

Shadow Training Using Rubber Weights Improves The Sick Kick Results Of Indonesian Pencak Silat Association (Ipsi) Athletes In Talang Kelapa

Muhammad Fualarozi¹, Bukman Lian², I Made Andika Bayu³

Program Studi Pendidikan Jasmani, Universitas PGRI Palembang^{1,2,3}

Corresponden: orozi5931@gmail.com

Copyright©2025 by authors, all rights reserved. Authors agree that this article remains permanently open access under the terms of the Creative Commons Attribution License 4.0 International License

Abstrak

Purpose. The crescent kick is one of the important basic techniques in the martial art of Pencak Silat, used to gain quick points in a short time in every Pencak Silat match using basic technical movements with agility to move to avoid opponents in the martial art of Pencak Silat. The research method uses a variety of exercises such as using rubber weights in order to strengthen the muscles in the legs, and make the legs not stiff. The purpose of this study is to determine the accuracy when using the crescent kick for someone who studies the martial art of Pencak Silat. **The research method** used is an experiment with a one group pre-test post-test design. The sample in the study were IPSI (Indonesian Pencak Silat Association) Talang Kelapa martial artists, the sampling technique used was random sampling data and the sample in this study were students of IPSI (Indonesian Pencak Silat Association) Talang Kelapa martial artists totaling 10 athletes. Data analysis used was the t-test. **The results** of this study showed an average pretest score of 26.7 and a posttest score of 37.1, resulting in a mean difference of 10.4 between the pretest and posttest scores. The study's recommendations suggest that the rubber weights used provide significant resistance to movement, enabling athletes to overcome the resistance and change direction of their kicks.

Keywords: Crescent Kick, Pencak Silat, Rubber Weight

1. Introduction

Pencak silat is a traditional Indonesian culture that has been accepted internationally. Its development as a modern sport, widely accepted, has resulted in the study and practice of pencak silat. The history of pencak silat in the Malay region can be found using various terms, such as "bersilat," "gayong," and "cekak." In Peninsular Malaysia, Singapore, and Thailand, the provinces of Pattani, Satun, and Narathiwat also use the term "bersilat." Meanwhile, in the Southern Philippines, the term "Pasilat" is used. This proves that this martial art has its origins in Indonesia, as, when chronologically, they acknowledge having studied

with Indonesians (Kartomi, 2011; Syaifullah & Doewes, 2020).

Looking at the introduction of the development of sports, specifically pencak silat, at the IPSI (Indonesian Martial Arts Association) in Talang Kelapa, it has been developed specifically for athletes. This is due to the numerous activities carried out at IPSI Talang Kelapa. First, routine training every evening or on a dedicated night. They also practice basic moves, horse stance techniques, punches, kicks, and fighting, also known as fighter training. This training is only held on Saturday nights. If there are important events, then fighter training is held three times a week. Similar to IPSI's arts training, there is also physical training. This is only done in the morning or afternoon, especially on Sundays. Athletes are required to be disciplined to further enhance their training.

IPSI Talang Kelapa, located in Alang-alang Lebar District, has a large number of athletes and adequate facilities and infrastructure. It won the district-level Regional Student Sports Week (POPDA) in 2018. It also won third place in the IPSI CUP Palembang competition in the A-Men's, B-Women's, and C-Men's classes, which are held annually. Last year's less-than-satisfactory results at the annual IPSI Cup in Palembang prompted researchers to investigate the Pencak Silat (IPSI) Talang Kelapa program to further improve performance, particularly in the crescent kick (Ozbar, 2015; Ryu & Lee, 2021).

The researchers' observations revealed that many athletes lacked understanding and performed incorrectly in basic pencak silat techniques, particularly the crescent kick. The persistent failure of many athletes in the crescent kick could be attributed to several factors, including stiffness in movement or stance, as the crescent kick requires strong and flexible leg muscles (Prabowo et al., 2020). They felt so stiff that they hesitated to kick, even though accurate kicks are crucial for scoring points and defeating opponents. The main goal and objective of training is: "To help athletes maximize their skills and performance. The main goal and objective of training is to help athletes maximize their skills and performance. To achieve this, there are four aspects of training that athletes need to pay

close attention to and practice: (1) physical training, (2) technical training, (3) tactical training, and (4) mental training. Training is a systematic process of practicing or working repeatedly, with the training or workload gradually increasing (Woods et al., 2018).

The overload principle is the most fundamental yet crucial training principle, because without its application in training, it is impossible for athletes to improve their performance. This principle applies to training physical, technical, tactical, and mental aspects. No two people are exactly alike, not even twins, and no two people (let alone more) are physiologically or psychologically identical. Everyone has their own individual differences. Therefore, this principle is an important requirement in contemporary training and must be applied to every athlete, even if they have the same level of performance (Zago et al., 2015). Development in our body's organs occurs because training will stimulate their function. However, conversely, this principle of return to basics also states that (Ediyono & Widodo, n.d.), if we stop training, our body will return to its original state and its condition will not improve. The principle of specificity states that maximum benefits can be obtained and training stimulation will only occur if the stimulation is similar to or resembles the movements performed in the sport. The efficiency of a physical training program is the result of manipulating the volume, intensity, and density of training, which are key variables in training. (Kartomi, 2011) mentions the training variables that determine supercompensation, including volume, intensity, recovery, and interval.

Pencak silat has a multitude of movements that can be learned, but not all of them are used in competitions. The movements used in the match are only those that have been determined and are in accordance with the provisions that apply in the category being competed (Bridge et al., 2014). The equipment for the match in pencak silat is not much different from other martial arts, the most important thing in a pencak silat match is the infrastructure for the safety of the athletes such as: Mats, Body Protectors, genital and bone protectors and tooth protectors (Pertiwi et al., 2021)

2. Method

This study used a quantitative approach using a pre-experimental design with a one-group pretest-posttest design. This research method is an experimental one, defined as a research method used to determine the effect of certain treatments on others under controlled conditions (Sugiyono, 2013). Techniques or methods can be used by researchers to collect data. A technique refers to an abstract term that is not tangible, but can only be seen through: questionnaires, interviews, observations, tests, documentation, and others.

Researchers can use one or a combination of these methods depending on the problem at hand (Sujarweni, 2014). According to Sugiyono (2018:333), in quantitative research, the data analysis techniques used are clear, namely, directed at answering the problem formulation or testing the hypotheses formulated in the proposal. Because the data is quantitative, the data analysis technique uses statistics. Before testing the hypothesis, prerequisite testing is necessary. Testing the measurement data related to the research findings aims to improve the analysis. For this, prerequisite tests are required first. These prerequisite tests include normality tests.

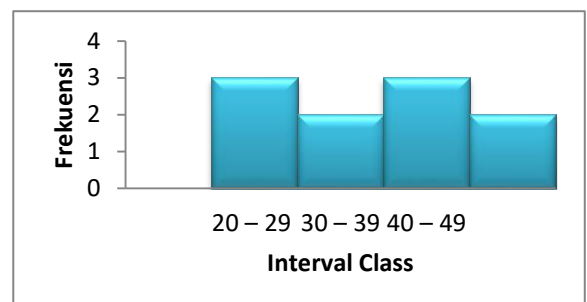
3. Result and Discussions

At the beginning of the study, a pretest was administered to the experimental group. After four weeks of training, three times a week, a posttest was administered to determine any changes. The following are the posttest results for the experimental group. Table 1 shows that the highest score was 55, the lowest score was 20, and the range was 35. The mean posttest was 37.1, and the standard deviation was 11.7.

Tabel 1. Daftar Distribusi Hasil Tes Tendangan Sabit (Posttest)

NUMBER	Interval	Frequency Absolute	Frequency Relative
1.	20 – 29	3	30%
2.	30 – 39	2	20%
3.	40 – 49	3	30%
4.	50 – 59	2	20%
Total		10	100%

Based on the data obtained in the posttest, there were 3 people with test results of 20-29, 2 people with test results of 30-39, 3 people with test results of 40-49, 2 people with test results of 50-59, for more details, see the histogram below.



Picture 1. Histogram Post Test

At the beginning of the study, a pretest was administered. After four weeks of training, a three-times-a-week training session, a posttest was conducted to determine any changes following the treatment. The pretest results are as follows:

The pretest showed a highest score of 50 and a lowest score of 13, with an average score of 26.7. After four weeks of training, training three times a week, there was an increase in the average score between the pretest and posttest. The highest score was 55 and the lowest score was 20, with an average score of 37.1. The following table compares the pretest and posttest scores of the experimental group:

Table 2. Comparrison result Pretest dan Posttest

Result	N	Max Count	Min Count	Mean	Comparrison Mean Pretest dan Posttest
Pretest	10	50	13	26,7	10,4
Posttest	10	55	20	37,1	

The comparison of the pretest and posttest results above can be seen from the comparison results from the pretest with the highest number being 50 and the lowest number being 13. The posttest results data with the highest number being 55 and the lowest number being 20, and the mean or average of the pretest was 26.7 and the posttest was 37.1, so the difference between the pretest and posttest means was 10.4.

The results of the pretest data with the highest value of 50 and the lowest value of 13, with an average of 26.7, standard deviation of 11.9 with, while the posttest data with the highest value of 55 and the lowest value of 13 with an average of 37.1, standard deviation of 11.7. The following is a comparison table between the pretest and posttest groups:

Table 3. Hasil Pretest dan Posttest

Result	N	Max Count	Min Count	Mean	UpMean Pretest dan Posttest	SD
Pretest	10	50	13	26,7	10,4	11,9
Posttest	10	55	20	37,1		11,7

The results of this study use a description of the research implementation, a description of the research data, and an analysis of student scores taken from the test results. The data description will present the maximum, minimum, mean, median, and standard deviation values, which can be used to assist in the results of the normality test as a prerequisite for determining subsequent analysis techniques. The final results of the study were

determined by hypothesis testing using a t-test. The following is a summary of the descriptive analysis of the research data obtained.

The data normality test used the Liliefors test formula. Based on the calculations in the appendix, the pretest data value for Lhitung was 0.1907 and Ltabel was 0.258. The posttest data value for Lhitung was 0.1502 and Ltabel was 0.258. Based on these values, both the pretest and posttest data were normally distributed because Lhitung < Ltabel.

Table 4. Hypothesis

Hasil	N	Mean	D	D ²
Pretest	10	26,7	104	1430
Posttest	10	37,1		

Based on the hypothesis test table, it can be seen that the pretest data results of the experimental group have an average of 26.7, and the posttest data of the experimental group have an average of 37.1 and it is also known that $\sum d$ is 104, $\sum d^2$ is 1430.

The data from the statistical calculation results of the "t test" obtained results while the T table is 2.26 which is obtained from the T distribution table with dk $(10-1) = 9$ and a confidence level of 95% ($\alpha = 0.05$), listed in the table. The hypothesis testing criteria accept H1 if $t_{hitung} > t_{tabel}(1-\alpha)$, and reject H0 if $t_{hitung} < t_{tabel}(1-\alpha)$. Because $t_{hitung} (5.3) > t_{tabel} (2.26)$ then there is a significant difference between the post-test and pre-test, thus the hypothesis H0 is rejected and the hypothesis H1 is accepted. The statement H1 is "There is an effect of training using rubber weights on the results of sickle kicks in the Indonesian Pencak Silat Association (IPSI) Talang Kelapa.

Discussions

Based on the research criteria, a discussion is needed to compile the research results that will be discussed regarding the results of the pretest and posttest data as well as the results of the data on the effect of training using rubber weights on the results of the sickle kick at the Indonesian Pencak Silat Association (IPSI) Talang Kelapa. in the following criteria: This research was conducted for 4 weeks with a training frequency of 3 times a week in accordance with the opinion o(Bridge et al., 2014; Utama et al., 2016) who said that: "the increase in training occurs within 2-6 weeks but usually 4 weeks (1 month). This is what needs to be considered is the increase in training if the training is done at least 3x a week. The more often and the more training, the faster the improvement, but must pay attention to the

principles of training to avoid overtraining. For this reason, the development of the best physical condition components also helps an athlete to be able to follow the next training in an effort to achieve the highest performance.

Discussion of the Results of Shadow Kick Training Using Rubber Weights on the Performance of the Crescent Kick at the Indonesian Pencak Silat Association (IPSI) Talang Kelapa.

The results of the study showed that the crescent kick improved after being given shadow kick training using rubber weights three times a week for six weeks. Based on pretest data, the experimental group had the highest score of 50 and the lowest score of 13, with a mean of 26.7 and a standard deviation of 11.9. The treatment group, shadow kick training using rubber weights three times a week for four weeks, showed an increase, with the highest score of 55 and the lowest score of 20, with a mean of 37.1 and a standard deviation of 11.7. The statistical calculation using the "t-test" yielded a score of 5.3, while the t-table was 2.26, obtained from the T-distribution table with $df (10-1) = 9$ and a 95% confidence level ($\alpha = 0.05$), as shown in the table. The hypothesis testing criteria accept H_1 if $T_{count} > T_{table}(1-\alpha)$, and reject H_0 if $T_{count} < T_{table}(1-\alpha)$. Since $t_{count} (5.3) > t_{table} (2.26)$, there is a significant difference between the post-test and pre-test, thus the hypothesis H_0 is rejected and Hypothesis H_1 is accepted. The statement H_1 is "there is an effect of shadow kicking training using rubber weights on the results of sickle kicks in the Indonesian Pencak Silat Association (IPSI) Talang Kelapa." According to Mylsidayu et al. (2015:49), the general purpose of training is to help coaches, trainers, and sports teachers apply and possess conceptual abilities and skills in helping to reveal the potential of athletes to achieve peak performance. While the specific goal of training is to improve the abilities and readiness of athletes to achieve peak performance.

Some characteristics of training (Ihsan et al., 2020) are as follows: (1) a process to achieve a better level of ability in sports, which requires a certain time (stages) and requires precise and careful planning. (2) The training process must be regular and progressive. Regular means that training must be carried out consistently, progressively, and continuously. Progressive means that training material is given from easy to difficult, from simple to more difficult (complex), from light to heavy. (3) Each face-to-face meeting (one session or one training unit) must have a goal and objective. (4) Training material must contain theoretical and practical material, so that understanding and mastery of skills become relatively permanent. (5) Using a specific method,

namely the most effective way that is planned in stages by taking into account factors of difficulty, movement complexity, and emphasizing the training target.

According to Mylsidayu et al. (2015:49) the general goal of training is to help coaches, trainers, and sports teachers to be able to apply and have conceptual abilities and skills in helping to reveal the potential of athletes to reach peak performance. While the specific goal of training is to improve the ability and readiness of athletes to reach peak performance. Training principles include the principles of readiness, adaptation, load, progressiveness, and specification (Haff & Stone, 2015). Training principles are things that must be adhered to, implemented, or avoided to achieve training goals as expected. Training principles play a crucial role in the physiological and psychological aspects of athletes. Understanding training principles will support efforts to improve training quality. Furthermore, it will help athletes avoid pain and injury during training.

4. Conclusions

Based on the analysis of the research results and discussion above, it can be concluded that there is a significant effect of shadow training using rubber weights on the results of the crescent kick at the Indonesian Pencak Silat Association (IPSI) Talang Kelapa, with a calculated t-value of 5.3 and a t-table of 2.26, a significance value of $0.000 < 0.05$, meaning H_a is accepted and H_0 is rejected at a 95% confidence level. Rubber weight training motivates athletes to carry out training and provides a different training experience with varying rubber weights. Athletes also experience improvements in training over time, reaching a peak training point, providing an opportunity for everyone to work harder to prepare for competitions.

Athletes also received a fully structured program from the coach. This study found a match in the training menu, with the opportunity for athletes to access the same material during the 16 training sessions, preventing boredom due to psychological factors. Athletes also found a valuable opportunity to learn new types of training. Rubber weight training is highly recommended with equipment loading appropriate to age criteria so that improvements occur according to the training load appropriate for their age.

References

Bridge, C. A., Ferreira Da Silva Santos, J., Chaabène, H., Pieter, W., & Franchini, E. (2014). Physical and physiological profiles of Taekwondo athletes. *Sports Medicine*, 44(6), 713–733. <https://doi.org/10.1007/s40279-014->

- 0159-9
- Ediyono, S., & Widodo, S. T. (n.d.). *Memahami Makna Seni dalam Pencak Silat*. 36.
- Haff, G. G., & Stone, M. H. (2015). Methods of developing power with special reference to football players. *Strength and Conditioning Journal*, 37(6), 2–16. <https://doi.org/10.1519/SSC.00000000000000153>
- Ihsan, N., Bafirman, Sujana, A., & Permana, A. Y. (2020). Design of Instrument Explosive Power Leg Muscles Sensor Based. *Journal of Physics: Conference Series*, 1594(1). <https://doi.org/10.1088/1742-6596/1594/1/012038>
- Kartomi, M. (2011). Traditional and modern forms of pencak silat in Indonesia: The suku mamak in Riau. *Musicology Australia*, 33(1), 47–68. <https://doi.org/10.1080/08145857.2011.580716>
- Ozbar, N. (2015). Effects of plyometric training on explosive strength, speed and kicking speed in female soccer players. *Anthropologist*, 19(2), 333–339. <https://doi.org/10.1080/09720073.2015.11891666>
- Pertiwi, I., Imansyah, F., Fajar, M., & Risma, A. (2021). *Pembinaan Cabang Olahraga Pencak Silat PPLPD (Pembinaan Pelajar Dan Latihan Pelajar Daerah) Di. 2*, 9–23.
- Prabowo, A., Ihsan, N., Barlian, E., & Welis, W. (2020). Development of digital based vertical jump test instruments. *Journal of Physics: Conference Series*, 1481(1). <https://doi.org/10.1088/1742-6596/1481/1/012029>
- Ryu, S., & Lee, T. K. (2021). Biomechanical parameters that may influence lower limb injury during landing in taekwondo. *Medicina (Lithuania)*, 57(4), 1–11. <https://doi.org/10.3390/medicina57040373>
- Sugiyono, D. (2013). *Metode penelitian pendidikan pendekatan kuantitatif, kualitatif dan R&D*. https://digilib.unigres.ac.id/index.php?p=show_detail&id=43
- Sujarweni, V. (2014). *Metodologi penelitian keperawatan*. http://repo.unikadelasalle.ac.id/index.php?p=show_detail&id=9536&keywords=
- Syaifullah, R., & Doewes, R. I. (2020). *Pencak Silat Talent Test Development*. 8(6), 361–368. <https://doi.org/10.13189/saj.2020.080607>
- Utama, A. Z., Hariyanto, E., & Sudjana, I. N. (2016). Pengaruh Latihan Kelincahan dan Kelentukan Terhadap Keterampilan Dribbling Sepakbola SSB PAS-ITN Kabupaten Malang. *Jurnal Pendidikan Jasmani*, 25(1), 31–38. <https://doi.org/10.17977/PJ.V25I1.4887>
- Woods, C. T., Veale, J., Fransen, J., Robertson, S., & Collier, N. F. (2018). Classification of playing position in elite junior Australian football using technical skill indicators. *Journal of Sports Sciences*, 36(1), 97–103. <https://doi.org/10.1080/02640414.2017.1282621>
- Zago, M., Mapelli, A., Shirai, Y. F., Ciprandi, D., Lovecchio, N., Galvani, C., & Sforza, C. (2015). Dynamic balance in elite karateka. *Journal of Electromyography and Kinesiology*, 25(6), 894–900. <https://doi.org/10.1016/j.jelekin.2015.10.002>