



Evaluation of The Effectiveness of The Roller Skiing Achievement Development Program in Palu City

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ABSTRACT

This study aims to evaluate the effectiveness of the roller skating performance development program in Palu City, identify supporting and inhibiting factors, and formulate concrete strategies to improve the effectiveness of the development. The research approach used is descriptive qualitative with a saturated sampling technique on 7 key informants (1 administrator, 1 coach, and 5 athletes of the Palu Skating Club). Data were collected through in-depth observation, structured interviews, and documentation, then analyzed using the interactive model of Miles, Huberman, and Saldaña. This study found a Research Gap in the form of the absence of comprehensive evaluation research on the sport of roller skating in the post-disaster area of Central Sulawesi. The novelty of the study lies in the synthesis of the triangulation of the perspectives of the three main pillars (administrators, coaches, athletes) in identifying the 'achievement paradox'—namely the success of winning a silver medal at the 21st National Sports Week (PON) in Aceh-North Sumatra in 2024 amidst the absence of national standard venues/tracks and limited structured curriculum. The evaluation results show that the program is quite effective in terms of motivation, coach qualifications, and athlete participation, but is severely hampered by training infrastructure and independent funding. Optimization strategies are recommended through the development of a curriculum based on training periodization and collaborative infrastructure advocacy with local governments.

Keywords: Program Effectiveness; Achievement Coaching; Roller Skating; Interactive Model; Research Gap & Novelty

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INTRODUCTION

Sport is an integral component of the national development system, strategically positioned to improve the quality of human resources, both in terms of physical health, fitness, mental resilience, and social character (Hardani et al., 2020). Based on the provisions of Law Number 11 of 2022 concerning Sports, the implementation of sporting activities must be carried out in a planned, systematic, integrated, hierarchical, and sustainable manner to realize national sporting achievements that are internationally competitive (Law of the Republic of Indonesia, 2022). Within the scope of sport, competitive sport is the main support in bringing honor to the region and country in regional, national, and international competitions. However, achieving peak performance (the golden age) is not an instant process, but rather the result of a long-term synthesis

involving organizational governance, coach quality, availability of infrastructure, and financial and social support (Pelana, 2013; Harsono, 2015).

Inline speed skating is currently experiencing rapid development in Indonesia. The game, which originated as an adaptation of ice skating in the Netherlands in the 17th century, has now transformed into a highly reputable sport contested at the National Games (PON) and the World Championships under the auspices of World Skate / FIRS (RM. Ismunandar, 1996; Purnomo, 2019). In Palu City, Central Sulawesi Province, inline skating shows great potential, marked by the high enthusiasm of young athletes and the success of achieving prestigious achievements, including a silver medal at the 21st National Sports Week (PON) 2024 Aceh-North Sumatra. However, in its implementation on the field, inline skating development in Palu City faces complex conceptual and structural challenges.

Although many studies on the evaluation of sports coaching programs have been conducted by previous researchers, there is still a clear academic gap (research gap), especially in the context of roller skating sports in developing regions: Empirically, previous studies such as Maulana (2022) in Karawang and Wulandari (2020) in Semarang focused on well-equipped clubs in Java Island that have easy access to special tracks (banked track / flat track). There is a significant empirical gap regarding how roller skating sports coaching continues to take place and produces PON medals in post-disaster areas with extreme infrastructure limitations (such as the lack of official tracks and reliance on public parking areas). The majority of sports science coaching evaluation research adopts a single quantitative evaluation framework or is limited to a partial CIPP (Context, Input, Process, Product) model that tends to look at aspects of organizational formality (Suganda et al., 2021). No study has yet integrated an interactive qualitative analysis model (Miles, Huberman, & Saldaña, 2020) with the triangulation of perspectives from the three pillars of coaching (Management, Coaches, and Athletes) to unravel the psychosocial and managerial dynamics in the field. Most literature assumes that the availability of standardized infrastructure is an absolute prerequisite (*conditio sine qua non*) for achieving peak performance (Kusuma, 2020). However, the phenomenon in Palu City demonstrates a "coaching paradox" whereby success at the PON can be achieved without a permanent venue. This theoretical gap requires a scientific explanation of the compensatory interaction between parental social support, coach qualifications, and athlete internal motivation.

The novelty of this research lies in its holistic approach that reveals the mechanism of sustainable sports development amidst limited infrastructure. The novelty of this research is formulated in three main aspects: This research deeply dissects the 'Skating Hammer Paradox', namely a community-based independent development model that is able to transform limited physical infrastructure (training in parking areas and highways) into national achievements through strengthening mental resilience, discipline, and 100% financial participation from athletes' parents. Using a structured interactive qualitative triangulation approach that comparatively compares the perceptions of Administrators, Coaches, and Athletes in parallel, thus producing a comprehensive effectiveness evaluation matrix free from institutional bias. Producing a policy brief that is applicable to the Indonesian National Sports Committee (KONI) and the PERSEROSI Central Sulawesi Regional Management in designing a public-private collaboration scheme for sustainable infrastructure development.

METHOD

Research Approaches and Types

This study employed a qualitative approach with a descriptive exploratory method. As explained by Hardani et al. (2020), qualitative descriptive research aims to describe, record, analyze, and interpret conditions or phenomena occurring in the field based on factual data in a naturalistic manner (naturalistic inquiry). This approach was chosen to explore the effectiveness of the roller skating development program at the Palu Skating Club in depth without any variable manipulation.

Research Subjects and Sampling Techniques

The research subjects were determined using saturated sampling or total sampling techniques. According to Nurdin and Hartati (2021), saturated sampling is used when all members of a population are sampled due to a relatively limited population size. The population in this study was all key stakeholders at the Palu Skating Club, consisting of seven informants:

- 1 Club Administrator / Advisor (Key Informant for Organization & Funding)
- 1 Head Coach (Key Informant for Training Program & Technical Planning)
- 5 Active Roller Skate Athletes (Informants for Training Implementation & Championship Participation)

Data collection technique

Primary and secondary data collection was carried out using three main techniques in accordance with Sugiyono's (2019) qualitative methodology standards:

1. Field Observation: Researchers conducted direct observations of the physical training process, gliding techniques, sprint training, and the condition of the athlete's training area in the public area of Palu City.
2. In-depth Interviews: In-depth face-to-face interviews were conducted using structured interview guidelines adapted from the sports coaching evaluation instrument (lib.unnes.ac.id, 2021). The interviews covered five main sub-chapters: Coaching Patterns, Training Programs, Achievements, Support Systems, and Obstacles.
3. Documentation: Collection of supporting documents in the form of Management Decrees (SK), recapitulation of championship medals, photos of training activities, and athlete achievement certificates.

Data Analysis Techniques

Data analysis adopted the Interactive Model from Miles, Huberman, and Saldaña (2020), which proceeds continuously until the data reaches saturation. The analysis stages include:

- a. Data Collection: Record all interview results, observation field notes, and document archives objectively.

b. Data Reduction: Sorting, categorizing, discarding irrelevant data, and organizing interview transcript data based on the focus of the evaluation problem.

c. Data Presentation (Data Display): Presenting structured data in the form of a narrative matrix, comparative tables of informant answers, and flowcharts of relationships between variables.

d. Conclusion Drawing & Verification: Drawing inductive, fact-based conclusions and verifying the validity of data through source triangulation.

RESULTS AND DISCUSSION

Research result

The research results are presented systematically based on the results of in-depth interviews and observations of the three pillars of research subjects (Managers, Coaches, and Athletes) at the Palu Skating Club, Palu City.

Evaluation of Program Effectiveness Reviewed from the Management Aspect

Table 1 presents a summary of the results of interviews with the Palu Skating Club Management/Coach regarding organizational dynamics and coaching.

Evaluation Dimensions	Key Interview Questions	Management Findings & Answers
Coaching & Recruitment Pattern	How is the process of coaching and recruiting athletes/coaches?	Coaching is proceeding quite well, based on fundamental standards. Coach recruitment prioritizes experience competing in national events (PON/National Championships). The total number of active athletes has reached 200.
Achievements	What championships have you participated in and what are your targets?	She regularly participates in regional and national championships (Makassar & Jakarta). Her highest achievement was winning a silver medal at the 21st National Sports Week (PON) in Aceh-North Sumatra in 2024.
Infrastructure Support	What is the availability status of the training venue?	Very limited. We don't yet have an active roller skating venue/track. Training takes place on a mobile basis, using public areas.
Funding Sources	Where do the club's operational resources come from?	Purely relying on self-financing from the athletes' parents, training fees, and stimulus support from the PERSEKOSI Regional Executive Board.
Main Obstacles	What are the biggest obstacles	The absence of a structured, planned coaching curriculum,

facing administrators?

limited budget for trainers' honorariums, and the absence of standard tracks.

Evaluation of Program Effectiveness Reviewed from the Trainer's Aspect

Table 2 shows the findings from interviews with the Head Coach regarding the physical training scheme, techniques, and program periodization.

Evaluation Dimensions	Key Interview Questions	Management Findings & Answers
Exercise Frequency & Structure	What is the structure and frequency of the training program?	Routine training 3 times a week: Day 1 focuses on Core Physical, Day 2 on Gliding Technique, and Day 3 on Sprint/Endurance Training.
Coaching Method	What are the stages of athlete development?	Through 3 stages: Preparation (physical/technical), Formation (mastering maneuvers), and Determination (evaluation of competition readiness).
Coach Qualifications	What is your coaching background?	The trainers are former practitioners who are self-taught and special roller skating coaching licenses/courses in the regions are still very limited.
Key to Achievement	What is the main key to achieving peak performance?	Athlete discipline, consistent training, hard work, and 100% moral and material support from parents.
Training Barriers	What factors make it most difficult for coaches?	The only major obstacle is infrastructure. Training is forced to use high-risk roads and parking areas.

Evaluation of Program Effectiveness Reviewed from the Athlete Aspect

Table 3 summarizes the perceptions and experiences of 5 athlete representatives regarding training programs and operational constraints.

Evaluation Dimensions	Key Interview Questions	Management Findings & Answers
Motivation & Experience	What is the background and duration of joining?	The average age of membership is 1-2 years. Initial motivations vary from health therapy (obesity) to family encouragement.
Training Discipline	What is the training attendance rate?	Attendance is quite high, but sometimes it clashes with school

		hours and personal laziness factors.
Program Acceptance	Does the training program feel too hard?	The physical and technical program was deemed appropriate and could be followed well without the constraint of excessive load.
Match Experience	What championships have you participated in?	Have participated in the National Championship in Jakarta (2025) and the Central Sulawesi regional championship.
Athlete Aspirations	What are the athletes' main expectations for the club?	We really hope that the Palu City Government will build a special venue/track so that we can practice freely without the risk of accidents.

Analytical Discussion

Based on a synthetic analysis of data obtained from the Palu Skating Club administrators, coaches, and athletes, it is clear that the roller skating performance development program in Palu City has been running and has produced impressive achievements. However, the program's effectiveness cannot yet be categorized as optimal. Based on the relationship between output, process, and input indicators, the development program can be categorized as "quite effective" but is vulnerable.

This category indicates an interesting situation in the implementation of roller skating sports development in Palu City. On the one hand, the program has achieved national-level success by winning a silver medal at the 21st National Games in Aceh-North Sumatra in 2024. On the other hand, this success has not been fully supported by an ideal development system and infrastructure. Thus, there is a gap between the achievements achieved and the capacity of the available development system. This condition is important to examine because the effectiveness of a high-performance sports program is not solely determined by the final result, namely medals. Effectiveness must also be seen in the program's ability to provide resources, implement a systematic development process, maintain the quality of training, and ensure the sustainability of athlete achievement. From a program evaluation perspective, the success of a program should not only be assessed from the product, but also from the appropriateness of the context, the quality of the input, and the process that produces the product (Stufflebeam & Zhang, 2017).

1. Effectiveness Based on Performance Output Indicators

The first indicator of program effectiveness is athlete performance. Research shows that the Palu Skating Club has successfully produced athletes capable of competing at the national level. The most notable achievement was athlete Maharani's

silver medal at the 21st National Games (PON) in Aceh-North Sumatra in 2024. This achievement is a crucial indicator, as the PON is a highly competitive national sporting event. The success of Palu athletes reaching the national podium demonstrates that the club's development process has been effective in developing athletes' competitive abilities.

These achievements also provide evidence that the training provided by coaches contributes to improving athlete performance. Training programs encompassing physical abilities, basic techniques, sprinting, endurance, starting, pushing, gliding, and cornering are essential components of roller skating. This combination of training allows athletes to develop the skills necessary for competition. In this context, the research findings support the view that competitive sports coaching should focus on developing athletes' overall abilities, including physical, technical, tactical, and mental aspects. Achievement is not achieved through a single type of training, but through a consistent and continuous training process (Firmansyah, 2020; Nugroho, 2022).

However, medals alone cannot be used as the sole indicator of optimal program performance. An athlete's performance can be influenced by various factors, including individual talent, motivation, family support, competitive experience, coaching quality, and the training environment. Therefore, PON medals should be viewed as evidence of successful output, but do not automatically indicate the effectiveness of the entire coaching system. This study found that these high achievements were achieved despite limited facilities. This is an interesting finding because it suggests that non-infrastructure factors can compensate for system weaknesses.

2. Effectiveness Based on Process Indicators and Training Scenarios

The second indicator is the coaching process. The research results show that training activities are carried out consistently, three times a week. This continuity is a crucial indicator in developing high-performance sports because athletes' physical and technical abilities require repeated and continuous training. The training encompasses both physical and technical aspects. Technically, athletes are trained in starting, cornering, gliding, and pushing. Meanwhile, physically, training focuses on sprinting and endurance. This pattern demonstrates that the training process considers the basic needs of roller skating. In addition to routine training, the coaching process also includes early childhood development, or "nursing." Early childhood athlete development is strategic because it serves as the foundation for athlete regeneration. Without nurturing, clubs will struggle to maintain consistent performance when senior athletes reach the end of their careers.

Athlete participation in tryouts and national-level championships is also an important part of the coaching process. Tryouts provide athletes with the opportunity to test their training results in a competitive setting. Through competition, coaches can identify

athletes' weaknesses, while athletes gain experience in dealing with the pressures of competition. This finding aligns with Purnomo (2019), who emphasized the importance of continuous training and tiered coaching in producing high-achieving athletes. However, a weakness that needs to be addressed is the lack of a written and standardized coaching curriculum. This means that the training process is ongoing, but the coaching system is not fully documented. This situation causes the coaching program to tend to rely on the experience, knowledge, and creativity of the coach. As long as the coach handling the athletes is competent and experienced, the coaching process can continue. However, if there is a change in coach, the program's continuity could be disrupted due to the lack of a curriculum document that serves as a common reference.

Thus, it can be said that the coaching process is already running functionally, but not yet fully institutionally. This distinction is important. Functional coaching means the program can run because there are active and competent coaches, while an institutionalized coaching system means the program can run consistently because it has documented standards, curriculum, procedures, and an evaluation system.

3. Effectiveness Based on Input and Infrastructure Indicators

The third indicator is input, particularly facilities and infrastructure. This aspect identified the greatest weakness in the roller skating development program in Palu City. The Palu Skating Club does not yet have a permanent roller skating track or banked track. As a result, athletes and coaches must utilize parking lots, public roads, or public spaces for training. This situation highlights a gap between training needs and available facilities. Roller skating is a sport that requires training spaces with appropriate surface characteristics, track characteristics, safety measures, and configuration. Training in public spaces can be used as a temporary solution, but is not ideal for long-term performance development. This limitation is particularly felt in the development of cornering techniques. At a basic level, athletes may still be able to learn cornering techniques in a confined area. However, to improve cornering skills at high speeds, athletes need a track that allows for safe and measurable repetition of techniques.

According to Kusuma (2020), limited training facilities can increase the risk of injury and limit the development of athletes' technical skills. This demonstrates that facilities are not simply a matter of comfort but are directly related to the quality and safety of the coaching process. The lack of permanent facilities also prevents coaches from fully simulating match conditions. However, the higher the level of competition, the more crucial it is to train in an environment that mimics actual match conditions. Therefore, when the input aspect is analyzed separately, the infrastructure component can be categorized as inadequate.

4. There is a gap between input, process, and output

The main finding of this study is that there is a fairly large gap between input, process, and output.

In simple terms, the program conditions can be described as follows:

Limited input → Strong enough process → High performance output

Under ideal conditions, high-performance sports development should have adequate input to produce optimal training processes and ultimately result in high-performance output. However, conditions in Palu show a different pattern.

Input in the form of facilities and infrastructure is not yet optimal, but the training process continues to run consistently and output achievements can still be achieved.

This phenomenon shows that the effectiveness of current programs is highly dependent on the ability of the development actors to compensate for resource limitations.

In other words, the program is not yet fully structurally strong, but is relatively strong socially and humanely.

If these conditions persist in the short term, the program can still operate. However, if input improvements, particularly facilities and funding, are not made, the program's effectiveness could potentially decline in the long term.

This is the basis for why the program is categorized as quite effective but vulnerable.

5. The Paradox of Coaching: High Achievement in Limited Infrastructure

One of the most interesting findings in this research is the emergence of what can be called the "Coaching Paradox."

This paradox is seen from the condition that:

The more limited the facilities available, the greater the program's dependence on the commitment of the people running it. The Palu Skating Club has been able to maintain training activities and produce high-achieving athletes despite not having a permanent track. This demonstrates that human factors are a compensatory mechanism for infrastructure limitations. Coaches compensate for limited facilities with creativity in designing training sessions. Athletes compensate for environmental limitations with discipline and motivation. Administrators compensate for organizational limitations by building coordination and seeking championship

opportunities. Meanwhile, parents compensate for limited funding by providing financial support. Thus, the success of coaching is not only determined by physical facilities, but also by the social capital possessed by the sports community.

6. The role of the Social and Emotional Support System

The research results show that parents play a very dominant role in maintaining the continuity of coaching. Parental support extends beyond emotional support to financial support. Research data indicates that up to 100% of the funding for equipment and tryout activities comes from parental support. These findings demonstrate that families are a key resource in the Palu Skating Club coaching system.

This support can be grouped into three forms.

First, emotional support, in the form of motivation, attention, and encouragement to athletes to remain consistent in training.

Second, material support, in the form of providing roller skating equipment and training needs.

Third, financial support, especially in covering the costs of attending tryouts and competitions.

In this context, parents no longer function solely as supporters but have evolved into key actors in the development process. This is a unique strength for the Palu Skating Club. These findings align with those of Utami (2021) and Rahman (2023), who identified family and social support as factors influencing the sustainability of athlete development and motivation. However, excessive reliance on parents also carries risks. If program funding relies too heavily on family financial capacity, the sustainability of development can be unequal. Athletes from families with limited financial resources potentially face greater barriers in acquiring equipment and participating in competitions. Therefore, while parental support is a strength, it can also become a structural vulnerability if not balanced with financial support from local governments, the Indonesian National Sports Committee (KONI), sports organizations, or sponsors.

Thus, the research results indicate that the roller skating performance development program in Palu City has been effective in producing achievements, but has not been fully effective in building a strong and sustainable development system. The current success is largely supported by the quality of the people involved, particularly coaches, athletes, administrators, and parents. This finding also reinforces the concept of the "Coaching Paradox," a situation where limited infrastructure can be compensated for by the strength of social, emotional support, and commitment of the coaching actors. However, this compensation mechanism has its limits. If the local

government and stakeholders do not immediately improve facilities, funding systems, curriculum, and human resource development, the success achieved will potentially be difficult to maintain. Therefore, the silver medal at the 21st National Games in Aceh-North Sumatra in 2024 should not only be seen as the end result of successful development, but as evidence that Palu City has athletic potential worthy of more serious development investment. This achievement can serve as a baseline for building a more structured, data-driven development system, supported by adequate facilities, and with a clear regeneration pattern. Ultimately, the direction of program development is no longer simply "how to produce high-achieving athletes with limited resources," but must shift to "how to build a system that enables more athletes to achieve consistently and sustainably." This paradigm shift is key to transforming the Palu City roller skating development program from being quite effective and vulnerable to being effective, resilient, and sustainable.

CONCLUSION

Based on the results of data analysis, effectiveness evaluation, and the discussion that has been presented, this study concludes that:

1. Program Effectiveness: The roller skating performance development program in Palu City (Palu Skating Club) is categorized as **QUITE EFFECTIVE**. Indicators of success are demonstrated by the regularity of the training schedule, the qualifications of experienced coaches, high athlete motivation, and the success of achieving a silver medal at the 21st PON 2024 in Aceh-North Sumatra.
2. Supporting & Inhibiting Factors: The main supporting factors include full (100%) support from the athletes' parents in financial and moral aspects, high commitment from coaches, and partnerships with **PERSEROSI** and **KONI**. The main inhibiting factors include the lack of standardized venues/tracks, limited club operational budgets, and the lack of a planned written coaching curriculum.
3. Academic Contribution: This research has succeeded in filling the empirical research gap and producing novelty regarding the social-psychological compensation model for infrastructure limitations in regional sports development.

REFERENCES

- Arifin, Z., & Wahyudi, H. (2021). Athletes' Motivations in Sports Achievement. *Journal of Physical Education*, 9(2), 112–120.
- Carling, C., Williams, A. M., & Reilly, T. (2009). *The handbook of soccer match analysis: A systematic approach to improving performance*. Routledge.
- Dimiyati, Herwin, & Hastuti, TA (2013). Psychological Characteristics of Athletes at the Student Education and Training Center (PPLP). *Journal of Psychology*, 40(2), 143–158.
- Firmansyah, H. (2020). Analysis of Training Programs to Improve Athlete Performance. *Journal of Sport Training*, 5(2), 77–85.
- Hardani, et al. (2020). *Qualitative and Quantitative Research Methods*. CV Pustaka Ilmu.
- Harsono. (2015). *Sports Coaching: Theory and Methodology*. Rosdakarya Youth.

- Hidayat, T., & Prasetyo, Y. (2023). Athlete Development Management in Improving Sports Performance. *Journal of Sport Science*, 8(1), 15–27.
- Ismunandar, RM (1996). *Practical Guide to Roller Skating*. Dahara Prize.
- Junaidi, S. (2003). Early Childhood Sports Development. *Journal of Sports*, 1(1), 60–68.
- Kurniawati, E. (2021). Organizational Management in Sports Development. *Journal of Sports Management*, 7(2), 120–132.
- Kusuma, D. (2020). Facilities and Infrastructure in Developing High-Achieving Sports. *Journal of High-Achieving Sports*, 4(1), 22–30.
- Lestari, R. (2022). The Effect of Training Programs on Athlete Performance. *Journal of Physical Education*, 8(1), 90–102.
- Maulana. (2022). Evaluation of the roller skating training program at the KISS Karawang Club using the CIPP evaluation model [Thesis, Karawang University].
- Miles, M.B., Huberman, A.M., & Saldaña, J. (2020). *Qualitative Data Analysis: A Methods Sourcebook* (4th ed.). SAGE Publications.
- Muharram, N. (2016). Evaluation of a Football Physical Training Program Using the CIPP Method. *Jurnal Efektor*, 3(1), 36–44.
- Nugroho, S. (2022). Analysis of the Effectiveness of Sport Science-Based Athlete Training Programs. *Indonesian Sports Journal*, 7(1), 45–56.
- Nurdin, I., & Hartati, S. (2021). *Social Research Methodology*. Media Sahabat Cendekia.
- Pelana, R. (2013). *Athlete Development and Achievement*. Ministry of Youth and Sports of the Republic of Indonesia.
- Powell, M. (1996). *In-Line Skating: Speed and Fitness*. Human Kinetics.
- Purnomo. (2019). Evaluation of the effectiveness of the roller skating achievement development program in Central Sulawesi Province [Thesis, Tadulako University].
- Rahman, A. (2023). Evaluation of the Athlete Development Program at the Regional Level. *Journal of Sport Management*, 9(1), 55–66.
- Santoso, HP, Rahayu, T., & Rahayu, S. (2017). Badminton Development in Magelang City. *Journal of Physical Education and Sports*, 6(2), 133–140.
- Saputra, & Wijayanti. (2022). Study of the development of the roller skating sport in Surakarta City [Journal/Thesis, Surakarta University].
- Siyoto, S., & Sodik, A. (2020). *Basic Research Methodology*. Media Publishing Literacy.
- Suganda, R., Donie, Gusril, Aziz, I., & Damrah. (2021). Evaluation of the CIPPO-Based Badminton Club Achievement Development Program in the City of Sungai Penuh, Juanda Sport Center. *Jurnal Kejaora*, 6(2), 250–258.
- Sugiyono. (2019). *Quantitative, Qualitative, and R&D Research Methods*. Alfabeta.
- Suparmin. (2015). Management of High-Achieving Sports Development. *Sports Journal*, 3(1), 12–20.
- Law of the Republic of Indonesia Number 11 of 2022 concerning Sports.
- Utami, F. (2021). Strategies for Developing High-Achieving Athletes in Indonesia. *Journal of Sports Coaching*, 6(1), 60–72.
- Wulandari. (2020). Analysis of roller skating achievement development at the Kairos Club in Semarang City [Thesis, Semarang University].
- Yuliani. (2021). Early Childhood Achievement Development at the Kairos Pati Club [Thesis, Pati University].