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A Survey on the Physical Condition of Pencak Silat Athletes of the Persaudaraan Setia Hati Terate Sleman Branch in 2025

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Abstract

This research aims to identify and describe the physical condition level of pencak silat athletes from the Persaudaraan Setia Hati Terate (PSHT) Sleman Branch in 2025. Specifically, this study measures the dominant physical components in pencak silat, namely: muscle strength, endurance, speed, agility, flexibility, and explosive power. This study is a quantitative descriptive research using a survey method with tests and measurements. The sample consists of all active athletes training at the PSHT Sleman Branch training center, selected using a total sampling technique. The instruments used include (1) the Push-up Test for strength; (2) the Beep Test for endurance; (3) the 30-meter Sprint for speed; (4) the Side Step Test for agility; (5) the Sit and Reach Test for flexibility; and (6) the Standing Jump Board for explosive power. The collected data were analyzed using descriptive percentage statistics to be classified into categories (Very Good, Good, Average, Poor, Very Poor). The results indicate that the physical condition of the PSHT Sleman Branch pencak silat athletes is at a moderate or "average" level, with a total average score of 20 points for both male and female athletes. In detail, female athletes performed best in speed, agility, and flexibility; had average performance in strength and explosive power; and were lacking in endurance. Meanwhile, male athletes excelled in speed, strength, and power; had average performance in agility and flexibility; and were also lacking in endurance. In conclusion, several training programs are recommended to improve the less-than-optimal components. These include High-Intensity Interval Training (HIIT), Fartlek running, and circuit training to enhance endurance; plyometrics and weightlifting for strength and power; and agility ladder drills and dynamic stretching programs to improve the athletes' flexibility and agility.

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INTRODUCTION

Pencak silat is a traditional martial art native to the Nusantara (Malay) archipelago, which has developed in various regions of Indonesia as well as several Southeast Asian countries such as Malaysia, Brunei, and Singapore (Mizanudin, Muhammad., Sugiyanto, A. 2018, 265). Pencak silat was born not merely as a martial sport, but also as a cultural heritage containing elements of art, spirituality, and moral values (Kholis, M 2016, 17). This is reinforced by the statement from the Indonesian Pencak Silat Association (IPSI), as cited in (Winarni 2020), which states that pencak silat is a self-defense system that includes components of self-defense, art, and sport originating from the native culture of the Nusantara people.

In the landscape of modern competitive sports, pencak silat has transformed from a traditional martial art into a competitive sport that demands a superior level of physical fitness (Khoirul, I & Setiawan 2022, 462). Achieving success at the regional, national, or international level is no longer sufficient by relying solely on the mastery of techniques and tactics, but must also be supported by excellent endurance and physical condition (Labib, Y. M., & Setiawan 2023, 139). Several literary sources consistently affirm that physical condition is a fundamental factor and an absolute prerequisite for an athlete to display their best potential (Hidayat, Eko 2018, 66). Physical condition is not just a supporting element, but also serves as the foundational starting point for achievement (Susan., & Putra, Ranu, B 2023, 82). Without a prime physical foundation, the development of technical, tactical, and even mental components will be significantly hampered (Fadhil 2022). An athlete with inadequate physical condition will not be able to execute techniques with optimal speed and power, maintain match intensity for three rounds, or make clear tactical decisions under the pressure of physical fatigue. Therefore, a systematic and data- based evaluation of physical condition is a crucial initial benchmark for designing an effective and measurable development program (Fadhil 2022).

To build an ideal physical profile, the development process can no longer rely solely on traditional training methods or a coach›s intuition. (Nohan 2021, 110) state that in the current landscape of modern competitive sports, an athlete›s performance development has undergone a fundamental paradigm shift from a conventional pattern to a modern one that is more structured, measurable, systematic, and based on scientific data (evidence-based coaching). This condition then requires all sports contested in competitive sports to use a modern development model to achieve and maintain existing achievements, including in the sport of pencak silat.

Persaudaraan Setia Hati Terate (PSHT) is one of the pencak silat schools with a very large member base, as well as one of the schools that has produced many accomplished pencak silat athletes in various fields and levels (Nugroho, S. N., & Setiawan 2023, 246). However, like other silat schools, the training patterns used in PSHT training sessions often still use methods passed down through generations. While these training methods are rich in philosophical value, in an era where sports competition is increasingly fierce and the margin of victory is determined by small details, relying on the same methods without objective evaluation can lead to inconsistent achievements. This is the current situation at the PSHT Sleman Branch. Based on collected data, an athlete from the PSHT Sleman Branch won 1st place in the 2018 provincial championship for the men›s category and 2nd place in the 2019 provincial championship for the women›s category. However, since then, no more championships have been won by the PSHT Sleman Branch.

Based on these conditions, a modern coaching approach is urgently needed to maintain consistency in achievement. The first and most fundamental step in the modern coaching approach is to conduct objective and periodic physical condition tests and measurements. Testing and measurement serve as a benchmark or baseline that provides a quantitative overview of an athlete›s physical condition status at a specific time (Murti, A. R., Fitriana, L., Nugraha 2021). Without this initial data, a coach is like a doctor trying to prescribe medicine without first making a diagnosis. The test results allow coaches to accurately identify the strengths and, more importantly, the specific weaknesses in each component of an athlete›s physique. This data becomes a solid foundation for creating training programs that are truly tailored to individual needs, structured, and targeted (Astutik, R, D., & Setiawan 2022, 199).

According to (Fenanlampir, A., & Muhyi 2015), to measure the physical condition of a pencak silat athlete, at least several components or indicators measured using specific standards are needed. These indicators include: speed, agility, endurance, strength, flexibility, and power. In pencak silat, speed is needed for an athlete to perform a brief movement after receiving a

stimulus. An athlete with good speed will also have good reflexes, and vice versa (Wahjoedi 2021, 61). Meanwhile, agility is defined as the ability of an athlete to change direction consistently without losing balance (Wahjoedi 2021, 61). This agility is very useful for a pencak silat athlete, especially when an opponent suddenly changes the direction of an attack. Then there is endurance, which is the ability of an athlete›s organs to resist fatigue while performing sports activities for a long period. In pencak silat, the endurance component is very useful because each athlete will perform physical activity for a long time (Irianto, Djoko 2004, 4). Next, the strength component is defined as the athlete›s ability to resist a load in a match. The strength component is important as the driving force for every activity that determines an athlete›s playing ability (Irianto, Djoko 2004, 4). Next is flexibility, which is the body›s ability to perform movements through its full joint or body range of motion (Wahjoedi 2021, 60). Flexibility is very useful for a pencak silat athlete to be able to move fluidly when attacking or evading. Lastly, there is power, which is the performance of muscles to produce maximum force. Power is very useful for a pencak silat athlete, especially to increase the explosiveness of an athlete›s punches and kicks during a match (Siswantoyo 2014, 80).

In recent decades, research on the physical condition of pencak silat athletes has increased significantly, coinciding with the rising status of pencak silat as a competitive sport. For example, a study conducted on athletes from the Pagar Nusa school in Temanggung Regency found that the general physical condition of female athletes was in the «poor» category, while the technical abilities of male athletes were in the «good» category and female athletes› were in the «moderate» category (Setyawan, A., & Setiawan 2022). On the other hand, research on athletes from the West Java Student Sports Education and Training Center (PPLP) showed an overall physical condition profile in the «fair» category, with a breakdown of 41.18% of athletes categorized as «good,» 35.29% as «fair,» and 17.65% as «poor" (Hambali, S., Sundara, C., & Meirizal 2020).

The patterns emerging from these various studies are highly varied. It is rare to find a group of athletes with a uniformly superior physical profile across all components. Often, a team or school demonstrates strength in one aspect but weakness in others. This phenomenon is a strong indicator of a training program that is likely unbalanced or not comprehensive. Therefore, this study is designed to evaluate and map the physical condition profile of the Persaudaraan Setia Hati Teratai pencak silat athletes in Sleman Regency for the year 2025, while also serving as a scientific foundation for developing a more effective and measurable training program—an endeavor that has not been previously undertaken or discussed in similar research.

METHOD

This study is designed as descriptive research with a quantitative approach. The method employed is a survey, used to collect data on the physical condition of pencak silat athletes from the Perguruan Setia Hati Terate (PSHT) Sleman Branch in 2025. As stated by (Van Hoecke 2016), this type of descriptive research design provides a systematic and accurate overview (profile) of facts related to physical condition, encompassing components such as speed, agility, endurance, strength, flexibility, and power.

This research was conducted at the central training facility of PSHT Sleman Branch, located in Bejeng, Maguwoharjo, Depok District, Sleman Regency, Special Region of Yogyakarta. The study involved 15 athletes, consisting of 9 female and 6 male athletes. Participants were selected using a total sampling technique, which included all athletes actively training at the facility.

The data analysis technique used in this study is descriptive analysis, which is employed to provide a clear description of the phenomenon or object under investigation based on the collected data (Sugiyono 2015). The collected data were then presented in a format showing the number of subjects, minimum value, maximum value, and mean. The following are the data calculation guidelines and norm classifications established for this study, based on previous research conducted by (Saputro, D. P., & Siswantoyo 2018):

Table 1. Speed Norm

Run 30 meters (Second)		
Velue	Male	Female
5	< 4,2	<5,1
4	4,2 s.d 4,7	5,2 s.d 5,7
3	4,7 s.d 5,2	5,7 s.d 6,2
2	5,2 s.d 5,7	6,2 s.d 6,8
1	> 5,7	> 6,8

Table 2. Agility Norm

Side Step (Times)		
Velue	Male	Female
5	< 25	< 26
4	23 s.d 25	23 s.d 26
3	22 s.d 23	20 s.d 23
2	20 s.d 22	17 s.d 20
1	< 20	< 17

Table 3. Strength Norm

Push up 30 seconds (Times)		
Velue	Male	Female
5	< 25	< 26
4	23 s.d 25	23 s.d 26
3	22 s.d 23	20 s.d 23
2	20 s.d 22	17 s.d 20
1	< 20	< 17

Table 4. Flexibility Norm

Sit And Reach (Cm)		
Velue	Male	Female
5	> 45,6	< 47,44
4	40,6 s.d 45,6	42,46 s.d 47,44
3	35,61 s.d 40,6	37,48 s.d 42,46
2	30,62 s.d 35,61	32,50 s.d 37,48
1	< 30,62	> 32,50

Table 5. Power Norm

Standing jump board (Cm)		
Velue	Male	Female
5	> 240,4	< 204,1
4	213,4 s.d 240,4	181,6 s.d 204,1
3	186,4 s.d 213,4	159,2 s.d 181,6
2	159,4 s.d 186,4	136,8 s.d 159,2
1	< 159,4	> 136,8

Table 6. Endurance Norm

Beep Test (Level)		
Velue	Male	Female
5	> 8/9	< 6/10
4	7/7 s.d 8/9	5/4 s.d 6/10
3	6/4 s.d 7/7	3,6 s.d 5/4
2	5/1 s.d 6/4	1/7 s.d 3,6
1	< 5/1	> 1/7

Table 7. Overal Test Norm

Total	Categori
37,8 s.d 45	Very Good
30, 5 s.d 37,8	Good
23,4 s.d 30, 5	Simply
16,2 s.d 23,4	Less
9 s.d 16,2	Very Less

RESULTS AND DISCUSSION

Based on the presented research data, the discussion focuses on the interpretation of the data and its implications for the training program of athletes at PSHT Sleman Branch. In general, the physical condition profile of the pencak silat athletes falls into the moderate category, with an average total score of 20 points. However, the data findings indicate that the distribution is highly varied. Some components are more superior than others, while some are more deficient.

Table 8. Statistical Description of Female Athletes' Physical Condition

Test Components	Mean	Value	Categori
Run 30 meters	5,4	4	Good
Side Step	24,44	4	Good
Push up 30 Second	26	3	Simply
Sit And Reach	45,17	4	Good
Standing	5/1 s.d 6/4		1/7 s.d 3,6
jump board	175,17	3	Simply
Beep Test	3/5	2	Less

Table 9. Statistical Description of Male Athletes' Physical Condition

Test Components	Mean	Value	Categori
Run 30	5,4	4	Good
meters	4,4	4	Good
Side Step	22,83	3	Simply
Push up 30 Second	34,83	4	Good
Sit And Reach	35,76	3	Simply
Standing	175,17	3	Simply
jump board	215,65	4	Good
Beep Test	6/3	2	Less

Based on the statistical data analysis, female athletes demonstrate superiority in motor skill components, which include speed, agility, and flexibility. This indicates that the applied training program has been highly successful in developing the nervous system's quality to produce fast movements, high coordination for changing directions, and extensive joint mobility. An athlete with this profile typically exhibits complex movements, a wide kicking range, and a good evasive response to attacks. However, despite their strengths in motor skills, female athletes show weaknesses in the components of strength and power, which remain in the moderate category. In this state, an athlete would struggle to defend continuously against an opponent's attacks. Furthermore, the explosive power generated during attacks would not be maximal. This condition is typically due to resistance or weight training not being a high priority, leaving the athletes without a strong po-

wer foundation when needed in a match. Moreover, endurance is the most deficient component for female athletes, with an average level rated as low or poor. This condition affects the athletes' performance during a match, where they may appear impressive at the beginning but will fatigue in subsequent rounds (Setyawan, A., & Setiawan 2022, 454). The fatigue experienced by an athlete during a match will affect their decision-making, attack strength, and defensive capabilities, thereby lowering their winning percentage (Fakhrurri, M 2018).

Conversely, male athletes excel in power generation or 'powerhouse' components. The data shows that male pencak silat athletes at PSHT Sleman Branch have advantages in strength and explosive power. High muscle strength allows for a solid defense. This capability, when combined with speed, produces superior explosive power, as evidenced by the standing broad jump results. Inthe context of a pencak silat match, this profile is ideal for an aggressive game strategy. According to (Harsono 2017), speed and explosive power are dominant factors for launching unpredictable and hard-to-anticipate attacks, which are key to scoring points in the fighting category. Athletes with this profile can generate powerful and fast punches and kicks. However, despite their advantage in power generation, male athletes show weaknesses in agility and flexibility, which remain in the moderate category. In this situation, an athlete would find it difficult to evade and respond to sudden attacks from unexpected angles, even if they have the strength to counter. This is usually because the training regimen pays insufficient attention to change-of-direction (flexibility) and joint mobility exercises. Furthermore, similar to the female athletes, endurance is the most deficient component for male athletes, with an average level rated as low or poor. This condition is very dangerous for an athlete because, as a high-intermittent intensity sport, pencak silat requires athletes to have good recovery between attacks (Bompa, T. O., & Buzzichelli 2019). If this component is lacking, an athlete will fatigue easily, leading to a decrease in attack strength, evasive ability, and accuracy, as well as a breakdown in technique, especially in the middle and final rounds of the match.

Based on these findings and the analysis provided, this provides implications for the coaches at the PSHT Sleman Branch training center to implement changes and improvements, particularly for the components that are not yet optimal. Some recommendations that can be made by the coaches at the PSHT Sleman Branch training center are as follows: (1) Make improving the endurance component the top priority. This is because endurance is the lowest-rated component for both male and female athletes at PSHT Sleman Branch. Some training programs that can be implemented to enhance this component include High-Intensity Interval Training (HIIT), Fartlek running, and circuit training. (2) Enhance strength and explosive power training programs, especially for female athletes, using methods such as plyometrics and weightlifting. (3) For male athletes, the recommendation is to enhance flexibility and agility training programs using methods like agility ladder drills combined with silat techniques, as well as a structured program of dynamic and static stretchin.

CONCLUSION

Based on the research findings and discussion, it can be concluded that the physical condition profile of the pencak silat athletes from PSHT Sleman Branch is at a moderate or sufficient level, with an average total score of 20 points. Several components were identified as strengths, such as speed, agility, and flexibility for female athletes, and speed, strength, and power for male athletes. Additionally, some components received a "sufficient" rating, such as power and strength for female athletes, and agility and flexibility for male athletes. Furthermore, one component was rated as "poor" for both groups: endurance.

In light of these conditions, several training programs are recommended to improve the components that were less than optimal. These include methods such as High-Intensity Interval Training (HIIT), Fartlek running, and circuit training to enhance endurance; plyometrics and weightlifting to build strength and power; as well as agility ladder drills and dynamic stretching programs to improve the athletes' flexibility and agility.

REFERENCES

Astutik, R, D., & Setiawan, I. 2022. "Kondisi Fisik Dan Teknik Atlet Pencak Silat Inseba Di. Kabupaten Grobogan." Indonesian Journal for Physical Education 3(1).

Bompa, T. O., & Buzzichelli, C. A. 2019. Periodization: Theory and Methodology of Training (6th Ed.). Human Kinetics.

Fadhil, Muhammad. 2022. "Tingkat Kondisi Fisik Atet Pencak Silat Tapak Suci Putera Muhammadiyah Kota Pekanbaru." Universitas Islam Riau.

Fakhrurri, M, I. 2018. "Pengaruh Kecemasan Bertanding Terhadap Peak Performance Pada Atlet

Bola Basket." UIN Malang.

Fenanlampir, A., & Muhyi, F. 2015. Tes Dan Pengukuran Dalam Olahraga. Penerbit Andi.

Hambali, S., Sundara, C., & Meirizal, Y. 2020. "Kondisi Fisik Atlet Pencak Silat PPLP Jawa Barat." Jurnal Pendidikan Jasmani dan Olahraga 19(1).

Harsono. 2017.). Kepelatihan Olahraga: Teori Dan Metodologi. PT Remaja Rosdakarya.

Hidayat, Eko, N. 2018. "). Soko Kategori Tunggal, Ganda, Dan Regu Putra." Universitas Negeri Makasar.

Irianto, Djoko, P. 2004. Bugar Dan Sehat Dengan Olahraga. Yogyakarta: Andi Offset.

Khoirul, I & Setiawan, I. 2022. "Pengembangan Model Latihan Jatuhan Pencak Silat Di Ekstrakulikuler Tingkat SMP Kota Semarang." Indonesian Journal for Physical Education and Sport 3(2).

Kholis, M, N. 2016. "Aplikasi Nilai-Nilai Luhur Pencak Silat Sarana Membentuk Moralitas Bangsa." Jurnal SPORTIF: Jurnal Penelitian Pembelajaran 2(2).

Labib, Y. M., & Setiawan, I. 2023. "Pembinaan Prestasi Atlet Pencak Silat Di Kabupaten Pemalang." Journal for Physical Education and Sport 4(1).

Mizanudin, Muhammad., Sugiyanto, A., Saryanto. 2018. "Pencak Silat Sebagai Hasil Budaya Indonesia Yang Mendunia." Prosiding Senasbasa.

Murti, A. R., Fitriana, L., Nugraha, A. 2021. "Hubungan Kecerdasan Emosional Dan Kecemasan Bertanding Terhadap Peforma Atlet." Jurnal Ilmu Keolahragaan Undiksa 9(1).

Nohan, & Wahyudi. 2021. "Vo2Max Atlet Pencak Silat Usia 14-17 Tahun Di Golden Silat Club." Universitas Negeri Surabaya.

Nugroho, S. N., & Setiawan, I. 2023. "Pembinaan Prestasi Pencak Silat Persaudaraan Setia Hati Terate Ranting Suradadi Kabupaten Tegal Tahun 2021." Indonesian Journal for Physical Education and Sport 4(1).

Saputro, D. P., & Siswantoyo, S. 2018. "Norm Drafting of Pencak Silat Physical Test for Adolescent Fighting Category." Jurnal Keolahragaan 6(1).

Setyawan, A., & Setiawan, I. 2022. "Kondisi Fisik Dan Teknik Atlet Pencak Silat Pagar Nusa Kabupaten Temanggung." Indonesian Journal for Physical Education and Sport 3(2).

Siswantoyo. 2014. "Peningkatan Power Tungkai Pesilat Remaja Melalui Pelatihan Pliomerik." Jurnal Cakrawala Pendidikan 1.

Sugiyono. 2015. Metode Penelitian Kombinasi (Mix Methods). Bandung: Alfabeta.

Susan., & Putra, Ranu, B, A. 2023. "Survey Kondisi Fisik Pesilat Rodjo Abang Di Kecamata Karangrayung Kabupaten Grobogan." Journal for Physical Education and Sport 4(1).

Van Hoecke, M. 2016. Methodology of Comparative Legal Research. Law and Method.

Wahjoedi. 2021. Landasan Evaluasi Pendidikan Jasmani. Jakarta: PT Raja Grafindo Persada.

Winarni, Tuti. 2020. "Profil Kondisi Fisik Atlet Pencak Silat Pomnas Jawa Tengah Tahun 2019." Universitas Negeri Semarang.