



## Analysis Of Attack Velocity and Accuracy in Banjarbaru City Fencing Athletes

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### Abstract

**Studi purpose.** The purpose of this study is to determine the Speed and Accuracy of Attacks on Fencing Athletes when making attacks lacking speed and accuracy so as to make attack techniques not optimal and effective which have an impact on points and endurance.

**Materials and methods.** This research method uses descriptive-quantitative method. The population in this study were 19 Banjarbaru City fencing athletes, and a sample of 6 fencing athletes using purposive sampling technique (athletes who are still active). The research instruments used were the Kuhadja Fencing Test and the Kinovea program version 0.9.5. This study uses descriptive statistical analysis techniques.

**Results.** The results showed that male fencing athletes in Banjarbaru City had the highest Velocity of 3.83 m/s, the lowest Velocity of 2.94 m/s, and the average velocity of 3.39 m/s. while the highest velocity by female fencing athletes was 4.59 m/s, the lowest velocity was 2.99 m/s, and the average velocity was 3.79 m/s. In terms of accuracy, the highest score recorded among male and female fencing players is 9. However, male fencing athletes have a consistent accuracy score of 9 by producing an average accuracy of 9. Female fencing athletes showed a lot of difference in scoring accuracy, scoring from 7 to 9, resulting in an average accuracy of 8.25. Male fencing athletes are in the "excellent" category with a score of 9-10, while 50% of female fencing athletes are in the "Excellent" category and 50% are in the "good" category with a score of 7-8.

**Conclusions.** After the research is done, it can be concluded that the speed and accuracy of attacks on male and female fencing athletes are in the excellent and good categories, from the results of the study it is recommended that fencing sports administrators be able to improve speed and accuracy training in order to get excellent results.

**Keywords:** Fencing, Attack, Speed, Accuracy

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### Introduction

Fencing is a type of martial arts sport in which two athletes fight using swords as weapons (Prasetyo, Abdillah, & Warni, 2021). (Andi Muhammad Rizky Al Mufarid, 2020)

explains that each athlete holds a different weapon with a different shape, target, and grip technique. (Marwan, 2023) explains that fencing is a competitive sport where athletes use swords and similar sharp weapons to attack opponents and score points. (Syafira Ayu Laksari, 2022) said that fencing athletes must have speed, agility, balance, and accuracy in attacking and defending to achieve success. To achieve the best performance in fencing, physical fitness is the most important thing.

The quality of fencing competitions and the improvement of basic techniques require special attention (Tona, Razali, Putra, Rizal, & Hasanuddin, 2023). Therefore, continuous efforts are needed to develop and update the basic techniques of fencing to improve the quality of competition. Attack is one of the basic techniques that is very important in fencing matches (Rahmadi, 2022). Good improvement and mastering basic techniques are essential. Improving basic skills requires consistent practice. According to (Hasan, 2022), basic technique is one of the most important supporting components for achieving excellence in the sport of fencing.

Success in fencing requires good basic skills, as do Banjarbaru City fencing athletes. Fencing athletes in Banjarbaru City have variations in speed and accuracy of attack. Although some athletes are already performing well, there are still those who need to improve their attack techniques to achieve more optimal and effective results, which have an impact on points and endurance. Banjarbaru fencing athletes sometimes lose when attacking because the opponent can easily anticipate and parry the attack, so the opportunity to gain points is lost. Athletes usually use fencing attacks to score points against their opponents. (Prasetyo et al., 2021) stated that speed and accuracy in fencing are very important for effective attacks. To secure victory points and defeat the opponent's defense, it is very important to have the best combination of these components. As in other sports, success in fencing depends on precision and accuracy. A swift attack can take the opponent off guard and make defending harder, as noted by (Munawarah, Hamid, & Warni, 2023). Therefore, the attack's pace plays a major role in fencing success. (Syarifudin, Mulhim, & Erliana, 2023) state that accuracy is like shooting a target directly in sports such as shooting or archery. According to (Syafira Ayu Laksari, 2022), a match's outcome can be significantly influenced by reacting to an opponent's moves and seizing opportunities to launch attacks. Fencing athletes that are swift and nimble have the benefit of being able to launch accurate attacks that win the match.

Fencing matches are very dynamic, so it is necessary to attack immediately so that the opponent does not know where the attack will come from. Attacks that are too slow can cause focus problems and lower the chances of victory. As per (Prasetyo et al., 2021) fast mobility is very important to prevent the opponent from reading and parrying. This shows how important a fast-fencing attack is to winning a match. Fencing attack speed, according to (Karimullah & Ismalasri, 2018), is the fencer's ability to execute continuous moves quickly and reliably, which allows athletes to score points and surprise opponents. To achieve a decent attack speed, one must have the strength and speed to move the forefoot one or two steps forward into the ultimate attack posture (Kosova, Beyhan, & Kosova, 2022).

According to (Manopo, Susilo, & Barata, 2018), more proactive strategies are needed to meet the competitive needs of fencing athletes. In fencing, speed and accuracy are the keys to success. An effective, point-generating attack is the clincher. It can be difficult for an opponent to predict a strong and fast attack. In accordance with (Arridho, Padli, Arwandi, & Yenes, 2021), fencing speed signifies the athlete's capacity to perform movements quickly and efficiently in the shortest possible time. Fencing attacks require the ability to target and enter the opponent's scoring area precisely to secure points (AlHaddad, AlTaie, & Al-Yasiri, 2022). Thus, the foundation of a more effective fencing attack strategy is a quick and accurate attack. Fencing requires an energetic back foot since gaining points requires the athlete to thrust their weapon at the opponent rapidly (Chen et al., 2017). In the end, assault speed and accuracy determine the outcome of a fencing match. With specific speed and precision training, fencing

athletes can enhance their ability to accurately attack the target area and score points. Proficiency in fast and powerful attacks is essential for competitive fencing. This important component is key to improving an athlete's performance level. A fencer's effectiveness is highly dependent on the athlete's attack speed. Athletes can make precise and accurate attacks by Banjarbaru City fencing athletes. Based on the description of the importance of accuracy and precision of attack in fencing, the research question that arises is: 'what is the level of speed and accuracy of attack of fencing athletes in the city of Banjarbaru?'

## Materials and methods

### *Study participants.*

The population in this study were fencing athletes in Banjarbaru City , totaling 19 people. Sampling was done by purposive sampling. Purposive sampling is a sampling technique with certain considerations (Purnawinadi & Lintang, 2020). The criteria for determining this sample include: 1). Active participation in training; 2) Banjarbaru City athletes. 3) Athletes are willing to follow the treatment until the end. Based on these criteria, the number of fencing athletes in Banjarbaru City who could be samples in this study amounted to 6 people.

### *Study organization.*

Descriptive quantitative methods were used in this study to measure the speed of fencing strikes among athletes in Banjarbaru City Descriptive quantitative research usually involves measuring variables within a population or sample. Descriptive statistical analysis techniques and tests are used to collect and analyze data, focusing on numerical measurements and appropriate scientific methods to answer research hypotheses (Waruwu, 2023). The research instruments used are the Kuhadja Fencing Test and the Kinovea program version 0.9.5. (Collins, 1978; Maghfirotin Nisaa\*, 2023). The test procedure measures speed with 5 stabs at the target, and then the fastest time duration of the 5 stabs is taken. The accuracy test was carried out once, with 5 stabs at the target, and then the average score of 5 strikes was taken.

### *Statistical analysis.*

This study used descriptive statistical analysis techniques. This includes the use of tables, graphs (such as histograms or polygons), and measures of central tendency (such as mean and median). Data was collected by conducting tests to measure the speed of fencing strikes performed by athletes in Banjarbaru City.

## Results

The purpose of this study was to analyze the attack speed and accuracy of fencing athletes in Banjarbaru City Sampling, data collection, and analysis are steps in the research procedure. The athletes were observed and measured for their speed and accuracy of attacks, The results of attack speed of Banjarbaru City fencing athletes in [table 1](#).

**Table 1.** Results of Attack Speed of Banjarbaru City Fencing Athletes

No.	Name	Category	Kuhadja Fencing Test Time M/S
1	Yasir Humaidi	Foil Pa	3.83
2	Muhammad Hendra	Foil Pa	2.94
3	Syafira Putri Fadila	Foil Pi	3.97
4	Rita Handayani	Foil Pi	2.99
5	Farah Diba	Epee Pi	3.59
6	Vivi Valentina	Sabre Pi	4.59

Total	21.91
Lowest Score	2.94
Highest Score	4.59
Mean	3.65

**Tabel 2.** Male Fencers

No.	Name	Category	Kuhadja Fencing Test Time (M/S)
1	Yasir Humaidi	Foil Pa	3.83
2	Muhammad Hendra	Foil Pa	2.94
	Total		6.77
	Lowest Score		2.94
	Highest Score		3.83
	Mean		3.39

**Tabel 3.** Female Fencers

No.	Name	Category	Kuhadja Fencing Test Time (m/s)
1	Syafira Putri Fadila	Foil Pi	3.97
2	Rita Handayani	Foil Pi	2.99
3	Farah Diba	Epee Pi	3.59
4	Vivi Valentina	Sabre Pi	4.59
	Total		15.14
	Lowest Score		2.99
	Highest Score		4.59
	Mean		3.79

As can be seen from the results of the [table 2](#) above, the attack speed of Banjarbaru City fencing athletes varies greatly. Based on gender, male fencing athletes recorded the highest speed of 3.83 m/s, the lowest speed of 2.94 m/s, and an average speed of 3.39 m/s. While the highest speed of As can be seen from the results of the table above, the attack speed of Banjarbaru City fencing athletes varies greatly. Based on gender, male fencing athletes recorded the highest speed of 3.83 m/s, the lowest speed of 2.94 m/s, and an average speed of 3.39 m/s. in the [table 3](#) while the highest speed by female fencing athletes was 4.59 m/s, the lowest speed was 2.99 m/s, and the average speed was 3.79 m/s. Based on the average speed, it can be concluded that female fencing athletes recorded the highest speed of 4.59 m/s, the lowest speed was 2.99 m/s, and the average speed was 3.79 m/s. Based on the average speed, it can be concluded that female fencing athletes in Banjarbaru City have a faster attack speed compared to male athletes. Based on the average speed it can be concluded that female fencing athletes in Banjarbaru City have a faster attack speed compared to male athletes. Next the result of the accuracy of the attack of Banjarbaru City fencing athletes in [table 4](#).

**Table 4.** Results of Attack Accuracy of City Fencing Athletes Banjarbaru

No.	Name	Category	Kuhadja Fencing Test Score Accuracy
1	Yasir Humaidi	Foil Pa	9
2	Muhammad Hendra	Foil Pa	9
3	Syafira Putri Fadila	Foil Pi	8
4	Rita Handayani	Foil Pi	9
5	Farah Diba	Epee Pi	7
6	Vivi Valentina	Sabree Pi	9
	Total		<b>51</b>
	Lowest Score		<b>7</b>
	Highest Score		<b>9</b>
	Standard Deviation		<b>0.83</b>
	Mean		<b>8.5</b>

**Table 5.** Male Fencers

No.	Name	Category	Kuhadja Fencing Test Score Accuracy
1	Yasir Humaidi	Foil Pa	9
2	Muhammad Hendra	Foil Pa	9
	Total		18
	Lowest Score		9
	Highest Score		9
	Mean		9

**Table 6.** Female Fencers

No.	Name	Category	Kuhadja Fencing Test Score Accuracy
1	Syafira Putri Fadila	Foil Pi	8
2	Rita Handayani	Foil Pi	9
3	Farah Diba	Epee Pi	7
4	Vivi Valentina	Sabre Pi	9
	Total		33
	Lowest Score		7
	Highest Score		9
	Mean		8.25

The results from [table 5](#) show the accuracy of attacks made by Banjarbaru city fencing athletes. When differentiated by gender, the highest score recorded between male and female fencers is 9. However, male fencing athletes have a consistent accuracy score of 9 by producing an average accuracy of 9. In [table 6](#) Female fencing athletes show a lot of difference in scoring accuracy scores between 7 to 9 and producing an average accuracy of 8.25.

**Table 7.** Male Fencers

No.	Norm	Score	Fi	Percentage
1	Excellent	9-10	2	100%
2	Good	7-8	0	0%
3	Medium	5-6	0	0%
4	Less	4-3	0	0%
5	Very Poor	1-2	0	0%
<b>Total</b>			<b>2</b>	<b>100%</b>

**Table 8.** Female Fencers

No.	Norm	Score	Fi	Percentage
1	Excellent	9-10	2	50%
2	Good	7-8	2	50%
3	Medium	5-6	0	0%
4	Less	4-3	0	0%
5	Very Poor	1-2	0	0%
<b>Total</b>			<b>4</b>	<b>100%</b>

**Table 9.** Results of The Kuhadja Fencing Test Percentage Score

No.	Norm	Score	Fi	Percentage
1	Excellent	9-10	4	67%
2	Good	7-8	2	33%
3	Medium	5-6	0	0
4	Less	4-3	0	0
5	Very Poor	1-2	0	0
<b>Total</b>			<b>6</b>	<b>100%</b>

The assessment norms are presented in [table 7](#) that male fencing athletes are in the “Excellent” category with a score of 9-10, while in [table 8](#) it is presented that 50% of female fencing athletes are in the “Excellent” category and 50% are in the “Good” category with a score of 7-8. Overall the results of the assessment of fencing athletes are 67% in the “Excellent” category and 33% in the “Good” category. This study provides valuable information about the performance of fencing athletes in Banjarbaru city and helps to understand the factors that influence the success of these athletes.

## Discussion

One of the fundamental moves in fencing that every player needs to learn is the attack movement. The sword hand is held straight toward the opponent during the attack movement, and the foot is thrust forward to complete the movement. The heel of the shoe lands firmly on the floor to add more force ([Kamaruddin, 2019](#)). According to measurement data, Banjarbaru City fencing athletes is 3.65 m/s. As opponents have less time to prepare and anticipate attacks, athletes with high attack speeds have an advantage. According to ([Munawarah et al., 2023](#)), a fast attack can surprise the opponent and make defense difficult. Thus, attack speed is critical to fencing success. Therefore, it is imperative to create a training regimen that prioritizes speed development through explosive exercises and speed drills on a regular basis. In the fast-paced world of fencing, where judgments and actions must be made quickly, attack speed is crucial. An opponent may be caught off guard by a well-planned and performed attack, opening the door for a successful blow. To reach the required speed, physical fitness, technique mastery,

and strategic awareness are required, fencing effectively requires the mastery of fundamental skill.

These methods are the foundation of a fencer's abilities, enabling the sportsman to launch strikes with strength, effectiveness, and accuracy. Strong fundamental skills can increase attack speed, as demonstrated by (Raihanati & Wahyudi, 2021). Because proper technique minimizes wasted movement and maximizes energy transfer, fencers may move more smoothly and efficiently. Interestingly, the results showed that female fencing athletes in Banjarbaru City have a higher attack speed than male athletes. This highlights the importance of not only focusing on physical strength but also on technique and strategy training, which may be emphasized more in the training of female athletes.

In addition to speed, precision is an important component in fencing. A stab caused by an attack directed at the opponent so that the tip of the weapon touches the opponent earns a point for the fencer. When competing in the arena to score points, a fencing athlete must consider when to stab, with the aim of aiming at the top, bottom, and so on. (Purba, Risma and Widowati, Atri and Mardian, Roli and Ali, & Muhammad, 2020) defines accuracy as the body's ability to organize free movement towards a goal. A precise stab at the target is the first element of attack in combination. In fencing, the precision of the stab is very important, as only stabs that are right on target earn points. Good accuracy ensures that each stab has a high chance of scoring points. (Syarifudin et al., 2023) state that accuracy in fencing can be compared to shooting or archery sports, where accuracy is crucial for success. According to (Rasyono & Decheline, 2019) The stabs of fencing athletes must be trained continuously because the stab must always hit the target. Therefore, it is important to consistently practice and improve stab accuracy with specific exercises to improve eye-hand coordination and weapon control.

The results showed that male fencing athletes in Banjarbaru City had a higher mean accuracy of strikes (9) compared to female athletes (8.25). However, this difference was due to the consistency of performance of male athletes who always obtained high accuracy scores, while female athletes showed greater variation in accuracy of strikes, with some recording lower scores. Both groups showed good accuracy scores, but the male athletes were more consistent in performance. Two important skills in fencing that fencers in Banjarbaru City must continue to hone are speed and accuracy of attack. accuracy of attack guarantees that each attack can result in a valid point, while high attack speed allows the athlete to attack quickly and reduces the opponent's reaction time. While an accurate but slow athlete will be easily avoided by the opponent, a fast but inaccurate athlete may not earn enough points. Therefore, in order to increase wins and improve the performance of Banjarbaru City fencing athletes, training that emphasizes both of these should be done regularly.

The speed and accuracy of a fencer's attack are not only determined by physical excellence but also by mental toughness. Anxiety, low concentration, and a lack of confidence can reduce a fencer's performance in making decision and responding quickly and intelligently during a match. Therefore, overcoming mental obstacles is crucial to improving the speed and accuracy of fencing attacks. Stress management and visualization are some of the tactics that help athletes perform well and with precision under pressure.

A thorough and coordinated strategy is required to improve the speed and accuracy of attacks in fencing. Effective instruction in basic techniques, consistent physical conditioning, mental endurance strategies, and adequate access to facilities and equipment are very important components. With these elements in place, fencers can thrive in this challenging sport and reach an athlete's full potential.

## **Conclusions**

After the research is done, it can be concluded that the speed and accuracy of attacks on male and female fencing athletes are in the excellent and good categories, from the results of

the study it is recommended that fencing sports administrators be able to improve speed and accuracy training in order to get excellent results. Further research is expected to increase the number of samples, examine other types of sports, and add several variables or factors that affect the skills of the coach.

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### Conflict of interest

the authors have no conflicts of interest to declare.

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