



The Effect Of *Resistance Band* Training Using The *Set System* Method On The Speed Of Teenage Pugilists' Sickle Kicks

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Abstract

In various pencak silat matches it is often found that athletes lack good sickle kick speed as a result of attacks that use elements of *speed*, *explosive power*, *endurance* that are carried out repeatedly become less patterned and have no effect on opponents. The purpose of this study was to determine whether there is a significant effect of *resistance band* training using the *set system* method on the speed of adolescent pugilists' sickle kicks. The method in this study is a quantitative descriptive experimental method using a *pretest-posttest control group design*. The population in this study were 19 students and extracurricular students of SMKN 12 BANDUNG, and the sample was 14, the sampling technique used was *purposive sampling*. Instruments used peching, whistles, cameras, and *Kinovea software*. The results showed that *resistance band* training using the *set system* method had a significant effect on the speed of adolescent pugilists' sickle kicks. It can be concluded that speed training with a clear and routine training programme can increase sickle kick speed.

Keywords: Resistance Bands, Kick Speed, Crescent Kick, Adolescent Age

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A. Introduction

In some pencak silat matches many athletes use or rely on their attacks using kicks. As for what is often used when competing, namely the sickle kick because this kick is very easy to do and is a surefire kick to get points (Moh et al., 2022). Then according to (Ridhwan & Hariyanto, 2021) the sickle kick has advantages, namely the direction of the trajectory occurs from one side direction outside towards the top direction inside so that it has maximum speed and has a high level of balance. In various pencak silat matches, it is often found that athletes lack the speed of a good sickle kick, as a result, attacks that use elements of ability (*speed*), explosive power (*power*), endurance (*endurance*) which are carried out repeatedly become less patterned and have no effect on the opponent so that the attack is random (Waskito et al, 2021).

A good kick is a kick that is difficult for the opponent to read, or anticipate, or catch (Ilahi et al., 2023). Poor sickle kicks greatly affect athlete performance, as revealed by (Effandy & Ihsan, 2020) sports activities have many supporting factors that influence achievement, such as: physical condition, technique, tactics, and mentality. Therefore, researchers want to give special treatment to athletes with *resistance band*

training using the *set system* method, because if a weak sickle kick is left, the athlete will lose points because the opponent easily anticipates the attack given, this is because the athlete's kicking speed is not optimal (Moh et al., 2022). Then the coach's understanding of the training programme is very important because it will greatly support the athlete's achievement, but in reality the coach at SMKN 12 BANDUNG has a very poor understanding of the training programme which the coach should really understand the training programme, as has been revealed by (Ratno & Simanjuntak, 2022) one of the factors that cause low student achievement is the breeding of athletes who are not well programmed, training is only incidental and not sustainable so that the quality obtained is not optimal.

According to the results of research conducted by (Harahap et al, 2023) the sickle kick is an attacking technique that is often used in pencak silat matches. So that the ability of the sickle kick can affect the athlete's performance in competition. *Resistance bands* can put pressure on leg muscles so that the muscles become stronger and ready to perform every movement, especially in sickle kick movements that use a lot of the instep. Based on the results of data analysis,

examination of research results and discussion, the following conclusions can be drawn: there is an effect of target training using *resistance bands* on the results of pencak silat sickle kicks. In addition, according to the results of research conducted by (Waskito et al, 2021) based on data analysis of the results of the study, it is known that there is a significant influence of *resistance bands* training, and *leg press* training on the speed of sickle kicks in pencak silat athletes IPSI East Tanjung Jabung Regency. The research conclusions put forward are based on the results of the t-test in hypothesis testing.

The sport of pencak silat has not been widely studied about the effect of *resistance band* training using the *set system* method on the speed of adolescent pugilists' sickle kicks because in previous studies *resistance band* research focused on *resistance bands* only not with the method, namely the effect of weighted training using *Resistance Bands* on the ability of sickle kicks of Tapak Suci Putera Muhammadiyah Pencak Silat Athletes at PGRI University West Sumatra (Diana et al., 2016) with the results of research that weighted training using *Resistance Bands* proved effective for improving sickle kick ability. Therefore, the researcher wishes to conduct research on the effect of *resistance band* training using the *set system* method

on the speed of adolescent fighter sickle kicks.

It can be concluded that training using *resistance bands* can increase the speed of sickle kicks in pencak silat sports. In the above research only discusses the *resistance band*. *Resistance band* training using the *set system* method is very interesting to study to see the effect on increasing the speed of adolescent pugilists' sickle kicks. The absence of research studies on this science in the sport of pencak silat attracts researchers to conduct further research on 'The effect of *resistance band* training using the *set system* method on the speed of adolescent pugilists' *sickle kicks*'.

B. Methods

The design used by researchers is a *pretest-posttest control group* design. In this study, researchers used a population of 19 students and extracurricular students of SMKN 12 BANDUNG. In this study, researchers used 14 students and extracurricular students at SMKN 12 BANDUNG, in this study the authors used *Purposive sampling* technique. *Purposive sampling*. The research location was carried out in the hall building of SMKN 12 BANDUNG. Research instruments are basically tools used to collect data in research (Sugiyono, 2016). Given that this type of research is experimental, the type of

instrument used is a sickle kick speed test using peching, whistles, cameras, and *Kinovea software*. The data analysis technique that researchers use in this study is a hypothesis test data analysis technique by conducting an *independent* T-test. In this case, researchers used the help of SPSS

Version 25 (*Statistical Package for the Social Science*) and *Microsoft Excell* (Fadluoh et al., 2024).

C. Result and Discussion

Result

	N Statistic	Descriptive Statistics		Mean		Std. Deviation Statistic
		Minimum Statistic	Maximum Statistic	Statistic	Std. Error	
Pre-Test Eksperimen	7	16.9	53.0	32.584	5.5450	14.6707
Pos-Test Eksperimen	7	13.0	60.8	32.671	7.1377	18.8845
Pre-Test Kontrol	7	17.5	77.9	45.914	7.3543	19.4578
Pos-Test Kontrol	7	35.1	78.9	53.486	5.9748	15.8077
Valid N (listwise)	7					

Table 1 shows that the pretest obtained an average value of the experimental pre-test of 32.584 while the post-test obtained a value of 32.671, then the standard deviation of the pre-test was 14.6707 while the standard deviation of the post-test was 18.8845, the lowest value of the pretest was 16.9. While the post-test was 13.0, the highest value of the pre-test was 53.0, while the post-test was 60.8. Furthermore, the

pretest control obtained an average value of 45.914, while the posttest obtained a value of 53.486 then the pretest standard deviation was 19.4578 while the posttest standard deviation was 15.8077, the lowest value of the pretest was 17.5 while the posttest was 35.1, the highest value of the pretest was 77.9, while the posttest was 78.9, then the N value of the pretest was 7, and the posttest was 7, the author conducted a normality test in table 2:

	Kelompok	Tests of Normality			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Hasil	pretest kontrol	.143	7	.200*	.990	7	.994
	posttest kontrol	.195	7	.200*	.937	7	.609
	pretest eksperimen	.189	7	.200*	.886	7	.256
	posttest eksperimen	.265	7	.146	.880	7	.225

The decision taken from these criteria is that there is an effect of *resistance band* training using a *set system* on the speed of adolescent pugilists' sickle kicks. Using the Shapiro-Wilk *T*est to show the results of the data normality test. Table 2 shows that the control pre-test was 0.990, df 7, and Sig. of 0.994, while the post-test obtained a statistical value of 0.937, df 7, and Sig. of

0.609, then the experimental pretest value was 0.886, df 7, and sig of 0.256, while the post-test obtained a statistical value of 0.880, df 7, and sig of 0.225 . Based on the test results, both data obtained a Sig. > 0.05, so both data are declared 'Normally Distributed'. Therefore, the author uses a parametric approach in conducting hypotheses. The results of hypothesis testing are presented in Table 3

Independent Samples Test

t-test for Equality of Means

		Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference Lower
Hasil	Equal variances assumed	.045	20.8143	9.3083	.5333
	Equal variances not assumed	.046	20.8143	9.3083	.4634

The table shows the results of hypothesis testing using *Independent Sample t-Test*. Table 3 shows with a Sig value. (2-tailed) of 0.045, Based on the test results, the value

of Sig. (2-tailed) <0.05 so that H0 is rejected, it can be concluded that there is a significant influence on the speed of adolescent age pugilists' sickle kicks:

Tests of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Hasil	Based on Mean	.389	3	24	.762
	Based on Median	.164	3	24	.919
	Based on Median and with adjusted df	.164	3	21.227	.919
	Based on trimmed mean	.373	3	24	.773

Table 4 shows the sig value > 0.05, so it can be stated that the data is homogeneously distributed data

Discussion

Based on the results of research on *resistance band* training using the *set system* method , researchers revealed that there was a significant effect on the speed of adolescent pugilists' sickle kicks. In

addition, these findings are consistent with the findings conducted by (Ramadhan, 2023) which discusses the Effect of *Resistance Band* Training and Weight Training (1kg Barbell) on Arm Muscle Power, with the results of his research, namely The results showed that there was a significant effect of *resistance band* training getting results of $16.58 > 1.782$ while weight training got a t value of $20.76 > 1.782$ has a significant effect. Thus this study shows that the effect of *Resistance Band* Training is very influential on sickle kick speed and arm muscle power. Therefore, the researcher wishes to conduct research on the effect of *resistance band* training using the *set system* method on the speed of adolescent fighter sickle kicks.

In addition, according to the results of research conducted by (Waskito et al, 2021) based on data analysis of the results of the study, it is known that there is a significant effect of *resistance band* training, and *leg press* training on sickle kick speed in IPSI martial arts athletes in East Tanjung Jabung Regency. The research conclusions put forward are based on the results of the t-test in hypothesis testing. Then according to the results of research conducted by (Ramadhan, 2023) this research was conducted at the Haur Kuning Pencak Silat College. His research examines athletes

who often compete in Class B from members of the Haur Kuning Pencak Silat College. In this study took samples using saturated sampling techniques. The instruments used in this study used a *parametric statistical* approach, the results showed that there was a significant effect of training with *resistance band* aids on sickle kick speed in pencak silat sports.

Furthermore, according to the results of research conducted by (Mashuri, 2017) this research is a type of pseudo-experimental research. The study population was 11 martial arts college athletes. Sampling using *purposive sampling* technique with a sample of 7 male athletes. The data analysis technique used the T test. This research was conducted 16 times a meeting. Exercises given in the form of *band resistance* exercises. The hypothesis proposed in this study is that there is a significant effect of training on sickle kick speed. The results of the analysis are that there is a significant effect on *resistance band* training on increasing the speed of sickle kicks for athletes of the Patbanbu martial arts college in Padang City, obtained the tcount value $(5.620) > ttable (2.015)$.

In summary with the results of the study that weight training using *Resistance Bands* proved effective for improving sickle kick ability. So this research is expected to help

to be a valuable input for silat club managers in designing more effective training and support programmes to improve athlete performance, and this research is expected to contribute scientific information about the effect of *resistance band* training using the *set system* method on the speed of adolescent pugilists' sickle kicks. The benefits of this research can be used as a model for pencak silat coaches regarding *resistance band* training programmes using the *set system* method on the speed of adolescent pugilists' sickle kicks.

D. Conclusion

Thus it can be concluded that a good training programme and intense training can improve the ability of teenage silat athletes, one of the training programmes is *resistance band* training using a *set system* to increase the speed of sickle kicks for teenage fighters has been proven effective. Thus, *resistance band* training using a *set system* can be a strategy that can be used by coaches.

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F. Conflict of Interest

This research is declared to have no conflict of interest.

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