

Statistical Analysis of the Best Athlete (MPV) in the Men's Grand Final in the 2023 Proliga Volleyball Competition



Moh. Hanif Dwi Nugroho¹, Ahmad Nasrulloh², Widiyanto³

^{1,2,3}Department of Sport Science, Faculty of Sport and Health Science, Yogyakarta State University, Yogyakarta, Indonesia

ABSTRACT: This research was motivated by the determination of the best athlete (MPV) in the PLN Mobile Proliga 2023 competition in Yogyakarta. The purpose of this study was to select the best athletes in the team that won the competition in the Jakarta Lavani Vs Jakarta Bayangkara match in a national level competition. Descriptive research method with survey techniques. The subjects of the study were 12 male players, consisting of six Lavani players and six Bhayangkara players. The study sample used purposive random sampling. The research instrument uses an observation rubric by looking at several aspects of both skills and psychological aspects, namely attitude or attitude and leadership or leadership in the team. Data collection techniques using observation sheets. Observations are made only during peak or grandfinal matches. The points (+) collected in each set are combined and added to the most points, the athlete is chosen as the best athlete (MPV) in the competition. Data analysis using quantitative descriptive techniques. The results showed that: in the grand final match won by the Jakarta Lavani team and one of the male players from the Lavani team with a total of 22 points consisting of (spike: 20 points, serve ace: 1 point, and block: 1 point) became the best athlete with an average point per set of 5 points. Best players are obtained from observing skills and psychology that are able to determine ideally the best player in a volleyball event. The conclusion of the study was selected the best athlete (MPV) in a competition based on the number of points obtained from the athlete's skills during the grand final match between Lavani vs Bayangkara and psychologically the attitude of the athlete in his team.

KEYWORDS: Statistic, analysis, MPV, volleyball, athletes

I. INTRODUCTION

Sport is a general daily activity that helps a person develop a healthy body and spirit (Welch et al., 2021). Sports have made a real and positive contribution to improving public health. In addition, sport contributes to the country's ability to implement sustainable development strategies. People will truly be able to achieve physical and spiritual health with regular exercise (Burtscher et al., 2022).

In Indonesia, volleyball has established itself as a very popular sport. The results of the public assessment are of individual interest to the ideal exhibition of volleyball players in Indonesia. In accordance with current sports developments, volleyball coaches and athletes are always required to carry out training programs that incorporate sports science (Suharjana et al., 2020).

The game of Volleyball often undergoes drastic paradigm shifts. The development of volleyball lately presents an increasingly dynamic and fast game. Every volleyball game performance requires a solid foundation in technique, strategy, and psychology. At the peak competition, each athlete will try their best to show their best performance to win and achieve the results that are their training goals. Well-programmed training must certainly adjust to the preparation for the match to be faced (Ozawa et al., 2021). Well-controlled training will cause soul volleyball athletes to become strong (Zhang, 2021).

Training is also designed according to the abilities and physical factors required by each athlete's specialty (et al., 2014). The difference in position in the volleyball team greatly determines the performance of each player (Palao et al., 2014) Thus, training must follow the principle of specialization of each athlete, where the training program will differ depending on the position of each athlete with each other will be different training programs. Each player's roaming range in volleyball is very different; The player with the shortest cruising power is the middle blocker, and the player with the farthest cruising power is the setter. Physical training should consider the somatotype of volleyball athletes when designing individualized exercise programs for each athlete (Zareian et al., 2014). The physical training component must be able to form athletes with power abilities, especially the

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lower limbs and upper limbs (Milić et al., 2017). Physical exercise in the form of power jumps is predominantly carried out when doing spikes and blocks (Pawlik et al., 2020). Holistic exercises will increase the popularity and success of the athlete in achieving his goals and will also improve the health of the athlete. Holistic training includes instruction in physical fitness, technical proficiency, tactical awareness, psychological stability, and moral character (Li et al., 2016).

By using current technology that allows for more precise visualization, such as video challenges in each session, spike time detection, and jump serves, the development of an athlete's skill or technical prowess can be observed. Every time facing a competition, the coach must have criteria to choose the athlete to be brought, the selection of athlete criteria is certainly based on several factors, in terms of physical, skill, tactical, or psychological. This is in accordance with research (Balaji et al., 2021) which shows that a coach can choose athletes who will be able to participate in the race with physical abilities, namely high jumping power of 56.1 cm and spike ability of 17.9 m/s better than other athletes. Another physical component that also determines volleyball athletes can perform well if body fat and also their ideal body weight are always well maintained (Bojanic et al., 2020).

In terms of ability or technique, the only player in beach volleyball who must have strong blocking skills in a volleyball game is a defender. In indoor volleyball, the middle blocker must have more block power than other athletes' positions. Thus, the posture of an athlete in a special position must have a high posture; this is in accordance with research (Tili & Giatsis, 2011). An athlete's performance also greatly influences their standing in top-level competition (Serrien et al., 2016) However, if an athlete does not have alignment with an even posture, they will find it difficult to compete at the international level (Wnorowski & Ciemiński, 2016).

The selection of athletes is not only when participating in the competition, but during the peak match or Grand Final, usually the committee will choose the best athlete or Most Valuable Player (MVP) in the match. The selection of the best athletes is only for local athletes in the team that wins the competition, the selection of the best athletes is used as an indicator or criterion to see the skills of the best volleyball athletes in each competition, so it is necessary to analyze the best players in each competition. In addition, the coach makes a training program that refers to the best skills in the athlete. Depending on how many of the best athletes in each specialty are: spikers, setters, blockers, liberos, servers, and more. Observation of athletes in rounds during the course of a competition can be made for selection, or simply observed and assessed at the time of the peak competition. Therefore, the purpose of this study is to identify the best athletes whocompete in National level competitions (Proliga).

II. METHOD

Quantitative descriptive research methods with survey techniques. This type of research is descriptive research where this research describes the reality of real conditions in the field and systematically, factually, and accurately regarding the facts and nature of certain populations or tries to describe phenomena in detail. The number of samples in this study used purposive random sampling. Sampling using certain considerations according to desired criteria to be able to determine the number of samples to be studied Purposive sampling represents a group of different non-probability sampling techniques. Also known as judgmental, selective or subjective sampling, purposive sampling depends on the judgment of the researcher when it comes to selecting the units (e.g., people, cases/organizations, events, pieces of data) to be studied. The sample number was 12 athletes, consisting of 6 Jakarta Lavani male athletes and 6 Jakarta Bhayangkara male athletes. The research instrument uses an observation rubric by looking at several aspects of both skills and psychological aspects, namely attitude or attitude and leadership or leadership in the team. Data collection techniques using observation sheets. The points (+) collected in each set are combined and added up to the most points, the athlete is selected as the best athlete (MPV) in the competition. Data analysis techniques use quantitative descriptive.

III. RESULT AND DISCUSSION

RESULT

The results of research on the best players in the PLN Mobile Proliga 2023 volleyball championship at the National level for puta Lavani vs Bayangkara volleyball athletes can be seen in tables 1 and 2 below.

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Table 1. Lavani Athlete Observation Rubric

Set 1-5 Athlete Name	No. Back	SPIKE	Skill SERVE	BLOCK	Total Skill	Psychology Attitude/Leadership
Leandro	6	16	1	2	19	
Boy Arnes	3	14	2	1	17	Performance
Gave	15	1	2	3	6	Lifting the Team
Honorary	10	20	1	1	22	
Hendra	4	5	1	2	8	
Malizi	11	4	2	4	10	

The results of the study based on the table above showed that Fahri Septian Putra with TB (187 cm) from the Jakarta Lavani team was able to display his performance with a total of 22 points, an average of 4 points per set, becoming the best athlete representative (MVP) on the Lavani team in the PLN Mobile Proliga 2022 competition. Then, for the results of the analysis of the best male athletes of Jakarta Bhayangkara can be seen in table 2 below.

Table 2. Bhayangkara Athlete Observation Rubric

Set 1-5 Athlete Name	No. Back	SPIKE	Skill SERVE	BLOCK	Total Skill	Psychology Attitude/Leadership
Rendy	17	14	1	2	17	
Judah	9	4	0	3	7	Performance
Nizar	8	0	1	2	3	Lifting the Team
Nanda	13	5	1	2	8	
David	4	22	1	2	25	
Garrett	18	12	2	1	15	

The results of the study based on the table above showed that Rendi Febrian Tamamilang with TB (188 cm) became one of the local athletes from the Jakarta Bhayangkara volleyball club donated with a total of 20 points, an average of 4 points per set, becoming the best athlete representative (MVP) at the Bhayangkara club in the PLN Mobile Proliga 2023 competition.

When viewed in the observations of the two best player representatives (MPV), both Lavani and Bhayangkara athletes, in skill, these two athletes dominate more than other athletes. Then from the psychic these two athletes were able to contribute to the team lifting the team in collecting points and also bringing the team to be more motivated.

DISCUSSION

Based on the results of research that the best athlete (MPV) in the prestigious competition in Indonesia PLN Mobile Proliga 2023 can be determined from various aspects of ability, both skill or skill and also psychic or psychological, and obtained by athletes whose team won the PLN Mobile Proliga 2013 competition. In volleyball games, the skill aspect or skill in volleyball can be assessed from ability: spike, serve, block and receive serve (Risma et al., 2020) As for psychics, it can be assessed from the attitude of athletes when performing on the field and also the leadership of children in the team and in the match (Gogolev et al., 2018). Athletes who are dominant in giving points from the skills displayed during the peak match have the opportunity to become the best athletes. In addition to qualified skills and gaining many points, the attitude or psychic of athletes also needs to be an assessment so that athletes understand the importance of character today.

Ability assessment should indeed be accompanied by a psychological assessment of athletes, because skills without a good attitude will make athletes too proud and will not be liked in their team (Bisagno et al., 2019). In addition to these two aspects of assessment, both skill and psychic, there are still factors that are no less important according to (Chunmei, 2021), including: body posture, physiological function, genetics, motor skills. Body posture for volleyball athletes is currently very decisive, the minimum to be able to be at the top level of volleyball the height of female volleyball athletes is between 185 – 195 cm, while for male volleyball athletes is: 185 – 210 cm, this is also according to opinion (Grabara, 2020). Some problems in the development of volleyball athletes in Indonesia are the lack of funding from the government and also the private sector to sports, especially volleyball, then coach education is still lacking and rarely carried out both regionally, nationally and also

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internationally, good rewards in the form of study scholarships for volleyball athletes are very minimal or even non-existent, this is also in accordance with research (Hopkinson et al., 2016).

According to research (Piepiora & Witkowski, 2018), athletes will perform optimally if they have goals in each match. It is also influenced by their ability to learn from and follow the coach's instructions during practice and competition. The display of skills of volleyball players can be dismantled in plain sight or directly by a group of experts, it can also be by dissecting video accounts, this is according to the assessment (Silva et al., 2016).

According to research (García-De-alcázar et al., 2016), it would be easier and simpler to present data and immediately provide informational data to the head coach, but nowadays technology must still support each other. The use of volleyball data applications or volleyball information systems is also very helpful in recording the ability of volleyball athletes when competing. However, this app is not cheap and also requires the ability to use it. Unlike the observation form, it is convenient and simple to present the data and immediately provide the information data to the head coach.

Volleyball athletes, both core players and novice players, with substitutes or substitutes must always be in more or less the same physical condition. Because, depending on the coach's strategy, athletes must be ready to take positions at any time (ADIN MARIAN & MARILENA, 2012). The dominant factor affecting volleyball performance is the anthropometric profile and motor skills of players (Nasuka, 2020). The best volleyball players have good physical condition and have basic technical skills (Zerf & Louglaib, 2019). Even though these two aspects are very closely related to a player's ability to play volleyball. Because good physical condition requires good basic volleyball technique skills (Rubajczyk & Rokita, 2020). The biomechanical factors of motion in a volleyball match are very different for the strength of each player (Fattahi et al., 2014). Mentors must continue to focus on their competitors' ability to rise to assist in the execution of their skills (Gonçalves et al., 2021) Athletes' adaptation to muscle strengthening exercises, especially jumping exercises with heavy loads in elite volleyball athletes (You et al., 2020).

IV. CONCLUSIONS

The conclusion of this study is the selection of the best athletes for the PLN Mobile Proliga 2023 competition, and these athletes are as follows: Fahri Septian Putratama from the Lavani Jakarta team, based on the calculation of skill points from the Grand Final match. To determine the best volleyball player in a competition, the best athlete (MVP) is determined by observing skill and psychology. The athlete's psychology and skill abilities must be accurately assessed by an observer or rater. In volleyball competitions, the best athletes can be evaluated and selected using rubrics to observe their abilities. Recommendations for future researchers: The selection of the best athletes can be more tailored to each volleyball athlete's area of expertise. It can also be seen that points are counted not only in the grand final match but also from the first match.

REFERENCES

- 1) ADIN MARIAN, C., & MARILENA, C. (2012). Contributions of Shares of Game Development in Defence Efficiency in Areas By the Specialization, the National Volleyball Team Junior of Romania. *Ovidius University Annals, Series Physical Education & Sport/Science, Movement & Health*, 12(2), 308–314. <http://search.ebscohost.com/login.aspx?direct=true&db=s3h&AN=85380146&lang=pt-br&site=ehost-live>
- 2) Balaji, S. R., Karthikeyan, S., & Manikandan, R. (2021). Performance measurement of volleyball player in attacker position through object detection and tracking techniques. *Journal of Theoretical and Applied Information Technology*, 99(17), 4173–4185.
- 3) Bisagno, E., Morra, S., Basciano, M., Rosina, C., & Vitali, F. (2019). Assessing individual performance in team sports: A new method developed in youth volleyball. *Journal of Functional Morphology and Kinesiology*, 4(3). <https://doi.org/10.3390/jfkm4030053>
- 4) Bojanic, D., Ljubojevic, M., Krivokapic, D., & Bjelica, D. (2020). Morphological characteristics and body composition of elite volleyball players: Three montenegrin clubs with most trophies participating in european competitions. *International Journal of Morphology*, 38(4), 903–908. <https://doi.org/10.4067/S0717-95022020000400903>
- 5) Burtscher, J., Strasser, B., Burtscher, M., & Millet, G. P. (2022). The Impact of Training on the Loss of Cardiorespiratory Fitness in Aging Masters Endurance Athletes. *International Journal of Environmental Research and Public Health*, 19(17). <https://doi.org/10.3390/ijerph191711050>
- 6) Chunmei, C. (2021). Research Progress on Selection Methods of Volleyball Players. *J Adv Sport Phys Edu*, 8642, 172–181. <https://doi.org/10.36348/jaspe.2021.v04i08.001>
- 7) Fattahi, A., Masoud, A., Kalani, A., Nemat, S., & Hossein, M. (2014). Differences between biomechanical variables of professional volleyball attackers due to game 's position. *European Journal of Experimental Biology*, 4(2), 406–411.

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- 8) García-De-alarcaz, A., Ortega, E., & Palao, J. M. (2016). Technical-tactical performance profile of the block and dig according to competition category in men's volleyball. *Motriz. Revista de Educacao Fisica*, 22(2), 102–109. <https://doi.org/10.1590/S1980-6574201600020013>
- 9) Gogolev, N., Sabaraykin, S., & Glukhareva, M. (2018). The analysis of leadership qualities of veterans of volleyball players in the training process. *SHS Web of Conferences*, 55, 03031. <https://doi.org/10.1051/shsconf/20185503031>
- 10) Gonçalves, C. A., Lopes, T. J. D., Nunes, C., Marinho, D. A., & Neiva, H. P. (2021). Neuromuscular jumping performance and upper-body horizontal power of volleyball players. *Journal of Strength and Conditioning Research*, 35(8), 2236–2241. <https://doi.org/10.1519/JSC.0000000000003139>
- 11) Grabara, M. (2020). Posture of adolescent volleyball players- A two-year study. *Biomedical Human Kinetics*, 12(1), 204–211. <https://doi.org/10.2478/bhk-2020-0026>
- 12) Hopkinson, M., Smolianov, P., Dion, S., & Schoen, C. (2016). Identifying Best Practices for Advancement of Us Volleyball. 161–164.
- 13) Li, Y., Zhang, T., & Chen, Q. (2016). Research on the Key Issues in the Modern Volleyball Athletic Training. 85(Msetasse), 1870–1873. <https://doi.org/10.2991/msetasse-16.2016.421>
- 14) Milić, M., Grgantov, Z., Chamari, K., Ardigò, L. P., Bianco, A., & Padulo, J. (2017). Anthropometric and physical characteristics allow differentiation of young female volleyball players according to playing position and level of expertise. *Biology of Sport*, 34(1), 19–26. <https://doi.org/10.5114/biolsport.2017.63382>
- 15) Nasuka, N. (2020). The Anthropometric Profile and Motor Skill of Men Elite Volleyball Players. 21(Icshpe 2019), 34–37. <https://doi.org/10.2991/ahsr.k.200214.010>
- 16) Ozawa, Y., Uchiyama, S., Ogawara, K., Kanosue, K., & Yamada, H. (2021). Biomechanical analysis of volleyball overhead pass. *Sports Biomechanics*, 20(7), 844–857. <https://doi.org/10.1080/14763141.2019.1609072>
- 17) Palao, J. M., Manzanares, P., & Valadés, D. (2014). Anthropometric, physical, and age differences by the player position and the performance level in volleyball. *Journal of Human Kinetics*, 44(1), 223–236. <https://doi.org/10.2478/hukin-2014-0128>
- 18) Pawlik, D., Kawczyński, A., Chmura, J., Maćkała, K., Kutrzyński, M., & Mroczek, D. (2020). Jumping flying distance and jump performance of elite male volleyball players at FIVB volleyball men's world championship. *Applied Sciences (Switzerland)*, 10(6), 1–10. <https://doi.org/10.3390/app10062045>
- 19) Piepiora, P., & Witkowski, K. (2018). Personality traits of competitive athletes according to type of pressure exerted on opponents. *South African Journal for Research in Sport, Physical Education and Recreation*, 40(1), 97–109.
- 20) Risma, S. A., Dlis, F., & Samsudin, S. (2020). Variation of Volleyball Basic Technique Through Games Approach. *ACTIVE: Journal of Physical Education, Sport, Health and Recreation*, 9(2), 131–136. <https://doi.org/10.15294/active.v9i2.39056>
- 21) Rubajczyk, K., & Rokita, A. (2020). The Relative Age Effect and Talent Identification Factors in Youth Volleyball in Poland. *Frontiers in Psychology*, 11(July), 1–9. <https://doi.org/10.3389/fpsyg.2020.01445>
- 22) Serrien, B., Ooijen, J., Goossens, M., & Baeyens, J.-P. (2016). A Motion Analysis in the Volleyball Spike - Part 1: Three-dimensional Kinematics and Performance. *International Journal of Human Movement and Sports Sciences*, 4(4), 70–82. <https://doi.org/10.13189/saj.2016.040403>
- 23) Silva, M., Sattler, T., Lacerda, D., & João, P. V. (2016). Match analysis according to the performance of team rotations in volleyball. *International Journal of Performance Analysis in Sport*, 16(3), 1076–1086. <https://doi.org/10.1080/24748668.2016.11868949>
- 24) Suharjana, Priyanto, E., & Ndayisenga, J. (2020). Contribution of leg power, arm power, stomach muscle power, and back muscle power on jumping services. *International Journal of Human Movement and Sports Sciences*, 8(5), 240–248. <https://doi.org/10.13189/saj.2020.080512>
- 25) Tili, M., & Giatsis, G. (2011). The height of the men's winners FIVB Beach Volleyball in relation to specialization and court dimensions. *Journal of Human Sport and Exercise*, 6(3), 504–510. <https://doi.org/10.4100/jhse.2011.63.04>
- 26) Welch, R., Taylor, N., & Gard, M. (2021). Environmental attunement in health, sport and physical education. *Sport, Education and Society*, 26(4), 339–348. <https://doi.org/10.1080/13573322.2021.1890009>
- 27) Wnorowski, K., & Ciemiński, K. (2016). Volleyball players' somatic composition in the light of sports results at 2014 FIVB Volleyball Men's World Championship. *Baltic Journal of Health and Physical Activity*, 8(4), 24–31. <https://doi.org/10.29359/bjhpa.08.4.03>
- 28) You, D. Z., Tomlinson, M., Borschneck, G., Borschneck, A., MacDonald, M., Deluzio, K., & Borschneck, D. (2020). The Effect of Ankle Brace Use on a 3-Step Volleyball Spike Jump Height. *Arthroscopy, Sports Medicine, and Rehabilitation*, 2(5), e461–e467. <https://doi.org/10.1016/j.asmr.2020.04.015>

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- 29) Zareian, E., Rabbani, V., & Saeedi, F. (2014). The Effect of Physical Biorhythm Cycle on Some Physical Fitness Factors of Adolescent Volleyball Players. *Annals of Applied Sport Science*, 2(1), 11–20. <https://doi.org/10.18869/acadpub.aassjournal.2.1.11>
- 30) Zerf, M., & Louglaib, L. (2019). Maximal aerobic speed as prior reference point skills fitness capacities among elite male volleyball players. *Physical Education of Students*, 23(3), 160–166. <https://doi.org/10.15561/20755279.2019.0308>
- 31) Zhang, Z. (2021). Analysis of Volleyball Video Intelligent Description Technology Based on Computer Memory Network and Attention Mechanism. *Computational Intelligence and Neuroscience*. <https://doi.org/10.1155/2021/7976888>



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