

The Effect of External Imagery Training on the Performance of Doubles Category Pencak Silat Athletes in the Malang Raya Region

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(Received: 13 May 2026 | Revised: 16 June 2026 | Accepted: 8 July 2026)

ABSTRACT

Background: The doubles category in pencak silat demands strong synchronization, harmony, precision, and consistency of movement between athletes to produce optimal performance. External imagery training is considered a mental training method that can support performance improvement because it helps athletes visualize movements from an observer's perspective similar to the judging process in the doubles category. Therefore, rese study aims to examine the effect of external imagery training on the performance of doubles-category pencak silat athletes in the Malang Raya area. The null hypothesis (H0) states that external imagery training has no effect on the athletes' performance.

Methods: The method used in this study is an experiment with a quantitative approach using a pre-test and post-test design on a single group. This study involved 12 pencak silat athletes in the doubles category as subjects.

Results: The treatment of external imagery training has been proven to have an effect on improving the performance of doubles-category pencak silat athletes. Based on the results of hypothesis testing using the paired samples t-test, a significance value of 0.033 was obtained, which is smaller than 0.05, indicating a significant difference between the pretest and posttest results. These results show that the probability value is smaller than 0.05, so the null hypothesis (H0) is rejected and the alternative hypothesis (H1) is accepted. Thus, it can be concluded that external imagery training has a significant effect on improving the performance of doubles-category pencak silat athletes after undergoing the training treatment.

Conclusions: External imagery practice has a significant effect on improving the performance quality of pencak silat athletes in the doubles category and can be used as a mental training method to help enhance athlete performance in the doubles artistic event.

Keywords: Pencak Silat; Mental Training; Imagery; Multiple Categories

1. Background

The double category in artistic pencak silat is a competition event that demands a high level of complexity, as it involves two athletes performing a structured, harmonious, and expressive sequence of attack and defense techniques within a unified choreography. This performance does not rely solely on technical accuracy, but also on timing consistency, coordination between partners, and decisiveness in every movement execution under competitive pressure. These conditions indicate that success in the double category is not determined only by physical and technical aspects, but also heavily depends on athletes' mental ability to manage and accurately represent movement patterns. Therefore, psychological training support is required, particularly external imagery training, to help athletes develop a more stable, controlled, and consistent mental representation of movement. In the context of competitive sport, pencak silat is not solely oriented toward competitive victory, but also emphasizes the quality of movement that is aesthetic and meaningful, particularly in the artistic category. From

an artistic perspective, pencak silat is visualized as a sequence of movements that are effectively patterned, aesthetically pleasing, and embody elements of self-defense (Ediyono & Widodo, 2019). As a competitive sport, pencak silat is divided into sparring and artistic categories (IPSI, 2025). In the artistic category, the doubles event is one of the competitions. The doubles category consists of 2 martial artists from the same team, showcasing their skills and the variety of attack and defense movements they have (Muttaqin & Wahyudi, 2018). In the doubles event, attack-defense patterns are performed in a planned and logical way with the mandatory weapons, machete and staff, along with one additional archipelago weapon, making the performance look effective and solid (IPSI, 2025).

In terms of psychological, athletes' mentality is an equally important foundation to support concentration abilities, which impact performance. The mind functions as a control and motivator for carrying out motor activities; athletes with a good mentality will find it easier to achieve maximum performance (Sin, 2016). Even athletes with good technical skills can show below-average performance if they have a low level of self-confidence, so the abilities mastered during training cannot be displayed optimally (Mardhika & Dimiyati, 2015). Mental exercise is a brain exercise that focuses on cognitive or technical skills in a structured way with the aim of improving brain function (Adi, 2016). Thus, mental training is an essential component in supporting the psychological readiness of athletes, whose development and maintenance must be integrated with technical training in order to achieve a balance in line with a comprehensive training program (Sholichah & W, 2020)

An athlete's mental state can be trained with several forms of training, one of which is imagery training. Imagery is a type of training where a person imagines or visualizes a specific experience in their mind without actually performing it physically. Imagery is a mental strengthening training method that can increase an athlete's self-confidence, strategic thinking skills for matches, and sensory experiences such as seeing, feeling, and listening to the entire process happening in the brain (Riyadi & Sartono, 2019). Imagery can lead individuals to intentionally revisit and re-examine past events; however, most tend to choose not to do so (Morris et al., 2005) Based on the Dual Coding theory developed by Paivio (1985), imagery has two main roles in the context of sports, namely cognitive and motivational roles. The cognitive function helps athletes internalize and remember sequences of movement techniques, while the motivational function supports increased self-confidence and mental readiness before competing.

According to (Festiawan, 2020) in the book *The Power of Imagery*, generally, imagery in mental training is divided into two types, namely internal imagery and external imagery. Internal imagery is a process where a person imagines or visualizes a certain experience in their mind from their own perspective without actually performing it physically from their own point of view. Meanwhile, external imagery is a process in which a person imagines or visualizes a certain experience in their mind from an outside perspective or third person without actually performing it physically from their own perspective.

In the context of pencak silat, especially in the doubles category, the use of external imagery can help athletes improve the harmony of movements, expression, and coordination with their partner. By imagining their performance from the perspective of the audience or coach, athletes can identify and correct technical and aesthetic aspects of their performance. This aligns with the opinion of (Triananda & Jannah, 2017) that an athlete's psychological perspective, particularly mental imagery, has an influence on athletic performance. Overall, external imagery is a useful tool in athletes' mental training, especially in improving the technical and aesthetic aspects of performance. The choice of imagery type should be adjusted to the individual athlete's needs and the sports context they are engaged in.

Based on the reference of the International Pencak Silat Federation (PERSILAT, 2023), assessment in the doubles category not only focuses on the accuracy of techniques. Three main assessment components are used. The first is attack-defense technique, which includes four sub-components: technical quality, technical variety, skill and creativity, and logical execution of movements, including firmness/decisiveness. The second component is assertiveness, which consists of three sub-components: athlete harmony, weapon proficiency,

and strength and endurance. The third component is completeness of spirit, which includes one sub-component, namely movement expression. In addition to these three elements, timing accuracy is also an important part of the evaluation in the ganda category.

Various previous studies have shown that imagery training has a positive effect on the improvement of psychological aspects which will have a positive impact on enhancing athlete performance. Imagery training carried out according to a structured and routine training program can produce a tangible positive impact on the performance of pencak silat athletes (Gunawan et al., 2023). Athletes who are given imagery training will receive positive impacts in the form of maximum performance if the training is carried out with confidence to perform real actions (Anggoro et al., 2016). Imagery training that is implemented effectively can support athlete performance, especially in the timing accuracy of pencak silat in the artistic category (Zalsabilla & Wijaya, 2024). Imagery is an effective method to increase focus by simulating certain situations or actions, thereby helping athletes prepare psychologically before competing (Astuti et al., 2025).

However, the significant benefits of external imagery training have limitations in terms of application and understanding related to the treatment of imagery training, particularly for doubles category pencak silat athletes in the Malang Raya area. The main novelty of this study lies in a specific and in-depth analysis of the influence of external imagery training on the performance of doubles category pencak silat athletes, which, until now, has never been reported in previous research. The results of this study are expected to provide a scientific contribution in the form of new experiences for athletes in improving the quality of performance in doubles category pencak silat.

2. Methods

This research was conducted using a quantitative approach and an experimental method with a one group pre-test – post-test design, which included initial measurement of athletes' performance, the treatment of external imagery training, and the final measurement in the form of athletes' performance. The imagery training provided was in the form of external imagery through audio products that have been adjusted according to the needs of doubles athletes. The one-group pre-test–post-test design doesn't use a control group, so this study has limitations in comparing results with another group (Sugiyono, 2013). Because of that, the interpretation of any changes is more focused on comparing conditions before and after the treatment within the same group.

This approach is used to see the trend of changes in athletes' performance after they are given external imagery intervention. The external imagery script in this study was adopted from a thesis (Alfareza & Rahayuni, 2025), and then adjustments and development were made to align it with the characteristics and needs of doubles category pencak silat athletes.



This study was conducted at the Faculty of Sports Science, Universitas Negeri Malang from October 25, 2025, to December 6, 2025. Pencak silat athletes in the doubles category in the Malang Raya area were the population in this study. The sample involved consisted of 12 doubles category pencak silat athletes from the

Malang Raya area (Malang City, Malang Regency, and Batu City). The assessment instrument used was an evaluation sheet with the standards of the International Federation of Pencak Silat (PERSILAT, 2023). Data normality testing was carried out using the Shapiro-Wilk method, and the analysis was then continued with a Paired Sample t-test using SPSS for Windows.

3. Results

This study was designed to test the effect of external imagery training on the performance of pencak silat athletes in the doubles category in the Malang Raya area. The results of the data analysis are presented in tables and supplemented with descriptive explanations:

Table 1. Result of the pre-test post-test

	Score Value	
	Pre-test	Post-test
Average	8.855	9.343
Median	9.010	9.365
Std. Deviation	.6449	.2655
Variance	.416	.070
Minimum	7.9	8.9
Maximum	9.8	9.7

The research data results indicate an improvement in the performance of pencak silat athletes in the doubles category after being given external imagery training. The average score obtained before the treatment (pre-test) was recorded at 8.855, while the average score after the treatment (post-test) was 9.343. The difference in the average between the pre-test and post-test indicates an increase in performance after being given external imagery training. The lowest and highest scores also experienced positive changes. In the pre-test, the lowest score was recorded at 7.9 and the highest score at 9.8, whereas the lowest post-test score increased to 8.9 and the highest score was 9.7.

If displayed in a diagram like the following:

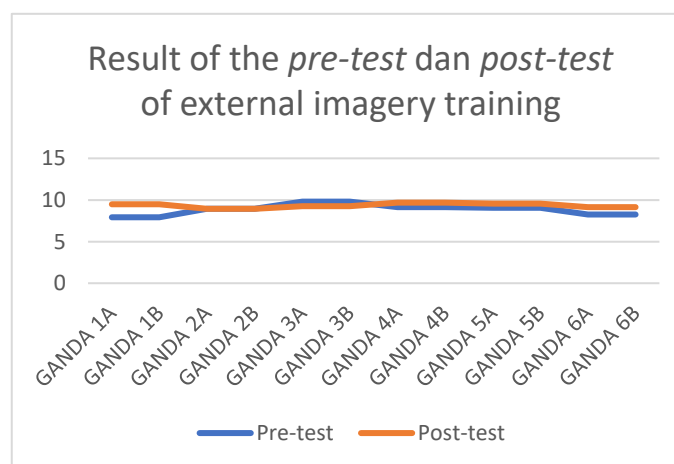


Table 2. Normality test

Group	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
<i>pretest</i> imagery external	.225	12	.094	.898	12	.150
<i>posttest</i> imagery external	.197	12	.200	.912	12	.223

The normality of the data in this study was analyzed using the Kolmogorov-Smirnov and Shapiro-Wilk tests to determine whether the athletes' performance data followed a normal distribution. Based on the Shapiro-Wilk test results with a significance level of 0.05, the significance values obtained from the test were 0.150 for the pre-test data and 0.223 for the post-test data. Thus, the data can be considered normally distributed.

Table 3. Paired Sample *t*-test

Group	N	Mean Different	Std. Deviation	t	df	Sig. (2-tailed)	Statement
Pre-test - Post-test	12	-.4883	.6947	-2.435	11	0.033	H ₀ rejected

Referring to the results of the Paired Sample *t*-test analysis, it is known that the mean difference of -.4883 indicates an increase in performance scores in the post-test compared to the pre-test results after providing external imagery training interventions. The statistical test produced a *t* value of -2.435 with a degree of freedom (df) of 11 and a significance value of 0.033. The obtained significance value < 0.05, which indicates a difference between the pre-test and post-test performance of doubles category pencak silat athletes after the external imagery training intervention. Based on these results, it can be stated that external imagery training has a positive effect on the performance of doubles category pencak silat athletes. The results are in accordance with the opinion of (Triananda & Jannah, 2017) that the psychological perspective of athletes, particularly mental imagery, has an influence on athletes' performance.

4. Discussion

External imagery shows greater ability to improve the performance of pencak silat athletes in the doubles category because it is considered more realistic and aligned with the scoring system of the doubles category, that is, imagining their performance from the perspective of the audience or judges. This is also related to the characteristics of the doubles category, which require movement harmony, synchronization between partners, and visual accuracy of the sequence of techniques, so the application of external imagery is considered more appropriate in helping athletes understand, adjust, and perfect their performance. In line with previous research, imagery training conducted according to a structured and routine training program can have a tangible positive impact on the performance of pencak silat artistic athletes (Gunawan et al., 2023)

Imagery practice contributes to improving the quality of athletes' performances in paired artistic events such as the doubles category of pencak silat. Through the process of mental visualization, athletes can mentally rehearse sequences of techniques, tempo, movements, and coordination with their partner before performing them in reality. This helps strengthen the understanding of movement patterns, increase focus, and improve the harmony of movements between partners. In the doubles category, aspects such as synchronization, expression, and tempo accuracy are important components evaluated by judges, making imagery an effective training strategy to optimally prepare for the performance. According to (Weinberg & Gould, 2019) in Foundations of Sport and Exercise Psychology, imagery can help athletes improve concentration, control emotions, and maintain performance consistency through a mental visualization process that depicts movement situations in a way similar to real experience.

Analysis of the research results indicates that external imagery training plays a significant role in improving the performance of doubles category pencak silat athletes. This is demonstrated through the comparison of pre-test and post-test results after the treatment, showing a significant difference with a value of 0.033 ($p < 0.05$). The increase in average performance scores, accompanied by a decrease in the level of data variation in the post-test results, indicates that imagery training not only enhances athlete performance but also contributes to creating consistency in performance between partners.

These findings are in line with (Sin, 2016) imagery theory, which explains that mental visualization can activate cognitive and motor processes similar to actual movement execution, thereby supporting the improvement of movement quality and athletes' mental readiness. In the context of doubles category pencak silat, the application of external imagery allows athletes to visualize their performance from an external perspective as evaluated by judges, thus helping athletes assess and adjust the harmony of movements, expression, and performance rhythm more objectively. This condition contributes to an increase in synchronization between partners, which is one of the main aspects in the assessment of the doubles category. In addition, the decreased standard deviation values and score ranges in the post-test results indicate that external imagery training is able to reduce performance differences among athletes. This shows that mental training has a relatively positive and uniform impact on all research subjects, including athletes with relatively lower initial skill levels.

Based on these results, it can be asserted that external imagery training is an effective and relevant mental training method to be applied in the development of doubles category pencak silat athletes. The implementation of external imagery training into the training program is expected to help coaches and athletes optimize performance quality, especially in the artistic routines that require movement harmony, expression, and cooperation between partners.

5. Conclusions

The research findings indicate that external imagery training has a significant effect on improving the performance of athletes in the doubles category of pencak silat. This is evidenced by the difference in scores between the initial and final measurements after being given external imagery training. The increase in performance scores, followed by a decrease in data variation levels, shows that external imagery training not only plays a role in enhancing athlete performance but also helps improve consistency in performance between pairs. Thus, external imagery training can be stated to be effective as a form of mental training that supports the improvement of performance quality in doubles category pencak silat athletes.

Based on these results and conclusions, pencak silat coaches, especially in the development of the doubles category, are advised to systematically and continuously implement external imagery training in training programs to improve the quality and consistency of athletes' performance. Athletes are also expected to utilize external imagery training as part of their mental preparation, both before training sessions and prior to competitions. In addition, future research studies are recommended to increase the number of participants on a

larger scale, use a control group, and examine variations in the duration and forms of external imagery training application in order to obtain more comprehensive findings and strengthen the results of this study.

6. Acknowledgements

The author expresses gratitude to all the leaders, lecturers, and students of the State University of Malang who have provided support so that this research activity could be carried out properly. The author also extends the greatest thanks to Mr. Kuwat Slamet, the author's father, for his prayers, support, and motivation always given throughout the research process and the preparation of this scientific work.

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