

Management of Pencak Silat Athlete Development at the Sports Special Junior High School (SMP Khusus Olahraga) Surakarta

Sapto Purnomo^{1A-E*}, Nur Subekti^{2B-D}, Pungki Indarto^{3B-D}

^{1,2,3} Universitas Muhammadiyah Surakarta, Jawa Tengah, Indonesia

a810221132@student.ums.ac.id^{1*}, ns584@ums.ac.id², pi311@ums.ac.id³

ABSTRACT

The development of high-achieving athletes is a key mandate within the national sports system, requiring management that is structured, systematic, and science-based. This study aims to comprehensively analyze the management of pencak silat athlete development at the Sports Special Junior High School (SMP Khusus Olahraga) in Surakarta through the perspective of sport development theory. A qualitative descriptive approach was employed, utilizing in-depth interviews, participatory observation, and document analysis involving administrators, coaches, and athletes. The analysis focused on four main domains: organizational structure, program planning, implementation and evaluation, as well as supporting and inhibiting factors. The findings indicate that SMP Khusus Olahraga Surakarta has implemented an effective management model by integrating the national sports development pyramid framework with the Long-Term Athlete Development (LTAD) principles. The organizational structure is hierarchical yet collaborative, linking the Youth and Sports Agency (Dispora) with licensed coaching teams. The training program applies periodization (macro, meso, and micro) synchronized with the academic calendar. Multidimensional evaluations encompass physical, technical, psychological, and ethical aspects. Supporting factors include adequate facilities, certified coaches, and a tuition-free policy, while the main challenges lie in funding limitations and long-term athlete motivation. This model has proven effective in producing high-performing pencak silat athletes through a structured and sustainable development system.

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INTRODUCTION

The development of sports in Indonesia holds a strategic position in national progress, serving not only to enhance physical fitness but also to cultivate discipline, character, and nationalism among the youth. In the modern era, sporting achievements reflect a nation's human capital quality and international competitiveness (Rohani et al., 2022). The Government of Indonesia, through Law No. 11 of 2022 on Sports, mandates that competitive sports must be organized in a structured, systematic, and sustainable manner supported by science and technology (Pemerintah Republik Indonesia, 2022).

This legal framework underlines the importance of effective athlete management in realizing consistent performance excellence.

Pencak silat, as an indigenous martial art and national heritage, has become one of Indonesia's most prominent sports, contributing significantly to international success (Setiawan et al., 2022). However, the transformation of pencak silat from cultural tradition to modern competitive sport demands a management system grounded in sports science, incorporating physical, technical, tactical, and psychological aspects (Ford et al., 2011; Balyi et al., 2013). Athlete development, therefore, is not limited to coaching sessions but encompasses a comprehensive process that includes planning, organization, implementation, and evaluation (Rohani et al., 2022).

Several studies have explored athlete management and performance development in Indonesia. Rohani et al. (2022) examined athlete training management at sports education institutions, highlighting the need for more structured approaches. Venus (2022) investigated the role of the Youth and Sports Agency (*Dispora*) in athlete development, but limited the analysis to policy-level administration. Meanwhile, Rumbino and Khamidi (2021) emphasized the influence of local government collaboration in sports training centers but did not explore internal management dynamics at the school level. These studies collectively indicate that while national frameworks for sports development exist, empirical investigations into institutional-level athlete management—especially within specialized sports schools—remain scarce.

Despite various government efforts and previous academic studies, there remains a clear gap between the theoretical models of *sport development* and their practical application in school-based athlete management systems. Many programs lack integration between training periodization, educational obligations, and psychological support. Furthermore, limited research focuses on how Sports Special Junior High Schools (SMP Khusus Olahraga) operate as dual-career institutions balancing academic and athletic excellence. Addressing this gap is crucial for enhancing athlete performance, sustainability and policy relevance.

This study aims to analyze comprehensively the management of pencak silat athlete development at SMP Khusus Olahraga Surakarta, focusing on four main aspects: (1) organizational structure and governance, (2) training program planning, (3) implementation and evaluation mechanisms, and (4) supporting and inhibiting factors. The novelty of this research lies in its application of both sport development and Long-Term Athlete Development (LTAD) frameworks within the context of Indonesia's junior sports education system. By doing so, this study contributes to bridging the gap between theory and practice in athlete development management and offers an evidence-based model for sustainable sports education institutions.

METHODS

This study employed a qualitative descriptive design to analyze the management of pencak silat athlete development at the Sports Special Junior High School (SMP Khusus

Olahraga) in Surakarta. The qualitative approach was chosen because it allows an in-depth exploration of real management practices, social interactions, and contextual processes in sports education institutions (Maksum, 2012; Coker, 2017).

The study involved key stakeholders directly engaged in the athlete development process, including officials from the Surakarta Youth and Sports Agency (Dispora), head and assistant coaches of pencak silat, and active student-athletes. Participants were selected using purposive sampling, emphasizing individuals with relevant experience and responsibility (Rumbino & Khamidi, 2021; Venus, 2022).

Data were collected through in-depth interviews, participant observation, and document analysis of training programs, evaluation reports, and athlete performance records (Ford et al., 2011). Semi-structured interview guides and observation checklists were developed based on the Long-Term Athlete Development (LTAD) and sport development frameworks (Balyi et al., 2013; Green et al., 2005).

Data were analyzed using the interactive model of Miles and Huberman, which consists of three stages: data reduction, data display, and conclusion drawing. To ensure data credibility, this study applied triangulation of sources and methods by cross-verifying interviews, observations, and document findings (Creswell, 2013).

All research activities were conducted under ethical approval from the Surakarta Youth and Sports Agency (Dispora) and the school administration. Participants were informed of the study's purpose and voluntarily provided consent. Confidentiality was maintained throughout the process. Overall, this methodological framework was designed to ensure accuracy, transparency, and replicability, providing a credible basis for understanding the management of athlete development in specialized sports education settings.

RESULTS AND DISCUSSION

Result

Overview of Findings

The results revealed that the management of pencak silat athlete development at the Sports Special Junior High School (SMP Khusus Olahraga) in Surakarta operates under a structured, collaborative, and long-term framework. Thematic analysis identified four major domains: (1) organizational structure and governance, (2) training program planning, (3) implementation and evaluation, and (4) supporting and inhibiting factors. These findings demonstrate that athlete management in the school integrates both national policy directives and scientific coaching principles.

Organizational Structure and Governance

The organizational structure of athlete management in SMP Khusus Olahraga Surakarta follows a hierarchical-collaborative model. The Surakarta Youth and Sports Agency (*Dispora*) acts as the policy authority and fund provider, while the coaching team executes the training programs. Coordination between administrators, coaches, and teachers ensures that academic and training demands are balanced.

The management hierarchy aligns with the principles of *good sport governance*—transparency, accountability, and participation (Wijaya et al., 2024). Interview data showed that coaches were given operational autonomy to modify training programs based on athlete readiness. This autonomy promotes adaptability, similar to findings by Rohani et al. (2022), who emphasised decentralised decision-making as a key to effective coaching management.

Training Program Planning

Training programs are designed using scientific periodization, divided into macro (annual), meso (monthly), and micro (weekly) cycles. The macro-cycle aims for peak performance during national tournaments such as POPNAS, while the meso-cycle emphasizes improving biomotor abilities, including strength, endurance, speed, and flexibility. The micro-cycle is used to adjust training load intensity and recovery every week.

Importantly, the school integrates its training schedule with academic activities to avoid athlete fatigue and maintain balanced development. This approach reflects the Train to Train phase of the LTAD framework (Balyi et al., 2013), which prioritizes technical mastery and gradual physical conditioning for adolescent athletes. The use of video analysis and periodic psychological sessions (Andriawan & Irsyada, 2022) also indicates the adoption of sport-science principles in the training design.

Implementation and Evaluation

The implementation phase consists of two training sessions daily—morning sessions for physical conditioning and afternoon sessions for technical-tactical practice. This structure maintains an ideal balance between training load and recovery, as recommended in elite youth sports management (Ford et al., 2011).

Regular evaluations are conducted monthly and encompass three key dimensions:

1. Physical performance, including VO₂ max, muscular strength, agility, and flexibility;
2. Technical performance, focusing on accuracy, speed, and efficiency of movements; and
3. Psychological aspects, including motivation, discipline, and emotional control (Wafa et al., 2023).

All results are recorded in individual athlete logbooks that track progress over time. These evaluation mechanisms enable continuous monitoring and adjustment of training programs, consistent with the monitoring and evaluation in sport concept.

To summarize how management functions are integrated across these stages, the following table presents a synthesis of the system implemented at SMP Khusus Olahraga Surakarta.

Table 1.
 Management Functions in SMP Khusus Olahraga Surakarta

Management Function	Main Activities	Supporting Factors	Inhibiting Factors
Planning	Periodization (macro-meso-micro); integration with school schedule	Experienced, licensed coaches; clear competition targets	Limited long-term data

Management Function	Main Activities	Supporting Factors	Inhibiting Factors
Organization	Collaboration among Dispora, coaches, and school staff	Strong institutional support	Bureaucratic procedures
Implementation	Two-session training; internal sparring	Adequate facilities; parental support	Variability in athlete motivation
Evaluation	Physical-technical-psychological testing; performance logbooks	Partnership with universities (FKOR UNS)	Shortage of sports science instruments

Source: Field interviews and observation (2024)

Supporting and Inhibiting Factors

Three major supporting factors contribute to the success of the athlete development system:

1. Adequate sports facilities, such as the Manahan complex, gymnasium, and dedicated silat hall.
2. Qualified coaching staff holding national-level certifications and applying scientific training methods (Andriawan & Irsyada, 2022).
3. A tuition-free school policy, which promotes inclusivity and attracts athletes from diverse backgrounds (Sotiriadou & De Bosscher, 2013).

However, several challenges persist, including limited funding for regional and international competitions, a lack of specialized sport-science personnel, and fluctuating athlete motivation. As one coach expressed, "The hardest part is maintaining focus and enthusiasm when the next championship is still months away." Such motivational dynamics are consistent with the psychological variability commonly observed among adolescent athletes.

Impact of Management on Athlete Performance

The integrated management model implemented at SMP Khusus Olahraga Surakarta has directly improved athlete performance. Over the past three years, pencak silat athletes from this institution have consistently achieved medals at POPNAS and National Championships, and several graduates have advanced to the national training camp (Pelatnas).

Beyond achievements, the program also cultivates core values such as discipline, teamwork, and sportsmanship—confirming that effective management fosters both performance and character development (Shilbury et al., 2008).

Discussion

In conclusion, the results demonstrate that SMP Khusus Olahraga Surakarta successfully integrates policy, coaching expertise, and scientific methodology into a sustainable athlete development system. The institution represents a model for school-based athlete management, harmonizing government support, academic obligations, and sport-science application.

Future studies should employ comparative and mixed-method approaches across different regions to measure the scalability and effectiveness of this model quantitatively.

CONCLUSION

This study concludes that the management of pencak silat athlete development at the Sports Special Junior High School (SMP Khusus Olahraga) in Surakarta is carried out through a structured, systematic, and collaborative framework that effectively combines the principles of sport development and Long-Term Athlete Development (LTAD). The integration between the Surakarta Youth and Sports Agency (Dispora), school administrators, and professional coaches forms a coordinated management system that not only improves athlete performance but also nurtures discipline and character.

The planning, implementation, and evaluation of training programs are guided by scientific periodization and continuous monitoring, ensuring that athlete development aligns with physical, technical, and psychological readiness. This research contributes to the advancement of knowledge in sports management by providing an empirical model of school-based athlete development that emphasizes long-term sustainability, cross-sector collaboration, and data-driven evaluation.

However, this study was limited to one institution and one sport discipline, which constrains generalization. Future studies are encouraged to apply mixed or comparative methods across various sports and institutions to validate and expand the applicability of this model. Practically, sports schools and local governments should strengthen inter-institutional collaboration, increase access to *sport science* services, and maintain consistent financial support to optimize the athlete development process.

In conclusion, the findings of this study demonstrate that the management of athlete development at SMP Khusus Olahraga Surakarta serves as a viable model for integrating education and sports training. With continuous scientific support, structured evaluation, and institutional collaboration, this management approach can contribute significantly to producing high-performing and character-driven young athletes in Indonesia.

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