



The Effect of Body Balance and Leg Muscle Strength on the Game of Coconut Shell Stilts and Bamboo Stilts

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ABSTRACT

Stable body balance and leg muscle strength can be obtained with various exercises that should be given from the age of 0-6 years or the golden age where there is rapid growth and development process and the child begins to be sensitive to stimulation so that children's development must be optimized, for example through traditional stilt games. coconut shell. This study aims to determine the effect of body balance and leg muscle strength on the game of coconut shell stilts in class X SMA PGRI 1 Jombang. The research design used descriptive analysis. The population of this research is the students of class X SMA PGRI 1 Jombang which consists of 127 students. The sample used was 30 students who were taken using the random sampling technique. The dependent variable was body balance and leg muscle strength, while coconut shell stilts and bamboo stilts were independent variables. Statistical test using multiple linear regression test. The results of the research on the balance variable with a sample of 30 students of class X SMA PGRI 1 Jombang, obtained a mean of 71.5000 with a standard deviation of 13,14049, the highest score of 90 and the lowest score of 50. Based on the results of the calculation of multiple linear regression test the effect of body balance and muscle strength against the coconut shell stilt game, for the body balance variable, the t-count value is 3.595, while the t-table is 1.699 because t-count (3.595) > t-table (1.699). Variable leg muscle strength obtained t-count value of 3.561, while t-table of 1.699, because t-count (3.561) > t-table (1.699). The effect of body balance and muscle strength on bamboo stilts, variable leg muscle strength obtained t-count value of 3.250, while t-table of 1.699, because t-count (3.250) > t-table (1.699). The body balance variable obtained t-count value of 4.137, while t-table of 1.699, because t-count (4,137) > t-table (1,699). So it can be concluded that there is an effect of body balance and muscle strength on the game of coconut shell stilts and bamboo stilts in class X SMA PGRI 1 Jombang. Based on the conclusions of the research, it is suggested that further development and research should be carried out with a more in-depth study to increase the knowledge of the readers and it is hoped that the results of this research can be useful for lovers of traditional games.

Keywords: Body Balance; Leg Muscle Strength; Coconut Shell Stilts; Bamboo Stilts.

INTRODUCTION

During the current pandemic, the condition of human fitness is experiencing very serious problems. Moreover, the lack of movement makes the human body easy to attack

by a virus called Covid-19 (Syarifudin, 2020). In Indonesia itself, the first confirmed case of Coronavirus infection was announced on March 2, 2020. After that incident, the number of positively infected patients continued to grow (Nurmila et al., 2020). Currently, people are not only hit by anxiety but suffer from extraordinary panic (Suprapno et al., 2021). The Covid-19 pandemic greatly affects human movement as well as activities, where humans are required to stay at home so that transmission does not occur (Nurmila et al., 2020). Crowding is strictly prohibited by the government (Riyanda et al., 2020). Especially all sports activities are prohibited to be active. But over time the government provided a solution so that all sectors were not completely paralyzed due to the Covid-19 virus pandemic (Darmalaksana et al., 2020). It is called adapting new habits into a problem-solution (Widaty et al., 2021) that must be carried out by all levels of society and in various fields (Wijayanto et al., 2021).

The importance of physical fitness for the community is also needed so that the movements to be carried out can be fulfilled (Mulyasidhi & Haq, 2021). The meaning of physical fitness itself is the ability of a person's body to complete daily work tasks without causing significant fatigue so that the body still has energy reserves to cope with the additional workload (Nurhasan et al, 2005). The strength of sports policy can be expressed in the 2004 Yogyakarta Declaration (Kemenegpora) and Law no. 3 of 2005 (National Sports System/SKN) which states that sports are all systematic activities to encourage, foster, and develop physical, spiritual, and social potential. Sport is part of the process and achievement of national development goals so that the existence and role of sport in the life of society, nation, and state must be placed in a clear position in the national legal system. The sport itself has three scopes, namely educational sports, recreational sports, and achievement sports (Pratiwi & Z, 2020).

With the existence of the National Sports System Constitution and the division of sports according to their respective fields, it is emphasized that sport shows a very important role in human life where a basic movement has an important element of human life (Mirhan, 2016). In responding to the existence of the National Sports System Constitution, it is hoped that the community will always prioritize sports and games as a form of primary need in living human life primarily so that characters and human resources will develop significantly (Hariadi et al., 2020).

According to Kimpraswil in (As'adi, 2009) said that the definition of the game is a self-exercise (thought and physical exercise) which is very beneficial for the improvement and development of motivation, performance, and achievement in carrying out tasks and

organizational interests better (Zhafira et al. al., 2020). By cultivating themselves or playing and exercising (Nasriati, 2020), a person can improve their fitness so that they can carry out daily activities without experiencing significant fatigue. Through sports and games activities can form humans who are physically fit and have a disciplined and sporty character which will eventually form quality humans (Indrawan et al., 2018). People who are increasingly aware of and understand the importance and function of sports and games themselves, in addition to the government's attention and support, also support the development of sports in Indonesia (Irwansyah & Fransori, 2021), besides that during this pandemic period called traditional games have begun to be developed by the government (Widaty et al., 2021).

Traditional games will make them have an activity (Nugroho, 2019) where locomotor, non-locomotor, and manipulative movements are carried out here (Suryawan, 2018). Both during physical education learning and at home, it is necessary to have motion recognition, so that there is no feeling of boredom due to the influence of the Covid-19 pandemic. Traditional games can also help physically be healthier because there you can do activities (sweat) (Bakhtiar, 2018). For school children/students, especially high school age, some traditional games, especially coconut shell stilts, can be used as serious activities (Rinasari, 2013), but fun through games (Sofianto, 2016), various jobs can be realized and games can be chosen by children because they are fun not for fun. get a prize for praise (Istiningtyas, 2018).

Lutan (2001) states that basic movement skills can be applied in various games, sports, and physical activities that are carried out daily. Through play activities, it is very appropriate to develop the basic movement skills of student-age children, because basically, the world of children is the world of play. Traditional games are one type of game that can provide benefits (Hadjarati et al., 2021) for the development of children's growth, one of which is coconut shell stilts (Okwita & Sari, 2019).

Coconut shell stilts are a traditional Indonesian game that is not exactly known where it came from (Nugroho, 2019), but can be found in various regions with different names, such as Tengkek-tengkek (West Sumatra), Ingkau (Bengkulu), Coconut Shell Clogs. (Bogor), Jangkungan (Central Java), or Batungkau (South Kalimantan) (Sudirman & Rosramadhana, 2020). The game of stilt shells or coconut shells, which comes from the province of South Sulawesi, is usually played by the Bugis. For the Bugis themselves, this game is known as Majjeka, which comes from the word jeka. Stilts are made from old coconut shells with a rope length of approximately 1.5 meters (Hakim & Santoso,

2020). There are two holes for rope hooks that will be used for leg hooks. Coconut shell stilts are made of two coconut shells connected by a rope (Indrawan et al., 2018).

How to play it by running a race using the coconut shell stilts from one side of the field to the other. The player who is the fastest and does not fall is the winner (Madyawati, 2014). Coconut shell stilts do not require a special place (field), can be played anywhere, as long as it is on the ground (Slamet, 2020). Can be played on the beach, in the field, or on the roadside (Rahmawati et al., 2019). How to play stilts requires body balance because it moves on a coconut shell pedestal (Okwita & Sari, 2019). Stilts according to Achroni (in Siahaan 2012) "is one of the most popular traditional games, this game is known in various regions in the archipelago. In addition to using bamboo, stilts can also be made using coconut shells. When playing shell stilts, children must walk on coconut shells which have a surface area of approximately 10 cm in diameter, so balance is needed to play this game (Wardhani, 2020).

According to Lahay, et al (2013), the coconut shell stilt game has benefits for developing and controlling children's motor movements. In addition, the game of coconut shell stilts will also increase the muscle strength of the legs, feet, abdomen, arms, and hands (Rinasari, 2013), so that they can train balance and body flexibility. In addition to coconut shell stilts, there is also a traditional game of bamboo stilts. This game can be used by children individually or by several children in groups. Stilt games are usually used to play casually and are very rarely used for racing games (Khusnul Laely, 2015).

The traditional game of stilts is a traditional game that is still popular today by children. the traditional game of stilts uses a pair of bamboo to walk (Salam et al., 2019). The stilt game has a stick-like shape, the footstool is given support made of wood, with stilt game, children can learn self-control, skills are needed to maintain balance and confidence when climbing the stilts (Ovieta, 2016). Stilt games have benefits for developing and controlling children's motor skills (Devi, 2020). In addition, the game of stilts can increase the muscle strength of the legs, feet, abdomen, arms, hands and can train balance and body flexibility. When playing stilts, children must walk on stilts using a pair of bamboo, the height for a pair of bamboo in stilt games for children aged 10-12 years is 170 cm so that they can train balance and flexibility are needed to play this game. All these aspects including somatosensory, visual, and vestibular will recognize and begin to adapt to changes that occur in children (Istiningtyas, 2018). Through the visual system stimulation of the tectocerebellar tract to the cerebellum, so that the cerebellum provides

information so that the musculoskeletal system can work synergistically to maintain the balance of the child's body (Rahim, 2015).

Balance is the ability to maintain the posture of the human body to be able to be upright and maintain its position (Yuliana, et al., 2014). In early childhood, the balance of the body that is owned is still not stable (Rahim, 2015), even though the balance is needed to carry out their activities, all of which are play and involve physical and motor skills (Nugroho, 2019). Stable body balance can be obtained with various exercises (Agun et al., 2018) which should be given from the age of 0-6 years or the golden period where there is a process of rapid growth and development and the child begins to be sensitive to stimulation (Rahmawati et al., 2019) so that children's development must be optimized (Sukanti, 2003), for example through the traditional game of coconut shell stilts.

In addition to the balance of the game, coconut shell stilts and bamboo stilts can also influence strength, namely leg muscle strength. Stilts according to Achroni (Siahaan 2012) “is one of the most popular traditional games, this game is known in various regions in the archipelago. In addition to using bamboo, engrang can also be made using coconut shells. The shell stilt game will also increase the muscle strength of the legs, feet, arms, and hands so that it can train balance and body flexibility (Devi, 2020). When playing stilt shells, children must walk on coconut shells which have a surface area of approximately 10 cm in diameter, so balance is needed to play this game (Subekti et al., 2017). For this reason, traditional games, especially the coconut shell stilts and bamboo stilts, are a solution for activities as well as playing (Sofianto, 2016), among teenagers, especially high school seniors, this traditional game needs to be introduced to hone the physical development of high school children. Because the game of coconut shell stilts and bamboo stilts has elements of dynamic balance and leg muscle strength in the human body (Okwita & Sari, 2019). Generally, this traditional game is done in a long time of up to about an hour (Masruroh, 2018). In addition to being healthy, the movement of running and walking in this game is also useful for preventing children from becoming obese (Achroni, 2012).

METHOD

This research method uses the Correlation method. The approach used is quantitative, namely a study that describes the data in actual conditions. The data is in the form of numbers that are added up. While the data can be obtained through tests and

counseling conducted directly in the field. Data collection in this study was carried out in the sports field of SMA PGRI 1 Jombang. This is because the school has adequate facilities and infrastructure for research. The implementation time for this research is one day on Saturday-Monday, April 10-12 2021 at 08.00 WIB - finished. Taking into account the time and learning conditions, especially at this time of the pandemic season, samples must wear masks and comply with health protocols. The population in this study were students of class X SMA PGRI 1 Jombang which consisted of 127 students. The sample is part or representative of the population under study (Arikunto, 2013). So in this study, the number of samples was 30 people. Based on the description of the sample, the samples in this study were 30 students of class X SMA PGRI 1 Jombang, who were selected using a random technique. In analyzing the data, multiple linear regression analysis was used to measure the effect of more than one predictor variable (independent variable) on the dependent variable. It is a parametric analysis, which is an analysis that uses interval and ratio data scales. This study used multiple regression equations to analyze the effect of body balance and leg muscle strength on the game of bamboo stilts and coconut shell stilts. Multiple regression equation models are as follows:

Equality I :

$$Y1 = a + b1.X1+b2.X2+e$$

Y1 = Shell Stilt Game

a = Constant

b1= Body balance coefficient

b2= Coefficient of leg muscle strength

X1= Body balance

X2= Leg muscle strength

e = *Standard Error*

Equality II :

$$Y2 = a + b1.X1+b2.X2+e$$

Y2 = Bamboo Stilt Game

a = Constant

b1= Body balance coefficient

b2= Coefficient of leg muscle strength

X1= Body balance

X2= Leg muscle strength

e = *Standard Error*

The t-test is used to see and test how far the influence of each independent variable is used individually in explaining the dependent variables. A t-test can be performed if the t-significance value for each variable in the output of the regression using SPSS has a

significant level of 0.05 ($\alpha= 5\%$). It was decided that H0 was rejected if it was significant t 0.05, while at the significant level, Ha was also accepted, which means that individually the independent variables had no significant effect on the independent variables. It was decided that H0 was accepted if it was significant t 0.05, while Ha was rejected, which means that individually the independent variables had a significant effect on the independent variables.

RESULTS AND DISCUSSION

Description of the data for the balance variable based on the results of the study with a sample of 30 students of class X SMA PGRI 1 Jombang, obtained a mean of 71.5000 with a standard deviation of 13,14049, the highest score of 90 and the lowest score of 50. The results of statistical analysis on the results of the measurement of the body balance variable, as follows:

Table 1.
 Body Balance Variable Statistical Data

Statistics	Value
Mean	71,5000
Std. Deviation	13,14049
Minimum	50,00
Maximum	95,000
N	30

Based on Table 1, the data obtained shows that the mean is 71,5000, while for SD it is 13,14049. The maximum value from the measurement results is 95.00 while the minimum value is 50.00 with N as many as 30 students.

Description of the data for the variable leg muscle strength based on the results of research with a sample of 30 students of class X SMA PGRI 1 Jombang, obtained a mean of 137.8333 with a standard deviation of 22.37006, the highest score of 172.00 and the lowest score of 80.00. Based on the highest and lowest scores, the frequency distribution table of the student's leg muscle strength can be arranged as follows:

Table 2.
 Frequency Distribution of Limb Muscle Strength

Norm	Frequency	Percent
Very Good	0	0
Good	2	6,7
Currently	20	66,7
Less	6	20,0
Very Less	2	6,7
Amount	30	100

Based on Table 2, it can be described that the strength of the leg muscles obtained the highest frequency results, namely 20 (66.7%) obtained with a moderate norm. The results of statistical analysis of the results of the measurement of leg muscle strength variables are as follows:

Table 3.
 Statistical Data Variable Leg Muscle Strength

Statistics	Value
Mean	137,8333
Std. Deviation	22,37006
Minimum	80,00
Maximum	172,00
N	30

Based on Table 3 the data obtained shows that the mean is 137.8333, while for SD it is 22.37006. The maximum value from the measurement results is 172.00 while the minimum value is 80.00 with N as many as 30 students.

Description of the data for the coconut shell stilts variable based on the results of research with a sample of 30 students of class X SMA PGRI 1 Jombang, obtained a mean of 7.5130 with a standard deviation of 38523, the highest score of 6.88.00 and the lowest score of 8.52. The results of statistical analysis of the measurement results of coconut shell stilt variables are as follows:

Table 4.
 Coconut Shell Stilt Variable Statistical Data

Statistics	Value
Mean	7,5130
Std. Deviation	38523
Minimum	6,88
Maximum	8,52
N	30

Based on Table 4 the data obtained shows that the mean is 7.5130, while for SD it is 38523. The maximum value from the measurement results is 8.52 while the minimum value is 6.88 with N as many as 30 students.

Description of the data for the variable bamboo stilts based on the results of research with a sample of 30 students of class X SMA PGRI 1 Jombang, obtained a mean of 8.0750 with a standard deviation of 38517, the highest score of 9.39, and the lowest score of 7.52. The results of statistical analysis of the measurement results of bamboo stilts are as follows:

Table 5.
 Bamboo Stilt Variable Statistical Data

Statistics	Value
Mean	8,0750
Std. Deviation	38517
Minimum	7.52
Maximum	9,39
N	30

Based on Table 5 the data obtained shows that the mean is 8.0750, while for SD it is 38517. The maximum value from the measurement results is 9.39 while the minimum value is 7.52 with N as many as 30 students.

A normality test was conducted to determine whether the residuals were normally distributed or not. Based on the results of the normality test with Kolmogorov Smirnov, the following results were obtained:

Table 6.
 Data Normality Test Results

		Body Balance	Leg Muscle Strength	Coconut Shell Stilts	Bamboo Stilts
N		30	30	30	30
Normal Parameters ^{a,b}	Mean	71.5000	137.8333	7.5130	8.0750
	Std. Deviation	13.14049	22.37006	.38523	.38517
Most Extreme Differences	Absolute	.123	.113	.097	.097
	Positive	.123	.063	.097	.097
	Negative	-.115	-.113	-.057	-.075
Test Statistic		.123	.113	.097	.097
Asymp. Sig. (2-tailed)		.200 ^{c,d}	.200 ^{c,d}	.200 ^{c,d}	.200 ^{c,d}

Based on Table 6 above shows each variable with a significant value > 0.05 so that the data is declared normally distributed. The significant values of body balance data, leg muscle strength, speed of coconut shell stilts, and speed of bamboo stilts were $0.200 > 0.05$, respectively. This means that the data on body balance, leg muscle strength, speed of coconut shell stilts, and speed of bamboo stilts are normally distributed.

Homogeneity test to make sure that the groups that make up the sample come from a homogeneous population. Based on the results of the homogeneity test, the following results were obtained:

Table 7.
Homogeneity Test Results

	Levene Statistic	df1	df2	Sig.
Body Balance	.341	2	27	.714
Leg Muscle Strength	1.542	2	27	.232
Coconut Shell Stilts	.384	2	27	.684
Bamboo Stilts	.648	2	27	.531

The results in **Table 7** above show significant data values for body balance, leg muscle strength, speed of coconut shell stilts, and speed of bamboo stilts of 0.714; 0.232; 0.684, and 0.531 > 0.05 This means that the data on body balance, leg muscle strength, speed of coconut shell stilts and speed of bamboo stilts are homogeneous.

The multicollinearity test aims to test the regression model for the correlation between independent variables. A good regression model should not correlate with the independent variables.

Table 8.
Multicollinearity Test Results

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Body Balance	.523	1.912
	Leg Muscle Strength	.523	1.912

The results in **Table 8** above show a tolerance value > 0.1 and a VIF value < 10, so the regression model is good and there is no multicollinearity.

Autocorrelation test is a test conducted to test and find out the correlation between the error variance from period to period from various studies. This test, using Durbin-Watson (DW) resulting from the tests that have been carried out.

Table 9.
Autocorrelation Test Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.859 ^a	.737	.718	.20464	2.331

The results in **Table 9** above show the Durbin-Watson (DW) value of 2,331. because $DW > DU$ and $(4-DW) < DU$ or it can be denoted as follows: $(4-DW) > DU < DW$, and vice versa.

Multiple linear regression test using SPSS 25.00 computational assistance, the results of the multiple regression equation are as follows::

Table 10.
 Y1 Linear Regression Test Results

Model	Unstandardized Coefficients		Standardized Coefficients		T	Sig.
	B	Std. Error	Beta			
1 (Constant)	9.593	.245			39.131	.000
Body Balance	-.014	.004	-.490		-3.595	.001
Leg Muscle Strength	-.008	.002	-.443		-3.250	.003

Linear regression test using SPSS 25.00 computational assistance, the results of the multiple regression equation are as follows:

$$\hat{Y} = 9,593 + -0,014X_1 + -0,008X_2$$

Information:

Y: Coconut shell stilts

X₁ : Variable body balance

X₂ : Variable leg muscle strength

Linear regression test using SPSS 25.00 computational assistance, the results of the multiple regression equation are as follows:

Table 11.
 Y2 Linear Regression Test Results

Model	Unstandardized Coefficients		Standardized Coefficients		t	Sig.
	B	Std. Error	Beta			
1 (Constant)	10.211	.224			45.551	.000
Body Balance	-.015	.004	-.516		-4.137	.000
Leg Muscle Strength	-.008	.002	-.444		-3.561	.001

Linear regression test using SPSS 25.00 computational assistance, the results of the multiple regression equation are as follows:

$$\hat{Y} = 10,211 + -0,15X_1 + -0,008X_2$$

Keterangan:

Y: Bamboo Stilts

X₁ : Variable body balance

X₂ : Variable leg muscle strength

Relationship of Variable X1 (body balance) with Variable Y1 (coconut shell stilts).

The results of the t-statistical calculation for the body balance variable obtained the t-count value of 3.595, while the t-table was 1.699 because t-count (3.595) > t-table (1.699) then H_0 was rejected, meaning that the body balance variable was significantly related to the variable coconut shell stilts.

The relationship between variable X2 (leg muscle strength) and variable Y1 (coconut shell stilts).

The results of the t-statistical calculation for the leg muscle strength variable obtained a t-count value of 3.250, while the t-table was 1.699 because t-count (3.250) > t-table (1.699) then H_0 was rejected, meaning that the variable leg muscle strength was significantly related to coconut shell stilt speed variable.

Relationship of Variable X1 (body balance) with Variable Y2 (bamboo stilts).

The results of the t-statistical calculation for the body balance variable obtained a t-count value of 4.137, while the t-table was 1.699 because t-count (4.137) > t-table (1.699) then H_0 was rejected, meaning that the body balance variable was significantly related to the variable bamboo stilts.

Variable X2 (leg muscle strength) and Y2 variable (bamboo stilts).

The results of the t-statistical calculation for the leg muscle strength variable obtained a t-count value of 3.561, while the t-table was 1.699 because t-count (3.561) > t-table (1.699) then H_0 was rejected, meaning that the variable leg muscle strength was significantly related with variable bamboo stilts.

Relationship between variables X1 (body balance) and X2 (leg muscle strength) with variable Y1 (coconut shell stilts).

The results of the F-statistical calculation show that the F-count value is 37.885, while the F-table is 3.354 because F-count (37.885) > F-table (3.354) then H_0 is rejected, meaning that the independent variables (body balance and leg muscle strength) together - same (overall) effect on the dependent variable (coconut shell stilts game).

Relationship between X1 (body balance) and X2 (leg muscle strength) variables with Y2 (bamboo stilts) variable.

The results of the F-statistical calculation show that the F-count value is 47.940, while the F-table is 3.354 because F-count (47.940) > F-table (3.354) then H_0 is rejected,

meaning that the independent variables (body balance and muscle strength) together the same (overall) affects the dependent variable (on the game of bamboo stilts).

Discussion

Effect of Variable X1 (body balance) with Variable Y1 (coconut shell stilts game)

Based on the results of the study showed the body balance variable with a regression coefficient of 0.014 with negative parameters. This means that if the balance of the body (X1) increases by one unit, then the coconut shell stilts (Y) will increase by 0.014 or 1.4%, the coefficient is negative. However, for this balance variable the negative value is ignored because the less it falls, the better the value. This means that there is a positive relationship between body balance (X1) and coconut shell stilts (Y). An increase in the value of body balance (X1) will increase the coconut shell stilt game (Y).

The results of the hypothesis test show that the body balance variable has a significant effect on the coconut shell stilt game variable. This proves that body balance plays an important role in producing coconut shell stilts and speed to reach the goal. Body balance plays a role in movement during the coconut shell game so it doesn't fall. The ability of a body balance to combine properly deploying coconut shells.

Effect of Variable X2 (leg muscle strength) with Variable Y1 (coconut shell stilts game)

Based on the results of the study showed the variable leg muscle strength with a regression coefficient of 0.008 with negative parameters. This means that if the leg muscle strength (X2) increases by one unit, then the speed of the coconut shell stilts (Y) will increase by 0.008 or 0.8%, the coefficient is negative. However, for the leg muscle strength variable, the negative value is ignored, because the less you fall from the stilt, the better the value. This means that there is a positive relationship between leg muscle strength (X2) and coconut shell stilts (Y). An increase in the value of leg muscle strength (X2) will increase the speed of coconut shell stilts (Y).

The results of the hypothesis test showed that the variable leg muscle strength had a significant effect on the coconut shell stilt game variable. The coconut shell stilt game has benefits for developing and controlling children's motor movements. The child's motor skills referred to here are about the anatomy of the body used to carry out the movements of the traditional game. In addition, the game of coconut shell stilts will also increase the

muscle strength of the legs, feet, abdomen, arms, and hands, so that they can train balance and body flexibility.

Effect of Variable X1 (body balance) with Variable Y2 (bamboo stilts game)

The results showed that the body balance variable with a regression coefficient of 0.015 with negative parameters. So if the balance of the body (X1) increases by one unit, then the bamboo stilts (Y) will increase by 0.015 or 1.5% the coefficient is negative. However, for this balance variable the negative value is ignored because the less it falls, the better the value. This means that there is a positive relationship between body balance (X1) and bamboo stilts (Y). The increase in the body balance value (X1) will increase the speed of the bamboo stilts (Y).

The results of the hypothesis test show that the body balance variable has a significant effect on the bamboo stilt game variable. This proves that the body balance variable has a significant correlation to the maximum or not the bamboo stilt game.

Effect of Variable X2 (leg muscle strength) with Variable Y2 (bamboo stilts game)

The results showed the variable leg muscle strength with a regression coefficient of 0.008 with negative parameters. This means that the regression coefficient value of the leg muscle strength variable (X2) on the bamboo stilt variable (Y). This means that if the leg muscle strength (X2) increases by one unit, the speed of the bamboo stilts (Y) will increase by 0.008 or 0.8%, the coefficient is negative. However, for the leg muscle strength variable, the negative value is ignored, because the less you fall from the stilt, the better the value. This means that there is a positive relationship between leg muscle strength (X2) and bamboo stilts (Y). An increase in the value of leg muscle strength (X2) will increase the speed of bamboo stilts (Y).

The results of the hypothesis test showed that the leg muscle strength variable had a significant effect on the bamboo stilt game variable. This proves that this variable has an important effect on the maximum or distance running using the starting line and running to the finish line and the first to reach the finish line will be the winner. Stilts are made of two bamboo sticks with a diameter the size of an adult's arm which are relatively straight and old with a length ranging from 1.5 to 3 meters each, one base or end of the bamboo (approximately 20 - 30 cm from one bamboo base) perforated to insert a piece of bamboo measuring 20 cm wide as a place to set foot. Tie or nail the pieces of bamboo and holes, making sure the connection is strong to climb on (Widodo, 2016). This game of stilts is a

speed competition whose playing pattern is running from one side to the other and then back to the starting side.

Effect of Variables X1 and X2 (body balance and leg muscle strength) with Variable Y1 (coconut shell stilts game).

The results showed that the F-statistical calculation obtained an F-count value of 37.885, while the F-table was 3.354 because $F\text{-count} (37.885) > F\text{-table} (3.354)$ then H_0 was rejected, meaning that the independent variable (body balance and leg muscle strength) together (overall) affect the dependent variable (coconut shell stilts game).

The research hypothesis shows that there is an effect of body balance and leg muscle strength on the Coconut Shell Stilt game in class X SMA PGRI 1 Jombang. Coconut shell stilts are a type of traditional game that has been passed down from generation to generation with natural products, namely coconut shells that are easy to play together or individually and can be contested which is useful for introducing today's young generation to appreciate the work of their people. Shell stilts are easier to play with than bamboo stilts. It's just that there needs to be sufficient concentration and coordination between hands, feet, and eyes. Stilt games can be played alone or in competitions. This game requires caution and balance of the players. If you are not used to using stilts, you will often fall, but if you can use stilts, you will be addicted to playing them.

Effect of Variables X1 and X2 (body balance and leg muscle strength) with Variable Y2 (bamboo stilts game).

The results showed that the F-statistical calculation obtained an F-count value of 47.940, while the F-table was 3.354 because $F\text{-count} (47.940) > F\text{-table} (3.354)$ then H_0 was rejected, meaning that the independent variables (body balance and muscle strength) were together (overall) affect the dependent variable (on the game of bamboo stilts).

In the game of stilts, the muscle strength used is the leg and hand muscles that will be used when walking. The last element used is body coordination. Coordination is a harmonious relationship of mutually influential relationships between muscle groups during work aimed at various skill levels, Walking using stilts requires each player to have a good level of coordination, in stilts eye, hand, foot coordination has a significant relationship because good eye hand-foot coordination walking using stilts will also be good. Where all of these elements must be owned by every child who wants to walk and run on the stilts.

In addition to having physical elements, stilts have benefits in stimulating children's gross motor skills, namely: 1) training hand and foot strength, 2) training agility, accuracy 3) improving eye, hand, and foot coordination. And 4) improve body balance.

CONCLUSIONS AND SUGGESTIONS

Conclusions; Based on data analysis and discussion of data, the authors obtained conclusions that can be drawn from research on the effect of body balance and leg muscle strength on coconut shell stilts game in class X SMA PGRI 1 Jombang: (1) There is an effect of body balance on coconut shell stilts game in class students X SMA PGRI 1 Jombang. Body balance with a regression coefficient of 0.014 with a negative parameter on the game of coconut shell stilts means that body balance has a significant effect on the game of coconut shell stilts in class X SMA PGRI 1 Jombang; (2) There is an effect of leg muscle strength on the game of coconut shell stilts in class X SMA PGRI 1 Jombang. Leg muscle strength with a regression coefficient of 0.008 with a negative parameter on the game of coconut shell stilts means that it has a significant effect on the game of coconut shell stilts in class X SMA PGRI 1 Jombang; (3) There is an effect of body balance on the game of bamboo stilts in class X students of SMA PGRI 1 Jombang. Body balance with a regression coefficient of 0.015 with a negative parameter on the game of bamboo stilts means that body balance has a significant effect on the game of bamboo stilts in class X SMA PGRI 1 Jombang; (4) There is an effect of leg muscle strength on the game of bamboo stilts in class X SMA PGRI 1 Jombang. Leg muscle strength with a regression coefficient of 0.008 with a negative parameter for the bamboo stilt game, means that the leg muscle strength has a significant effect on the bamboo stilt game in class X SMA PGRI 1 Jombang; (5) There is an effect of body balance and leg muscle strength on the game of coconut shell stilts in class X SMA PGRI 1 Jombang. Body balance and leg muscle strength affect the game of coconut shell stilts in class X SMA PGRI 1 Jombang, and (6) There is an effect of body balance and leg muscle strength on the game of bamboo stilts in class X SMA PGRI 1 Jombang. Body balance and muscle strength together affect the game of bamboo stilts in class X SMA PGRI 1 Jombang.

Suggestion; Taking into account the results of the discussion and conclusions above, some suggestions can be made as follows: (1) The results of this study are expected to add insight to knowledge related to students by maintaining fitness, it does not require a very formal movement such as football or basketball, but it can also be done

through traditional games such as coconut shell stilts and bamboo stilts as well as introducing traditional games, (2) Considerations for physical education teachers after knowing the results of the research, it is necessary to conduct further development and research with a more in-depth study so that it will increase the knowledge of the readers as well as the expected results of this research can be useful for lovers of traditional games, and (3) It is hoped that further research will be carried out for the population and the research variables will be added.

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