The Effectiveness Of The Shadow Fight Method In Improving The Fighting Reflexes Of Pujo Janoko Club Pencak Silat Athletes

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Article Info

Abstract

This study aims to determine the effect of shadow fighting training methods on improving throwing techniques, as well as to identify differences in throwing technique abilities before and after shadow fighting training. This study used a quantitative experimental method with a single-group pre-test and post-test design. The sample consisted of 15 athletes aged 15-25 years from a total population of 55 athletes. Shadow fighting training was given for 16 sessions over two months, six times per week. Data were collected through 10 bantingan technique tests in the pre-test and post-test. Data analysis was performed using the Shapiro-Wilk test and Paired Sample T-Test using the SPSS application. The results show a significant improvement in striking techniques with an average difference between pre-test and post-test scores of 42.4 points and a significance value of $p=0.000$ ($p<0.05$). Shadow fighting exercises are effective in strengthening muscle memory, improving coordination, and improving combat readiness without the risk of injury. Shadow fighting exercises have been proven effective in improving throwing techniques among athletes at the Pujo Janoko Pencak Silat Club. Further research is recommended with a larger sample size and a variety of measurement methods.

INTRODUCTION

One of Indonesia's internationally recognized cultural heritages is pencak silat, which was designated by UNESCO as a world intangible cultural heritage in 2019. Over time, in addition to being known as a cultural heritage martial art, pencak silat is now also recognized as a sport that is competed at various levels, from schools and universities to international events such as the SEA Games and Asian Games. As an indigenous Indonesian martial art, pencak silat combines attacking, defensive, and evasive techniques that require speed, agility, and good reflexes. Speed in responding during a match is a crucial factor that can influence the final outcome. Therefore, a pencak silat athlete must be able to read their opponent's movements, predict attacks, and respond appropriately in a very short time.

Improving an athlete's reflexes is a process in which an athlete's motor response to certain stimuli in competitive situations improves, enabling the athlete to make decisions and take action more quickly and accurately when facing opponents. These reflexes are very important for athletes, because fast and accurate reflexes can determine their success in responding to their opponents' movements or sudden changes in the competition area. Competitive reflexes encompass all pencak silat techniques used in competition, one of which is the bantingan technique.

According to (Wicaksono & Kusuma, 2020), exercises using tools such as tennis balls have been proven effective in improving reaction speed and concentration, two aspects that are inseparable from competitive reflexes in athletes. Data obtained from the study shows a significant change in reaction speed after structured training focused on improving motor responses.

(Yusfi et al., 2024) also explain that shuttle run training consistently has a positive effect on athletes' reaction speed, especially in martial arts such as taekwondo, where spontaneous responses to opponents' movements are very important.

Improving pencak silat throwing techniques is a process of increasing athletes' ability to perform throwing movements with optimal effectiveness, accuracy, and strength in pencak silat practice. The improvement of throwing technique skills is greatly influenced by various factors such as training methods, frequency, and the quality of instruction received. (Rosad & Hidayah, 2015a) argue that mastery of throwing techniques is one of the key aspects in boosting the performance of pencak silat athletes, because this technique requires specific motor skills and a deep understanding of tactics. In line with these findings, (Sobirin, 2024b) states that systematic training of throwing techniques through programmed exercises can improve the quality of movement execution, enabling athletes to perform better in competitions.

The research by (Arimbi & Monita, 2022) also confirms that the variety and intensity of structured training have a significant effect on improving the mastery of throwing techniques in both beginner and advanced pencak silat athletes. Furthermore, (Aisyah et al., 2022) highlight the role of repetitive training and feedback from coaches as key components in accelerating the process of systematic and measurable improvement in throwing techniques. This phenomenon shows that various training approaches integrated with sport science principles can accelerate the comprehensive improvement of striking techniques, thereby becoming the main foundation for developing the performance of pencak silat athletes. Thus, it can be concluded that the improvement of pencak silat striking techniques is closely related to continuous efforts to refine training methods based on research and best practices.

The improvement in pencak silat throwing techniques can be clearly observed from the progress in athletes' abilities, both in terms of accuracy and power output when executing throws. The ability to improve throwing techniques is vital, considering that this technique often determines victory in competitions. (Rosad & Hidayah, 2015a) found an improvement in the quality of throwing techniques after implementing a training program that focused on movement repetition and modification of training stimuli. (Sobirin, 2024a) research added that adjusting training methods to the characteristics of athletes can accelerate the absorption of new techniques while strengthening the basic techniques they already possess. Furthermore, the results of research by (Arimbi & Monita, 2022) show a positive correlation between training intensity and increased efficiency in throwing techniques in groups of athletes who are trained intensively. (Aisyah et al., 2022) reinforce these findings by showing that dominance in throwing techniques in a match is more often possessed by athletes who receive specific and individualized training approaches. This process of improving striking techniques can ultimately be used as an indicator of the success of pencak silat training programs implemented in a club or sports institution. With this empirical evidence, it is clear that improving pencak silat striking techniques is an important phenomenon that must continue to be encouraged and studied in order to produce competitive pencak silat athletes.

The improvement of pencak silat striking techniques, which is an important phenomenon, cannot be separated from the role of adaptive and innovative training strategies, one of which is through the application of shadow training. Shadow training, which in practice focuses on simulating movements without a physical opponent, is a fundamental method in forming movement patterns, technical consistency, and optimizing body coordination before being applied in real competition situations. With systematically designed training intensity

and patterns, shadow training provides athletes with the space to focus on movement details, speed, accuracy, and transitions between throwing techniques, thereby gradually minimizing technical errors. The repetition of movements in shadow training also allows for the formation of muscle memory, which is crucial in achieving maximum performance when competing on the mat. Additionally, this method contributes to increasing athletes' confidence, because through mastering techniques in shadow training, athletes can build solid confidence to face their real opponents.

Not only focusing on physical and technical aspects, shadow training simultaneously integrates tactical, rhythmic, and self-control aspects so that athletes are better prepared to implement effective strategies amid the dynamics of pencak silat competitions. With such integration, shadow training has proven to be an important element that underpins the sustainability of the quality of throwing technique training, while strengthening the position of athletes in an increasingly competitive pencak silat sports arena. Maintaining the quality of throwing technique training is a crucial aspect in encouraging the progress of athletes. In this context, shadow training has great potential to support the improvement of throwing technique skills in pencak silat athletes at the Pujo Janoko Club. The link between the shadow training method and the development of fine motor skills through consistent repetition of movements opens up significant opportunities for progress in

throwing techniques, in terms of accuracy, speed, and flexibility of movement. Additionally, shadow training that focuses on technique repetition and muscle memory reinforcement can build a strong foundation, so that mastery of striking techniques is not only theoretical but can also be effectively applied in competition situations.

The positive effects of shadow training will be more noticeable if athletes are able to adjust the intensity, vary the exercises, and conduct self-evaluations in each training session, thereby minimizing the risk of stagnation in technique mastery. However, the benefits of shadow training must still be balanced with proper supervision and a deep understanding of basic techniques, because without adequate guidance, shadow training can cause movement pattern errors or even micro-injuries that are difficult to detect in the early stages. Nevertheless, the main advantages of shadow training, particularly in terms of consistency, technical adjustment, and increased athlete confidence, theoretically provide a strong foundation that this method has great potential in improving pencak silat striking techniques. Therefore, through the integration of technical, psychological, and systematic training aspects, the potential for shadow training to effectively enhance pencak silat striking technique performance is wide open, although its effectiveness still requires further testing through in-depth empirical research tailored to the characteristics of each athlete.

Therefore, through the integration of technical, psychological, and systematic training aspects, the opportunity for shadow training to effectively improve the technical performance of pencak silat throws is wide open, although its effectiveness still needs to be further tested through in-depth empirical research according to the characteristics of each athlete. Based on these considerations, the main objective of this study is to comprehensively analyze and prove the effect of shadow training on improving striking techniques in pencak silat athletes at the Pujo Janoko Club, as well as to identify in detail the differences in striking technique abilities before and after the systematic application of the shadow training method. The existence of strong empirical evidence regarding the effectiveness of shadow training is very significant because it can provide scientific references to improve training strategies that may still be traditional and have not optimally utilized the potential for motor adaptation through movement simulation without an opponent. Thus, the results of this study are expected to make a real contribution to the development of innovative approaches to striking technique training, which will ultimately facilitate the development of high-achieving athletes at the regional and national levels.

The urgency of this research is increasingly prominent given the need for training methods that are not only efficient in shaping physical and technical aspects, but also adaptive to developments in sports science and the increasingly competitive demands of the world of pencak silat today. Not only as an academic reference, this research will form the basis for recommendations for coaches, clubs, and related parties in developing more focused and evidence-based training programs. The entire series of analyses conducted is expected to provide a strategic foundation for designing relevant, measurable, and sustainable training patterns to support the achievement of maximum performance by pencak silat athletes, particularly in mastering throwing techniques, which have long been one of the determining factors for victory in competition.

Based on my findings in the field, there are still many pencak silat athletes who lack the skills and reflexes to perform pencak silat throwing techniques during training and competitions. This is in line with the titles of relevant studies that have been conducted in recent years on improving pencak silat throwing techniques. The previous studies are as follows: Research by (Rosad & Hidayah, 2015b) entitled "The Effect of Imagery Training Programs on Improving Throwing Techniques in Pencak Silat Sports in Pencak Silat Extracurricular Activities at MAN 2 Semarang". The results of this study show that the imagery training program has a significant effect on improving pencak silat throwing techniques. The t-test results show a significant difference between the pre-test and post-test scores (calculated $t = 15.71 > $ table $t = 1.833$). The application

of imagery also helps students achieve calmness in decision-making during competitions. (Sobirin, 2024a) research entitled "The Effect of Partial Training Methods and Overall Training Methods on Pencak Silat Throwing Technique Skills." The results of this study showed no significant difference between the results of training using partial training methods and overall training methods in improving pencak silat throwing technique skills. Both methods were declared equally effective. However, the average improvement of the segmented method group was higher (33%) than that of the whole method group (27%). (Arimbi & Monita, 2022) research entitled "Throwing Techniques in Tadjimalela Silat". The study found three main throwing techniques in Tadjimalela silat, namely front throws, back throws, and side throws, complete with the stages and their application in demonstrations and training at the Tadjimalela Silat School. These techniques are not only part of competitions but are also adapted in the context of performing arts for the promotion and preservation of pencak silat culture. (Aisyah et al., 2022) research entitled "The Effect of the Interval Method Using Kattlebells on Throwing Techniques in Pencak Silat". The results of the study show a significant effect of the interval method using kettlebells on improving throwing techniques in pencak silat, both in back, hip, and leg throwing techniques. All final test results showed an increase in scores compared to the initial tests, with an overall increase of 7.71%. The

findings also show that leg throwing techniques obtained the highest average score compared to back and hip throws.

Based on these findings, it can be concluded that the improvement of throwing techniques in pencak silat is greatly influenced by the integration of physical and mental training, as well as a dynamic and focused training approach.

METHODS
Participants

In this study, the population consisted of 55 pencak silat athletes officially registered with the Pujo Janoko Club, where all members of this population were a true representation of the phenomenon of bantingan techniques, the effect of shadow training on which was to be studied.

Sampling Procedures

In this study, the sample consisted of 15 athletes selected from a total of 55 pencak silat athletes from the Pujo Janoko Club, taking into account the representation of ages 15-25 years, which was considered most relevant to the variable of bantingan techniques.

The sampling technique used in this study was purposive sampling, a non-probability method that divides the population into strata or subgroups based on key variables, in this case the age category of athletes aged 15-25 years.

Materials and Apparatus

This study collected data in the form of scores from the bantingan technique test conducted before (pre-test) and after (post-test) participants

underwent shadow training. Each individual was given 10 attempts, where each indicator of a succesfull and appropriate bantingan process step received a score of 1, while those that failed or were inappropriate received a score of 0. All pre-test and post-test data were recorded for each sample involved in this study. The instruments used referred to previous research by Abdul Rosad and Taufiq Hidayah (2015).

Table 1. Test Assessment Sheet

No	Aspects Assessed	Assessment Indicators	Score
1	Stance & horse stance	Correct stance, legs straight forward, gaze straight ahead.	0-1
2	Hand preparation	Hands ready to grab opponent's leg.	0-1
3	Grabbing the opponent's leg	Grab opponent's leg precisely.	0-1
4	Execution of the throw	Disrupt the opponent's balance	0-1
5	Technique for throwing the opponent	Take down the opponent with perfect technique and form, legal takedown	0-1
6	Movement control	Controlled movements, no fouls, no falling down	0-1
7	Final stance	Return to the starting position after performing the takedown	0-1
8	Timing of execution	Perform all stages of the takedown in less than 5 seconds	0-1
9	Stability & balance	Maintain balance during the takedown process	0-1
10	Neatness & appropriateness of technique	Neat movements, in accordance with the sequence of techniques, no rushing	0-1

(Source: Sobirin, 2024)

The assessment score uses a simple dichotomous scale, namely:

1. A score of 1 is given if each indicator of the implementation stage is declared successful and appropriate.
2. A score of 0 is given if each indicator of the implementation stage is not successfully carried out or is not in accordance.
3. Maximum score for each attempt: 10 Each participant performed the experiment 10 times, then all the scores from the experiments were added up to obtain the total technical skill score.

Procedures

The study used a single-group pre-test and post-test experimental design. The treatment consisted of shadow fighting exercises conducted in 16 sessions over two months, with a frequency of six times a week. The bantingan technique was tested in 10 trials in the pre-test and post-test, using an assessment sheet with standardized bantingan technique indicators.

Design or Data Analysis

The technique used to analyze data in this study is quantitative analysis. This process utilizes statistical methods to

assess the relationship between variables, thereby producing objective data with statistically proven validity. In quantitative research, data analysis

RESULT

Pre-test results for the bantingan technique:

The collection of pre-test data aims to obtain a baseline of each athlete's striking technique abilities, which can then be used as a benchmark for the effectiveness of the training methods to be tested. Each athlete was given 10 attempts to perform the striking technique in accordance with pencak silat competition standards. Each attempt was

techniques play a vital role. The main focus is to test hypotheses and obtain empirical answers to research questions through the use of statistical tools.

assessed using a simple dichotomous scale agreed upon by the researchers and experienced coaches, taking into account the aspects and indicators described in the striking technique test assessment sheet. The scores from each trial were added up, so that each respondent obtained a total score in the range of 10 to 80 points, with a maximum score of 10 for each trial. The pre-test results are described in the following table:

Table 2. Pre-test Results Data for the Bantingan Technique

					Pre-test Results for the Bantingan Technique						
Participant	Test 1	Test 2	Test 3	Test 4	Test 5	Test 6	Test 7	Test 8	Test 9	Test 10	Total Score
Yoga	4	5	3	5	5	7	6	3	5	6	49
Farhan	6	3	4	5	7	6	3	6	5	4	49
Rehan	3	3	2	6	4	6	8	4	5	7	48
Apis	3	3	2	2	6	5	2	3	6	5	37
Awod	6	5	7	5	5	7	6	4	4	5	54
Agis	5	3	2	2	7	2	5	3	5	6	40
Arul	2	3	6	5	3	7	6	2	6	5	45
Fuji	6	4	6	3	7	5	5	2	3	7	48
Lubis	6	7	3	7	5	5	4	4	5	7	53
Kiki	3	3	4	5	4	7	2	2	5	6	41
Dilla	2	3	6	5	3	4	2	5	6	2	38
Kahla	2	2	6	5	3	5	3	7	6	5	44
Arimbi	2	2	2	5	4	6	2	3	5	6	37
Mira	2	3	3	6	5	3	5	2	7	8	44
Firly	2	3	6	4	5	2	4	7	4	3	49
Average	3,6	3,5	4,1	4,7	4,9	5,1	4,2	3,8	5,1	5,5	

The pre-test results showed significant variation among the athletes, both in terms of scores obtained and consistency of performance during 10 trials. The average total pre-test score for all respondents was 44.5, which was

obtained by dividing the total score of all athletes by the number of participants, which was 15 people. From the results of this analysis, it can be concluded that the respondents' data before treatment (pre-test) showed variations in the level of

technical ability. This condition confirms that Pujo Janoko Club members have diverse skill backgrounds, which is an important basis for intervention research. In addition to being a comparison before and after treatment, this data is also a reference in assessing the effectiveness of the shadow training method in improving fighting reflexes through more consistent and optimal mastery of throwing techniques. The results of this analysis are the main basis for evaluating the effectiveness of the shadow training method, as well as an important reference in decision-making related to the development of techniques and training strategies at the club. The post-intervention data will later be used as a comparison to assess the significance of the improvement in fighting reflexes, namely in the striking technique that is the focus of this study.

Post-test results of the bantingan technique:

This descriptive analysis is the initial stage in quantitative research that utilizes post-test score data, with the aim of presenting a comprehensive profile of the respondents while describing the results of applying the shadow training method. Through this subsection, the data presented provides empirical evidence related to the demographic aspects and throwing technique scores of each research participant. All respondents in this study were pencak silat athletes who were members of the Pujo Janoko Club. The data analyzed came from the post-test results of the striking technique, which was conducted after the athletes underwent training using the shadow training method. The post-test consisted of 10 items assessing the striking technique for each athlete, with a score range of 7 to 10 points per item. The pre-test results are described in the following table:

Table 3. Post-test Results Data for the Bantingan Technique

					Post-test Results for the Bantingan Technique						
Participant	**Test 1**	**Test 2**	**Test 3**	**Test 4**	**Test 5**	**Test 6**	**Test 7**	**Test 8**	**Test 9**	**Test 10**	**Total Score**
Yoga	10	8	8	10	9	8	9	10	8	8	88
Farhan	9	8	8	10	10	9	9	8	8	10	89
Rehan	9	8	10	8	10	8	10	9	10	8	90
Apis	8	8	8	7	10	10	8	10	7	9	85
Awod	10	10	9	9	10	9	10	8	9	10	94
Agis	8	10	10	7	7	10	9	8	9	8	86
Arul	10	8	10	8	9	9	8	7	7	9	85
Fuji	10	7	10	9	9	10	9	8	8	10	90
Lubis	10	10	9	10	8	10	10	9	10	9	95
Kiki	8	10	8	8	10	9	7	9	8	8	85
Dilla	9	8	8	7	10	8	8	10	10	9	87
Kahla	8	9	10	8	7	7	8	8	9	10	84

Arimbi	8	8	8	7	7	8	8	8	9	9	80
Mira	8	7	10	8	8	9	9	7	9	8	83
Firly	8	9	7	9	8	9	7	9	9	7	82
Average	**8,9**	**8,5**	**8,9**	**8,3**	**8,8**	**8,9**	**8,6**	**8,5**	**8,7**	**8,8**	

The data processing results show that the athletes generally achieved high post-test scores for throwing techniques, with total scores ranging from 80 to 95. This achievement indicates a good overall mastery of throwing techniques after participating in shadow training. The average score for each assessment item was also quite high, indicating the consistency of the respondents' performance in mastering the techniques after receiving the training intervention. Based on the results obtained, it can be concluded that the shadow fight training method applied in the training was successful in improving fighting reflexes, especially the mastery of the bantingan technique for most athletes. This is reflected in the high average scores and low variation in scores, which indicates the success of the intervention in improving the technical competence of the athletes.

Normality Test Results:

Before conducting statistical analysis, normality testing was first performed on the pre-test and post-test data. The purpose of this normality test was to ensure that the data had a normal distribution so that it could be analyzed using parametric methods such as the t-test. Data normality testing in this study was conducted to determine whether the distribution of data on the variables studied was normal or not. The normality analysis in this study used the Shapiro-Wilk formula, with data processing carried out using the SPSS application. A value was considered normal if it was greater than 0.05, while a value less than 0.05 was considered abnormal.

The results of the data normality test can be seen in the following table:
Table 4. Normality Test Results

	Tests of Normality					
	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pre-test of the bantingan technique	0,137	15	.200	0,939	15	0,365
Post-test of the bantingan technique	0,138	15	.200	0,965	15	0,773

Referring to the SPSS output results listed in the table, the Shapiro-Wilk test produced a significance value of 0.365 for the Pre-test of the Bantingan Technique and 0.773 for the Post-test of the Bantingan Technique. Since both significance values exceed 0.05, it can be concluded that the data obtained is normally distributed.

Hypothesis Test Results:

The hypothesis in this study was tested using a t-test analysis, namely a paired sample t-test (df=n-1) using the SPSS application. The paired sample t-test is a parametric statistical test used to compare the means of two paired data sets or data sets from the same subjects but measured under two different conditions (pre-test and post-test). The purpose is to test whether there is a significant difference between the two measurements. In this study, the paired sample t-test was conducted using the SPSS application. The results of the paired sample t-test are described in the following table:

Table 5. Results of the Pre-test and Post-test T-test for the Bantingan Technique

		Paired Samples Test							
		Paired Differences					t	df	Sig. (2-failed)
		Mean	Std. Deviation	Std. Error	95% Confidence				
					Lower	Upper			
Pair 1	pre-test on the bantingan technique - post-test on the bantingan technique	-42,000	3,135	0,809	-44,136	-40,664	-52,380	14	0,000

Referring to the SPSS output results listed in the table, there is a significance value of 0.000, which is far below the threshold of 0.05. It can be concluded that there is a very significant difference between the pre-test and post-test scores in the bantingan technique. This means that the treatment or intervention given proved to be effective in improving the post-test results compared to the pre-test.

Table 6. Paired Samples Statistics

		Paired Samples Statistic			
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre-test on the bantingan technique	44,47	15	5,579	1,440

Post-test on the bantingan technique	86,87	15	4,207	1,086

Referring to the data in the table, there was a significant increase in the ability to perform the bantingan technique after the intervention. Before the intervention, the average pre-test score for the bantingan technique was 44.47 with a standard deviation of 5.579 and a standard error of the mean of 1.440 for 15 participants. After the intervention was administered, the average post-test score rose to 86.87, with a standard deviation of 4.207 and a standard error of the mean of 1.086, still with the same number of participants. The difference in the average between the pre-test and post-test, which reached 42.4 points, indicates a significant improvement in results. These findings confirm that the intervention implemented was able to improve the participants' technical skills.

Tabel 7. Paired Samples Correlations

Paired Samples Correlations				
		N	Correlation	Sig.
Pair 1	pre-test on the bantingan technique & post-test on the bantingan technique	15	0,831	0,000

Referring to the table above, it is known that the correlation coefficient between the pre-test and post-test scores on the bantingan technique reached 0.831, with a significance level of 0.000. This correlation value, which is close to +1, indicates a very strong relationship between the pre-test and post-test results of the bantingan technique. In addition, the significance below 0.05 confirms that the relationship is statistically significant. Therefore, it can be concluded that there is a very strong and significant correlation between the pre-test and post-test results of the bantingan technique. This finding indicates a measurable and consistent improvement in bantingan technique skills after being given treatment or intervention in the form of shadow practice.

DISCUSSION

Based on the t-test analysis conducted on the pre-test and post-test scores of the bantingan technique in Pujo Janoko Club pencak silat athletes, a very significant difference was found. The average difference between the pre-test and post-test scores for the bantingan technique was recorded at -42.400, with a standard deviation of 3.135 and a standard error of 0.809. The 95% confidence interval for the average difference was in the range of -44.136 to -40.664. The calculated t-value was -52.380 with a degree of freedom (df) of 14 and a significance value (sig. 2-tailed) of 0.000, which is well below the significance threshold of 0.05. These findings indicate that the null hypothesis (H0), which states that there is no difference between the pre-test and post-test, is rejected, while the alternative hypothesis (H1), which states that there is a significant difference, is accepted. Thus, the results of this study clearly prove that the application of the shadow training method has a positive and significant impact on improving the striking technique of pencak silat athletes at the Pujo Janoko Club.

When comparing the results of this study with previous research by Rosad & Hidayah (2015), there is a strong similarity in terms of the effectiveness of structured training on improving bantingan techniques in pencak silat athletes. In their study, Abdul Rosad and Taufiq Hidayah examined the effect of an imagery training program on improving striking techniques in pencak silat extracurricular activities at MAN 2 Semarang. Their results showed that imagery training was able to provide a significant stimulus in improving striking techniques, as this training formed effective visualization patterns of the techniques and strengthened the connection between the brain and the execution of movements.

This study emphasizes the importance of visualization-based training, whether through imagery or shadow fighting, in the process of motor learning and mastery of martial arts techniques such as pencak silat. The connection between this study and the findings of Abdul Rosad & Taufiq Hidayah is very clear, as both studies confirm that training without direct contact, whether through imagery or shadowing, can form more mature and consistent motor movement patterns. In the context of the current study, the shadow fight method has the added advantage of involving active kinesthetic aspects, which allow athletes to physically simulate movements while integrating technique visualization.

Based on the overall results of the analysis and discussion above, it can be concluded that the shadow fight training method is very effective in supporting the improvement of bantingan techniques in athletes from the Pujo Janoko Club pencak silat team. The results of this study are supported theoretically and empirically by previous studies, both in pencak silat and other martial arts. With strong statistical data, as well as relevant literature and other studies, the application of the shadow fight method is highly recommended in the training process to optimize the mastery of bantingan techniques and support the improvement of athletes' performance in the competition arena.

CONCLUSION

Based on the results of the research that has been conducted, the author can draw the following conclusions: (1) The use of the shadow fight training method has a significant impact on improving the bantingan

technique skills of pencak silat athletes at the Pujo Janoko Club. This study proves that after athletes undergo shadow fight training, there is a noticeable improvement in their mastery of bantingan techniques, as seen from the statistically significant difference between the pre-test and post-test scores. The research data shows a significant difference in average scores between before and after training, as well as a significance value well below the 0.05 threshold, so it can be concluded that shadow fighting training is the main factor in this improvement. (2) The difference in throwing technique ability before and after participating in shadow fighting training is clear, both statistically and in practice. Athletes who underwent this training showed significant progress in the quality of their bantingan techniques, with improvements in motor skills and a more mature mastery of techniques that were ready to be applied in actual competitions. The positive impact of the shadow training method is not only felt during the training period but also has the potential to support continuous technical development in subsequent training programs at the Pujo Janoko Club. Thus, it can be concluded that shadow fighting training is an effective strategy to be integrated into the training of pencak silat athletes to achieve optimal technical mastery.

ACKNOWLEDGEMENT

REFERENCES

Abdulloh, A. N. (2025). *Pengembangan variasi latihan bantingan Pencak Silat peraturan terbaru IPSI 2022 berbasis sirkuit pada Ekstrakurikuler Pencak Silat SMPN 2 Turen dan SMAN 1 Turen* (Doctoral dissertation, Universitas Negeri Malang).

Adelliana, A. (2025). *Pengaruh Latihan Metode Imagery Terhadap Peningkatan Kemampuan Melakukan Teknik Bantingan Pada Cabang Olahraga Pencak Silat Di Sma N 1 Nglames* (Doctoral Dissertation, Universitas Pgri Madiun).

Adil, A., Liana, Y., Mayasari, R., Lamonge, A. S., Ristiyana, R., Saputri, F. R., Jayatmi, I., Satria, E. B., Permana, A. A., & Rohman, M. M. (2023). Metode Penelitian Kuantitatif Dan Kualitatif: Teori Dan Praktik. *Jakarta: Get Press Indonesia.*

Aisyah, S. N., Mulyana, M., & Erawan, B. (2022). Pengaruh Metode Interval Menggunakan Kattlebell Terhadap Teknik Bantingan Pada Cabang Olahraga Pencak Silat. *Jurnal Kepelatihan Olahraga*, *14*(1), 57–66. Https://Doi.Org/10.17509/Jko-Upi.V14i1.43578

Andika, I. P. H. W. (2024). Pelatihan Shadow Sebagai Solusi Melatih Teknik Dasar Pada Olahraga Cricket Untuk Menciptakan Atlet Berprestasi Dari Jenjang Sekolah Dasar. *Jurnal Pendidikan*

Olahraga, *14*(6), 429-434.

Anifah, L., Zuhrie, M. S., Holis, N., & Sudibyo, M. R. F. (2022, November). A New Approach Puch And Kick Identification In Martial Sport Pencak Silat Using Fuzzy Logic. In *2022 International Conference On Electrical Engineering, Computer And Information Technology (Iceecit)* (Pp. 34-38). Ieee.

Arikunto, S. (2010). Metode Peneltian. *Jakarta: Rineka Cipta*, *173*(2).

Arimbi, D., & Monita, P. (2022). Teknik Bantingan Pada Perguruan Silat Tadjimalela. *Jurnal Cerano Seni : Pengkajian Dan Penciptaan Seni Pertunjukan*, *1*(02), 28–36. Https://Doi.Org/10.22437/Cs.V1i02.21877

Bara, M. (2025). Pengembangan Model Latihan Bantingan Tarikan Atlet Pencak Silat Ipsi Kota Palembang. *Jurnal Ilmiah Stok Bina Guna Medan*, *13*(2), 378-388.

Bayusro, A., Sudarjat, A., & Sulistianingsih. (2024). Analisis Teknik Pertandingan Pencak Silat Kategori Tanding Level Elit. *Sportology Journal*, 27–34. Http://Jurnal.Stkipkusumanegara.Ac.Id/Index.Php/Sj/Article/View/1994%0ahttp://Jurnal.Stkipkusumanegara.Ac.Id/Index.Php/Sj/Article/Download/1994/1159

Bompa, T. O., & Buzzichelli, C. (2019). *Periodization-: Theory And Methodology Of Training*. Human Kinetics.

Bracko, M. R., & George, J. D. (2001). Prediction Of Ice Skating Performance With Office Testing In Women's Ice Hockey Players. *The Journal Of Strength & Conditioning Research*, *15*(1), 116–122.

Creswell. (2017). *Research Design: Qualitative, Quantitative, And Mixed Methods Approaches*. Sage Publications.

Creswell, J. W. (2014). *Research Desing: Qualitative, Quantitative And Mixed Methods Approaches* (Vol. 54). United State Of America: Sage Publications.

Darmawan, A. D., Adelliana, A., Cahyani, E. D., & Triana, A. N. (2023). Pencak Silat Dan Nilai Sosial Dalam Masyarakat: Literature Review. *Penjaga: Pendidikan Jasmani Dan Olahraga*, *4*(1), 28-35.

Field. (2017). Robust Statistical Methods: A Primer For Clinical Psychology And Experimental Psychopathology Researchers. *Behaviour Research And Therapy*, *98*, 19–38.

Jaya, M. (2025). *Implementasi Perencanaan Dakwah Pencak Silat Pagar Nusa Dalam Peningkatan Disiplin Santri Di Pondok Pesantren Roudlatul Qur'an Metro*. Uin Raden Intan Lampung.

Kuantitatif, P. (2016). Metode Penelitian Kunatitatif Kualitatif Dan R&D. *Alfabeta, Bandung*.

Rosad, A., & Hidayah, T. (2015). Journal Of Sport Sciences And Fitness. *Journal Of Sport Sciences And Fitness*, *1*(1), 56–61.

Ruwil, M., Purnomo, E., & Haetami, M. (2019). Pengembangan Media Video Latihan Bantingan L Pencak Silat. *Jurnal Pendidikan Dan Pembelajaran Khatulistiwa (Jppk)*, *8*(12).

Sanjaya, H. W. (2015). *Penelitian Pendidikan: Metode, Pendekatan, Dan Jenis*. Kencana.

Sobirin, C. (2024). *Pengaruh Metode Latihan Bagian Dan Metode Latihan Keseluruhan Terhadap Keterampilan Teknik Bantingan Pencak Silat. February*, 4–6.

Susanti, C. E. (2017). *Peningkatan Keterampilan Teknik Bantingan Menggunakan Metode Drill Bagian*

Pada Atlet Psht Kota Malang (Doctoral Dissertation, Universitas Negeri Malang).

Wicaksono, S., & Kusuma, I Made. (2020). *Pengaruh Latihan Menggunakan Bola Tenis Terhadap Kecepatan Reaksi Dan Konsentrasi Kiper Futsal Unesa.* *3*(2), 56–60.

Yusfi, H., Ambarwati, E., Destriana, D., & Destriani, D. (2024). Latihan Shuttle Run Untuk Meningkatkan Kecepatan Reaksi Atlet Taekwondo. *Gelanggang Olahraga: Jurnal Pendidikan Jasmani Dan Olahraga (Jpjo)*, *7*(2), 322–329. Https://Doi.Org/10.31539/Jpjo.V7i2.8919