

# Analysis of Pencak Silat Athlete Speed in Pekalongan City

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**Abstract.** This research aims to analyze the speed component of Pencak Silat athletes in Pekalongan City. The research method used was descriptive with data collected through a 30m sprint speed test. The research subjects were five Pencak Silat athletes who will participate in PORPROV Jawa Tengah 2023. The results showed that 80% of the Pencak Silat athletes in Pekalongan City had poor speed conditions and 20% had less than optimal speed conditions. Analysis of the speed component showed that athlete speed is influenced by factors such as muscle strength, running technique, and mental strength. Additionally, the research revealed a significant difference in speed between male and female athletes in Pekalongan City, with female athletes demonstrating lower speed compared to male athletes. Although height, weight, and age did not significantly influence the speed of Pencak Silat athletes in Pekalongan City, factors such as muscle strength, running technique, and mental strength can influence athlete speed. In conclusion, this research highlights that the speed of Pencak Silat athletes in Pekalongan City is affected by various factors, and coaches and Pencak Silat athletes can use this study as a reference when developing speed training programs.

**Keywords:** pencak silat; athletes; speed

## INTRODUCTION

Pencak Silat is one of the sports disciplines that Indonesia excels in various sporting events, including the Central Java Provincial Sports Week (PORPROV) that will be held in 2023 in Pati Raya. Pekalongan City, as one of the cities in Central Java, has successfully qualified five athletes for the PORPROV qualification round. The research results indicate that speed plays a crucial role in the performance of Pencak Silat athletes, particularly in mastering techniques. Speed also has a significant impact on an athlete's performance during a match. If an athlete possesses speed in mastering techniques, they can easily execute their matches. Conversely, if an athlete lacks speed in mastering techniques, they will encounter difficulties in carrying out the match (Susanto et al., 2020). In the sport of Pencak Silat, particularly in the sparring category, speed is considered one of the essential basic components (Saputro & Siswantoyo, 2018). Furthermore, speed activities in Pencak Silat require high concentration to achieve maximum speed, as stated in research findings that "concentration is crucial for a martial artist in various Pencak Silat match conditions, both in attacking and defending. It enables athletes to execute offensive and defensive techniques effectively, with the goal of winning the match" (Ihsan, 2018). Therefore, it is essential to analyze the speed of Pencak Silat athletes in Pekalongan City who will participate in the Central Java Provincial Sports Week (PORPROV) in 2023. This study aims to analyze the speed of Pencak

Silat athletes from Pekalongan City in preparation for the Central Java PORPROV in 2023. This analysis is expected to provide insights into the speed of Pencak Silat athletes in Pekalongan City who will participate in the PORPROV, as well as the factors influencing it. Thus, the findings of this research can serve as a reference for coaches and athletes to develop better and more effective training programs to enhance the speed of Pencak Silat athletes in Pekalongan City and improve their performance in the PORPROV.

## METHODS

This research design utilizes a descriptive research design. This design is used to depict the characteristics of the speed of Pencak Silat athletes in Pekalongan City who will participate in the Central Java Provincial Sports Week (PORPROV) in 2023. The population of this study consists of all Pencak Silat athletes from Pekalongan City who will participate in the Central Java PORPROV 2023. The sample is taken using total sampling, which includes five Pencak Silat athletes. The instrument used in this study is the 30-meter sprint speed test (Fenanlampir, A & Faruq, 2015). This test measures the time taken by athletes to run a distance of 30 meters. A stopwatch is used as the instrument to measure time. The data collection procedure involves conducting a sprint speed test on five Pencak Silat athletes from Pekalongan City who will participate in the Central Java PORPROV 2023. Each athlete is given two attempts, and the best result from the two attempts

is recorded as the final result. The collected data is analyzed using descriptive statistical techniques, specifically by calculating percentages for each classification using the formula by (Anas Sudijono, n.d.), where P represents the percentage, F represents the frequency for which the percentage is sought, and N represents the total frequency or number of individuals, as follows:

$$P = F/N \times 100\%$$

By using this research method, it is expected that the research findings can provide a clear understanding of the speed of Pencak Silat athletes from Pekalongan City who will participate in the Central Java Provincial Sports Week (PORPROV) in 2023. The results of this

research can serve as a reference for coaches and athletes in developing better and more effective training programs to enhance the speed of Pencak Silat athletes in Pekalongan City and improve their performance in the PORPROV. Furthermore, these research findings can also serve as a reference for future researchers to conduct studies in the field of Pencak Silat athlete speed and the factors influencing it.

## RESULTS AND DISCUSSION

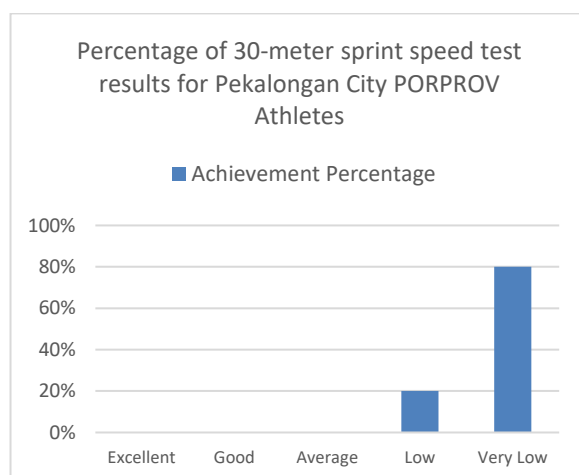
The research results on the speed of Pencak Silat athletes from Pekalongan City who will participate in the Central Java Provincial Sports Week (PORPROV) in 2023, using the 30-meter sprint speed test, are as follows:

**Table 1.** Data of 30-meter Sprint Speed Test Results for Pekalongan City PORPROV Athletes

No	Name Initials	Gender	Age	Time	Criteria
Data Tes Lari 20 Meter Atlet Junior.					
1	Nfg	Male	20	5.19	Very Low
2	Mafg	Male	22	5.45	Very Low
3	Mfh	Female	18	5.77	Very Low
4	Ssw	Female	22	5.87	Very Low
5	Sasw	Female	24	6	Very Low

By analyzing the data and using the percentage calculation formula, the percentage recapitulation is obtained as follows:

Classification	Quantity	Percentage
Excellent	0	0
Good	0	0
Average	0	0
Low	1	20
Very Low	4	80
Total	5	100



The speed data of Pekalongan City's Pencak Silat athletes for PORPROV can be described in the table and diagram above, indicating that 80% or four athletes have a very low speed, and 20% or one athlete has low speed.

The results of this study indicate that the speed of Pencak Silat athletes from Pekalongan City who will participate in the Central Java Provincial Sports Week (PORPROV) in 2023 obtained the result that 80% or four athletes have a very low speed, and 20% or one athlete has a low speed. These results indicate that the speed of Pencak Silat athletes from Pekalongan City in facing the Central Java Provincial Sports Week in 2023 can be categorized as very low. Physical condition plays a crucial role in achieving optimal sports performance (Saputro, D.P., Wijaya, M.R.A., Dongoran, 2020). Physical condition is the main aspect in achieving maximum performance and success in Pencak Silat (Wijaya et al., 2021). Quick change of direction (i.e., speed) is an important athletic ability in many sports (Sekulic et al., 2013). The ability to move at maximum speed is the definition of speed (Fenanlampir, A & Faruq, 2015). Speed is the

athlete's ability to generate movement in a short amount of time and develop the required strength to perform those movements. Speed is a crucial factor in Pencak Silat, especially in PORPROV competitions that require athletes to control and utilize their speed to win matches. Speed plays a vital role in the performance of Pencak Silat athletes, especially in mastering techniques. Athletes who possess speed can dominate in matches as they can easily implement their techniques. On the other hand, athletes who are slower in mastering techniques will struggle in executing matches (Susanto et al., 2020). Reaction time speed is an essential element in martial arts as high-level performance is based on explosive techniques (Chaabène et al., 2012). Pencak Silat athletes must have good speed abilities in matches, both in general speed and specific speed (Wijaya et al., 2021). Therefore, improving speed is one of the main goals of training programs in Pencak Silat.

In all categories of Pencak Silat events, training direction is considered an important factor in influencing the physical condition of Pencak Silat athletes (Lubis, J & Wardoyo, 2016). The results of this study can serve as a reference for coaches and athletes in developing better and more effective training programs to improve the speed of Pencak Silat athletes in Pekalongan City and enhance their performance in PORPROV. Coaches can use the findings of this research to evaluate the strengths and weaknesses of athletes in terms of speed and design training programs that align with the athletes' needs and abilities. Several training methods can be employed to improve athletes' speed through structured programs. Some research findings provide insights into speed enhancement as information and guidance for implementing training programs. Training in fast running and sprinting plays a significant role in developing physical capabilities for specific sports performance (Beato et al., 2021). HIIT training performed over a 4-week period leads to improvements in aerobic endurance, speed performance, and directional change speed (Domčeková et al., 2023). High-intensity, low-volume strength and conditioning training interventions designed to match the demands of MMA competitions can result in significant performance enhancements for well-trained fighters (Kostikiadis et al., 2018). Furthermore, flexibility is an essential component that athletes in Pencak Silat must possess to support various movement activities in achieving desired performance (Wijaya et al., 2022). It can

be explained that performing single-leg hurdle jumping exercises has a more significant impact on improving the speed of right and left front kicks compared to performing alternate jumping exercises or not engaging in any training (control group) (As'ad et al., 2021).

Moreover, the results of this study can be used as a reference for further research on the factors influencing the speed of Pencak Silat athletes and how to improve that speed. Some factors that can affect athletes' speed include movement techniques, muscle strength, body balance, and psychological factors. Overall, this research provides a clear overview of the speed of Pencak Silat athletes from Pekalongan City who will participate in the Central Java Provincial Sports Week in 2023. It can serve as a guideline for coaches and athletes in developing better and more effective training programs to improve the speed of Pencak Silat athletes in Pekalongan City and enhance their performance in PORPROV.

## CONCLUSION

Based on the results and discussion of this research, several conclusions can be drawn as follows: The speed of Pencak Silat athletes from Pekalongan City who will participate in the Central Java Provincial Sports Week in 2023 shows that 80% or four athletes have a very poor speed, while 20% or one athlete has a low speed. This indicates the need to improve the athletes' speed to compete with athletes from other regions. In order to enhance the athletes' speed, coaches and athletes can utilize effective and targeted training methods, such as speed training, plyometrics, and specific Pencak Silat techniques that can improve speed. This research can serve as a foundation for coaches and trainers of Pencak Silat athletes from Pekalongan City to design effective and efficient training programs to enhance their speed for the Central Java Provincial Sports Week in 2023. Consequently, it is expected that the improvement in the speed of Pencak Silat athletes from Pekalongan City can contribute to achieving success in the Central Java Provincial Sports Week in 2023.

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