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The Implementation of CIPP Model Evaluation at East Java Women Volleyball Team during the Preparation for Indonesia Olympic Games (PON) XX

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Abstract This research aimed to evaluate the training camp process of the East Java women's volleyball team in the Indonesia Olympic Games (PON) XX during Covid-19 Pandemic. This research was an evaluation study of the CIPP model with a mixed-method design. Two coaches and 15 women volleyball athletes were selected as research samples by purposive sampling method. The data were collected by questionnaire, observation, document analysis, and semi-structured interview techniques. Triangulation data and thematic coding methods were implemented to analyze the data. The results showed that the government supported the training process very well in the context dimension. The input dimensions were human resources, the availability of training programs, training facilities, and infrastructure was also in the excellent category. There was an excellent result on process dimensions. In the product dimension, most athletes have met the target of the training program. In conclusion, most of the dimensions are in a good category. In addition, the implementation of volleyball training in the covid-19 pandemic developed a good response and connection among athletes and coaches. Meanwhile, the negative values which occurred due to the limitation during the implementation of volleyball training in the covid-19 pandemic were boredom, unmotivated, and other psychological problems. Furthermore, limited training variations could be implemented, and game simulations were eliminated during the covid-19 pandemic.

Keywords Evaluation, Volleyball, Physical Activity, Training Program, Covid-19 Pandemic

1. Introduction

Evaluation is a process of describing, obtaining, providing descriptions and information relating to the achievement of appropriate goals, models, implementation, and the impact of several objects to recommend decision making [1]. Evaluation is a significant part of every program that has been planned and implemented through a series of processes in achieving goals [2]. Program evaluation is a method for obtaining, analyzing, and implementing the information in seeking answers to problems related to projects, policies, and programs [3]. The objective of the program evaluation is to collect recommendations obtained from the results of an analytical

study collected from the field. Evaluation is also essential in sports training programs [4]. It emphasizes enhancing athlete performance as the primary purpose of the training program [5]. Evaluation results will provide recommendations about plans and processes in training programs [6]. In general, there are three recommendations made, i.e., (1) The program is continued and disseminated because it is considered excellent and successful; (2) The program was revised because there were things that were not following the criteria; (3) The program is terminated due to lack of evidence/lack of reasonable or there are violations in its implementation [7]. The recommendation is vital to avoid the poor training program, which may risk an injury and overtrain the athletes.

Volleyball game characteristics are dominated by dynamic and powerful spikes [8]. Furthermore, volleyball has become one of the famous sports in the world [9]. It is also recognized as one of the favorite sports for teenagers [10]. Both males and females could participate in the sport due to the simple skills acquired [11]. In addition, female volleyball players enjoy the sport for recreation and participate in a volleyball competition [12]. The competition improves the female volleyball athletes' experience and physical capacity and performance [13]. Anthropometry and body composition are important to support the athlete's performance [14]. An ideal volleyball player should be tall and has a high vertical jump [15]. Jump height is influenced by upper and lower extremities [16]. Arm swing and angular velocities of knee and ankle contributed to the jump height, particularly during performing block jump and spike technique [17]. Shoulder strength is essential to minimize the potential injury and maximize the ball velocity in spike [18].

The volleyball training program needs to be based on game conditions and personalized training [19]. Besides, general training programs were developed for the essential physical components. For example, jumping height is a fundamental physical component to support the offense and defense techniques in volleyball games [20]. Furthermore, plyometric and resistance training programs improved vertical jump height [21]. However, other essential components could decide the team performance and achievement besides training programs. Proper injury prevention and management are important in the training program [22], particularly musculoskeletal and other injuries that commonly occur in volleyball athletes [23]. Strength and conditioning are essential to support maximum achievement [15]. East Java women's volleyball team targets a gold medal in Indonesia Olympic Games (PON) Papua XX. This target was formulated based on the national volleyball competition PROLIGA 2019 event, where the East Java women's volleyball team could compete with more senior opposing teams. Furthermore, the East Java women's volleyball team could also win various open competitions at the national level for the junior category. However, training process evaluation is required to monitor the training program to achieve the goal. The evaluation model which is suitable with the condition is CIPP (*Context, Input, Process,* and *Product*) model [24].

CIPP evaluation model can be carried out in decision making (formative role) and progress information (summative role) [25]. The CIPP model's advantages are providing a comprehensive evaluation format at each evaluation stage [26]. The CIPP model is used to correct and improve programs, resources, strategies, planning, and evaluation of program implementation. In other words, the CIPP model has the advantage of conducting a comprehensive assessment of a program and matters related to it. Context evaluation identifies the strengths and weaknesses of an object such as an institution or a program used for improvement [1]. The assessment includes (1) government policy support, (2) regional policy support, (3) organizational / club support, (4) sponsorship support. Inputs evaluation related to the basic model approach used to support the training process [1]. It concerns about 1) coach resources, (2) athlete resources, (3) training infrastructure, (4) training programs. Process evaluation is concerned about the effectiveness of program implementation following the planning and process [1]. It includes (1) athlete selection process, (2) program preparation process, (3) training implementation process, (4) sparring test. Product evaluation evaluates the results and achievements of the program [1]. It concerns (1) training targets and (2) achievement athletes. The program evaluation process is carried out to analyze the training camp program for the East Java women's volleyball team running according to the design, particularly during the Covid-19 pandemic. Furthermore, the evaluation process was conducted to identify the achievement of the goals.

2. Materials and Methods

This evaluation research used a comprehensive study to evaluate the training process East Java women's volleyball team. Mixed methods designs with quantitative and qualitative approaches were used to gather and analyze the data. The quantitative approach provided an overview of the respondents' statements obtained through a questionnaire by converting them into a Likert scale. The qualitative approach inquired further detail in the results. The research subjects of this study were selected by the purposive sampling method. There were two coaches, and 15 athletes who were members of the East Java women's volleyball team were selected as the research subject. The evaluation model used was the CIPP Model (*Context, Input, Process,* and *Product*) [1]. The research instrument in this study was adopted from validated research by Wiriawan (2008). The instrument consisted of a questionnaire, observation sheets, document study, and the interview process. Data analysis was carried out after the data collection and data reduction stages. This research uses mixed-methods analysis. The questionnaire data were

carried out to determine the percentage of the result in each dimension. The open-ended questions were used in interviews to support the information that has been revealed in the questionnaire. The observation sheets were used to evaluate the training process. The document study was used to obtain data or information related to the training program and athletes' progress reports.

3. Results

Based on the evaluation, several points were found that became references for improvement in positive and negative value analysis. This positive value explains that during the implementation of volleyball training in the covid-19 pandemic, there was a good response and connection among athletes and coaches. Meanwhile, the negative value explains that the limitation during volleyball training implementation in the covid-19 pandemic has caused boredom, unmotivated, and other psychological problems. Furthermore, limited training variations could be implemented due to the covid-19 pandemic. In addition, game simulations were eliminated during the training. However, the execution of the East Java women's team volleyball training camp has gone well according to the quality of the result of each dimension in CIPP Model. The detailed result of each research instrument was available in the following description.

3.1. Questionnaire Results

The questionnaire results were categorized based on each dimension (Figure 1). In the context dimension, the government support during volleyball training for the East Java team was positive. The results showed that most team members had a good impression of government policy, regional policy, organizational, and sponsorship support. Furthermore, the bubble system training camp was the most crucial support during the Covid-19 pandemic. The input dimension showed a positive response dominantly. It showed that coaches' and athletes' resources were capable and potentially supported the target. Furthermore, the training program was appreciated positively by the team members. However, the training facilities and infrastructure were inadequate, referred to a small percentage (6%) who responded negatively. The process dimension showed a positive response from most team members. The program preparation process was checking the athletes' condition before training. The checking condition of the athlete included measuring the heart rate asking questions related to the health and psychology of the athlete. The training process aimed to develop physical abilities and maintain fitness to improve performance. The training strategy was not always carried out in every training. However, evaluation was carried out to evaluate the error occurred in the exercise. The sparring test was performed among the team members due to the covid-19 pandemic condition. The product dimension showed the positive response was 70%. The training target in 3 months showed that only 11 athletes who have reached the target ability to play at 75-90%. Furthermore, four athletes were below 75% of the level. Similarly, athletes' performance in the team strategy could be improved.

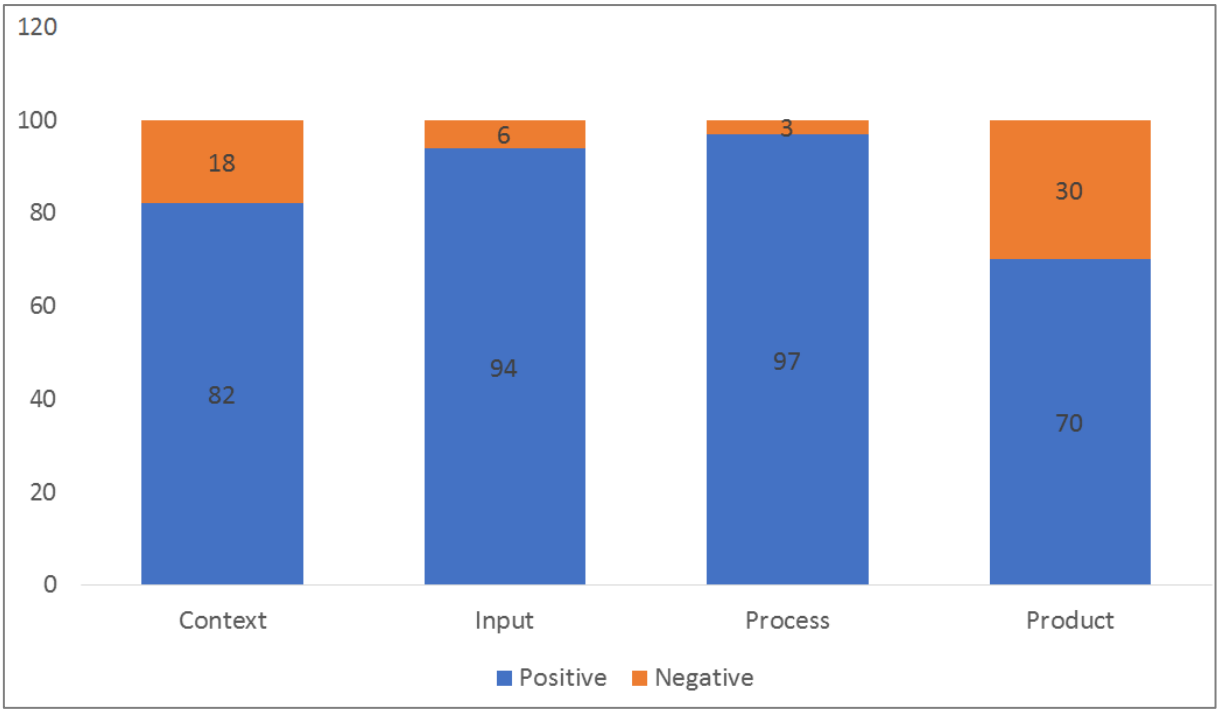

Figure 1. CIPP Questionnaire Results

3.2. Observation Results

The program's training condition was carried out well. The training process was in three stages: opening, core, and closing. The opening stage included a discussion between the coach and the athletes regarding the readiness and health of the athlete, the implementation of stretching, and warm-up. The core stage was the primary training process-related activities to improve techniques and playing skills. The closing stage included the cooling down process, such as stretching and followed by a two-way discussion between coaches and athletes. Coaches also provided additional exercises to athletes who were still underperforming during training. The training was carried out at a frequency of 6 times a week. Each day consisted of 6 hours of exercise consisting of 3 hours in the morning and 3 hours in the afternoon. The volleyball training programs were well documented. The documents consisted of an annual to a daily training program. In addition, video recording and team statistical analysis were involved in technical training and game simulation. The game simulations were conducted twice a week to monitor athletes' performance. The game simulation was only among internal teams due to the pandemic consideration.

Athletes' nutrition management was conducted by a collaboration between the medical doctors of the East Java sports council medical team and a public university that had a nutrition department. The East Java sports council medical team evaluated and determined the menu based on the athlete's condition, i.e., fat mass, muscle mass, bone density, and basal metabolism index. Furthermore, the nutrition department provided the menu based on daily calorie needs that have been coordinated with the medical team. However, there was also feedback from the athletes correlating with the meal menu and taste. East Java sports council provided the training facility and accommodation in a bubble system. It enforces the safety and effectiveness of the athletes and coaches during the training program. In addition, the East Java sports council also provided a monthly honorarium for coaches and athletes. Furthermore, there was also funding provided by the East Java sports council to support the training equipment, i.e., shoes, socks, costumes, and deckers for training and competition. Scholarship programs for athletes and coaches who have attended high school, undergraduate, postgraduate, and doctoral levels were also provided by the East Java sports council to support their education.

3.3. Document Study Results

The training program was developed to direct a year's training with very specific goals. The training program was also planned towards the best performance in a competition. The expected peak performance is to increase team performance or performance by maximizing physiological adaptation. The objectives of training planning are (1) stimulating maximal physiological adaptation at a specified time during the preparation period for the core match and (2) preparing athletes at complex levels of readiness in building skills, motoric abilities, psychological traits, and managing fatigue levels. Furthermore, in achieving those desired training planning objectives, exercises must be planned and built logically and carried out through tiered stages. The challenge is the peak of the athlete's performance achieved logically within the planned time frame. A logically achievable target that has been prepared based on careful consideration. This training planning program is based on periodization and predictions of the possible achievements that athletes can achieve at each stage of training. The training program's goal was to achieve peak athlete performance on the planned day and date at the most important competitions. In the training methodology, the most complex problem is how to achieve Peak Achievement at the XX Indonesia Olympic Games (PON) 2021 in Papua. Particularly to develop the team game strategy. There were no game simulations with other teams due to the condition of covid-19. However, the team game strategy was developed by internal game simulation among team members.

3.4. Interview Results

The interview results were used to gain more detailed information regarding the implementation of the training program during the covid-19 pandemic. Based on the thematic analysis results (Table 1), it can be explained that the training program provided by the coach could improve the athletes' abilities in physical, technical, and tactical performance. However, there was also an individual training program that was provided and adjusted to improve the abilities of each athlete based on each individual's ability or the player's position. Furthermore, the training program's intensity was essential to be monitored in detail to enhance the athlete's ability. Athletes who feel that the training was below their threshold and capability hindered their ability to increase significantly. In addition, the coaches always provided feedback for each athlete. The feedback was given at the end of the training, particularly for the athletes who had important things to be fixed. Furthermore, general feedback was also given to evaluate the implementation of the training program. Coach also emphasized positive things to encourage athlete motivation. Motivation is important, particularly in the bubble system, which requires the coaches and athletes to live in an isolated training and living facility.

Table 1. Interview Analysis Results

No	Topics	Analysis
1	Overall training programs	The training program could develop athletes' abilities. Most of the athletes had good progress in physical and technical performance at the general preparation stage. In addition, most of the athletes were in a high level of performance in the PON XX Papua.
2	Individual training program	The individual training program was carried out based on each individual's ability or the player's position. There was also an additional training session for each athlete to finish their training program.
3	Post-training evaluation	Coach provided feedback after each exercise according to athletes' shortcomings in the field. Furthermore, the evaluation was also given monthly by involving nutrition, physical, and biomechanics experts to provide detailed information for each athlete.
4	The bubble system	The bubble system in this context referred to the isolated training and living facility. The facilities are in the same area at a public university in Surabaya. Athletes and coaches were not allowed to leave the bubble during the training camp.
5	Nutritional support	The quality of food has been maintained by the nutrition team from East Java Sports Council. The menu was also controlled based on the calorie intake of each athlete. The additional food and supplements were also given to maintain the athlete's health.
6	Health monitoring quality	Health monitoring for athletes was conducted by the doctor team. Athletes regularly measured their BMI, muscle percentage, and SWAB Antigen Covid-19. Masseurs and physiotherapists were also available for athletes to help them in recovery.
7	Mental health	Boredom was the most dominant mental health issue in training. Limited entertainment activities were the main factor of the issue. Boredom could influence the athlete's motivation during the training and competition.
8	Training and living facilities	The training facilities were excellent. However, the lighting settings need to be improved to minimize the one-side glare. The living facilities were inadequate for the athletes. There were several notes about the condition and function of the living facilities.

East Java Sports Council provided full nutritional support during the camp. Furthermore, there were also nutritional and cooking experts involved in the camp. The nutrition was adjusted to the training needs of athletes every day. The food was adjusted based on the recommendation of the nutritional experts of the East Java sports council. Furthermore, the medical team also periodically monitored athletes' body mass index, muscle, and fat percentage. The health monitoring for athletes and coaches was also regularly evaluated to avoid the risk of covid-19 infection. The medical team, including doctors, masseurs, and physiotherapists, were ready to help athletes in need. Boredom was the main mental health issue during the training. Limited entertainment media and activities lead the athlete to feel unmotivated during the training. The quality of dormitories occupied by athletes, such as bedrooms and bathrooms, was inadequate. The room temperature control and damaged bathroom facilities were the problems. This condition makes athletes feel uncomfortable and potentially influences the quality of athlete recovery. The recovery condition will affect the quality of training during the field.

4. Discussion

Context dimension correlated with the support from many institutions, including clubs, branch administrators, regions, municipalities, and communities. The support provided by these institutions was in the form of policy and finance. Financial support is vital to enable the training facilities, salaries, and other expenditures [28]. However, it is important to consider further the source of the financial support [29]. The primary financial support came from the government through its policy and regulation. As a result, this type of financial support does not concern promoting a specific product [30]. In addition, the support provided by the community and family for the coaches and athletes. Family members also significantly impact the athlete during the training camp and contribute to the volleyball organization [31]. The family also determines the vision and motivation of athletes in physical activity through the parental environment [32]. This support was significant to maintain the sustainability of a team and reach the maximum achievement. Sports management requires good finance, material resources, human resources, highly committed actions, and a strong mentality [33]. Every component in a sports organization must work together harmoniously to provide adequate services to achievement programs [34]. It can be said that a good performance development program requires satisfactory support aspects, especially from policy and financial support. The support was necessarily needed to manage the implementation of the training process. There are four dimensions in sports performance management: vision, operations, personnel, and culture [35]. The support has been vital in implementing transportation, equipment, training facilities, competition budgets, and athlete selection. In addition,

personnel support maintains and improves athletes' performance, namely the nutrition and health teams. The government and community also provided full support for implementing East Java women's volleyball training, particularly during the pandemic.

The input dimension showed adequate human resources for coaches and athletes. The coaches have the qualifications, commitment, and the ability to compile a proper training program. However, it should be noted that the development of knowledge related to coaching is vital to be updated. So it is necessary to increase the quality of human resources to the international level. Coach has essential roles in setting a vision and strategy, forming a good environment, building good relationships with athletes, training and competition structures, reading and reacting to the field, and reflecting [36]. Reading and responding to the field means observing, making decisions, and monitoring and evaluating during training. Coaches must constantly learn and reflect during training to correct deficiencies that occur during the training. The input dimension of the program has gone well, such as the preparation of training programs according to each athlete's abilities made with a team of experts, including an intermediate match program. It has a slight difference in that the training program is not always judged by a group of experts, so it can be said that the appropriateness of the training program is carried out when in certain situations. During the training program, athletes undergo measurements of physical abilities and playing skills. The input dimension is also about the condition of the training facilities and infrastructure as a whole is of good quality, including a volleyball court, physical training ground, and training facility equipment. Regarding the training ground, the lighting of one side of the court was inappropriate and made the athlete who was practicing dazzle every time he saw the ball up. Furthermore, the light responsibilities come from other funding assistance. It needs to be reviewed to maximize the process of good sports training management, one of which is using funds from sponsors.

In addition, the findings regarding the housing facilities owned by athletes are less feasible, including bedrooms and bathrooms. The bedroom has no air conditioning, influencing athletes to maximize their recovery process and prepare themselves for the next training. Regarding the bathroom, several bathroom amenities have been damaged so that they cannot be used. In the process dimension, athlete selection is always carried out periodically with experts. Furthermore, the training applied starts from basic game techniques to advanced techniques and playing strategies. The implementation of exercise is always according to the target of the program made. However, in certain situations, the training program is revised according to the developmental conditions of the athlete. The training program that is made aims to maintain fitness and improve the physical abilities of athletes. In addition, at the beginning of training, athletes are constantly checked for their physical condition through pulse measurement. The heart rate before training should be below 100 beats/minute. On the other hand, if it is more than that, the athlete will either rest first or follow moderate-intensity training. During the training process, the trainer seldom keeps track of the actual progress of the athletes described by two out of the fifteen athletes being trained. It needs to be done to determine the athlete's ability every day so that the program given the next day follows the athlete's condition. Various game strategies and training are implemented to enrich the athletes' insights in competing, and an internal sparring test is always carried out three times a week.

Based on the evaluation results, advanced technical training and playing techniques, and strategies were critical in the process. Furthermore, giving *feedback* direct during training and providing insight into athletes' attitudes and life systems was rarely done. It indicates a gap in communication between coaches and athletes in the training process, so these findings need to be improved in active communication. Training evaluation includes training achievement according to the same athlete and coach, reaching 90%. However, some athletes feel that their abilities are still below 75%, so coaches need to implement rigorous monitoring and evaluation of training so that the development of athletes' abilities every day is appropriately detected. In addition, the level of achievement of athletes during training is as expected, but some athletes still feel less than expected. These findings serve as a reference for trainers to improve the training provided by improving better communication between coaches and athletes as a monitoring tool to create an open, comfortable, and monitored training environment. This section is intended to give the essence of the above discussion results and answer the problem formulations made. Coaches need to know that in dealing with managing a sports team, there is a need for sports training management knowledge. Furthermore, there are many factors surrounding that require transdisciplinary knowledge to answer. A cross-disciplinary approach in problem-solving is relevant [37].

REFERENCES

[1] D. L. Stufflebeam and Coryn, *Evaluation Thoery, Models, and Aplications*. San Fransisco: Josssey Bass, 2014.

[2] J. Trigwell *et al.*, "Process evaluation of a sport-for-health intervention to prevent smoking amongst primary school children: SmokeFree Sports," *BMC Public Health*, vol. 15, no. 1, pp. 1–17, Apr. 2015, doi: 10.1186/S12889-015-1645-1/TABLES/8.

[3] D. M. Mertens and A. T. Wilson, *Program Evaluation Theory and Practice, Second Edition - Donna M. Mertens, Amy T. Wilson - Google Books*. New York: The Gulford Press, 2019.

[4] J. Matthews, A. M. Hall, and A. Keogh, "Evaluating the effects of behavior change training on the knowledge,

confidence and skills of sport and exercise science students," *BMC Sports Sci. Med. Rehabil.*, vol. 12, no. 1, pp. 1–10, Oct. 2020, doi: 10.1186/S13102-020-00209-5/TABLES/4.

[5] N. Kumyaito, P. Yupapin, and K. Tamee, "Planning a sports training program using Adaptive Particle Swarm Optimization with emphasis on physiological constraints," *BMC Res. Notes*, vol. 11, no. 1, pp. 1–6, Jan. 2018, doi: 10.1186/S13104-017-3120-9/TABLES/2.

[6] E. Aldapit and S. Suharjana, "CIPP evaluation model for the coaching program of running athletes," *Psychol. Eval. Technol. Educ. Res.*, vol. 1, no. 2, p. 104, 2019, doi: 10.33292/petier.v1i2.10.

[7] W. Warju, "Educational Program Evaluation using CIPP Model," *Innov. Vocat. Technol. Educ.*, vol. 12, no. 1, 2016, doi: 10.17509/invotec.v12i1.4502.

[8] W. H. Tai, H. Te Peng, C. Y. Song, J. Z. Lin, H. Bin Yu, and L. I. Wang, "Dynamic characteristics of approach spike jump tasks in male volleyball players," *Appl. Sci.*, vol. 11, no. 6, 2021, doi: 10.3390/app11062710.

[9] R. Muazu Musa, A. P. P. Abdul Majeed, M. Z. Suhaimi, M. A. Mohd Razman, M. R. Abdullah, and N. A. Abu Osman, "Nature of Volleyball Sport, Performance Analysis in Volleyball, and the Recent Advances of Machine Learning Application in Sports," *SpringerBriefs Appl. Sci. Technol.*, pp. 1–11, 2021, doi: 10.1007/978-981-16-3192-4_1.

[10] P. Kutáč, D. Zahradnik, M. Krajcigr, and V. Bunc, "The effect of long-term volleyball training on the level of somatic parameters of female volleyball players in various age categories," *PeerJ*, vol. 8, 2020, doi: 10.7717/peerj.9992.

[11] F. G. Mendes *et al.*, "Multidimensional characteristics of young Brazilian volleyball players: A Bayesian multilevel analysis," *PLoS One*, vol. 16, no. 4, Apr. 2021, doi: 10.1371/JOURNAL.PONE.0250953.

[12] M. I. Afacan and E. Afacan, "Happiness In Volleyball: Turkish Sultans League Sample," *Prog. Nutr.*, vol. 23, no. S2, pp. e2021257–e2021257, Sep. 2021, doi: 10.23751/PN.V23IS2.11957.

[13] M. Karahan, M. Çolak, and P. Clave, "Changes in physical performance characteristics of female volleyball players during regional division competitions," *Sport TK-Revista Euroam. Ciencias del Deport.*, vol. 11, pp. 12–12, Jan. 2022, doi: 10.6018/SPORTK.474621.

[14] N. Shchepotina *et al.*, "Model morpho-functional characteristics of qualified volleyball players," *Sport Mont*, vol. 19, pp. 213–217, Sep. 2021, doi: 10.26773/SMJ.210936.

[15] R. Lidor and G. Ziv, "Physical and physiological attributes of female volleyball players--a review," *J. strength Cond. Res.*, vol. 24, no. 7, pp. 1963–1973, Jul. 2010, doi: 10.1519/JSC.0B013E3181DDF835.

[16] P. X. Fuchs, A. Fusco, J. W. Bell, S. P. von Duvillard, C. Cortis, and H. Wagner, "Movement characteristics of volleyball spike jump performance in females," *J. Sci. Med. Sport*, vol. 22, no. 7, pp. 833–837, Jul. 2019, doi: 10.1016/J.JSAMS.2019.01.002.

[17] S. Pocek *et al.*, "Anthropometric Characteristics and Vertical Jump Abilities by Player Position and Performance Level of Junior Female Volleyball Players," *Int. J. Environ. Res. Public Health*, vol. 18, no. 16, Aug. 2021, doi: 10.3390/IJERPH18168377.

[18] V. Hadzic, T. Sattler, M. Veselko, G. Markovic, and E. Dervisevic, "Strength asymmetry of the shoulders in elite volleyball players," *J. Athl. Train.*, vol. 49, no. 3, pp. 338–344, 2014, doi: 10.4085/1062-6050-49.2.05.

[19] S. Hardy, T. Dutz, J. Wiemeyer, S. Göbel, and R. Steinmetz, "Framework for personalized and adaptive game-based training programs in health sport," *Multimed. Tools Appl.*, vol. 74, no. 14, pp. 5289–5311, Jul. 2015, doi: 10.1007/S11042-014-2009-Z/FIGURES/7.

[20] J. Sarvestan, Z. Svoboda, and J. G. de Oliveira Claudino, "Force-time curve variables of countermovement jump as predictors of volleyball spike jump height," *Ger. J. Exerc. Sport Res.*, vol. 50, no. 4, pp. 470–476, Dec. 2020, doi: 10.1007/S12662-020-00676-5/TABLES/2.

[21] D. G. Balasas, S. Kellis, K. Christoulas, and T. M. Bampouras, "An Off-season Plyometric and Resistance Training Programme to Improve Vertical Jump Height in Adolescent Female Volleyball Players," *J. Sci. Sport Exerc.*, vol. 1, pp. 1–8, Sep. 2021, doi: 10.1007/S42978-021-00136-Y/TABLES/2.

[22] J. M. Stamm, E. G. Post, C. M. Baugh, and D. R. Bell, "Awareness of Concussion-Education Requirements, and -Management Plans and Concussion Knowledge in High School and Club Sport Coaches," *J. Athl. Train.*, vol. 55, no. 10, pp. 1054–1061, Oct. 2020, doi: 10.4085/1062-6050-0394-19.

[23] O. Kilic, M. Maas, E. Verhagen, J. Zwerver, and V. Gouttebarge, "Incidence, aetiology and prevention of musculoskeletal injuries in volleyball: A systematic review of the literature," *European Journal of Sport Science*, vol. 17, no. 6. 2017, doi: 10.1080/17461391.2017.1306114.

[24] D. L. Stufflebeam, "The CIPP Model for Evaluation," *Eval. Model.*, pp. 279–317, Dec. 2000, doi: 10.1007/0-306-47559-6_16.

[25] H. Tuna and M. Başdal, "Curriculum evaluation of tourism undergraduate programs in Turkey: A CIPP model-based framework," *J. Hosp. Leis. Sport Tour. Educ.*, vol. 29, p. 100324, Nov. 2021, doi: 10.1016/J.JHLSTE.2021.100324.

[26] I. Mahmudi, "CIPP. Suatu Model Evaluasi Program Pendidikan"," *At*, vol. 6, no. 1, p. 23, 2011.

[27] O. Wiriawan, "Evaluasi Program Pelatihan dan Latihan Atlet Bulutangkis di Pusat Pendidikan dan Latihan di Jawa Timur," Universitas Negeri Surabaya, 2008.

[28] L. J. Reece *et al.*, "Reducing financial barriers through the implementation of voucher incentives to promote children's participation in community sport in Australia," *BMC Public Health*, vol. 20, no. 1, Jan. 2020, doi: 10.1186/S12889-019-8049-6.

[29] S. M. Outram and B. Stewart, "Should nutritional supplements and sports drinks companies sponsor sport? A short review of the ethical concerns," *J. Med. Ethics*, vol. 41, no. 6, pp. 447–450, 2015, doi: 10.1136/MEDETHICS-2014-102147.

[30] W. L. Watson, R. Brunner, L. Wellard, and C. Hughes, "Sponsorship of junior sport development programs in

Australia," *Aust. N. Z. J. Public Health*, vol. 40, no. 4, pp. 326–328, Aug. 2016, doi: 10.1111/1753-6405.12541.

[31] R. McMillan, M. Mcisaac, and I. Janssen, "Family Structure as a Correlate of Organized Sport Participation among Youth," *PLoS One*, vol. 11, no. 2, Feb. 2016, doi: 10.1371/JOURNAL.PONE.0147403.

[32] S. Kwon, K. F. Janz, E. M. Letuchy, T. L. Burns, and S. M. Levy, "Parental characteristic patterns associated with maintaining healthy physical activity behavior during childhood and adolescence," *Int. J. Behav. Nutr. Phys. Act.*, vol. 13, no. 1, May 2016, doi: 10.1186/S12966-016-0383-9.

[33] D. Badau, A. Camarda, S. Serbanoiu, T. Virgil, D. Bondoc-ionescu, and A. Badau, "Performance management in sports for all," *Int. J. Educ. Inf. Technol.*, vol. 4, no. 2, pp. 83–90, 2010.

[34] I. Balyi, R. Way, and C. Higgs, *Long-term athlete development*. United State of America: Human Kinetics, 2013.

[35] D. Fletcher and R. Arnold, "A qualitative study of performance leadership and management in elite sport," *J. Appl. Sport Psychol.*, vol. 23, no. 2, pp. 223–242, 2011, doi: 10.1080/10413200.2011.559184.

[36] International Council for Coaching Excellence, *International sport coacing framework*, Version 1. USA: Human Kinetics, 2013.

[37] S. Y. Sudikan, "Pendekatan interdisipliner, interdisipliner, multidisipliner, dan transdisipliner dalam studi sastra," 2015, doi: http://dx.doi.org/10.26740/parama.v2n1.p%25p.