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Analysis Of Physical Components On The Sila Football Abilities Of The Sepak Takraw Game Of Pra Pon Sulsel Athletes

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Abstract. This study aims to prove: 1) The relationship between the speed of foot reaction and the ability to take kicks in the sepak takraw game, 2) The relationship between balance and the ability to kick the kick in the kickball game, 3) The relationship between speed Foot reaction and balance on the ability of Sila in the game of takraw. The research method used is a quantitative research method and this type of research is a correlational study involving 2 independent variables, namely the speed of foot reactions and balance, while the dependent variable is the ability to kick Silat in the game of takraw. The population in this study were athlete Pra PON SULSEL, with a sample of 30 people taken by simple random sampling. The data analysis technique used is the correlation coefficient. The results of the research conducted showed that: 1) There is a significant relationship between the speed of foot reaction and the ability to kick in the takraw game with a value of $r = 0.867$ ($p < \alpha 0.05$). 2) There is a significant relationship between the balance and the ability to play sila in the game of takraw $r = 0.792$ ($p < \alpha 0.05$). 3) There is a significant relationship between the speed of foot reaction and balance together with the ability to take part in the kick takraw game by 78.8% with a value of $R = 0.888$ ($p < \alpha 0.05$).

Keywords: Feet Reaction Speed, Balance, Ability to Kick Sila in Takraw Game.

1 Introduction

Sepak takraw is a sport native to Asia which is played by two opposing teams, each team consisting of three players, separated by a net which has the same size and height as a badminton net. This game begins with serving, which is done by tekong to the opponent's court area. Players on the opposing team play the ball using their feet and head, and body parts other than hands, three times.

Sepak takraw is a team sport and is played on a rectangular field, with a flat surface, both in open spaces (out-doors) and in closed spaces (in-doors), which are free from obstacles. Sepak takraw has a special characteristic of playing with the feet which play an important role in playing the ball. During the course of the game the ball cannot touch other objects except the player's body parts consisting of the legs, thighs, chest, head and shoulders. To be able to play well in sepak takraw, a person must have good abilities or skills. The abilities in question are kicking using parts of the foot, playing the ball with the thigh, playing the ball with the shoulder and head. In connection with the many basic techniques in the sepak takraw game, the topic of this research is the basic sepak takraw techniques. Sila football is a way of kicking the ball using the inside of the foot and functions to receive the ball, pass, control and save the ball from opponent attacks.

The analysis of the sila movement begins with a standing posture, then lifting one of the legs used to perform the sila and the other leg as support. In order for the ball to remain under the control of the player's feet, the player's feet must be able to reach the ball quickly to take the next kick. From these movements, it can be concluded that to support the ability of sila soccer, speed and balance are needed. To be able to play sepak takraw well, the ability to master the basic techniques of the sepak takraw game is not enough, therefore it must be accompanied by good physical abilities.

Foot reaction speed is not only about moving the feet quickly, but can also be limited to moving the legs in the shortest possible time or suddenly. And reaction speed is the time difference between physical action and the stimulus sent by the nervous system from the muscles. The shorter the time achieved, the higher the reaction rate. For the reason that an athlete must be able to make decisions in the form of immediate action as possible regarding opportunities that occur at the same time.

Balance is the ability to maintain an attitude or body position quickly when standing or when making movements. The ability to maintain balance is influenced by several factors, including visual and vestibular. Static and dynamic balance are components of physical fitness that are often carried out by children and adults. How to climb a wooden/iron beam or footbridge, for example, has become a function of balance to be able to maintain its normal position.

Based on the explanation that has been put forward above, the problem that will be examined in this research is how the reaction speed of the feet and balance relate to the ability of sila football in the sepak takraw game of Pre PON SULSEL athletes.

2 Method

This research is a quantitative descriptive study which aims to see how physical factors relate to sepak takraw playing skills. Method is defined as the study of the basic principles of inquiry which often involves problems of logic, classification and basic assumptions.

1. Research Place

This research will be carried out at GOR Sepaktakraw FIKK Makassar State University.

2. Research Variables

The research variables used in this research include:

a.Free variable

1) Foot reaction speed

2)Balance

b. Dependent variable:

Football skills

3. Population and Sample

Sidik Priadana (2021:159) Population and sample are important parts of research that must be determined from the start. By determining the type of research object, researchers can determine research methods that are more appropriate to conditions and needs. The population of this research is Pre-PON SULSEL athletes.

Sidik Priadana (2021:159-162) A sample is part of a population that has characteristics similar to the population itself. Samples are also called samples. The calculated values obtained from this sample are called statistics. If the population is large, it will of course not be possible for researchers to study the entire population because of several obstacles that will be faced later, such as: limited funds, energy and time. So in this case it is necessary to use samples taken from that population. Based on the description above, the sample used in this research was 30 people.

4. Data Analysis Techniques

The data collected through tests is still basic data. To obtain an overview of the problem being studied, data analysis needs to be carried out. After all the data has been collected starting from the foot reaction speed test data, balance test, and cross-legged soccer ability test, to test the hypothesis, the data will be compiled, processed and statistically analyzed by computer using the SPSS Version 25 program to find out whether there is a significant relationship between the variables. independent and dependent variables.

3 Result

Data from tests on leg reaction speed and balance along with sila soccer ability in the sepak takraw game obtained in the research were analyzed using descriptive statistical techniques.

Table 1. Summary of results of descriptive analysis of data

Statistik	Foot Reaction Speed Statistics(X1)	Balance (X2)	Precept Football Ability (Y)
N	30	30	30
Mean	16.03	32.03	28.97
Median	16.00	32.00	29.00
Mode	14	32	29
Std. Deviation	2.723	6.825	3.596
Variance	7.413	46.585	12.930
Range	12	26	15
Minimum	10	19	21
Maximum	22	45	36
Sum	481	961	869

Data Normality Test

a. The results of the normality test for leg reaction speed data obtained a Kolmogorov-Smirnov value of 0.106 with a probability level of 0.200 which is greater than the value of 0.05 at the 95% significance level. Thus the foot reaction speed data obtained is normally distributed.

b. The results of the balance data normality test obtained a Kolmogorov-Smirnov value of 0.098 with a probability level of 0.200 which is greater than the value of 0.05 at the 95% significance level. Thus the balance data obtained is normally distributed.

c. The results of the normality test for sila soccer ability data in the sepak takraw game obtained a Kolmogorov-Smirnov value of 0.130 with a probability level of 0.200 which is greater than the value of 0.05 at a significance level of 95%. Thus, the data on soccer skills in the soccer game in the sepak takraw game obtained is normally distributed.

Correlation Analysis

After carrying out data normality tests on the hypothesis to be tested, the hypothesis is tested to prove its correctness.

Table 2. Results of correlation analysis of the relationship between foot reaction speed and cross-legged ability

Correlation	N	r	P_{value}	Description
X_1. Y	30	0,867	0,000	Significant

Based on the test results of the correlation analysis of data on foot reaction speed (X1) on the ability to kick the ball (Y), a value was obtained (R) = 0.867 with a probability level (P) = 0.000 which is smaller than $\alpha = 0.05$. So H0 is rejected and H1 is accepted (significant correlation coefficient), or foot reaction speed has a significant relationship to cross-legged ability. So it can be concluded that there is a relationship between foot reaction speed and the soccer ability of pre-PON SULSEL athletes.

Table 3. Results of correlation analysis of the relationship between balance and soccer ability

Correlation	N	r	P_{value}	Description
X_2. Y	30	0,792	0,000	Significant

Based on the test results of the correlation analysis of balance data (X2) on soccer ability (Y), a value (R) = 0.792 was obtained with a probability level (P) = 0.000 smaller than $\alpha = 0.05$. So H0 is rejected and H1 is accepted (significant correlation coefficient), or balance has a significant relationship to soccer ability. So it can be concluded that There is a balance relationship with the pre-PON SULSEL athlete's soccer skills.

Table 4. Results of correlation analysis of the relationship between foot reaction speed and balance on cross-legged soccer ability

Correlation	N	R	R^2	P_{value}	Description

$X_1.X_2.Y$	30	0,888	0,788	0,000	Significant

Based on the results of multiple correlation analysis of data on foot reaction speed (X1) and balance (X2) on the ability to play soccer (Y), the regression coefficient value (R) = 0.888 with a probability level (P) = 0.000 is smaller than α = 0. 05. So H0 is rejected and H1 is accepted (significant correlation coefficient), or foot reaction speed and balance have a very significant effect on sila soccer ability in the sepak takraw game. Thus it is concluded that there is a significant relationship between foot reaction speed and balance together on the ability of sila football in the sepak takraw game of Pre PON SULSEL athletes.

4 Discussion

Foot reaction speed has a significant relationship and contributes to sila soccer ability in the sepak takraw game.

The results of hypothesis testing for the first independent variable show that there is a significant relationship between foot reaction speed (X1) and cross-legged ability (Y). Based on the calculation results, the correlation coefficient (r) = 0.867 is obtained, thus proving that the ability to play cross-legged football really requires the foot reaction speed component. Because the reaction speed of the legs is related to the ability of the kick ball in the sepak takraw game, it really supports the production of this movement and the kick kick movement can be carried out well if the foot's ability can respond to the stimulus that occurs in the movement. Your feet will be able to move quickly if you see the ball coming quickly while playing. Therefore, a foot that is a bit slow to respond to the arrival of the ball will certainly have poor ball movement.

This is explained by Widiastuti (2015: 125) that speed is the ability to carry out similar movements in succession in the shortest possible time or the ability to cover a distance in the shortest time. Meanwhile, according to Nossek (in Nurdiansyah, 2018) speed is divided into three types, namely Reaction Speed, Speed of non-cyclic Movement, Spring of Speed Frequency Speed of cyclic Movement. Reaction speed is the speed of responding quickly to a stimulus, which can be in the form of sight or sound, or through hearing. Or expressed as the ability of muscles to act as quickly as possible after receiving a stimulus. What is meant by Speed of non-cyclic movement is the ability to change direction in a complete movement by determining muscle strength, agility and balance in the contraction of a movement. Meanwhile, sprinting of frequency, speed cyclic movement, is the ability to move forward with maximum strength and high speed, determined by muscle and joint strength, where the frequency of movement is very determining.

So it can be concluded that someone who has better foot reaction speed will be superior in doing the silla ball than someone whose foot reaction speed is less good. The results of this study show that foot reaction speed has a significant relationship and contributes to the ability of sila football in the sepak takraw game of Pre PON SULSEL athletes.

1. Balance has a significant relationship and contributes to the ability of sepak takraw in the game sepak takraw.

The results of hypothesis testing for the second independent variable show that there is a significant relationship between balance (X2) and soccer ability (Y). Based on the calculation results, the correlation coefficient (r) = 0.792 is obtained, thus proving that the ability to play soccer really requires a balance component.

This is explained according to Zulman, Ali Umar, and Atradinal (2018:79). Static balance is the ability to maintain the body in a state of motion or during movement. Furthermore, according to Irfan (in Henny 2016: 166), balance is the ability to balance body mass with a fulcrum which will enable humans to carry out activities effectively and efficiently. Balance is an ability used to measure a person's level of balance, such as standing on one leg with arms stretched to the side. When playing sila in the sepak takraw game, balance is very important to control the ball when playing sila. Balance is a person's ability to maintain the body system both in a static position and in a dynamic movement position, where balance is also very important in carrying out a movement because with good balance, a person is able to coordinate movements and perform some dexterity. Thus, to maintain balance in carrying out physical activities, the movements carried out need to be well coordinated in an effort to control all movements. Thus, from the analysis of research results and movement analysis in the sepak takraw game, it can certainly be concluded that balance has a significant relationship with the ability of sepak takraw in the sepak takraw game, besides that it also contributes to balance with the ability of sepak takraw and the ability in the athlete's sepak takraw game. Pre PON SULSEL

2. Foot reaction speed and balance have a significant relationship and contribute to the ability of sepak takraw in the sepak takraw game.

From the results of testing the third hypothesis, it shows that there is a significant relationship between foot reaction speed and balance on the ability of football in the sepak takraw game of pre-PON SULSEL athletes. Based on the calculation results, the regression correlation coefficient (R) = 0.888 with the determination coefficient (R2) = 0.788 or 0.788 100 = 78.8 is obtained. Based on these results, it can be said that there is a relationship between foot reaction speed and balance on the ability of sila football in the sepak takraw game of Pre PON SULSEL athletes of 78.8 and the remaining 21.2 is influenced by several other factors.

According to Dimas and Supriyadi (2017:113) sila soccer is kicking the ball using the inside of the foot, both the right and left foot, resembling a sila position and the other leg as a support. In accordance with the description of the two hypotheses that have been put forward, these two physical elements, foot reaction speed and balance, play a role in mastering the ability to play football in the game sepak takraw. When analyzing the movements that occur, it is certain that an individual or player makes the movement of lifting one leg to kick. This can be done well if it is supported by good physical elements of balance. The weight of the body supported by one particular leg requires balance to maintain the stability of the ball's movement so that it can be kicked straight. Apart from that, the arrival of the ball certainly needs to be responded to quickly to be anticipated by the feet so that the ball does not leave the foot and hits the floor of the field, and if the foot's response is fast it will also result in a better bounce between the arrival of the ball and the contact of the foot. For this reason, foot reaction speed and balance really support the results of soccer skills in the sepak takraw game.

5 Conclusion

Based on the results of data analysis and discussion, the research conclusions are stated as follows: There is a significant relationship between foot reaction speed and sila soccer ability in the sepak takraw game of Pre PON SULSEL athletes, There is a significant relationship between balance and soccer skills in the sepak takraw game of Pre PON SULSEL athletes, There is a significant relationship between foot reaction speed and balance on the ability of sila football in the sepak takraw game of pre-PON SULSEL athletes.

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