

The Physical Condition Profile of Rock Climbing Athletes in Bogor Regency

by Yulingga Nanda Hanief

Submission date: 17-Dec-2020 08:33PM (UTC-0800)

Submission ID: 1478327185

File name: SIMILARITY_CHECK.docx (186.38K)

Word count: 3715

Character count: 19121

The Physical Condition Profile of Rock Climbing Athletes in Bogor Regency

Abstract

This study aimed to determine the physical condition of rock climbing athletes in Bogor Regency. Besides, it is also to make the basis for providing training proportions and finding the right solution to overcome the physical condition problems of rock climbing athletes in Bogor Regency. This study uses a descriptive method approach using tests and measurements. The sample in this study were 18 rock climbing athletes in Bogor Regency. The instrument used in retrieving the data is a test instrument that has been arranged in the test and measurement manual and is following the physical conditions used in the sport of rock climbing. The results showed that athletes in the very good category were 13.34%, then in the good category was 13.34%, then in the moderate category 66.66%, also in the poor category was 6.66%, and then 0.00% in the poor category.

Keywords: rock climbing athletes, physical condition

INTRODUCTION

Sport is an effort to improve the quality of human life, apart from the main goal of forming a healthy lifestyle, through exercise, a person will benefit, one of which is that the body's metabolic system will run smoothly (Bayu Hardiyono, 2020). Sport is used as a means of unifying the nation, forming individual and collective characters, and has the potential to dynamize development sectors (Danarstuti Utami, 2015). "The existence of sports nowadays has become an important part of people's lives (Prakoso & Sugiyanto, 2017). Sports coaching and development are directed at improving physical, mental and spiritual fitness as well as shaping the personality of Indonesian people who are disciplined and sporty to achieve achievement (Jamalong, 2014)". To achieve and achieve achievements in a sport, it is necessary to have focused cooperation and pay attention to all aspects that contribute to the achievement of these achievements. Among the sports activities that are carried out must be carried out in a programmed, directed and sustainable manner. As well as the application of self-discipline in doing and pursuing a sport (Inggar Maizan & Umar 2020).

In "achieving high achievement in competitive sports, an athlete needs to be in prime physical condition according to the needs and demands of the sport. Excellent physical condition must be a necessity for every athlete, especially for sports that require long duration heavy performance (Mansur, 2016). Optimal performance can only be

achieved, if an athlete has gone through a very complex training process. In the training process, the role of exercise physiology is the basis for modifying the exercise program. Sports Physiology is a branch of physiology that studies physiological changes in the body when a person is exercising (Nofa Anggriawan, 2016). The same thing was said by (Purba, 2016) The application of sports physiology to improve athlete performance is very important to determine the exercise dose, the success of athlete's training during the training periodization. To achieve achievement, the rock climbing / wall sport branch offers opportunities for achievement ".

Rock climbing "is a sport that has a high level of difficulty and is full of challenges (Ahmad Rifandi, 2017). Based on the category of climbing techniques, it is divided into 3, namely the level of difficulty (difficulties), bouldering and speed of climbing (Koneman, 1999: 150). In its development, the sport of rock climbing is modified into wall climbing, which distinguishes rock climbing from wall climbing, which is the medium. The media wall climbing is artificial cliffs, while media rock climbing is natural cliffs (Bayu Hardiyono, 2018). Rock climbing sport has attracted young people to perform, moreover, this sport has been competed at the national and international levels. The existence of competitions has also encouraged those who are involved in it to continue to spur achievement ".

One of the factors that affect the performance of an athlete in rock climbing is physical condition, because without good physical condition the athlete will not be able to apply climbing techniques optimally (Bayu Hardiyono, 2018). "This is following what was conveyed by (Danarstuti Utami, 2015), who stated that the physiology and ability of the physical condition are the initial foundations to sports achievement. Furthermore, efforts to improve sports achievement need to be carried out with coaching through talent scouting and scouting, nurseries, education and training for sports achievements which are based on science and technology effectively and efficiently, and improving the quality of sports "(Ulum, 2013)

"Success is always associated with the purpose of an activity. The goal of rock climbing is to finish climbing with the correct technique and good physical and mental strength. Therefore, the success of climbing is identified with the completion of climbing to the end point using the ability of rock climbing athletes. In this case the components of the physical conditions needed by athletes, especially rock climbing athletes, include

flexibility, leg muscle strength, back muscle strength, squeeze muscle strength, hand muscle strength, arm muscle endurance, abdominal muscle endurance, balance. All components of these physical conditions are very important in supporting the performance of rock climbing athletes so that they are sustainable with climbing techniques for completing the given path. The resulting performance in every physical activity including exercise is dominated by biomotor components. "Athletic performance is dominated by combinations of strength, speed, and endurance, which are biomotor abilities" (Bompa & Haff, 2009). Each sport has a dominant biomotor component. Wall-climbing athletes who have these three physical conditions are believed to get glorious achievements (Bayu Hardiono 2018). The reason is that these three physical conditions predominantly affect the athlete's ability to perform at their best. Strength in wall climbing supports the athlete to hold onto the points by lifting the body with the grip and support at the points. Flexibility is useful for making rock climbing athletes easier to move on walls and get points for each point. Meanwhile, balance is useful to maintain endurance when climbing".

This physical condition provides full support for the techniques needed in climbing. "Thus, good physical condition will easily provide high achievement. Achievements in wall climbing are achieved by the success of the climbers in completing the climb to the final point (top) (Bayu, Nurkadri, Budi, Agung, 2019). In other words, an athlete who has a good performance is likely to complete the climb to the end point (top) by scoring a faster time ". The development of sports achievement following the correct and correct concept and management must be carried out through various processes and stages within a certain period. The results showed that high-achieving athletes were born from long-term coaching that takes between 8-12 years (Ujang Rohman & Mochamad Yusuf Effendi, 2019).

Referring to the concept above, the researcher tries to examine the physical condition profile of rock climbing athletes. Research on the physical condition profile of athletes is very important so that the athlete's condition can be monitored to what extent the athletes' ability to achieve achievements. By knowing the physical condition profile, it is expected that the coach can optimally supervise and implement the training program

that has been made and adjusted to the target to be achieved in the physical condition of each athlete himself.

METHOD

This type of research is "quantitative with a descriptive approach, which is a research method that seeks to describe the object under study following its purpose of describing the facts and characteristics of the object under study appropriately (Sukardi, 2003: 136). According to (Maksum, 2012: 13) The quantitative method can be interpreted as a research method characterized by hypothesis testing and used standard test instruments. According to (Maksum, 2012: 68). Descriptive is research conducted to describe certain symptoms, phenomena or events. In this research, the focus is on the Physical Condition Profile of "Rock Climbing Athletes" in Bogor Regency which includes flexibility, leg muscle strength, back muscle strength, hand muscle strength, hand muscle strength, arm muscle endurance, abdominal muscle endurance, balance, endurance. (Vo2max).

"To obtain appropriate data, this study uses survey methods and test and measurement techniques (Fenanlampir & Muhyi, 2015). In researching the physical condition of the rock climbing sport, the data collection techniques used include ":

1. Flexibility using the Sit and Reach Test Box tool
2. Strengthen the leg muscles using the Leg and Back Dynamometer
3. Strengthening the back muscles using the Leg and Back Dynamometer
4. Hand muscle strength using the Handgrip Dynamometer
5. Arm muscle strength Using the Hand Dynamometer
6. Arm muscle endurance using Push-up Test
7. Endurance of the abdominal muscles using the sit-up test
8. Balance using a stork stand test
9. Endurance (Vo2max) using the Bleep Test

"Data that has been converted into t-scores, then the data is interpreted, namely by categorizing the data. Categorization is grouped into 5 categories (Azwar, 2012), namely: very good, good, enough, lacking, very lacking. Categorization using reference to 5 normal limits (Sudjiono, 2011), is as follows ":

Table 1. Category Standard Score

No	Normal Range	Category
1	$X \geq M + 1,5 SD$	Very Good
2	$M + 0,5 SD \leq X < M + 1,5 SD$	Good
3	$M - 0,5 SD \leq X < M + 0,5 SD$	Sufficient
4	$M - 1,5 SD \leq X < M - 0,5 SD$	Less
5	$X < M - 1,5 SD$	Very Less

"The next step after the data is obtained is to analyze the data to conclude the research being conducted. Analysis of the data used in this study using quantitative descriptive analysis techniques with percentages. According to (Sugiyono, 2016) the formula used is as follows ":

$$P = \left(\frac{f}{N} \right) + 100 \%$$

Information :

P = Percentage

F = Frequency

N = Number of respondents

RESULTS

1. Results of the Overall Physical Condition of Rock Climbing Athletes

This study involved 15 rock climbing athletes in Bogor Regency. All rock climbing athletes who were the subjects of this study were tested and measured, including flexibility, leg muscle strength, back muscle strength, squeeze muscle strength, "hand muscle strength, arm muscle endurance, abdominal muscle endurance, balance. The following are the results of the tests and measurements of rock climbing athletes as a whole, which are presented in Table 2 as follows ":

Table 2. Results of the Overall Physical Components of Rock Climbing Athletes

No.	Percentage	Frequency	Category
1	Very Good	2	13.33%
2	Good	2	13.34%
3	Enough	10	66.66%
4	Less	1	6.66%
5	Very Poor	0	0.00%

"Based on the results of the physical condition of the athletes in rock climbing as a whole in the table above, which amounts to 15 people, it is known that the percentage of physical components of rock climbing athletes in Bogor Regency in the excellent

category is 13.34%, then in the good category is 13.34%, then in the sufficient category 66.66. %, then in the poor category 6.66%, and then in the less category 0.00% ".

The following is presented in the form of a histogram to make it easier to understand the table:

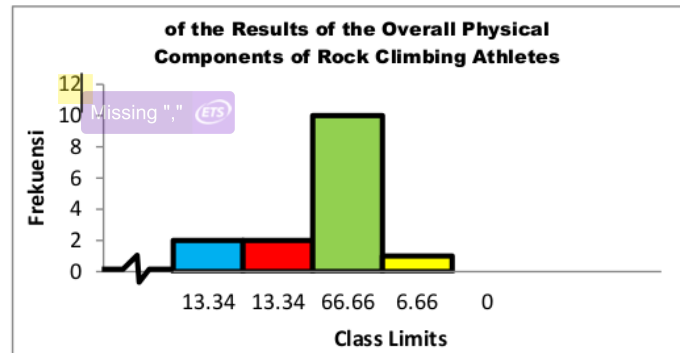


Figure 1. Histogram of the Results of the Overall Physical Components of Rock Climbing Athletes

2. Results of Each Physical Component of Rock Climbing Athletes

The results of the analysis of the physical components of rock climbing athletes in Bogor Regency are presented with the descriptive analysis as follows:

a. Flexibility

The results of data collection on the physical condition of rock climbing athletes on the flexibility test are presented in the following table:

Table 3. Flexibility Test Results

Percentage	Result	Conversion	Category
Very Good	26.4-30.1	3	20%
Good	22.3-26.3	4	26.6%
Enough	18.2-22.2	3	20%
Less	14.1-18.1	2	13.4%
Very Poor	<10.1-14	3	20%
		15	100%

Based on the results of the flexibility test for rock climbing athletes in the table above, which amounts to 15 people, it is known that the results of the flexibility test for

rock climbing athletes in Bogor Regency in the excellent category are 20%, then in the good category is 26.6%, then in the sufficient category 20%, then in the poor category 13.4%, and then in the less category 20%.

The following is presented in the form of a histogram to make it easier to understand the table:

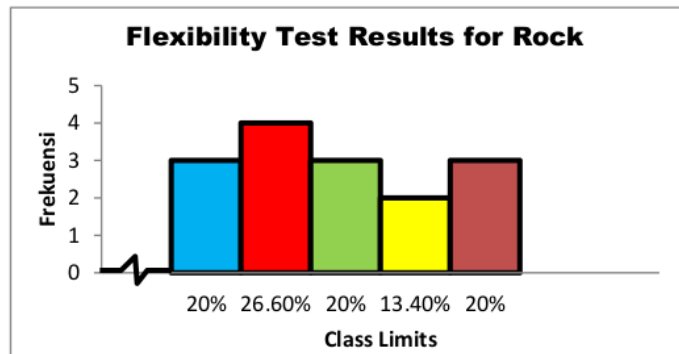


Figure 2. Histogram of Flexibility Test Results for Rock Climbing Athletes

b. Limb Muscle Strength

The results of data collection on the physical condition of rock climbing athletes on leg muscle strength tests are presented in the following table:

Table 4. Leg Muscle Strength Test Results

Percentage	Result	Conversion	Category
Very Good	132.9-141	2	13.4%
Good	124.3-132.8	4	26.6%
Enough	115.7-124.2	6	40%
Less	107.1-115.6	2	13.4%
Very Poor	<98.5- 107	1	6.66%
		15	100%

Based on the results of the flexibility test for rock climbing athletes in the table above, which amounts to 15 people, it is known that the results of the leg muscle strength test of rock climbing athletes in Bogor Regency in the excellent category are 13.4%, then in the good category is 26.6%, then in enough category 40%, then in the poor category 13.4%, and then in the poor category at 6.66%.

The following is presented in the form of a histogram to make it easier to understand the table:



Figure 3. Histogram of leg muscle strength test results for rock climbing athletes

c. Back Muscle Nails

The results of data collection on the physical condition of rock climbing athletes on leg muscle strength tests are presented in the following table:

Table 5. Back Muscle Test Results

Percentage	Result	Conversion	Category
Very Good	132.3-141.5	2	13.4%
Good	122.7-132.2	4	26.6%
Enough	113.1-122.6	7	46.6%
Less	103.5-113	1	6.66%
Very Poor	<94-103.4	1	6.66%
		15	100%

Based on the results of the flexibility test for rock climbing athletes in the table above, which amounted to 15 people, it is known that the results of the back muscle strength test for rock climbing athletes in Bogor Regency in the excellent category were 13.4%, then in the good category was 26.6%, then in enough category 46.6%, then in the poor category 6.66%, and then in the poor category 6.66%.

The following is presented in the form of a histogram to make it easier to understand the table:

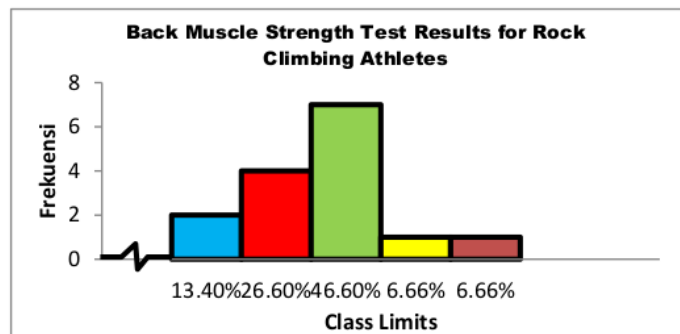


Figure 4. Histogram of Back Muscle Strength Test Results for Rock Climbing Athletes

d. Hand Muscle Strength

The results of the data collection on the physical condition of rock climbing athletes on the hand muscle strength test are presented in the following table:

Table 6. Hand Muscle Test Results

Percentage	Result	Conversion	Category
Very Good	55.88-60.8	2	13.4%
Good	50.46-55.78	0	0.00%
Enough	45.04-50.36	9	60%
Less	39.62-44.92	2	13.4%
Very Poor	<34.2-39.52	2	13.4%
		15	100%

Based on the results of the flexibility test for rock climbing athletes in the table above, which amounted to 15 people, it is known that the results of the hand muscle strength test of rock climbing athletes in Bogor Regency in the very good category were 13.4%, then in the good category was 0.00%, then in the moderate category 60%, then in the poor category 13.4%, and then in the poor category 13.4%.

The following is presented in the form of a histogram to make it easier to understand the table:

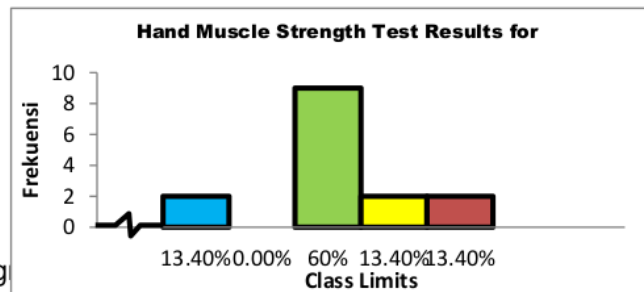


Figure 5. Histogram of Hand Muscle Strength Test Results for Climbing Athletes

e. Arm Muscle Strength

The results of the data collection on the physical condition of rock climbing athletes on the arm muscle strength test are presented in the following table:

Table 7. Arm Muscle Strength Test Results

Percentage	Result	Conversion	Category
Very Good	52.2-57.5	1	6.66%
Good	46.4-52.1	0	0.00%
Enough	40.6-46.3	8	53.33%
Less	34.8-40.5	5	33.33%
Very Poor	<29-34.7	1	6.66%

15

100%

Based on the results of the flexibility test for rock climbing athletes in the table above, which amounted to 15 people, it is known that the results of the arm muscle strength test for rock climbing athletes in Bogor Regency in the very good category were 6.66%, then in the good category was 0.00%, then in the moderate category 53.33%, then in the poor category 33.33%, and then in the poor category at 6.66%.

The following is presented in the form of a histogram to make it easier to understand the table:

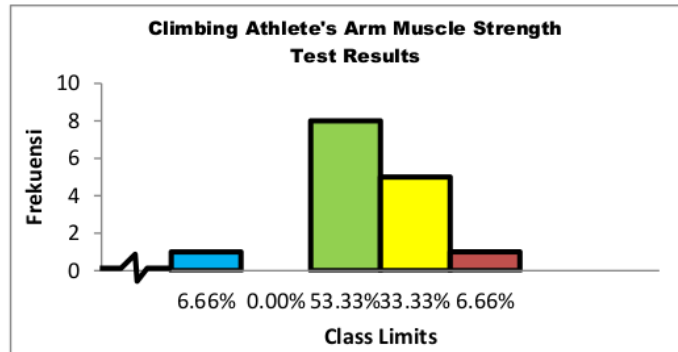


Figure 6. Histogram of Climbing Athlete's Arm Muscle Strength Test Results

f. Arm Muscle Endurance

The results of data collection on the physical condition of rock climbing athletes on the endurance test of the arm muscles are presented in the following table:

Table 8. Arm Muscle Endurance Test Results

Percentage	Result	Conversion	Category
Very Good	52.4-56	3	20%
Good	48.3-52.3	5	33.33%
Enough	44.2-48.2	4	26.6%
Less	40.1-44.1	2	13.4%
Very Poor	<36-40	1	6.66%
		15	100%

Based on the results of the flexibility test for rock climbing athletes in the table above, which amounted to 15 people, it is known that the results of the endurance test for the arm muscle strength of rock climbing athletes in Bogor Regency in the very good

category were 20%, then in the good category was 33.33%, then in the moderate category. 26.6%, then in the poor category 13.4%, and then in the poor category at 6.66%.

The following is presented in the form of a histogram to make it easier to understand the table:

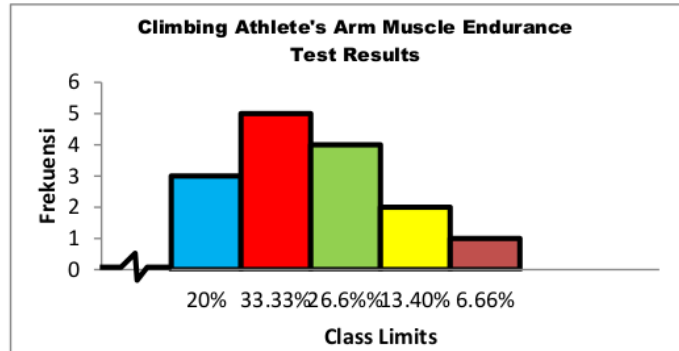


Figure 7. Histogram of Climbing Athlete's Arm Muscle Endurance Test Results

g. Abdominal Muscle Endurance

The results of data collection on the physical condition of rock climbing athletes on the abdominal muscle endurance test are presented in the following table:

Table 9. Abdominal Muscle Endurance Test Results

Percentage	Result	Conversion	Category
Very Good	40.6-45	1	6.66%
Good	35.7-40.5	4	26.6%
Enough	30.8-35.6	5	33.33%
Less	25.9-30.7	2	13.4%
Very Poor	<21-25.8	3	20%
		15	100%

Based on the results of the flexibility test for rock climbing athletes in the table above, which amounts to 15 people, it is known that the results of the abdominal muscle endurance test for rock climbing athletes in Bogor Regency in the very good category were 6.66%, then in the good category was 26.6%, then in the sufficient category 33.33%, then in the poor category 13.4%, and then in the less category 20%.

The following is presented in the form of a histogram to make it easier to understand the table:

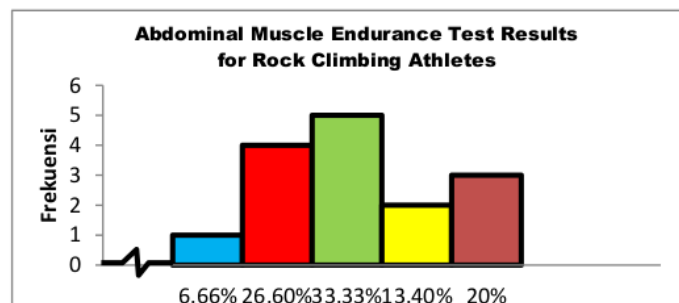


Figure 8. Histogram of Abdominal Muscle Endurance Test Results for Rock Climbing Athletes

h. Balance

The results of data collection on the physical condition of rock climbing athletes on the balance test are presented in the following table:

Table 10. Balance Test Results

Percentage	Result	Conversion	Category
Very Good	80.2-89	1	6.66%
Good	70.9-80.1	6	40%
Enough	61.6-70.8	5	33.33%
Less	52.3-61.5	1	6.66%
Very Poor	<43-52.2	1	6.66%
		15	100%

Based on the results of the flexibility test for rock climbing athletes in the table above, which amounts to 15 people, it is known that the results of the balance test for rock climbing athletes in Bogor Regency in the very good category are 6.66%, then in the good category is 40%, then in the sufficient category 33.33%, then in the poor category 6.66%, and then in the poor category 6.66%.

The following is presented in the form of a histogram to make it easier to understand the table:

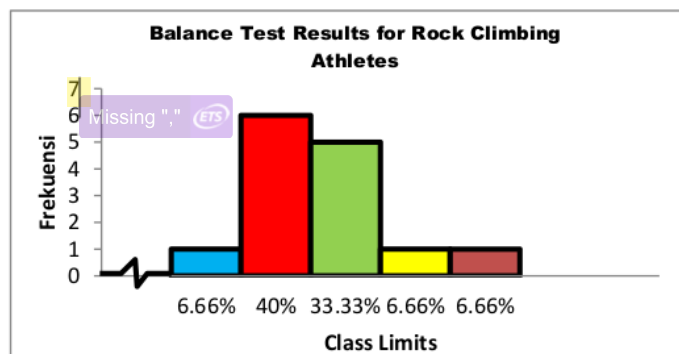


Figure 9. Histogram of Balance Test Results for Rock Climbing Athletes

i. Durability

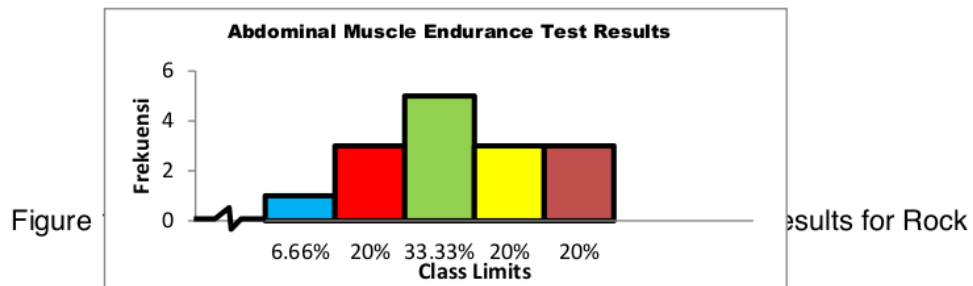
The results of data collection on the physical condition of rock climbing athletes on the endurance test are presented in the following table:

Table 11. Balance Test Results

Kategori	Konversi	Hasil	Persentase
Baik Sekali	52.4-56	1	6.66%
Baik	48.3-52.3	3	20%
Cukup	44.2-48.2	5	33.33%
Kurang	40.1-44.1	3	20%
Kurang Sekali	<36-40	3	20%
		15	100%

Based on the results of the flexibility test for rock climbing athletes in the table above, which amounted to 15 people, it is known that the results of the endurance test for rock climbing athletes in Bogor Regency in the excellent category were 6.66%, then in the good category was 20%, then in the sufficient category 33.33%, then in the under 20% category, and then in the 20% less category.

The following is presented in the form of a histogram to make it easier to understand the table:



DISCUSSION

"This study aims to analyze the results of the physical condition of rock climbing athletes in Bogor Regency. The results of the physical condition of the rock climbing athletes in Bogor Regency as a whole, it is known that the percentage of physical components of rock climbing athletes in Bogor Regency in the very good category is 13.34%, then in the good category is 13.34%, in the sufficient category 66.66%, then in the poor category is 6.66. %, and then in the 0.00% less category.

Every sport requires an excellent physical condition to be able to display the best performance. Physical condition is also a factor that greatly affects a person's achievement, without good physical condition, techniques cannot run perfectly (Tomi Pratama & Umar, 2020). Physical condition training programs must be well planned, systematically aimed at improving physical fitness and functional abilities of the body systems so that they can lead to athletes achieving better performance as expected. This means that to develop physical conditions, all of these components must be developed. (Mukhamad Nurudin, 2015). Athletes with good physical condition values will be faster in the recovery process and during the match (Al Ayubi, 2017) so that it will make athletes move and play effectively and efficiently to perform proper movement techniques (Azidman, L., Arwin, 2017) ".

Following what the researchers described above, it is very clear that rock climbing latest must have a good physical condition. This means that climbers must have the ability to perform physical activity during the climb. "To pursue peak achievement, well-programmed training is needed, training to shape and change the physiological response in addition to the physical elements involved in training (Sastiezy, 2018).

CONCLUSION

Based on the results of data processing and analysis of what has been described in this study, this study concludes that the physical condition of the rock climbing athletes in Bogor Regency is in a fairly good category, even though among the rock climbing athletes there are still not good conditions, due to some athletes recently joined the Bogor Regency rock climbing team. By looking at the existing results, it is hoped that athletes will always maintain and improve their better physical condition, so that the training program that has been designed by the coach can be run optimally.

The Physical Condition Profile of Rock Climbing Athletes in Bogor Regency

ORIGINALITY REPORT

4%

SIMILARITY INDEX

3%

INTERNET SOURCES

1%

PUBLICATIONS

2%

STUDENT PAPERS

PRIMARY SOURCES

1

scitepress.org

Internet Source

3%

2

Submitted to Universitas Negeri Surabaya The State University of Surabaya

Student Paper

1%

3

download.atlantispress.com

Internet Source

<1%

4

Morten Essendrop, Irina Maul, Thomas Läubli, Hilikka Riihimäki, Bente Schibye. "Measures of low back function: a review of reproducibility studies", Physical Therapy in Sport, 2003

Publication

<1%


Exclude quotes On


Exclude matches Off

Exclude bibliography On

The Physical Condition Profile of Rock Climbing Athletes in Bogor Regency


PAGE 1


 **S/V** This subject and verb may not agree. Proofread the sentence to make sure the subject agrees with the verb.


 **Wrong Article** You may have used the wrong article or pronoun. Proofread the sentence to make sure that the article or pronoun agrees with the word it describes.


PAGE 2

 **Article Error** You may need to use an article before this word.


 **Article Error** You may need to use an article before this word.


 **Article Error** You may need to use an article before this word.


 **Missing ","** You may need to place a comma after this word.

 **Article Error** You may need to remove this article.


PAGE 3


 **Missing ","** You may need to place a comma after this word.


 **Missing ","** You may need to place a comma after this word.


 **P/V** You have used the passive voice in this sentence. Depending upon what you wish to emphasize the sentence, you may want to revise it using the active voice.

PAGE 4

 **Missing ","** You may need to place a comma after this word.

 **Missing ","** You may need to place a comma after this word.

 **Missing ","** You may need to place a comma after this word.

 **Missing ","** You may need to place a comma after this word.



Article Error You may need to remove this article.

PAGE 5



Article Error You may need to use an article before this word. Consider using the article **the**.



Wrong Article You may have used the wrong article or pronoun. Proofread the sentence to make sure that the article or pronoun agrees with the word it describes.



Missing "," You may need to place a comma after this word.



Article Error You may need to use an article before this word. Consider using the article **the**.



Missing "," You may need to place a comma after this word.

PAGE 6



Missing "," You may need to place a comma after this word.



Article Error You may need to use an article before this word. Consider using the article **the**.



Missing "," You may need to place a comma after this word.

PAGE 7



Article Error You may need to remove this article.



Article Error You may need to remove this article.



Missing "," You may need to place a comma after this word.

PAGE 8



Missing "," You may need to place a comma after this word.



Missing "," You may need to place a comma after this word.



Missing "," You may need to place a comma after this word.



Prep. You may be using the wrong preposition.



Prep. You may be using the wrong preposition.

PAGE 9



Prep. You may be using the wrong preposition.



Prep. You may be using the wrong preposition.

PAGE 10



Prep. You may be using the wrong preposition.

PAGE 11



Prep. You may be using the wrong preposition.



Article Error You may need to remove this article.



Prep. You may be using the wrong preposition.



Article Error You may need to remove this article.

PAGE 12



Missing "," You may need to place a comma after this word.



Missing "," You may need to place a comma after this word.



Article Error You may need to remove this article.



Missing "," You may need to place a comma after this word.

PAGE 13



Article Error You may need to remove this article.



Missing "," You may need to place a comma after this word.



Missing "," You may need to place a comma after this word.



Article Error You may need to remove this article.



Frag. This sentence may be a fragment or may have incorrect punctuation. Proofread the sentence be sure that it has correct punctuation and that it has an independent clause with a complete subject and predicate.



Article Error You may need to use an article before this word. Consider using the article **the**.



Article Error You may need to use an article before this word.



Missing "," You may need to place a comma after this word.



Run-on This sentence may be a run-on sentence. Proofread it to see if it contains too many independent clauses or contains independent clauses that have been combined without conjunctions or punctuation. Look at the "Writer's Handbook" for advice about correcting run-on sentences.



Article Error You may need to use an article before this word.



P/V You have used the passive voice in this sentence. Depending upon what you wish to emphasize the sentence, you may want to revise it using the active voice.