

# Comparison of Effect of Roundhouse Kick Practice using Handbox and Sandsack to the Kick Speed of Pencak Silat Athletes

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**Keywords:** Handbox, Sandsack, Roundhouse Kick.

**Abstract:** The purpose of this research was to determine the comparison of effect of roundhouse kick practice using handbox and sandsack method to the speed of pencak silat athletes' kick. The population in this research was 8 pencak silat athletes and the research method used experimental method. The recent research used total sampling technique. The result of data processing using SPSS 23 and data processing of t paired test obtained the results as follows: Experiment 1, it was obtained the significance or value probability value of 0.000 smaller than  $\alpha = 0.05$ , meaning that it was beyond the acceptance of the hypothesis ( $H_0$ ). Thus, roundhouse kick practice using Handbox can increase the kick speed of pencak silat athletes. Experiment 2, it was obtained the significance value or probability value of 0.000 smaller than  $\alpha = 0.05$ , meaning that it was beyond the acceptance of the hypothesis ( $H_0$ ). Thus, roundhouse kick practice using sandsack can increase the kick speed of pencak silat athletes. From the comparison of the two experiments above, it was obtained the significance value or probability value of 0.004 smaller than  $\alpha = 0.05$ , meaning that it was beyond the acceptance of the hypothesis ( $H_0$ ). This meant that there was a significant difference between practices using handbox and sandsack. Based on the above result, it can be concluded that roundhouse kick practice method using handbox and sandsack had a significant effect on the kick speed of PPLP pencak silat athletes.

## 1 INTRODUCTION

The government's attention to the Sports Development and Achievement is high, so that the development needs to be conducted in every layer of society, as contained in Law of the Republic of Indonesia No. 3 of 2005 (Undang-Undang Republik Indonesia, No 3, 2005) on sporting system article 21, paragraph 3 explaining that "The Development of sports is conducted through the stages of introduction of sports, monitoring, guiding, and talent development and improvement of achievements" (A. R. Jensen, et al. 2016). The Indonesian independence is inseparable from the role of the fighters in defending the independence, one of which is through martial arts, namely Pencak Silat. "Pencak silat is the result of Indonesian culture to defend and maintain its existence and integrity to the environment and the natural surroundings to achieve harmony in life in order to increase faith and piety to God Almighty (Wilson, L., 2009). Pencak silat has the meaning of Pencak and Silat, Pencak

means a basic motions of martial arts tied to rules and used in learning, practices and performances. While Silat means a perfect martial movement, which originates in pure sacred spirituality."

Pencak silat has several basic techniques that affect the success rate of athletes, the basic techniques of pencak silat consist of kuda-kuda (a neutral stance), punching, defense, dodging and kicking that are mostly found in martial arts sports (Anam A K, Hidayah T 2014). From the various types of kicks in pencak silat, the researcher only examines the roundhouse kick. A roundhouse kick is a semicircular inside kick aimed at all parts of the body using the back of the sole of foot" (Bal B S and Singh, D 2014). The roundhouse kick is a very dominant kick type performed by all athletes because this kick is very easy to do and the level of risk or impact of the kick is high for the athletes and opponents because it is a composition of various supporting factors of physical conditions such as leg muscle strength and motion coordination (Cooper. W E, 1982). Therefore, to get a quick and accurate kick to the target, it takes a practices that affect to the

roundhouse kick speed (Manaf H, 2013). One of the practices is by using sport infrastructure facilities related to the sport branch. In this case, it can use handbox, sandsack, and other facilities (Abernethy, B. 1991).

In the previous research, the researcher has examined the effect of repetition practice method on the roundhouse kick speed, then the researcher will analyze the comparison of the effect of roundhouse kick practice using handbox and sandsack to the kick speed of pencak silat athletes.

## 2 METHODS

This research is experimental treatment which is a way to find causal relation between two factors deliberately caused by the researcher by eliminating or reducing or separating other disturbing factors.

The research variables in this research are roundhouse kick practice using handbox as independent variable (X1) and using sandsack as the independent variable (X2) to the kick speed of PPLP pencak silat athletes as the dependent variable (Y).

### 2.1 Population

Population is overall/totality of subjects in the research. The population in this research is 8 male PPLP pencak silat athletes of Dispora Riau Province.

### 2.2 Participant

Participant is partial or representative of the population to be examined. Based on the research population, the sample in this research is all the population that is 8 male PLPP Pencak Silat athletes. This is in accordance with the expert’s explanation saying that: “If the subject is less than 100, it is better to take all the subjects so that it belongs to population research (Jowko E, et al. 2014). Thus, sampling technique in this research is total sampling”.

From the result of data analysis on the level of validity, objectivity, and norms of research development, roundhouse kick speed test of pencak silat athletes has a validity of 0.860 and reliability of 0.740 (Panfil R, 2011).

Based on the calculation of data using stopwatch with the time of 10 seconds, the criteria are as follows:

Table 1: Assessment criteria of athletes’ roundhouse kick speed.

Category	Male	Female
Excellent	>25	>23
Very good	20-24	19-22
Good	15-19	14-18
Fair	10-14	8-3
Poor	<9	<7

Data processing is a design on procedure, process and analyze data to facilitate research according to research objectives. This data processing serves to provide direction and procedure in the research process. After the data from the test with the instrument has been designed, the next step is to process and analyze the data using SPSS 23 with t paired test data processing.

## 3 RESULTS AND DISCUSSION

### 3.1 Results

Based on the result of data processing and data analysis, it statistically indicates that the practice of roundhouse kick speed using handbox and sandsack is as follows:

Table 2: Paired samples test.

		Paired difference					t	df	Sig.(2-tailed)
		mean	Std. deviation	Std.error mean	95% confidence interval of the difference				
					lower	Upper			
Pair 1	t.awal.lat.a – t.akhir.lat.a	-7,667	2,257	,583	-8,917	-6,417	-13,154	14	,000
Pair 2	t.awal.lat.b – t.akhir.lat.b	-10,467	2,667	,689	-11,945	-8,989	-15,188	14	,000

Table 3: Independent sample test.

		F	Sig.	t	df	Sig. (2 tailed )	Mean difference	Std. error difference	95% convidence interval of the difference	
									Lower	Upper
Var00002	Equal variances assumed	1,006	,324	-3102	28	,004	-2,800	,903	-4,649	-,951
				-3102	27,249	,004	-2,800	,903	-4,651	-,949

Hypotheses:

- H0 = There is no significant difference between the effect of roundhouse kick speed practice using hand box and/or using sandsack to the kick speed of pencak silat athletes.
- H1 = There is a significant difference between the effect of roundhouse kick speed practice using handbox and/or using sandsack to the kick speed of pencak silat athletes.

Decision Criteria:

- Significance value or probability value > 0.05, Ho is accepted
- Significance value or probability value < 0.05, Ho is rejected
- Experiment I, it is obtained significance value or probability value of 0.000 smaller than = 0.05,

Meaning that it is beyond the acceptance of the hypothesis (H0). Thus, the practice of roundhouse kick speed using hand box can increase the kick speed of pencak silat athletes.

- Experiment II, it is obtained significance value or probability value of 0.000 smaller than = 0.05 meaning that it is beyond the acceptance of the hypothesis (H0). Thus, the practice of roundhouse kick speed using sandsack can increase the kick speed of pencak silat athletes.
- -From the comparison of the two experiments above, it is obtained significance value or probability value of 0.004 smaller than = 0.05, meaning that it is beyond the acceptance of the hypothesis (H0). This means that there is a significant difference between the practice of roundhouse kick speed using handbox and sandsack.

3.2 Discussion

Based on the analysis result above, it can be seen that there is a significant effect of both experiments, either roundhouse kick speed practice using handbox or sandsack. This research supports previous research that repetition practice method by observing the basic techniques and rules of pencak silat can increase the kick speed of pencak silat

athletes. By using the means of pencak silat practices such as roundhouse kick speed using hand box and sandsack, it can significantly increase the kick speed of pencak silat athletes. By applying regular and routine repetition method using handbox and sandsack, it is expected to create an influential motion automation for roundhouse kick speed of pencak silat athletes.

4 CONCLUSIONS

Based on the result of data analysis and discussion, it can be concluded that the practice method using handbox and sandsack affects the roundhouse kick speed of PPLP pencak silat athletes.

For the sake of perfection of this research, the researcher expects follow-up researches on both basic techniques and other methods. The researcher realizes that this research only examines male pencak silat athletes, future researchers are expected to be able to analyze female, adolescent, and early childhood athletes.

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