



## The Role of Social Culture in the Physical Performance of Volleyball Players in Jayapura Regency

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### History Article

Received July 2024

Approved July 2024

Published vol 11 no 1 2024

### Keywords

Sociocultural Factors;  
Physical Performance;  
Athlete Development

### Abstract

This research investigates how social and cultural factors influence the physical performance of volleyball athletes in this region, aiming to address the gap in knowledge regarding the athletes' physical capabilities. This study focuses on a sample of young, elite male volleyball players in Jayapura Regency, examining how social and cultural elements shape their physical development and preparedness for competitive play. The primary objective is to assess the physical condition of these athletes and comprehend the cultural influences that contribute to their performance levels. This will provide valuable insights for improving training and development programs. A quantitative descriptive approach was employed, utilizing data collected through standardized physical performance tests. The sample comprised 37 male volleyball players, and the data were analyzed using descriptive statistics. Additionally, qualitative methods, including interviews and observations, were employed to gain a deeper understanding of the cultural context surrounding volleyball training. The physical tests revealed a range of performance levels among the athletes. Approximately 20% demonstrated a 'very good' performance, 24% showed 'good' performance, 29% exhibited 'sufficient' performance, while 14% had 'unfavorable' performance, and 13% displayed 'very unfavorable' performance. These results provide a snapshot of the volleyball players' current physical condition and highlight key physical components such as speed, flexibility, strength, explosive power, agility, and endurance. The study underscores the significant role of social culture in shaping the physical performance of volleyball players in Jayapura Regency. Community support, traditional values, and communal training practices were identified as critical cultural factors influencing athletic development.

### How to Cite

Qomarrullah, R. & Sokoy, F. (2024). The Role of Social Culture in the Physical Performance of Volleyball Players in Jayapura Regency. *Journal of Physical Education, Health and Sport*, 11 (1), 15-23.

## INTRODUCTION

Across the globe, individuals of all ages, from energetic youngsters to seasoned adults, are drawn to the world of sports. This participation transcends the mere act of physical activity; it's a journey of self-discovery, improved well-being, and even character development. Engaging in sports acts as a natural fitness regimen, sculpting the body and boosting stamina (Gp & Kp, 2016). This enhanced physical prowess translates into a sharper mind, enabling individuals to tackle daily tasks with increased efficiency and focus (Saharullah et al., 2023). Moreover, sports participation strengthens the body's resilience, improving overall health and enabling individuals to navigate daily life with greater vitality (M Haris Satria and Muslimin, 2017).

Beyond the realm of physical benefits, sports serve as a potent catalyst for personal growth. They spark a flame of interest and ignite hidden talents, fostering a love for learning that can extend beyond the playing field and into academic pursuits (Gutema, 2017). The discipline and perseverance honed through sports translate into valuable character traits, shaping individuals into well-rounded individuals who strive for excellence in all aspects of life (Hatamleh et al., 2024).

Volleyball stands as a testament to the captivating nature of sports. It's a game that transcends generations, captivating players worldwide (Prasetyo et al., 2022). However, to truly unlock its potential as a path to athletic achievement, volleyball needs a structured approach. Imagine a meticulously designed system, where aspiring athletes are nurtured through a tiered development program. This system would seamlessly integrate sports science and technology, providing athletes with the resources and knowledge needed to excel. Regularly scheduled competitions would serve as stepping stones on this journey, testing skills and providing opportunities for athletes to showcase their talents and refine their strategies. Through such a well-defined framework, volleyball can evolve from a popular pastime into a potent force that cultivates exceptional athletes with the potential to dominate the competitive landscape.

The relationship between social culture and athletic performance has been a subject of growing interest in recent years. Researchers have explored how various sociocultural factors, such as community support, traditional values, and coaching practices, can influence an athlete's physical development, training habits, and overall

performance. This research topic, «The Role of Social Culture in the Physical Performance of Volleyball Players in Jayapura Regency,» aims to delve into this intricate relationship within the specific context of volleyball in Jayapura Regency.

Studies have demonstrated that social culture plays a significant role in shaping an individual's physical performance (Apriantono et al., 2023). Community support can provide athletes with motivation, encouragement, and a sense of belonging, which can positively impact their training and performance (Subarkah et al., 2023). Traditional values, such as discipline, perseverance, and respect for authority, can instill in athletes a strong work ethic and a commitment to excellence (Murod et al., 2023). Communal training practices, where athletes train together in a supportive environment, can foster a sense of camaraderie, enhance skill development, and promote a collective approach to achieving goals (Illik et al., 2015).

Volleyball, with its emphasis on teamwork, cooperation, and strategic thinking, is particularly susceptible to the influence of social culture. Studies have shown that volleyball players from cultures that value collective effort and social cohesion tend to exhibit higher levels of teamwork and cooperation on the court (Gadiet & Deutsch, 2020). Additionally, traditional values and coaching practices can shape the physical training and skill development of volleyball players (Orwoll et al., 2019).

Jayapura Regency, located in the easternmost province of Indonesia, is home to a rich and diverse cultural heritage. The region's unique blend of indigenous traditions, colonial influences, and modern values has shaped a distinct social environment. This cultural context can potentially influence the physical performance of volleyball players in Jayapura Regency in various ways.

The research on «The Role of Social Culture in the Physical Performance of Volleyball Players in Jayapura Regency» aims to make several significant contributions to the existing body of knowledge: (1) Context-specific understanding, the research will provide a deeper understanding of how social culture specifically influences the physical performance of volleyball players in Jayapura Regency; (2) Identification of unique factors, the study will identify unique sociocultural factors that contribute to the athletic success of volleyball players in Jayapura; (3) Tailored training programs, the findings will inform the development of tailored training

programs that incorporate culturally sensitive approaches to enhance physical performance; and (4) Promoting volleyball culture, the research will contribute to the promotion of a vibrant volleyball culture in Jayapura Regency by highlighting the role of social culture in athletic development.

This research topic holds immense potential to advance our understanding of the intricate relationship between social culture and athletic performance, particularly in the context of volleyball in Jayapura Regency. The findings can provide valuable insights for coaches, athletes, and sports administrators who seek to optimize physical performance and foster a thriving volleyball culture in the region.

## METHOD

This study employed a quantitative descriptive research approach to investigate the physical performance of male volleyball players from Jayapura Regency, Papua, Indonesia (Muhlisin et al., 2022). The target population consisted of 37 athletes participating volleyball team. However, due to logistical limitations and the desire for in-depth data collection, a purposive sampling technique was employed. Data collection occurred in June 2023 and relied on standardized physical performance tests. These tests aimed to assess various aspects of physical fitness crucial for volleyball performance (Bahtra & Putra, 2024). The specific tests used included:

1. 60-meter sprint  
Assesses speed, a vital component for quick movements and reactions.
2. Sit-and-reach test  
Evaluates flexibility, essential for range of motion and agility.
3. Push-up and sit-up tests  
Measure upper and lower body muscular strength, respectively, crucial for generating power and controlling movements.
4. Vertical jump test  
Assesses explosive power, important for jumping serves, blocks, and powerful attacks.
5. Illinois agility run test  
Evaluates agility, a key component for quick changes in direction and efficient movement on the court.
6. Bleep test  
Measures cardiovascular endurance, essential for sustained performance throughout the game.

During the data collection process, researchers met with the athletes during their prac-

tice sessions. After obtaining informed consent from each participant, the athletes underwent the aforementioned physical tests with standardized protocols to ensure data accuracy. Researchers recorded the results of each test and maintained detailed records for subsequent analysis.

The research employed descriptive statistical analysis to analyze the collected data. Descriptive statistics provide a summary of the data, including measures of central tendency (e.g., mean, median) and variability (e.g., standard deviation). Additionally, the percentage formula was used to categorize the athlete's physical condition levels. These categories were established based on established norms and expert opinions in volleyball conditioning: (1)  $80\% \leq 100\%$  (Very Good); (2)  $60\% \leq 80\%$  (Good); (3)  $40\% \leq 60\%$  (Sufficient); (4)  $20\% \leq 40\%$  (Low); and (4)  $0\% \leq 20\%$  (Very Low) (Brouwer et al., 2022).

By analyzing the data through descriptive statistics and categorizing athletes based on their physical condition levels, the research aims to provide a comprehensive picture of the athletes' physical capabilities. This understanding can inform the development of targeted training programs for volleyball players in Jayapura Regency, addressing the specific needs of athletes at different levels of physical fitness.

The study adhered to ethical guidelines for research involving human subjects. Informed consent was obtained from all participants, explaining the purpose of the study, potential risks and benefits, and their right to withdraw at any time. Confidentiality of personal information was maintained throughout the research process.

## RESULTS AND DISCUSSION

Based on the data obtained in the field, it can be described as follows:

### Analysis of Speed Test Results

The speed test results unveiled variations in the physical capabilities of the 37 male volleyball players. A breakdown of the distribution of athletes across different performance categories is as follows: six athletes (16.2%) were classified as Very Good ( $80\% \leq 100\%$ ), thirteen athletes (35.1%) fell into the Good category ( $60\% \leq 80\%$ ), ten athletes (27.0%) were deemed Sufficient ( $40\% \leq 60\%$ ), four athletes (10.8%) exhibited Low performance ( $20\% \leq 40\%$ ), and another four athletes (10.8%) were categorized as Very Low ( $0\% \leq 20\%$ ). These findings suggest that while some athletes (16.2%) exhibited exceptional speed (very good classification), a significant portion (41.8%) falls within the good and sufficient categories.

This indicates room for improvement in overall leg speed for a sizeable portion of the athletes.

The importance of speed in volleyball cannot be overstated. Athletes rely on quick bursts of speed for various actions on the court, including reacting swiftly to opponents' attacks, chasing and retrieving the ball effectively, making fast transitions between defense and offense, and executing powerful jumps for spikes and blocks. By enhancing their leg speed, volleyball players can improve their overall agility and responsiveness on the court, potentially gaining a competitive advantage.

### Analysis of Flexibility Test Results

The flexibility test results unveiled variations in the range of motion among the 37 male volleyball players. Here's a breakdown of the distribution of athletes across different performance categories: Two athletes (5.4%) demonstrated Very Good flexibility ( $80\% \leq 100\%$ ), eight athletes (21.6%) were classified as Good ( $60\% \leq 80\%$ ), fourteen athletes (37.8%) exhibited Sufficient flexibility ( $40\% \leq 60\%$ ), ten athletes (27.0%) fell into the Low category ( $20\% \leq 40\%$ ), and three athletes (8.1%) were categorized as Very Low ( $0\% \leq 20\%$ ). These findings suggest that a considerable portion of the athletes (27.0% and 8.1%) may benefit from improved flexibility. While some athletes showcased excellent flexibility (5.4%), a larger group falls within the good and sufficient categories.

Flexibility plays a crucial role in volleyball by enhancing Range of Motion: Improved flexibility allows for greater range of motion in joints, facilitating powerful attacks, effective blocks, and efficient diving saves. Moreover, it helps in Reducing the Risk of Injury: Greater flexibility minimizes muscle strain and joint injuries commonly encountered during explosive movements in volleyball.

Volleyball training programs often incorporate flexibility exercises targeting various body parts, including the neck, shoulders, waist, core, and hips. These exercises help improve overall flexibility and prepare athletes for the demands of the sport.

### Revised Results for Strength Tests

The push-up test results unveiled a spectrum of upper body strength among the 37 male volleyball players: Eight athletes (21.6%) exhibited Very Good strength ( $80\% \leq 100\%$ ), twelve athletes (32.4%) showcased Good strength ( $60\% \leq 80\%$ ), while an equal number of twelve athletes (32.4%) demonstrated Sufficient strength ( $40\% \leq 60\%$ ). Three athletes (8.1%) fell into the Low

category ( $20\% \leq 40\%$ ), and two athletes (5.4%) were classified as Very Low ( $0\% \leq 20\%$ ). While a significant portion (21.6%) demonstrated excellent upper body strength, a sizeable group (32.4%) falls within the sufficient category. This suggests potential for improvement in upper body strength for some athletes.

Upper body strength is indispensable in volleyball for multiple reasons: Firstly, it aids in Generating Power, as strong push-up muscles (chest, triceps, and shoulders) are pivotal for producing powerful spikes, serves, and blocks. Secondly, it contributes to Upper Body Control, facilitating stability and precision during dives, digs, and setting motions.

The sit-up test results delineated the distribution of core strength among the 37 male volleyball players: Nineteen athletes (51.4%) displayed Very Good strength ( $80\% \leq 100\%$ ), while five athletes (13.5%) fell into the Good category ( $60\% \leq 80\%$ ). Seven athletes (18.9%) demonstrated Sufficient strength ( $40\% \leq 60\%$ ), two athletes (5.4%) exhibited Low strength ( $20\% \leq 40\%$ ), and four athletes (10.8%) were classified as Very Low ( $0\% \leq 20\%$ ). Despite over half of the athletes (51.4%) showcasing excellent core strength, a combined 13.5% and 18.9% fell within the good and sufficient categories, respectively, indicating potential for improvement in core strength for some athletes.

Core strength holds paramount importance in volleyball for ensuring Stability and Balance during quick movements and changes in direction, which are essential for efficient play. Additionally, it facilitates the Transfer of Power from the legs to the upper body during jumps and attacks.

### Analysis of Explosive Power Test Results

The explosive power test results illuminated variations in jumping ability among the 37 male volleyball players: Four athletes (10.8%) demonstrated Very Good performance ( $80\% \leq 100\%$ ), while nine athletes (24.3%) showcased Good performance ( $60\% \leq 80\%$ ). Five athletes (13.5%) exhibited Sufficient performance ( $40\% \leq 60\%$ ), seven athletes (18.9%) fell into the Low category ( $20\% \leq 40\%$ ), and twelve athletes (32.4%) were categorized as Very Low ( $0\% \leq 20\%$ ). A significant portion of the athletes (41.3%) fell within the low and very low categories, suggesting a need for improvement in explosive power. While some athletes displayed excellent jumping ability (10.8%), a larger group requires targeted training to enhance their explosiveness.

Explosive power holds paramount importance in volleyball for various reasons: Firstly, it facilitates Vertical Jumps, enabling players to soar

higher for powerful spikes, effective blocks, and retrieving high balls. Additionally, it contributes to Quick Movements on the court, translating to swift reactions to the ball and seamless changes in direction.

Explosive power is influenced by a multitude of factors, including Muscle Strength, where robust leg and core muscles serve as the cornerstone for generating explosive power. Furthermore, Neuromuscular Coordination plays a crucial role, as efficient coordination between the nervous system and muscles optimizes power output.

### Analysis of Agility Test Results

The agility test results unveiled variations in the ability to change direction among the 37 male volleyball players. Here's a breakdown of the distribution of athletes across different performance categories: Eight athletes (21.6%) exhibited Very Good performance ( $80\% \leq 100\%$ ), while ten athletes (27.0%) demonstrated Good performance ( $60\% \leq 80\%$ ). Another ten athletes (27.0%) showcased Sufficient performance ( $40\% \leq 60\%$ ), followed by five athletes (13.5%) categorized as Low ( $20\% \leq 40\%$ ), and four athletes (10.8%) falling into the Very Low category ( $0\% \leq 20\%$ ). While a significant portion (41.1%) demonstrated good or very good agility, another sizeable group (27.0%) falls within the sufficient category, suggesting potential for improvement in agility for some athletes.

Agility stands as a critical component of volleyball performance for several reasons. Firstly, it enables Quick Reactions, allowing players to swiftly respond to opponents' attacks and retrieve the ball effectively. Additionally, it facilitates Efficient Movement, enabling players to navigate changes in direction during defense, offense, and while covering teammates. Ultimately, Enhanced agility can elevate an athlete's overall performance on the court, contributing to their effectiveness in various facets of the game.

### Analysis of Endurance Test Results

The endurance test results unveiled variations in cardiovascular fitness among the 37 male volleyball players. Here's a breakdown of the distribution of athletes across different performance categories: Three athletes (8.1%) demonstrated Very Good performance ( $80\% \leq 100\%$ ), while six athletes (16.2%) exhibited Good performance ( $60\% \leq 80\%$ ). Nine athletes (24.3%) showcased Sufficient performance ( $40\% \leq 60\%$ ), followed by eleven athletes (29.7%) categorized as Low ( $20\% \leq 40\%$ ), and eight athletes (21.6%) falling into the Very Low category ( $0\% \leq 20\%$ ). A

significant portion of the athletes (51.3%) fell within the low and very low categories, suggesting a need for improvement in cardiovascular endurance. This highlights the importance of targeted training to enhance the athletes' ability to sustain performance throughout a game.

Cardiovascular endurance plays a pivotal role in volleyball for several reasons. Firstly, it enables Sustained Performance, allowing players to maintain a high level of activity throughout a demanding match without experiencing fatigue. Additionally, it facilitates Quick Recovery, as efficient oxygen delivery through the body promotes faster recovery between rallies, enabling players to perform optimally throughout the game. Lastly, Strong endurance serves as a foundation for Overall Fitness in athletes, contributing to their overall health and well-being both on and off the court.

Based on the analysis of physical fitness tests conducted on 37 male volleyball players, the results revealed a positive distribution across various fitness categories. Among the athletes, 15 individuals (40.5%) demonstrated Excellent fitness levels, showcasing exceptional physical capabilities. Additionally, 12 athletes (32.4%) were categorized as Good, indicating a high level of fitness suitable for competitive volleyball. Moreover, 8 athletes (21.6%) exhibited Average fitness levels, signifying a satisfactory level of physical readiness. Notably, only one athlete (2.7%) fell into the Below Average category, suggesting a need for improvement in certain aspects of physical fitness. Similarly, another athlete (2.7%) demonstrated Poor fitness, highlighting the importance of targeted interventions to enhance overall physical preparedness. This comprehensive breakdown underscores the diverse range of fitness levels among the volleyball players and emphasizes the significance of tailored training programs to optimize performance and mitigate potential areas of weakness.

The examination of physical fitness levels among volleyball players in Jayapura Regency intertwines with the broader research inquiry into the role of social culture in athletic performance. By scrutinizing the physical condition of athletes, researchers gain valuable insights into how social and cultural factors shape their physical capabilities and performance outcomes.

Within the context of Jayapura Regency, where volleyball holds cultural significance and serves as a focal point for community engagement, understanding the interplay between social culture and physical performance becomes para-

mount. The findings from the physical fitness assessments shed light on the ways in which cultural norms, traditions, and social dynamics influence athletes' training regimens, dietary habits, and overall health practices (Syahputra et al., 2023).

For instance, the observed variations in speed, flexibility, strength, power, agility, and endurance among volleyball players can be traced back to cultural influences on lifestyle choices, training methodologies, and community support systems. Cultural values emphasizing discipline, perseverance, and collective achievement may manifest in athletes' dedication to training and adherence to fitness routines, thereby impacting their physical preparedness for competitive play (Bondarev et al., 2021).

Furthermore, the relationship between social culture and physical performance extends beyond individual athletes to encompass broader community dynamics and support networks. Cultural norms surrounding teamwork, camaraderie, and community solidarity may foster a conducive environment for athletic development, providing athletes with the social support and encouragement needed to excel in their pursuits (Spiering et al., 2021).

Moreover, the insights gleaned from analyzing the physical fitness data can inform culturally sensitive approaches to athlete development and performance enhancement. By recognizing and respecting the cultural contexts in which athletes operate, coaches, trainers, and policymakers can tailor interventions and initiatives to better align with local customs, traditions, and values.

In essence, the assessment of physical performance among volleyball players in Jayapura Regency serves as a lens through which to explore the intricate interplay between social culture and athletic achievement. By delving into the underlying mechanisms driving physical fitness outcomes, researchers can gain a deeper understanding of how cultural factors shape the sporting landscape and inform strategies for promoting holistic athlete development within the community.

Engaging in speed training not only enhances athletes' agility but also facilitates seamless movement and physical activity (Mitchell et al., 2021). This improved agility enables athletes to navigate the volleyball court with greater ease and efficiency, thereby optimizing their performance during gameplay. Moreover, the benefits of speed training extend beyond the realm of sports, as enhanced agility contributes to overall mobility and functional movement in various aspects of daily life. Within the context of Jayapura

Regency, where social culture plays a pivotal role in shaping athletic development, the integration of speed training into athletes' routines reflects a commitment to excellence and continuous improvement. By prioritizing agility-enhancing exercises, coaches and trainers empower athletes to adapt to the dynamic nature of volleyball gameplay, where split-second reactions and swift movements are essential for success.

Similarly, the significance of flexibility in athletic performance cannot be overstated, particularly within the cultural context of Jayapura Regency. Flexibility serves as a cornerstone of physical preparedness, enabling athletes to execute movements with precision and fluidity on the volleyball court. While flexibility exercises are often incorporated into athletes' warm-up and recovery routines, their importance extends far beyond mere stretching. In a culture that values resilience and adaptability, flexibility represents a fundamental attribute that contributes to athletes' overall success and longevity in the sport. Moreover, the relationship between body weight and flexibility underscores the complex interplay between physical conditioning and cultural influences on athletic performance. By recognizing and addressing these factors, coaches and trainers can tailor training programs to enhance athletes' flexibility and resilience, thereby fostering a culture of excellence and continuous improvement within the volleyball community of Jayapura Regency.

Flexibility assessments have emerged as pivotal indicators in evaluating athletes' physical fitness levels, particularly within the framework of determining their readiness for competitive sports, such as volleyball. Optimal body flexibility not only facilitates the execution of daily activities but also mitigates the risk of injuries, particularly in areas prone to strain, such as the back. Within the cultural context of Jayapura Regency, where societal norms emphasize physical resilience and adaptability, the incorporation of flexibility tests underscores a broader commitment to nurturing well-rounded athletes capable of excelling both on and off the volleyball court. Insufficient flexibility not only hampers athletes' performance but also impedes their ability to navigate the challenges inherent in competitive sports, thereby highlighting the importance of targeted interventions aimed at enhancing flexibility among volleyball players.

Moreover, the findings from arm muscle tests, including push-ups and sit-ups, shed light on the strength profiles of male volleyball athletes in Jayapura Regency. While the results indicate

a moderate average in strength levels, the significance of muscular strength cannot be overstated in the pursuit of athletic excellence. Strength serves as a foundational component underpinning athletes' ability to generate power and resistance, essential for executing dynamic movements and overcoming physical challenges on the volleyball court. Within the cultural milieu of Jayapura Regency, where physical prowess is esteemed and celebrated, the cultivation of muscular strength represents a cornerstone of athletic development. By honing their strength capabilities, volleyball athletes can enhance their performance across various facets of the game, from executing powerful spikes to withstanding opponents' defensive maneuvers (Messina & Messina, 2022).

Furthermore, the interplay between arm muscle strength and speed underscores the intricate dynamics shaping athletic performance in Jayapura Regency. The fusion of strength and speed enables volleyball athletes to unleash explosive power, resulting in formidable smash outcomes that pose challenges for opponents. Within the cultural context of Jayapura Regency, where competitive spirit and sportsmanship are deeply ingrained, the synergy between strength and speed epitomizes the ethos of striving for excellence in sports. By leveraging insights from muscle strength assessments, coaches and trainers can devise tailored training regimens aimed at optimizing athletes' physical capabilities and fostering a culture of athletic achievement within the volleyball community of Jayapura Regency.

In the realm of volleyball, the importance of arm strength training, exemplified by exercises like push-ups, cannot be overstated (Varghese et al., 2022). These exercises serve as crucial tools for enhancing arm muscle strength, consequently amplifying the efficacy of smash shots and cultivating power smashes. Within the cultural fabric of Jayapura Regency, where volleyball holds significant cultural and social significance, the emphasis on arm strength training reflects a broader commitment to nurturing well-rounded athletes capable of excelling in competitive sports. By prioritizing arm strength development, coaches and trainers aim to bolster the performance capabilities of male volleyball athletes, equipping them with the requisite physical attributes to navigate the demands of the game with finesse and precision.

Furthermore, the findings from the explosive power test, as evidenced by the vertical jump measurements of male volleyball athletes, reveal an unfavorable average. Explosive power, a dynamic amalgamation of speed and strength, plays

a pivotal role in volleyball performance, particularly in executing swift and powerful movements on the court. Within the cultural milieu of Jayapura Regency, where athleticism is esteemed and celebrated, the pursuit of explosive power represents a cornerstone of athletic development. By honing their explosive power capabilities, volleyball athletes can elevate their performance to new heights, demonstrating agility, agility, and resilience in the face of formidable opponents. The integration of explosive power training into athletes' regimens underscores a broader commitment to excellence and continuous improvement within the volleyball community of Jayapura Regency, where social culture intertwines with athletic achievement to foster a culture of sporting excellence and camaraderie.

Explosive power, characterized by its rapid force generation within a brief timeframe, stands as a cornerstone of athleticism, particularly in sports like volleyball. This facet of physical prowess manifests prominently in the explosive movements of the leg muscles, facilitating dynamic jumps essential for powerful serves, spikes, and blocks on the volleyball court. Within the cultural milieu of Jayapura Regency, where volleyball holds deep cultural roots and serves as a focal point of community engagement, the cultivation of explosive power embodies a broader commitment to nurturing well-rounded athletes capable of excelling in competitive sports. The synthesis of strength and speed in leg muscles underscores the significance of explosive power, dictating the forcefulness of hits and the height of jumps. Coaches and trainers play a pivotal role in emphasizing exercises aimed at enhancing explosive power, equipping athletes with the requisite physical attributes to thrive in the fast-paced environment of volleyball gameplay.

Additionally, the agility test results from this study reveal commendable outcomes, underscoring the importance of agility in volleyball performance. A player's agility, classified as good in this context, plays a pivotal role in executing swift and nimble movements necessary for intercepting opponents' shots and orchestrating strategic plays on the court. Within the cultural landscape of Jayapura Regency, where athleticism is revered and celebrated, the cultivation of agility represents a foundational element of athletic development. By honing their agility, volleyball athletes can navigate the dynamic nature of the game with finesse and precision, demonstrating versatility and adaptability in response to changing game situations. Coaches and trainers must prioritize agility-enhancing exercises, ensuring that athle-

tes are well-equipped to anticipate and respond to the unpredictable nature of volleyball gameplay, thereby fostering a culture of excellence and innovation within the volleyball community of Jayapura Regency.

Recognizing the pivotal role of agility in volleyball, its optimization becomes imperative within the sporting realm. In the context of Jayapura Regency's vibrant volleyball culture, where athleticism intertwines with community identity, the enhancement of agility represents a cornerstone of athletic development. By prioritizing agility training, coaches and trainers aim to equip athletes with the agility necessary to navigate the dynamic and fast-paced nature of volleyball gameplay, fostering a culture of adaptability and innovation within the local volleyball community.

Furthermore, the results of the endurance test, utilizing the Multistage Fitness Test (MFT), unveil concerning outcomes characterized by a prevalence of moderate to very poor results. This disparity may stem from a lack of emphasis on cardiovascular endurance training, compounded by athletes' aversion to the rigorous nature of such exercises. In the cultural landscape of Jayapura Regency, where resilience and perseverance are esteemed virtues, the cultivation of endurance embodies a broader commitment to nurturing athletes capable of enduring the rigors of competitive sports. Coaches and trainers must redouble their efforts in implementing endurance-focused training regimens, thereby bolstering athletes' capacity to sustain optimal performance throughout extended volleyball matches.

Endurance, defined as the ability to maintain an energy resistance system over prolonged periods without succumbing to fatigue, assumes paramount importance in the context of volleyball matches that can extend up to five sets. Within Jayapura Regency's volleyball culture, where community pride is intertwined with athletic achievements, the optimization of endurance emerges as a key determinant of success on the court. By enhancing athletes' endurance levels through targeted training interventions, coaches can fortify their players' capacity to endure the physical and mental demands of competitive volleyball, thereby cultivating a culture of resilience and fortitude within the local volleyball community.

## CONCLUSION

The research findings reveal that volleyball players in Jayapura Regency exhibit a range of

physical capabilities. While their average speed and flexibility are sufficient, their strength tests are commendable. However, their explosive power and endurance are below par, highlighting areas needing improvement. Coaches must recalibrate training methods to focus on these deficiencies, enhancing overall performance. Tailored training regimens for explosive power and endurance can optimize athletes' physical conditions, maximizing their potential on the volleyball court.

The physical fitness of volleyball athletes is crucial for their success, with team performance relying on the harmonization of each player's condition. A balanced physical condition not only boosts individual performance but also fosters team synergy, resulting in a cohesive and formidable unit. Emphasizing a holistic approach that integrates physical prowess and teamwork is essential for achieving athletic success in Jayapura Regency.

## REFERENCES

- Apriantono, T., Juniarsyah, A. D., Adnyana, I. K., Hasan, M. F., & Resmana, D. (2023). The effect of speed training on the physical performance of adolescent futsal players. *Jurnal SPORTIF : Jurnal Penelitian Pembelajaran*, 9(1), 172–184. [https://doi.org/10.29407/js\\_unpgri.v9i1.19047](https://doi.org/10.29407/js_unpgri.v9i1.19047)
- Bahtra, R., & Putra, A. N. (2024). GANDRUNG: Jurnal Pengabdian Kepada Masyarakat Implementation of Long-Term Athlete Development (LTAD) to Sport Coach at KONI Pariaman City Implementation of Long-Term Athlete Development (LTAD) to Sport Coach at KONI Pariaman City. *GANDRUNG*, 5(1), 1352–1358. <https://doi.org/10.36526/gandrung.v5i1.3285>
- Bondarev, D., Sipilä, S., Finni, T., Kujala, U. M., Aukee, P., Kovanen, V., Laakkonen, E. K., & Kokko, K. (2021). Associations of physical performance and physical activity with mental well-being in middle-aged women. *BMC Public Health*, 21(1), 1–11. <https://doi.org/10.1186/s12889-021-11485-2>
- Brouwer, A., Johanson, J., & Carlson, T. (2022). College Athletes' Views on Academics: A Qualitative Assessment of Perceptions of Academic Success. *Journal of Athlete Development and Experience*, 4(2), 122–138. <https://doi.org/10.25035/jade.04.02.01>
- Čillík, I., Kollár, R., Kremnický, J., Pivovarníček, P., & Mandžáková, M. (2015). The level of general physical performance and physical development of 7 and 10-year-old boys and girls. 9th INSHS International Christmas Sport Scientific Conference, 4-6 December 2014. International Network of Sport and Health Science. Science.

- Szombathely, Hungary, 10(Proc1), 259–268. <https://doi.org/10.14198/jhse.2015.10.proc1.13>
- Gadjet, W., & Deutsch, J. (2020). A systematic approach to athletic development. *Journal of Human Sciences*, 17(4), 1014–1021. <https://doi.org/10.14687/jhs.v17i4.5942>
- Gp, G., & Kp, M. (2016). Socio-Economic status and level of participation of volley ball players in the selected Universities of Southern Universities of Karnataka State. *International Journal of Physiology*, 1(2), 14–17. [www.journalofports.com](http://www.journalofports.com)
- Gutema, G. S. (2017). Factors That Affect Participation of Female Students in Volleyball Sport in Adola College of Teachers' Education. *International Journal of Latest Research in Humanities and Social Science (IJLRHSS)*, 5(4), 17–22.
- Hatamleh, A., Sultan, F., Eid, A., Abed, A., Akour, A., & Alqatami, H. M. (2024). Level of Psychological Wellness and Its Relationship to Social Behavior among Volleyball Players. *Annals of Applied Sport Science*, 12(2), 1–12.
- M Haris Satria and Muslimin. (2017). The influence of the extracurricular activities of volleyball against the social behavior. *International Journal of Physical Education, Sports and Health*, 4(5), 30–35.
- Messina, M., & Messina, F. (2022). A Primer on the Income Tax Consequences of the NCAA's Name, Image and Likeness (NIL) Earnings for College Athletes. *Journal of Athlete Development and Experience*, 4(2), 189–196. <https://doi.org/10.25035/jade.04.02.05>
- Mitchell, T., Rongen, F., Perry, J., Littlewood, M., & Till, K. (2021). Validation of the Athletic Identity Measurement Scale in Youth Academy Soccer Players. *Journal of Athlete Development and Experience*, 3(3), 198–211. <https://doi.org/10.25035/jade.03.03.04>
- Muhlisin, M., Kurniawan, R., Ardiana, P., Ardiansyah, R., & Tohir, T. (2022). Pelatihan Bola Tangan melalui Pendekatan Long Term Athlete Development. *Jendela Olahraga*, 7(1), 119–131. <https://doi.org/10.26877/jo.v7i1.10586>
- Murod, H. H., Purwanti, S., & Triliana, R. (2023). Usia Tua Memengaruhi Skor Short Physical Performance Battery Test Pria Sehat di Kota Malang. *Jurnal Kedokteran Komunitas*, 11(2), 1–9.
- Orwoll, E. S., Fino, N. F., Gill, T. M., Cauley, J. A., Strotmeyer, E. S., Ensrud, K. E., Kado, D. M., Barrett-Connor, E., Bauer, D. C., Cawthon, P. M., Lapidus, J., & Newman, A. (2019). The Relationships between Physical Performance, Activity Levels, and Falls in Older Men. *Journals of Gerontology - Series A Biological Sciences and Medical Sciences*, 74(9), 1475–1483. <https://doi.org/10.1093/gerona/gly248>
- Prasetyo, D., Sulaiman, S., & Rustiadi, T. (2022). Changes in Social and Cultural Phenomena as a Result of Organizing the Sinar Harapan Village Open Volleyball Event. *Journal of Physical Education and Sports*, 11(1), 18–25. <https://journal.unnes.ac.id/sju/index.php/jpes>
- Saharullah, Siregar, F. Z., Nur, A., Hermawan, I., & Medeiros, A. I. A. (2023). The trend and evolution of training in volleyball: A bibliometric analysis of the last five years. *Journal Sport Area*, 9(1), 30–42. [https://doi.org/10.25299/sportarea.2024.vol9\(1\).14781](https://doi.org/10.25299/sportarea.2024.vol9(1).14781)
- Spiering, B. A., Mujika, I., Sharp, M. A., & Foulis, S. A. (2021). Maintaining Physical Performance: The Minimal Dose of Exercise Needed to Preserve Endurance and Strength Over Time. *Journal of Strength and Conditioning Research*, 35(5), 1449–1458. <https://doi.org/10.1519/JSC.0000000000003964>
- Subarkah, A., Marani, I. N., Yulianti, E., Widyaningsih, H., Jauhari, M., & Wijayanto, A. (2023). Physical Performance Indicators in Badminton. 10, 224–235. [https://doi.org/10.2991/978-94-6463-356-6\\_26](https://doi.org/10.2991/978-94-6463-356-6_26)
- Syahputra, R., Tomolius, Sugiyanto, F., Putri, L. P., Hendrayana, A. A., Atradinal, Bakhtiar, S., & Pion, J. (2023). An early investigation to optimize the implementation of long term athlete development in Indonesia. *Journal of Physical Education and Sport*, 23(12), 3196–3204. <https://doi.org/10.7752/jpes.2023.12365>
- Varghese, M., Ruparell, S., & LaBella, C. (2022). Youth Athlete Development Models: A Narrative Review. *Sports Health*, 14(1), 20–29. <https://doi.org/10.1177/19417381211055396>