

Biomechanical Analysis of the T-Kick in PSHT Athletes at Batu Marta Rayon 1

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Abstract

This study explores the T-kick movement skill in pencak silat, focusing on the initial stance phase, body position, footwork trajectory, balance, contact with the target, and the final phase of the kick. Conducted at the martial arts martial arts Brotherhood Loyal Heart Terate Batumarta District 1, pool King District, Ogan Komering Ulu Regency, involving 15 male athletes aged 15-18 years. The method used is descriptive quantitative, with sampling using purposive sampling. The results showed that the average score of the T-kick analysis was 4.4, with the criterion "Appropriate". The kick phases, such as the beginning, body position, footwork trajectory, balance, contact with the target, and the final phase, all fall into the category of "Appropriate" or "Very Appropriate", with the highest total score being in the final phase of the kick. This study has important implications for pencak silat athletes and coaches. It is desired that they can improve and refine the basic movements of the T-kick, which is believed to support improved performance in the sport of pencak silat. Thus, this study provides useful guidance for skill development in this sport .

Keywords: Pencak Martial arts, T Kick, Movement

Introduction

Sport is any systematic activity to encourage, foster, and develop physical, spiritual, and mental potential. The goals of national sport are to maintain and improve health and fitness, achievement, and human quality, instill moral values and noble character, sportsmanship, and discipline, strengthen and foster national unity, strengthen national resilience, and elevate the nation's honor, dignity, and respect. To achieve these national goals, there are three areas: coaching And development sport includes: 1) sport education, 2) recreational sports, 3) competitive sports (Law No. 3 of 2005).

The development of sports is currently experiencing rapid growth, particularly in the field of competitive sports development. According to Rahmawati et al. (2022), competitive sports are sports that specifically foster and develop athletes in a programmed, tiered, and sustainable manner through competitions. Which own potential For can improved his achievements will entered

They are placed in dormitories or special training facilities for further development and higher performance, supported by more modern sports science and technology. The goal of competitive sports is to achieve the highest possible performance. One of the coaching and development objectives of sports is performance that is on branch sport martial arts martial arts. Pencak martial arts is Wrong One Traditional sports belonging to the Indonesian nation need to be preserved. Pencak silat is a sport that develops several aspects, namely the aspect of sports, art, self-defense And spirituality or mental spiritual (Johansyah Lubis, 2004: 5). The parent school of pencak silat is the Indonesian Pencak Silat Association (IPSI). In the sport of pencak silat, many factors influence achievement. These factors include physical condition, technique, tactics, and mental state. In addition to these factors, other factors that must be considered include infrastructure, the coach who quality, the competition that regular as well as must supported by knowledge and adequate technology.

In Indonesia, there is various sport defense self Which originate from outside country, such as Capoeira from Brazil, Tae Kwon Do from Korea, Karate , Judo, and Kempo from Japan, as well as **Wushu** , **Kung Fu** , and **Wing Chun** from China. In addition, **Muay Thai** from Thailand is also widely known in Indonesia. This foreign martial art is growing rapidly and has many fans in the country (SDA Pratama & Candra, 2021). Pencak silat is a cultural heritage from our ancestors that still exists today and is one form of Indonesian cultural art. As an indigenous culture of the Indonesian nation, pencak silat is believed by martial artists and experts to have been created and practiced by the Malay people since prehistoric times (Marlianto et al., 2018). In Indonesia, the sport of pencak silat martial arts Already become sport performance Because as event receptacle distribution talent or achievements for Indonesian citizens who want to channel their achievements to bring honor to Indonesia's name.

Kick is technique And tactics attack Which implemented with Using the legs and feet as attacking components. Attacks using the feet are aimed at hitting or knocking down the opponent to gain points in a pencak silat match. (Hatmoko, 2015). There are several basic kicking techniques in pencak silat. martial arts. However, only a number of kick Which used in category match, namely front kick, t kick, back kick, and crescent kick. These four kicks is kick Which often used in match category match. From

Among the basic techniques in pencak silat, the T-kick is a technique frequently used during competitions. Therefore, an athlete must have a good and precise T-kick to score points. In pencak silat competitions, kick T is form the attack that often time produce points or clearer and more decisive numbers compared to other attacks.

The T-kick is a technique that can be aimed at the opponent's entire body. In its execution, the body position... must sideways parallel with direction of the kick straight to the side, forming the letter "T". The tool used to perform a T kick is the foot. According to (SD A. Primary & Candra, 2021), kick T have some Advantages include a wider reach, a safer distance between the head and the opponent, and the ability to maximize power. Many martial artists use the T-kick as a signature move in their fighting style. However, compared to other kicking techniques, the T-kick is less frequently used in matches overall, as it is difficult to execute in combat. distance near, more prone to to attack from lower, And position moment kick no direct facing the opponent, so that can reduce vision. T-kick also differentiated based on their function, namely T kicks for attack patterns and T kicks for defense patterns.

T kick for attack pattern is used to deliver an initial attack towards the target against analyze something movement in sport. Biomechanics related with the science of studying body movement, so it is very important to use in analyzing a movement so that effective And efficient in undergo something match. Kick in Pencak silat is very important, therefore it is necessary to analyze the kicking movements in pencak silat to be more effective and efficient. The author will analyze one of the kicks in pencak silat, namely the T kick, and before analyzing it, we need to know first what pencak silat is, what the basic movements are, what the basic movements in pencak silat are and what the T kick is like and what the stages in its implementation are.

Based on observations in this study conducted at the Setia Hati Terate University on athletes martial arts martial arts Which other factor problem skills movement base kick T on athletes often very do error do kick T moment match so that no kick There is power And balance so that kick T Easy very caught so that The opponent gets points and can result in defeat during the match in achieving

an achievement, so it is very important and necessary for the author in this paper to study and analyze the T Kick or Side Kick movement in Pencak Silat so that it can be seen movement Which Correct so that effective And efficient, so that later can used as a guide to practicing properly.

Based on the description above An analysis of a movement will be conducted to discuss this problem. Therefore, an in-depth movement analysis is needed to explain whether the correctness of a technique's movement can influence the form of the technique, with the title: "Analysis of Kicking Movements." T Pencak Silat On Athletes of the Setia Hati Terate Brotherhood College Batumarta District 1 "

Materials and Methods

Study Participants.

In this research is a quantitative descriptive research that is intended to describe systematically and accurately, factually and characteristically related to the T kick movement of the Pencak Silat athletes of the Persaudaraan Setia Hati Terate Pencak Silat School. This research attempts to describe the T kick movement and the data obtained are purely descriptive, therefore it is not intended to seek explanations, make predictions, and also study the implications. (SD A. Pratama & Candra, 2021). explain that descriptive research is research that aims to analyze data by describing the collected data appropriately without having the intention of creating conclusions that apply to the public or generalizations. The research method used is a survey test method. Researchers conducted research on the T-kick technique movement to obtain a systematic, objective, and accurate picture of events, patterns, symptoms, and relationships based on the analysis of the T-kick movement.

Study organization.

Data collection techniques are research methods or ways used to collect the information needed in a study. This very important Because can influence validity And reliability results research. Therefore that, the technique that must be used customized with research objectives, types the necessary data, available resources, and ethical considerations that must be taken into account. According to (Mukhamad Fathoni, 2019).then Technique collection data Which used the research use test. Test in study in the form of blank indicator suitability movement

kick T Martial arts .

Statistics analysis.

A detailed explanation of the various methods of mathematical statistics and their objectives is required. The objective is to explain the application of the technique mathematical statistics comprehensively, covering topics such as probability distributions, hypothesis testing, regression analysis, and multivariate analysis. The goal of this analysis is to provide readers with a thorough understanding of statistical techniques used to analyze data in a variety of fields, from business to science to the social sciences.

Results

Research that has done with a purpose For knowing the movement T kick for athletes from Setia Hati Terate, Batumarta 1 District, held on 28-29th to 31 May 2025 PSHT Rayon Batumarta 1 with proof letter study. During research in progress There is A little constraint that is athletes difficulty understand test Which assessed . Naturally This can be overcome by researchers by explaining Based on the results of research conducted on 28-29 to 31 May 2025. The implementation of the test in this study measured skills movement kick T martial arts martial arts on athlete College brotherhood Setia Hati Terate Rayon Batumarta 1, The research results were obtained based on the evaluation of the suitability of each. movement sample use blank indicator study suitability movement T kick for Pencak Silat Athlete of the Loyal Heart Brotherhood School terate rayon batumarta 1.

Discussion

Based on the research results on the suitability of the initial stance phase movement (set stance), at the time attitude install Which done face to face with target, direction body facing to sideways and accompanied by a slightly bent stance, commonly known as a light stance. The silat athlete performs this correctly. Both arms are in a stance position by extending their arms toward the target, with one arm extended to control distance and anticipate the opponent's attack, and the other to protect the chest area, while the body remains facing sideways. The silat athlete performs this correctly. The feet are always fully in a stance position during the stance phase. The stance provides momentum for the legs to execute a T-kick toward the target. The silat athlete performs this correctly. While the hands are in the stance position, some silat athletes still neglect the position of their palms. on navel, so matter the can cause give gap for against in

do attack.

Compliance movement phase position body And track movement foot, position body martial artist When performing a T-kick, it is started by rotating the supporting leg and followed by the waist, which has been done properly. The trajectory of the martial artist's leg swing when lifting the leg is not yet raised to chest height, which can provide an opening for the opponent to attack. In addition, the function of lifting the leg to chest height is to determine momentum. kick. Position body martial artist when lift foot Not yet too have flexibility waist Which Good so that swing force foot Not yet cover chest. This movement is followed by the silat practitioner's body leaning to maintain balance. The hand position at this stage is one hand protecting the chest area and the other hand other protect genitals. Since moment This martial artist own impression that always ready For anticipate attack against. Martial Artist No do it. Martial Artist only Focus solely on the kick. The silat practitioner's hands are open and don't cover the chest and genitals, giving the opponent more freedom to attack.

Compliance movement phase balance, movement balance is dynamism body posture to prevent someone from falling. The T kick balance movement is a combination of leg movements, the supporting leg and body position. Therefore, when performing a side kick, the silat athlete must maintain his center of gravity so that it is projected on his supporting leg, because if the balance point leans forward or backward, balance will not occur. For the balance movement in the T kick, it begins with the supporting leg and continues with the leg movement kicking straight towards the target accompanied by a body position that leans to the side to maintain body balance. When performing the kick, the leg movement must be in line with the body that also leans to the side so that the shape of the body when performing the kick resembles the letter T. The silat athlete has done it very appropriately.

The alignment of the impact phase movement on the target. When kicking, the impact movement of the foot originates from the leg. When kicking, try to keep the leg straight, as is done by a silat athlete. The kick uses the outside of the foot (the blade of the foot) with the target being the opponent's chest. To accurately hit the opponent's chest, you must have flexibility legs Which very Good. Martial Artist doing this phase is appropriate.

Compliance movement phase end kick T, ended with return position body to phase beginning, like case in point phase attitude beginning (attitude install). Position end from kick T must

with the legs in a horse stance and the arms stretched forward and the other hand protect area chest Which aim For anticipate attack against. If, after executing a T-kick, the opponent fails to return to the stance, the opponent can counterattack and score a further point. At this stage, the Batumarta 1 PSHT silat athletes have performed the technique correctly.

Several previous relevant researchers also expressed similar findings to the research conducted by the researcher. For example, the study by (SDA Pratama & Candra, 2021) entitled: Analysis Pencak Silat T-Kick Movement in Athletes College Footprint Holy Mijen Semarang. Results study : Based on results study and discussion, the conclusion in this study is the T-kick movement skills of Pencak Silat athletes. Martial arts Footprint Holy Mijen Semarang which done by 4 martial artist in a way overall on every phase get total average score s(Syahputri et al., 2023) as following; The initial stance phase (setting stance) obtained an overall score of 4.8, which is in the appropriate category, the body position and foot movement trajectory phase obtained an overall score of 3.4, which is in the almost appropriate category, the balance phase obtained an overall score of 5, which is in the appropriate category very in accordance, phase acceptance (impact) on target get score Overall 4.8 falls into the appropriate category, the final phase of the kick received an overall score of 4.2 which falls into the appropriate category.

Then the research conducted by (EY Pratama et al., 2024) with the title: Analysis of Pencak Silat T-Kick Technique Skills in Islamic Boarding School Students. Research results : Based on the research results, skills technique kick T on student Permata Nusantara Madani Tanjung Pauh Mudik Islamic Boarding School for Quran Memorization was evaluated for its suitability. The analysis showed that overall, each phase of the T-kick technique received a fairly high average score. The initial stance phase (setup), the position phase (setup), and the kicking phase (setup) achieved a relatively high average score. body And track movement foot, phase balance, phase acceptance on target, And the final phase of each kick falls into the "As per" category.

Conclusions

Based on the results of the research and discussion, the conclusion in this study is skills movement kick T athlete college brotherhood loyal heart terate Batumarta District 1 Which done by 15 martial artist in a way overall on every phase obtained the following total average score; in the initial stance phase (positioning stance) obtained an overall score of 4.4, which is in the appropriate category, the body position and foot movement trajectory

phase obtained score overall 4.2 enter in category in accordance, phase balance

obtained an overall score of 4.6 in the appropriate category, the impact phase on the target received an overall score of 4.6 in the appropriate category, the final phase of the kick received an overall score of 4.6 in the appropriate category, The total average of all T-kick movements in each phase carried out by fraternity college athletes loyal heart terate rayon Batumarta 1 get total score 4.4 category "appropriate. Referring to the description above, based on the results of the overall motion analysis, it is said to be appropriate, However Still there is the phase that need improved, namely on phase position body and the footwork trajectory shown is categorized as almost appropriate, because the path when lifting the leg does not cover the chest area due to poor waist flexibility and the hand position does not protect the chest and genital area. Implementing the hand position to protect the chest and genital area and the path of the foot raised to chest height is important to protect the chest area and determine the momentum of the target direction.

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