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## Analysis of Tarung Derajat Athletes Ability Bantul Regency (Correlational Study in terms of Eye-Hand Coordination, Arm Length and Arm Power)



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**ABSTRACT:** The purpose of this study was to find out the analysis of the Tarung Derajat ability of athletes in Bantul Regency (correlational study in terms of eye-hand coordination, arm length and arm power). This study uses a descriptive research design with a survey method. The population of this study was 24 Tarung Derajat athletes in Bantul Regency. The sample in this study used a total sampling technique totaling 24 Tarung Derajat athletes in Bantul Regency, both male and female. Data collection techniques used in this study were tests and measurements. Data analysis in this study used SPSS version 25. From the results of the study showed the value of Sig, F change  $0.00 < 0.05$ , it can be concluded that there is a correlation or relationship between the variables of eye-hand coordination, arm length, arm power, simultaneously to the variable hitting ability. The effective contribution to the highest variable is obtained from arm power. With a relationship degree of 0.923 which is very strong.

**KEYWORDS:** Eye-Hand Coordination, Arm Length and Arm Power, Athletes, Tarung Derajat

### INTRODUCTION

According to (Nugroho et al., 2020) sports are activities that teach honesty, respect for opponents or friends, accept defeat and fair play. Achievement sports are sports that start at a young age and are developed in a planned, tiered, and long-term manner (Falaahudin et al., 2021). Martial arts are one of the sports achievements (Triprayogo et al., 2020). Martial arts is a sport that combines elements of art, self-defense techniques, exercise, and mental training (Prayogo et al., 2021). Martial arts provide many advantages, including the ability to defend oneself from bad people, therefore it is important to have self-defense skills (Falaahudin et al., 2020).

According to (Ismoko & Sukoco, 2013) achievement is the level of success a person has achieved in a business as a result of learning or gaining experience. Resilience in dealing with all aspects of life situations and relying on intellectual, emotional, and spiritual abilities can bring success (Indrayana, 2012). According to (Wibowo & Hakim, 2019) to achieve a goal requires effort and strong commitment.

According to (Fadli, 2014) that Guru Haji Achmad Dradjat who is also known as AA Boxer is the creator of the Tarung Derajat martial arts. He declared the birth of the martial art form on July 18, 1972 in Bandung. According to (Jamaludin et al., 2019) Tarung Derajat is a martial art that requires quick reactions to move its limbs. The movement harnesses the combined powers of mind, body, and conscience. Especially in efforts to maintain health and life safety (Hasibuan et al., 2019).

As a sport, Tarung Derajat can be seen in terms of technical and non-technical effectiveness and productivity for sports actors (Jamaludin, 2017). Tarung Derajat is a martial arts sport that teaches and trains techniques and strategies for movements of the hands, feet, head and other parts (Hambali et al., 2015). This martial art has elements of movement such as patterns and forms of defensive and attacking exercises, coordination abilities, strength, speed, accuracy, courage, and tenacity (Syariofeddi et al., 2020).

### METHOD

The design or research design used is the correlation design method. In this study, we will describe the relationship and the amount of contribution between eye-hand coordination, arm length and arm power with the ability to hit the forehand in the Tarung Derajat sport. The independent variables in this study consist of:

Eye-hand coordination : X1

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Sleeve length : X2

Power arm : X3

While the dependent variable in this study consisted of front hitting ability (Y).

According to (Sugiyono, 2016) population is something or subject who lives in a certain area and meets certain criteria for research problems. 24 Tarung Derajat athletes in Bantul Regency became the sample of this study. (Suharsimi, 2013) says that the sample is part of the population with the characteristics or circumstances to be studied. In this study, 24 male and female Tarung Derajat athletes from Bantul Regency were used as samples using total sampling technique. Tests and measurements were used in this study to collect data namely eye-hand coordination tests. This test uses a test of throwing and catching a tennis ball. In this study, SPSS version 25 was used to analyze the data.

## RESULTS AND DISCUSSION

### 1. Descriptive Analysis

Table 1. Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Arm Length	24	70	83	76,04	4,080
Eye Coordination Hand	24	5	19	11,38	3,888
Arm Power	24	3,0	6,4	5,104	0,8705
Hit	24	13	29	22,29	4,329
Valid N (listwise)	24				

Based on the research data description table above, information can be obtained: Data description for the arm length variable based on the results of the study with a sample of 24 tarung derajat athletes obtained an average arm length of 76.04 with a standard deviation of 4.080, the highest score is 83 and the lowest score is 70.

Data description for hand eye coordination variable based on research results with a sample of 24 tarung derajat athletes obtained an average hand eye coordination of 11.38 with a standard deviation of 3, 888 the highest score is 19 and the lowest score is 5.

The data description for the arm power variable based on the results of a study with a sample of 24 tarung derajat athletes, obtained an average arm power of 5.104 with a standard deviation of 0.8705, the highest score is 6.4 and the lowest score is 3.0.

Description of the data for the punch variable based on the results of the study with a sample of 24 tarung derajat athletes obtained an average punch of 22.29 with a standard deviation of 4.329, the highest score was 29 and the lowest score was 13.

### 2. Tests of Normality

	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Arm Length	,099	24	,200*	,950	24	,276
Eye Coordination Hand	,103	24	,200*	,966	24	,581
Arm Power	,202	24	,012	,932	24	,110
Hit	,107	24	,200*	,973	24	,748

\*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Based on the results of the Normality test above, it is known that the sig values of all variables show > 0.05, so it can be concluded that all data is normally distributed.

### 3. Correlation Test

		ARM LENGTH	HANDS EYES COORDINATION	ARM POWER	HIT
ARM LENGTH	Pearson Correlation	1	,446*	,397	,482*
	Sig. (2-tailed)		,029	,055	,017
N		24	24	24	24

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HANDS EYES COORDINATION	Pearson Correlation	,446*	1	,486*	,595**
	Sig. (2-tailed)	,029		,016	,002
	N	24	24	24	24
ARM POWER	Pearson Correlation	,397	,486*	1	,923**
	Sig. (2-tailed)	,055	,016		,000
	N	24	24	24	24
HIT	Pearson Correlation	,482*	,595**	,923**	1
	Sig. (2-tailed)	,017	,002	,000	
	N	24	24	24	24

Based on the results of the Correlation test, it is known that the sig values of all variables are as follows:

1. Arm length with a punch of 0.017 < 0.05. this shows that there is a correlation/relationship between the arm length variable and the stroke variable. With a relationship degree of 0.482 which is quite strong.
2. Hand eye coordination with blows 0.002 < 0.05. this shows that there is a correlation/relationship between hand eye coordination variables and hitting variables. With a relationship degree of 0.595 which is quite strong.
3. Power arm with a punch of 0.00 < 0.05. this shows that there is a correlation/relationship between arm power variables and stroke variables. With a relationship degree of 0.923 which is very strong.

### CONCLUSION

From the results of the study showed the value of Sig, F change 0.00 < 0.05, it can be concluded that there is a correlation or relationship between the variables of eye-hand coordination, arm length, arm power, simultaneously to the variable hitting ability. The effective contribution to the highest variable is obtained from arm power. With a relationship degree of 0.923 which is very strong.

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