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## **Kontribusi Koordinasi Mata Kaki Dan Kekuatan Otot Tungkai Terhadap Kemampuan Sepaksila Dalam Permainan Sepak Takraw Murid SMP Negeri 1 Kota Ternate**

### **The Contribution Of Coordination Of The Foot And Lemb Muscle Strength Towards Sepaksila Abilities In The Game Of Sepak Takraw For Students Of SMP Negeri 1 Ternate City**

M.Irfan Hasanuddin<sup>1</sup>, Ikadarny<sup>2</sup>

{mirfan.hasanuddin@unkhair.ac.id<sup>1</sup>, ikadarny@unm.ac.id<sup>2</sup>}

Universitas Khairun Ternate, Jl Yusuf Abdulrahman, Gambesi, Kec. Ternate Sel., Kota Ternate, Maluku Utara <sup>1</sup>, Universitas Negeri Makassar, Jl. A. P. Pettarani, Tidung, Kec. Rappocini, Kota Makassar, Sulawesi Selatan 90222<sup>2</sup>

**Abstract.** This research aims to prove: (1) The contribution of eye-foot coordination to soccer ability in students' sepak takraw games. (2) The contribution of leg muscle strength to soccer ability in the sepak takraw game. (3) The contribution between eye-foot coordination and leg muscle strength. together on the sepaksila abilities in the sepak takraw game of students at SMP Negeri 1 Ternate City. The research method used is a quantitative research method and the type of research is correlational research involving 2 independent variables, namely ankle coordination and leg muscle strength, while the dependent variable is the ability to play sepaksila. The population in this study were students of SMP Negeri 1 Ternate City, with a sample of 30 people taken using simple random sampling. The data analysis technique used is the correlation coefficient. The results of the research conducted show that: 1) There is a significant contribution between eye-foot coordination on sepaksila abilities in the sepak takraw game of students at SMP Negeri 1 Ternate City, namely  $(r) = 0.776$  ( $P= 0.000 < \alpha 0.05$ ). 2) There is a significant contribution between leg muscle strength and soccer ability in the sepak takraw game of students at SMP Negeri 1 Ternate City, namely  $(r) = 0.533$  ( $P= 0.000 < \alpha 0.05$ ). 3) There is a significant contribution between eye-foot coordination and leg muscle strength on sepaksila abilities in the sepak takraw game of students at SMP Negeri 1 Ternate City, namely  $(R) = 0.698$  ( $P < \alpha 0.05$ ).

**Keywords:** Foot Ankle Coordination, Leg Muscle Strength and Sila Sepaksila Ability.

## 1 Introduction

Sepaktakraw is a growing sport. The great desire of the public to play sepak takraw is very good, especially in several areas that develop it, so conditions like this can certainly create conditions that are conducive to the development of the sport sepak takraw. In 1971, sepak takraw sports activities began to be well organized in a forum which at that time was known as PERSERASI (Indonesian Net Sepaksila Association). And now the parent sport of sepaktakraw is known as PSTI (Indonesian Sepak Takraw Association) (Amelia, 2009).

Sepaktakraw is a game played on a rectangular field, flat, both open and closed, and free from all obstacles and the field is enclosed by a net. The ball used is made of rattan or plastic (synthetic fiber) which is woven round (Perwirasaputra, 2000). This game uses all parts of the body, except the hands. The ball is played by returning it to the opponent's court over the net. This game is played by two teams, each consisting of 3 players. The goal of each player is to return the ball to the opponent's court. According to Ngatman (2017) mentions sepak takraw is a mixed type of sport Football and volleyball are played on the badminton doubles court as well. Players may not touch the ball with hand. Other opinions regarding The meaning of sepak takraw is to obey Hanif (2017) states that football takraw is a game that using a ball (takraw) made made of rattan, played on the field which measures 44 feet (13.42 m) long, and 20 feet (6.1 m) wide. In the middle is bordered by a net like volleyball game. Meanwhile opinions stated by Armelia (2009) states that: sepak takraw is a game that played collectively by two teams Sepaksila is one of the basic techniques that is very important in the game sepak takraw. The game of sepak takraw is identical with sepaksila which is the basis of all movements, with good sepaksila it will be able to help the player control the ball, so that when giving a pass to a friend who is going to smash, the direction can be adjusted according to his wishes (Arafat, 2018). A person's mastery of good soccer technique can occur if it is supported by several supporting factors, including ankle coordination and leg muscle strength (Gusriadi, 2021).

According to Nur (2018) states that "coordination is the ability to unite various separate motor nervous systems into an efficient movement pattern". In line with this, Saputra (2019) states that "from various parts of the body, including the ability to display a model of movement."

Based on the explanation above, the author wants to conduct research with the title "Contribution of ankle coordination and leg muscle strength to sepaksila abilities in the sepak takraw game of students at SMP Negeri 1 Ternate City.

## 2 Method

This research is a quantitative descriptive study which aims to see the contribution of physical factors to the ability of sila sepaksila in the sepak takraw game. Method is defined as the study of the basic principles of inquiry which often involve problems of logic, classification and basic assumptions (Sugiyono, 2011).

### 1. Research Place

This research will be carried out in the field of SMP Negeri 1 Ternate City.

### 2. Research Variables

The research variables used in this research include:

a. Free variable

- 1) Ankle coordination
- 2) Leg muscle strength

b. Dependent variable:

Sepaksila

Population

According to Sugiyono (2017:80) population is an analysis area consisting of objects that have certain qualities and characteristics obtained by research to be studied and then conclusions drawn from the research of all SMP Negeri 1 Kota Ternate

Samples

The sample is a population that is less than the total population. The research sample must be representative and representative of the population. Because the population of this study is still too large, this research was conducted on a sample with the consideration that the sample was representative of the population. The number of samples used is an affordable population. Thus, the sample for this research was taken from 30 male students using a simple random sampling technique or lottery technique.

#### 4. Data Analysis Techniques

The hypothesis used in this research will be tested based on empirical data obtained in the field. The collected data will then be analyzed using statistical techniques that are appropriate to the type of statistics used in this research, namely including descriptive statistics to get a general picture of research data such as average value, standard deviation, variance, maximum data, minimum data, all a series of statistical data analyzes used in patented research, namely the SPSS statistical program version 22.00 (Widiastuti, 2017).

### 3 Result

Data from test results measuring eye-foot coordination and leg muscle strength on soccer abilities in the sepak takraw game of students at SMP Negeri 1 Ternate City. The research results will be analyzed using descriptive statistical techniques and inferential statistics. Descriptive statistics are intended to get a general overview of the research data for each variable. Meanwhile, inferential statistics are intended to test the hypotheses proposed in this research.

Tabel 1. The results of the descriptive analysis of each research variable can be seen in the following table.

Statistical Value	N	Mean	SD	Range	Min	Max
Eye Foot Coordination	30	7,40	1,45	6	4	10
Leg muscle strength	30	52,50	6,58	20	40	60

Sepaksila ability	30	7,53	1,70	6	5	11
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From the table above, it is an illustration of eye-foot coordination data and leg muscle strength on sepaksila abilities in the sepak takraw game of students at SMP Negeri 1 Ternate City. It can be stated as follows:

- 1) Ankle coordination, obtained an average value (mean) = 7.40, standard deviation (standard deviation) = 1.45, lowest (minimum) value = 4, and highest (maximum) value = 10.
- 2) Leg muscle strength, obtained an average value (mean) = 52.50, standard deviation (standard deviation) = 6.58, lowest (minimum) value = 40, and highest (maximum) value = 60.
- 3) Sepaksila ability, obtained an average value (mean) = 7.53, standard deviation (standard deviation) = 1.70, lowest (minimum) value = 5, and highest (maximum) value = 11.

The results of the analysis of the descriptive data above are just a general description of data on eye-foot coordination and leg muscle strength on sepaksila abilities in the sepak takraw game of students at SMP Negeri 1 Ternate City.

## 4 Discussion

1. Contribution of eye-foot coordination to sepaksila abilities in the sepak takraw game of students at SMP Negeri 1 Ternate City

To determine the magnitude of the contribution between eye-foot coordination on sepaksila abilities in the sepak takraw game of students at SMP Negeri 1 Ternate City, a person correlation analysis was carried out.

Table 2. Summary of the results of the analysis of eye-foot coordination on sepaksila abilities in the sepak takraw game of students at SMP Negeri 1 Ternate City.

Variable	r	P	Information
Foot eye coordination (X1) with Sepaksila Ability (Y)	0,776	0,000	Significant

Based on the table above, it can be seen that from the results of the person correlation calculation, the calculated correlation value is obtained, meaning that there is a significant contribution between eye-foot coordination on sepaksila abilities in the sepak takraw game of students at SMP Negeri 1 Ternate City, namely ( $r$ ) = 0.776 ( $P = 0.000 < \alpha 0.05$ ). Thus, if a student has good eye-foot coordination, this will also result in good sepaksila skills.

2. Contribution of leg muscle strength to soccer ability in the sepak takraw game of students at SMP Negeri 1 Ternate City.

To determine the magnitude of the contribution between leg muscle strength and soccer ability in the sepak takraw game of students at SMP Negeri 1 Ternate City, a person correlation analysis was carried out.

Table 3. Summary of the results of the analysis of leg muscle strength on soccer ability in the sepak takraw game of students at SMP Negeri 1 Ternate City.

Variable	r	P	Information
Leg muscle strength (X2) with Sepaksila Ability (Y)	0,533	0,000	Significant

Based on the table above, it can be seen that the results of the person correlation calculation, obtained a calculated correlation value, meaning that there is a significant contribution between leg muscle strength and soccer ability in the sepak takraw game of students at SMP Negeri 1 Ternate City, namely ( $r$ ) = 0.533 ( $P= 0.000 < \alpha 0.05$ ). Thus, if a student has good leg muscle strength, this will also be followed by good soccer skills.

### 3. Contribution between eye-foot coordination and leg muscle strength together towards football abilities in the sepak takraw game of students at SMP Negeri 1 Ternate City

To determine the magnitude of the joint contribution of eye-foot coordination and leg muscle strength to soccer abilities in the sepak takraw game of students at SMP Negeri 1 Ternate City. multiple regression analysis was carried out.

Table 4. Summary of the results of multiple regression analysis of eye-foot coordination and leg muscle strength on soccer ability in the sepak takraw game of students at SMP Negeri 1 Ternate City.

Variabel	R	R <sup>2</sup>	F	P <sub>value</sub>	Ket
Foot eye coordination (X1)					
Leg muscle strength (X2)	0,698	0,577	11,841	0,000	Sig
To Sepaksila Ability (Y)					

Based on the table above, it can be seen that the results of the multiple regression calculations, obtained a calculated correlation value, meaning that there is a significant contribution between eye-foot coordination and leg muscle strength to the soccer ability in the sepak takraw game of students at SMP Negeri 1 Ternate City, namely ( $R$ ) = 0.698 ( $P< \alpha 0.05$ ) with a coefficient of determination ( $R^2$ ) = 0.577 or 57.7%, after carrying out a significance test using the F test, Fcount = 11.841 (Pvalue= 0.000< 0.05). Thus, if a student has good ankle coordination and leg muscle strength together, this will also result in better and maximum soccer abilities.

If the results of this research are linked to the theory and framework that underlies it, then basically the results of this research support and strengthen existing theories and previous research results, namely the variables of eye-foot coordination and leg muscle strength on soccer ability in the sepak takraw game. student at SMP Negeri 1 Ternate City. A student who has good eye-foot coordination and leg muscle strength will have a positive impact when playing soccer (Ray, 2021). Analysis of the role of ankle coordination and leg muscle strength when used together has a very positive impact in that when playing soccer, you can still control the ball well and have good leg muscle strength when receiving and making passes using basic soccer

techniques (Syaban, 2018). The components of foot-eye coordination and leg muscle strength play an important role in the success of students in playing sepak takraw (Akkasse, 2022).

## 5 Conclusion

Based on the results of data analysis and discussion, the research conclusions are stated as follows:

1. There is a significant contribution between eye-foot coordination on football abilities in the sepak takraw game of students at SMP Negeri 1 Ternate City.
2. There is a significant contribution between leg muscle strength and soccer ability in the sepak takraw game of students at SMP Negeri 1 Ternate City.
3. There is a significant contribution between eye-foot coordination and leg muscle strength together to the soccer ability in the sepak takraw game of SMP Negeri 1 Middle School students in Ternate City..

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