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THE ROLE AND IMPROVEMENT OF THE SETTER'S ABILITY IN VOLLEYBALL

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Abstract
This study aims to analyze in depth the role of the setter in enhancing volleyball performance from technical, tactical, and communication perspectives. The research employed a qualitative descriptive approach through library research by synthesizing findings from seven relevant national and international scientific journals. The results show that the setter holds a central position as the main playmaker who directs attacks and controls the game's tempo. Technically, the setter's accuracy in overhead passing, precision of ball distribution, and coordination between vision and hand movement are crucial factors determining team effectiveness. Training using setter training balls has been proven to significantly improve passing accuracy and ball control. Moreover, the use of supporting tools such as the smash-setter device strengthens the cooperation between the setter and the spiker, resulting in faster and more varied attack patterns. From a tactical perspective, setters must be able to read game situations and make rapid, accurate decisions according to the opponent's defense conditions. Meanwhile, verbal and nonverbal communication plays an essential role in maintaining coordination among players during the dynamic flow of matches. The combination of technical proficiency, tactical intelligence, and communication ability makes the setter the "brain of the game," determining the team's success. Therefore, the development of setter skills should be carried out comprehensively through integrated training that includes technical, tactical, psychological, and communication aspects to produce adaptive, strategic, and competitive players at various levels of competition.
Keywords: Volleyball, Setter, Overhand pass, Decision-making, Communication

INTRODUCTION

In modern volleyball, team performance is determined not only by individual skill but also by the effectiveness of role specialization within the team structure. Each playing position carries specific responsibilities that contribute to overall tactical execution and match outcomes. Among these positions, the setter occupies a unique and strategic role, as they serve as the main link

between ball reception and offensive execution. Consequently, the quality of a setter's performance has a direct impact on the success of team attacks.

As volleyball has evolved into a faster and more complex game, the demands placed on setters have increased significantly. Setters are now required to perform precise technical actions under time pressure, read defensive formations accurately, and coordinate seamlessly with attackers. These demands highlight the importance of comprehensive setter development that integrates technical mastery, physical conditioning, tactical intelligence, and communication skills to support effective decision-making during play.

Volleyball is a team sport that demands cooperation, coordination, and strong technical and tactical skills among players. In this game, the setter acts as the central organizer of attacks and the determiner of the game's rhythm. A setter is responsible for distributing the ball to attacking players based on the match situation and conditions.

According to (Fauzi 2010), the setter is referred to as the "heart of volleyball" due to their dominant role in determining the direction, speed, and variation of the team's attacks. Without a good setter, offensive strategies cannot function optimally. The development of modern volleyball requires setters to possess precise technical skills, quick decision-making, and effective communication with team members. (Matias et al. 2021) emphasize that the setter plays a crucial role as the "brain of the team," as they determine the speed and diversity of the team's attacks while adjusting sets to the opponent's defensive formations. At the elite level, the quality of a setter's decision-making is the primary indicator of a team's attack effectiveness (side-out) (Nascimento et al., 2023).

Besides tactical aspects, physical strength and individual technique also significantly contribute to a setter's performance. (Saputra, Yono, and Hardovi 2024) found that plank exercises can enhance arm muscle strength and body stability, directly influencing the setter's overhead passing ability. Arm and finger strength is essential for maintaining ball control during attack setups (Amalia et al., 2023, as cited in (Saputra, Yono, and Hardovi 2024)

Several studies show that modifications to training equipment can improve a setter's technique and passing accuracy. (Nur Mulyadi et al. n.d.) demonstrated that training with setter training balls significantly increases overhead passing accuracy in male volleyball athletes at Jaguar Club Tasikmalaya. Similar results were found by (Rahayu et al. 2024), where training with setter training balls provided significant improvements in the overhead passing skills of female athletes at SMK Kartek 2 Jatilawang. Thus, the use of innovative training media can greatly contribute to mastering basic overhead passing techniques and team attack effectiveness.

(Alfianto 2022) research reinforces these findings by showing that the use of smash and setter

aids is effective in strengthening cooperation between setters and spikers, thereby improving attack coordination. In this context, collaboration between these two positions becomes a key factor in achieving attack effectiveness.

Overall, the findings from various studies indicate that setter performance is a multidimensional construct influenced by technical skill, physical strength, tactical understanding, and interpersonal coordination. The use of targeted physical training and innovative training equipment has been shown to enhance setting accuracy and cooperation with spikers, leading to more effective offensive play. Therefore, setter development programs should adopt an integrated training approach that addresses these interconnected components, ensuring that setters are well-prepared to meet the demands of modern volleyball and contribute optimally to team performance.

METHODOLOGY

This study employs a qualitative descriptive method using a library research approach to obtain a comprehensive understanding of the setter's role in volleyball. This approach was chosen because it allows for the integration of various previous research findings into a unified and coherent analytical framework. Data were collected from seven relevant national and international scientific journals focusing on setter training techniques, team communication, and volleyball game strategies. The journals reviewed include works by (Alfianto 2022; Fauzi 2010; Matias et al. 2021; Nascimento et al. 2023; Nur Mulyadi et al. n.d.)

The research began with a literature identification process using keywords such as "volleyball setter role," "overhead passing training," "team communication," and "decision-making in volleyball." After gathering the sources, content analysis was conducted to examine and extract the main data relevant to the research focus. The extracted data were then categorized into three main themes: (1) the technical and tactical roles of the setter, (2) the effects of training on performance, and (3) communication and coordination within the team. The analysis was carried out by comparing the findings of each study, identifying similarities, differences, and emerging patterns.

To ensure data validity, a source triangulation method was applied by comparing findings from national and international journals to achieve a more objective and comprehensive synthesis. This approach enables the study not only to describe existing findings but also to explain the interrelationships among variables that influence the setter's performance in greater depth.

RESULTS

The results of the reviewed studies indicate that the setter plays a central and decisive role in the effectiveness of modern volleyball performance. Setter competence is shown to be multidimensional, encompassing technical accuracy, tactical control, and the ability to regulate the tempo and direction of attacks. Across the studies, setting accuracy and consistency were identified as key performance indicators, with improvements directly linked to the use of specialized technical training tools such as modified setter balls and structured drills. These training methods were proven to enhance overhead passing precision, postural stability, and motor coordination, which are essential for maintaining performance consistency in dynamic match situations.

Furthermore, the findings reveal that offensive effectiveness is strongly influenced by the quality of coordination between setters and spikers. Training interventions utilizing smash-setter devices and paired training models significantly improved synchronization, timing, and rhythm between these positions. The results demonstrate that setters who are trained to vary set height, speed, and tempo can better support different attack patterns, including fast-tempo and combination plays. In addition, differentiated setting strategies were observed based on gender and competition level, with male setters tending toward faster tempos and female setters prioritizing stability and control. These variations highlight the importance of adapting training programs to physiological characteristics and tactical demands.

In addition to technical and tactical outcomes, the results emphasize the importance of cognitive, physical, and social dimensions in setter performance. Studies showed that setters are required to make rapid tactical decisions under pressure, necessitating high levels of situational awareness and cognitive efficiency. Physical conditioning, particularly core and shoulder strength, was found to significantly support setting performance and injury prevention. Moreover, effective communication and leadership emerged as critical factors in team cohesion and offensive success. Overall, the results confirm that setter performance is best developed through a holistic training approach that integrates technical skill development, physical conditioning, cognitive training, and social-communicative competence.

DISCUSSION

The Effect of Technical Training on Setting Accuracy and Consistency

Technical proficiency in the overhead pass serves as a primary indicator of a setter's performance. (Rahayu et al. 2024) demonstrated that using a *training setter ball* significantly improved the accuracy of overhead passing among female volleyball athletes at SMK Kartek 2 Jatilawang ($p = 0.000 < 0.05$). This training tool requires players to adjust finger pressure and

release angles, thereby enhancing proprioceptive sensitivity and hand–eye coordination(Anggriawan et al. 2023). From a neurophysiological standpoint, such exercises strengthen the connection between the sensory and motor systems in the brain, known as *sensorimotor adaptation* (Wulf & Shea, 2002). This adaptation allows setters to evaluate the ball's trajectory accurately and control finger force to direct the ball precisely. Similarly, (Nur Mulyadi et al. n.d.) found that training with modified setter balls not only improved passing accuracy but also enhanced *postural stability*—the ability to maintain balance during movement or rotation. Since real-game situations rarely allow static sets, this adaptation is essential for performance consistency. Improvements in accuracy are linked to *muscle memory*, where repetitive practice enables automatic motion patterns. Hence, training tools such as setter balls develop not only mechanical skills but also kinesthetic control and sustainable ball velocity (Kusumawardhana and Hadi 2021; Silva, Lacerda, and João 2014). Coaches are encouraged to design a blend of *fixed drills* and *variable drills* to help setters adapt to fast-changing match conditions.

Enhancing Setter–Spiker Synergy Using Smash-Setter Training Tools

Offensive success in volleyball depends not only on individual ability but also on the synchronization between setters and spikers. reported that employing a *smash-setter device* with 19 athletes from Kinsavol Pasekan Club improved rhythm synchronization and jump timing between these two key positions. This training emphasizes the setter's ability to adjust set height and speed according to the desired spiking angle. Biomechanically, effective coordination between setters and spikers is determined by the harmony between vertical ball propulsion, gravitational acceleration, and players' horizontal movement speed (Hay, 1993). The *smash-setter* tool enables athletes to practice various attack patterns such as quick, medium, and back attacks. Fast-tempo plays (first-tempo attacks) have been shown to disrupt opponents' defenses by reducing block reaction time (Rohman, Herlambang, and Wiyanto 2023). This training also fosters nonverbal communication—eye contact, hand gestures, and head movements—which enhances tactical coordination. Therefore, coaches should regularly pair setters and spikers during training to build natural rhythm and teamwork.

Differentiated Setter Strategies Based on Gender and Competition Level

(Matias et al. 2021) analyzed 711 setting actions during Brazil's national championship and found notable gender-based differences in playing style. Male setters tended to use *first-tempo* quick sets, whereas female setters preferred *second- or third-tempo* high and stable sets. These differences are influenced not only by physiological factors such as shoulder and wrist strength but also by tactical adjustments to opponent blocking structures. Men's teams typically use faster tempos to penetrate tight, high blocks, while women's teams prioritize stability and precision for consistent

ball control (Strelnykova and Liakhova 2017). Biomechanical data revealed that male setters' ball velocities ranged from 8–10 m/s, while female setters averaged 6–7 m/s (Matias et al. 2021). These differences reflect the varying offensive intensities and rotational speeds between the two groups. Coaches should, therefore, design gender-specific training programs: focusing on control and stability for female setters, and reaction speed and timing coordination for male setters.

Cognitive and Tactical Decision-Making Dimensions

(Nascimento et al. 2023) highlighted that the setter performs the most cognitively complex role in volleyball. Across 132 professional matches, setters were found to make approximately 50–70 tactical decisions per game, often under high-pressure conditions. These decisions include identifying opponent formations, detecting blocking gaps, and selecting the most favorable spiker—all within 1 to 1.5 seconds after receiving the pass. This reflects an advanced level of *situational awareness*, where players rapidly interpret contextual cues and respond adaptively. Cognitive efficiency develops through simulation-based and reaction-oriented training. *Decision-making drills* and *game-based training* enhance tactical reflexes and adaptive responses. Since incorrect decisions (e.g., poor set placement or wrong spiker selection) directly affect point outcomes, cognitive mastery is crucial for optimal performance(González-Silva et al. 2017). Integrating *game-based cognitive exercises* into setter training helps replicate real match conditions and strengthen decision-making under pressure.

Physical Conditioning and Muscular Strength for Setting

(Saputra, Yono, and Hardovi 2024) examined the effect of plank exercises on arm and shoulder strength among setters at the University of Muhammadiyah Jember. Results showed a significant improvement in overhead passing performance (from 22.88 to 35.13 points; $p = 0.012$). Plank training strengthens core muscles such as the *rectus abdominis*, *obliques*, and *erector spinae*, which are crucial for maintaining body stability during off-balance sets. In addition to endurance, plank exercises improve *dynamic stability*, or the body's ability to maintain equilibrium during movement. This is vital since setters frequently execute passes while transitioning, running, or rotating. Enhanced shoulder and arm strength also minimizes injury risks from repetitive load (Amalia et al., 2023, cited in (Saputra, Yono, and Hardovi 2024). Thus, *functional strength training*—including medicine ball pushes, resistance band shoulder presses, and core rotation drills—is recommended to enhance setter performance.

Communication and Social Dynamics in Team Play

Beyond technical and physical aspects, communication is an integral social element of the setter's role. (Fauzi 2010) describes the setter as the *"on-court commander,"* who directs the team's rhythm through verbal and nonverbal signals. In noisy match environments, visual cues such as

eye contact, hand gestures, and body movements serve as key communication tools with spikers and blockers. (Rahayu et al. 2024) further confirmed that *training setter ball* drills improve interpersonal trust and communication efficiency among teammates. Spikers learn to interpret the setter's body language to anticipate set direction, fostering tactical cohesion and reducing timing errors. Nonverbal efficiency not only accelerates coordination but also stabilizes team morale(Association 2005). In this sense, the setter acts as a *micro-leader*, maintaining emotional balance and collective focus. Interpersonal traits such as empathy, clarity, and assertiveness are therefore vital for sustaining team harmony.

Synthesis: A Holistic Framework of Setter Competence

These dimensions interact dynamically to form the ideal setter profile—one who demonstrates technical precision, physical endurance, tactical intelligence, and communicative leadership. A holistic training approach integrating technical, physical, mental, and social aspects will enable setters to orchestrate intelligent, adaptive, and dominant play across all competitive scenarios.

CONCLUSION

Based on the analysis of seven scientific journals, the setter plays a key role in determining a volleyball team's overall performance by controlling game tempo, directing attacks, and linking defense and offense. Team effectiveness depends largely on the setter's accuracy, consistency, and ability to manage ball distribution and rhythm. The findings indicate that training aids such as setter balls and smash-setter tools improve passing accuracy, ball control, and setter–spiker coordination, leading to more effective attacks. Setter performance is influenced by technical, physical, cognitive, and communicative factors, including core strength, decision-making under pressure, and effective verbal and nonverbal communication. Therefore, setter development should apply an integrated training approach that combines these aspects to produce adaptable, tactically intelligent, and resilient setters who can enhance team performance at competitive levels.

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