige and achievement of the best achievements.

The great development witnessed by the science of sports training through its association with most of the natural and human sciences and the use of the results of studies and research therein to establish the rules and laws of sports training. The most important of these sciences is physiology and physiology, Therefore, the scientific input in the formation of training loads and directing them towards the objectives of the desired training is to identify and determine the production systems of energy prevailing in the performance of the game or sports effectiveness or elements of physical preparation.

## Special endurance and its relation to the years of training experience of middle distance sprinters

The training of athletics activities depends on the development of scientific and training programs to develop the level of the athlete and reach it to the upper levels , and each efficiency specifications and requirements of its own, including the activities run intermediate distances , including running (800 meters, 1500) , which needs to develop some physical attributes and energy systems For the physiological adjustment of organic organs to perform and carry the effort during the race to achieve the best time . (Al-Shamkhi , 2004, p. 155)

In light of this, the physical and physiological processes of the effectiveness of half-long distances should seek through training programs to develop special endurance and aerobic and anaerobic energy systems together to perform and carry the effort during the race and increase the efficiency of muscles in the tolerance of lactic acid, which helps delay the emergence of fatigue and achieve the best achievement , The period spent by the athlete in the training (age training) with the group is of great importance, the commitment of sports training and for long periods lead to the development of hostility and get the best results in the events of the enemy of the middle distances, and this has raised us desire to He urged the relationship between the special endurance and the training age of the enemy by asking the following main question :

- Is there a statistically significant relationship between the special endurance and the years of training experience for middle distance sprinters?.

There are several sub-questions that the present study seeks to answer. The study questions are :

- Is there a relationship of statistical significance between the carrying speed and years of training experience for middle distance sprinters ?.

- Is there a statistically significant relationship between carrying the force and the years of training experience for middle distance sprinters ?.

### **-Objectives:**

- Studying the relation between speed endurance and years of training experience for middle distance sprinters.

- Finding the relationship between the strength endurance and the years of training experience for middle distance sprinters.

### **- Hypotheses:**

#### **- General Hypotheses:**

There is a statistically significant relationship between the special endurance and years of training experience middle distance sprinters .

### **-Partial Hypothesis:**

- There is a statistically significant relationship between the speed endurance and the years of training experience for middle distance sprinters
- there is a relationship with a statistically significant difference between the strength endurance and years of training experience for middle distance sprinters.

### **2. Methods:**

#### **- Research Methodology:**

Given the nature of our topic, we used the descriptive approach.

#### **- Community and sample research:**

The sample of the study included a group of runners, a class of athletes at the Stars of Athletics Club in Hassi Bahbah, number (14) runners, randomly chosen from the middle distance sprinters .

#### **-Research areas:**

- Human field: Athletes of athletics stars Bahasi Habah for the state of Djelfa
- Spatial field: Athletics track in Hassi Bahbah
- Time domain: The time required to complete this research: 09/10/2016 to 11/08/2016.

#### **- Data collection tools:**

Are the means used by the researcher, whether in the process of description or analysis or prospecting to reach its goals. (Ankibi, & Alakabi, 2015, p. 37)

The research tool is the only means by which the researcher can solve the problem, and we have used in our research a set of physical tests.

### **3. Results:**

#### **1- Present the results of the first hypothesis**

## Special endurance and its relation to the years of training experience of middle distance sprinters

Table (1) represents averages, standard deviations, calculated R values, error level of speed tolerance test (Cosmin test) and years of training experience for the research sample

Landmarks	Statistical Variables		R calculate	R Scheduled	SIG
	X	S			
Cosmin test (prediction of 800 m performance)	612.14	27.22	0.905	0.53	0.00
Years of training experience	4.36	0.49			
Cosmin test (prediction of 1500 m performance)	1360	62.63	0.86	0.53	0.00
Years of training experience	4.36	0.49			

( Level of significance:0.05,-df=12)

Table (01) shows the results of the Cosmin test (800m performance prediction) and the years of training experience for the research sample , It is clear to us that the mean of this test which reached (612.14) and the standard deviation was( 27.22 ) With a standard deviation of (0.49) and a calculated value of R (0.905), which is greater than the scale value of (0.53) at the level of significance (0.05) , and The value of the calculated significance (SIG) (0.000) which is smaller than the significance level (0.05). This means that there is a statistically significant relationship between the Kosmin test (800 m performance prediction) and the years of training experience with middle distance sprinters .

Table (01) shows the results of the Cosmin test (1500m prediction) and the years of training experience for the sample of the research. It is clear to us that the mean of this test which reached (1360) and the standard deviation was (62.63) , With a standard deviation of( 0.49), with a calculated R value of 0.86, which is greater than the scale value of ( 0.53) at a significance level of (0.05) ,and The value of the calculated significance (SIG) (0.000) which is smaller than the significance level (0.05). This means that there is a statistically significant relationship between the Kosmin test (1500 m performance prediction) and the years of training experience with middle distance sprinters.

The tables showed the existence of a statistically significant relationship between the 800m performance prediction tests and the years of training experience on the one hand, and the 1500m performance prediction tests and years of training experience on the one hand Other.

The researcher attributes this strong correlation between the speed tolerance and the years of training experience of the long-distance sprinters to the measured training doses, which greatly affected the internal structure of the muscles due to the continuous treatment of muscular fibroblasts with resistant stress reduction and repetitive exercises, thus improving muscle function to improve muscle strength And its speed and tolerance to work in the face of muscle fatigue, and this corresponds to what he (Abdul-Zahra, 2013) in his study, and the increase in the intensity of training gradually show a high degree of physical and physiological adjustment, For (Diab ,& Khalaf, 2014) and (Jassim, 2013), as it must use the principle of gradual progress in the training process in order to maintain the sports body from fatigue and stress processes.

Continuity and organization in training for many years have developed their ability to resist fatigue by improving the functions of non-aerobic power production members, especially lactic acid system, while improving their resistance to the effects of increased lactic acid concentration in muscle fibers as well as the development of lactic acid discharge functions from muscle fibers to Blood, which reduces its negative effect in hindering the continuation of motor performance and delayed appearance of symptoms of fatigue.

## 2- Display the results of the second hypothesis:

Table (2) represents averages, standard deviations, calculated R values, error level of force tolerance test (one-man jump test with rotation for one minute) and years of training experience for the sample

Variables	Statistical Landmarks		R calculate	R Scheduled	SIG
	X	S			
Test the jump with one man alternately for a minute	28.57	3.17	0.834	0.53	0.000
Years of training experience	4.36	0.49			
Test bending and extending the arm of the oblique slant (number of times )	38.07	1.86	0.802	0.53	0.001
Years of training experience	4.36	0.49			

( Level of significance: 0.05, df=12)

Table (02) shows the results of the test of the jump with one man alternately for a minute and the years of training experience for the sample of the research,It is clear to us that the mean of this test which reached (28.57) and the standard deviation was (3.17. ) With a standard deviation of (0.49) , and the calculated R value (0.834), which is greater than the scale

value of (0.53) at the level of significance (0.05), The value of the calculated significance (SIG) (0.000) which is smaller than the significance level (0.05). This means that there is a statistically significant relation between jumping test with one man alternately for one minute and years of training experience Middle-distance runners.

From the same table (02), we show the results of the bending test and the extension of the arm from the slant angle and the years of training experience for the sample of the research. It is clear to us that the mathematical mean of this test which reached (38.07) and the standard deviation was (1.86) (4.36), with a standard deviation of (0.49), and the calculated R value (0.802), which is greater than the scale value of (0.53) at the level of significance (0.05), The value of the calculated significance (SIG) (0.001) which is smaller than the significance level (0.05) ,This means that there is a statistically significant relationship between bending test and arm extension from slant angle and years of training experience Middle-distance runners .

The tables for strength endurance tests (Test the jump with one man alternately for a minute - Test bending and extending the arm of the oblique slant) showed a statistically significant relationship between strength endurance and years of training experience.

The strong correlation between strength tolerance and years of training experience for mid-distance sprinters is due to the muscles, arms and shoulder muscles of the runners as a result of regular and continuous exercises, as well as to contain the training sessions on strength exercises until exhaustion to increase the resistance of the accumulation of lactic acid concentration and thus achieve the highest degree of physiological adjustment .

#### **4. Conclusion:**

As a result of the discussion and interpretation of the results of the partial hypotheses , it was found that there is a relationship between the two classes of carrying the force and the speed and training experience of the enemy to discipline and training courses and content that contained exercises for the development of endurance and the continuity of training without interruption and for several seasons, where this study showed a relatively small difference Especially among the enemies with few years of training , and concluded the results of the study to:

- The existence of a relationship of statistical significance between the carrying speed and years of training experience middle distance sprinters..

- There is a statistically significant relationship between the carrying force and the years of training experience for middle distance sprinters. Needless to say, the general hypothesis of the research has been achieved, which provides for a statistically significant relationship between the special endurance and years of training experience of middle distance sprinters .

### References:

1-Abu Alaa, A .(2012). Contemporary Sports Training Physiological Basis Training Plans

Youth Training Long-term training load errors (Ed. 1). Cairo: Dar Al-Fikr Arabi.

2-Abdullah, A., .Z, & Abdel-Zahra, M., G. (2013). The effect of special exercises using

rubber cords in the development of special endurance and testosterone hormone in

young fencing players. Missan Journal of Physical Education Sciences. 7 (7), 132-153.

Retrieved from:

<http://iasj.net/iasj?func=search&query=au:%22%D9%85%D8%B5%D8%B7%D9%81%D9%89%20%D8%AC%D8%A7%D8%B3%D8%A8%20%D8%B9%D8%A8%D8%AF%20%D8%A7%D9%84%D8%B2%D9%87%D8%B1%D8%A9%22&uiLanguage=en>

3-Al-Dailaj, I, A. (2010). Methods and methods of scientific research (Ed.1). Amman: Dar

Safa for Publishing and Distribution.

Retrieved from:<http://www.neelwafurat.com/itempage.aspx?id=lbb193446163050&search=books>

4- Anakbi, T. H. , & Alakabi, N. H. Z. (2015). Political Science (Ed.1). Baghdad: Dar Uma.

Retrieved

from:

<https://drive.google.com/file/d/0B9x5L29xpeaaRGttRXZqN2RRZkk/view>

5-Assaf, S.H. (2010). Introduction to research in behavioral sciences. Riyadh: Dar Al-Zahra.

Retrieved from <https://up.top4top.net/downloadf-106a6cz1-pdf.html>

6-Ali, A., A., & Hamzaw, A., G., M. (2014). The effect of special endurance exercises and



compensation for some mineral salts and sugars in the development of the

achievement of the effectiveness of running Half of the marathon on the players of the

Iraqi national team. Al-Qadisiyah College of Physical Education Sciences. (01) 14,

241-258.

Retrieved from <http://www.iasj.net/iasj?func=article&aId=95178>  
7-Jassim, A.,M. (2013). The effect of rotation and gradation on the special tolerance of

handball players. Journal of Contemporary Sports. College of Physical Education.

12 (22), 187-188. Retrieved from :

[www.jcopew.uobaghdad.edu.iq/uploads/m%2012%20n%2022/12.pdf](http://www.jcopew.uobaghdad.edu.iq/uploads/m%2012%20n%2022/12.pdf)

8-Karim, R.,S. (2015). Special endurance and its relationship to the performance of some

basketball offensive skills. Journal of Contemporary Sports 14 (4), 12-22.

Retrieved

from: <http://www.jcopew.uobaghdad.edu.iq/PageViewer.aspx?id=76>

9-Mokhtari., A. (2014). Training of the training pregnancy: The use of circular and

continuous training in the development of some basic characteristics and improvement

of digital achievement in the intermediate distances of 800 m in the youth, Journal of

the laboratory of science and techniques of physical activity sports, (7) .43-55.

Retrieved from: [www.webreview.dz/IMG/pdf/revue7-art5.pdf](http://www.webreview.dz/IMG/pdf/revue7-art5.pdf)

10-Shami, A., & Muttab, S., Y. (2007). The impact of anaerobic exercises in the development

of the strength and speed of young players in handball. Journal of Physical Education

Sciences. 1 (8), 155-174.

Retrieved from <http://iasj.net/iasj?func=fulltext&aId=48774>

11-Thiab, R, T., & Khalaf, Z. M. (2014). Effect of exercises (bearing strength and bearing

speed) in the development of cardio fitness and accuracy and performance

performance in the correction basketball Qadisiyah Journal of Physical Education

Sciences. (2) 14, 299-317.

Retrieved from:

[http://qu.edu.iq/spojou/?wpdmpro=%D8%AA%D8%A3%D8%AB%D9%8A%D8%B1%D8%AA%D8%AF%D8%B1%D9%8A%D8%A8%D8%A7%D8%AA%D8%AA%D8%AD%D9%85%D9%84%D9%82%D9%88%D8%A9%D9%88%D8%AA%D8%AD%D9%85%D9%84-](http://qu.edu.iq/spojou/?wpdmpro=%D8%AA%D8%A3%D8%AB%D9%8A%D8%B1%D8%AA%D8%AF%D8%B1%D9%8A%D8%A8%D8%A7%D8%AA%D8%AA%D8%AD%D9%85%D9%84%D9%82%D9%88%D8%A9%D9%88%D8%AA%D8%AD%D9%85%D9%84-%D8%B3%D8%B1%D8%B9%D8%A9-%D9%81%D9%8A-%D8%AA)

[12-Zamil, Mohamed Youssef \(2011\). Physical culture \(Ed.1\). Amman: Arab Society Library](http://qu.edu.iq/spojou/?wpdmpro=%D8%AA%D8%A3%D8%AB%D9%8A%D8%B1%D8%AA%D8%AF%D8%B1%D9%8A%D8%A8%D8%A7%D8%AA%D8%AA%D8%AD%D9%85%D9%84%D9%82%D9%88%D8%A9%D9%88%D8%AA%D8%AD%D9%85%D9%84-%D8%B3%D8%B1%D8%B9%D8%A9-%D9%81%D9%8A-%D8%AA)

for Publishing and Distribution.

Retrieved from <http://www.sport.ta4a.us/books/1382-sports-culture>