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The Relationship Between Self-Confidence Levels and Overhead Serve Accuracy Among the Women's Volleyball Team

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Abstract

This study aimed to determine the relationship between the level of self-confidence and overhand service accuracy among the female volleyball team at SMA Negeri 1 Baregbeg. The study employed a quantitative approach using a correlational method. The population consisted of 13 athletes, with a sample of 13 athletes selected using the total sampling technique. The level of self-confidence was measured using a Likert-scale questionnaire, while overhand service accuracy was measured using an overhand service skill test. Data were analyzed using descriptive statistics, the Shapiro–Wilk normality test, the Pearson Product Moment correlation test, and the coefficient of determination test. The results showed a correlation coefficient of -0.464 with a significance value of 0.110 (p > 0.05), indicating that there was no significant relationship between the level of self-confidence and overhand service accuracy. Therefore, it can be concluded that the level of self-confidence has no significant relationship with overhand service accuracy. The findings of this study are expected to serve as a reference for coaches in designing training programs that integrate technical, physical, and psychological aspects..

Keywords: *Self-confidence, Overhand Service, Accuracy, Volleyball, Female Athletes.*

INTRODUCTION

Volleyball is a complex team sport that demands the integration of fundamental technical mastery, peak physical condition, strategic tactical understanding, team cohesion, and robust mental readiness to achieve optimal performance (FIVB, 2020; Gunawan et al., 2021; Amalia, Nur, & Zainuri, 2023; Kusnandar, Setyawati, Junaedi, Rahayu, & Pratama, 2024).

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Among the fundamental technical elements, the overhand serve plays a pivotal and strategic role in modern volleyball. The serve is no longer viewed merely as a passive mechanism to initiate rally play, but rather as an aggressive primary offensive action capable of directly pressuring the opponent's defensive structure, disrupting their offensive organization, or scoring direct points ("aces") (Ahmadi et al., 2021; Destriana et al., 2021).

Consequently, overhand serve accuracy is a vital determinant of competitive success, as it relies heavily on an athlete's ability to direct the ball with precision, consistency, velocity, and spatial control (Mesquita et al., 2013; Asnaldi, 2020; Nasuka, Setiowati, & Indrawati, 2020). An athlete's execution of an overhead serve is influenced not only by physical components-such as upper-body explosive power, hand-eye coordination, and biomechanical precision-but also by intricate psychological factors (Ngadiyana, 2020).

One primary psychological construct widely acknowledged in sports psychology is self-confidence. Self-confidence reflects an athlete's firm belief or degree of certainty regarding their ability to successfully execute a specific task or adapt to challenging competitive situations (Dahiya & Gupta, 2021; Listiandi et al., 2021; Taştan, 2021).

Theoretically, high self-confidence allows athletes to mobilize cognitive and motor resources efficiently, manage high-pressure competitive environments, and perform complex technical skills consistently (Mega, 2024; Weinberg & Gould, 2019).

In competitive sports settings, athletes with high self-confidence generally display superior performance stability because they possess strong self-efficacy beliefs, enabling them to maintain emotional composure, retain focus, and execute refined techniques like the overhand serve under pressure (Hatzigeorgiadis et al., 2011). Conversely, low self-confidence often precipitates debilitating competitive anxiety, self-doubt, hyper-vigilance, and cognitive distraction, all of which negatively impair fine motor coordination and service accuracy (Rhamadian, 2022).

Volleyball is a team sport that demands mastery of fundamental techniques, peak physical condition, game strategy, teamwork, and mental readiness to achieve optimal performance. One fundamental technique playing a crucial role in the game is the overhand serve. This technique serves not only to initiate play but also as an initial offensive move capable of pressuring the opponent or even scoring a point directly (an "ace"). Consequently, the accuracy of the overhand serve is a key factor in success, as it

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relies heavily on the player's ability to direct the ball with precision, consistency, and control (Destriana, Destriani, Dr. Herry Yusfi, & Muslimin, 2021).

An athlete's success in executing an overhead serve is influenced not only by technical ability and physical factors—such as muscle strength, coordination, and proper movement—but also by psychological aspects. One crucial psychological factor is self-confidence. Self-confidence refers to an individual's belief in their own ability to complete a task or handle various situations. Individuals with high self-confidence tend to be able to leverage their abilities, knowledge, and skills to achieve desired goals (Mega, 2024).

Athletes with high levels of self-confidence generally perform better because they believe in their own abilities. This mindset enables them to remain calm under pressure, maintain focus, and execute game techniques—such as the overhand serve—more consistently. Conversely, athletes with low self-confidence tend to experience anxiety, doubt, and a loss of concentration, which negatively impact the accuracy and consistency of their execution (Rhamadian, 2022) .

Theoretically, the relationship between self-confidence and overhead serve accuracy can be explained through the perspective of sports psychology, which posits that mental factors influence the quality of technical movement execution. Athletes with high self-confidence possess better self-control, enabling them to optimally execute techniques they have mastered. Conversely, low self-confidence can impair coordination, focus, and movement accuracy when performing specific techniques (Rohmatika, 2022).
Various studies show that training designed to build self-confidence can improve technical skills—such as serving and spiking—in volleyball (Yaseen, 2022).

However, most previous studies have primarily examined the relationship between self-confidence and athletic performance in general, or in relation to specific skills such as passing and smashing. Research specifically addressing the link between self-confidence and overhand serve accuracy—particularly among female high school athletes—remains limited. This is significant because adolescent athletes possess characteristics distinct from professional athletes, necessitating research tailored to their unique developmental context.

Based on the foregoing, this study was conducted to determine the relationship between the level of self-confidence and the accuracy of the overhead serve among the women's volleyball team at SMA Negeri 1 Baregbeg. The findings are expected to provide

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empirical evidence to guide the development of training programs that balance technical and psychological aspects, while also contributing to the advancement of sports science, particularly in the field of sports psychology.

METHOD

This study employs a quantitative approach using a correlational method aimed at determining the relationship between the level of self-confidence (independent variable X) and overhead serve accuracy (dependent variable Y). This research design was selected to analyze the extent of the relationship between the two variables.

The study population consists of all 13 members of the women's volleyball team actively participating in extracurricular activities at SMA Negeri 1 Baregbeg. Given the relatively small population size, a total sampling technique was employed, meaning the entire population served as the research sample.

Data collection was conducted using two instruments. The self-confidence variable was measured using a Likert-scale questionnaire adapted from Dani Tohir (2015), consisting of 20 statements. Meanwhile, the overhead serve accuracy variable was measured using an overhead serve skill test based on. During the test, each respondent was given five attempts to serve into the target area, and the final score was determined based on the total points obtained.

Data analysis was conducted using the Statistical Package for the Social Sciences (SPSS) software, version 27. The analysis stages included descriptive statistics to characterize the research data, a normality test using the Shapiro–Wilk method (given the sample size of fewer than 50 respondents), a Product Moment (Pearson) correlation test for normally distributed data, and a coefficient of determination test to assess the magnitude of the self-confidence variable's contribution to overhead serve accuracy. All statistical tests were performed at a significance level of 0,05.

RESULT

This study involved 13 female athletes actively participating in the volleyball extracurricular program at SMA Negeri 1 Baregbeg. The data analyzed included levels of self-confidence and overhead serve accuracy. Descriptive analysis was conducted to provide an overview of the characteristics of each research variable.

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Table 1. Descriptive Data Analysis Results for Research Variables

Variable	N	Mean	Std.Dev.	Minimun	Maksimum
Self-Confidence	13	70,9231	5,55970	62	78
Overhead Serve Accuracy	13	13,8462	4,94716	3	21

Based on the descriptive analysis results in Table 1, the mean self-confidence score was 70.92 ± 5.56, while the mean overhead serve accuracy score was 13.85 ± 4.95. These findings indicate that the majority of respondents possessed a good level of self-confidence, whereas their overhead serve accuracy fell within the moderate-to-good range. Furthermore, the standard deviation values for both variables were relatively low compared to their means, indicating that the data distribution among respondents was fairly homogeneous.

Table 2. Shapiro-Wilk Normality Test Results

Variabel	Statistic	df	Sig.
Self-Confidence	0,916	13	0,219
Overhead Serve Accuracy	0,952	13	0,632

Based on the Shapiro–Wilk normality test results presented in Table 2, the significance values obtained were 0.219 for the self-confidence variable and 0.632 for the overhead serve accuracy variable. Both significance values exceeded the 0.05 significance level; thus, it can be concluded that the data for both variables are normally distributed. Therefore, the analysis of the relationship between self-confidence levels and overhead serve accuracy proceeded using the Product Moment (Pearson) correlation test.

Tabel 3. Pearson Product-Moment Correlation Test Results

Correlations			
		Self-Confidence	Passing
Self-Confidence	Pearson Correlation	1	-0,464
	Sig. (2-tailed)	.	0,110
	N	13	13
OverheadServe Accuracy	Pearson	-0,464	1

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		Correlation		
		Sig. (2-tailed)	0,110	.
		N	13	13

The correlation analysis results in Table 3 show a Pearson correlation coefficient (r) of -0.464 with a significance value of 0.110. This coefficient indicates a moderate negative relationship between self-confidence levels and overhead serve accuracy. However, since the significance value exceeds 0.05, the relationship is not statistically significant. Consequently, the research hypothesis positing a significant relationship between self-confidence and overhead serve accuracy in the SMA Negeri 1 Baregbeg women's volleyball team cannot be accepted. Therefore, the null hypothesis (H_0) is accepted, while the alternative hypothesis (H_1) is rejected.

Tabel 4. Determination Test Results

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,464[a]	,215	,144	4.57717

a. Predictors: (Constant), Kepercayaan Diri

Based on the coefficient of determination test results presented in Table 4, an R-squared value of 0.215 was obtained. This value indicates that the self-confidence variable contributes 21.5% to the variation in overhead serve accuracy among the SMA Negeri 1 Baregbeg women's volleyball team. Meanwhile, 78.5% of the variation in overhead serve accuracy is influenced by factors not examined in this study. These factors include mastery of serving technique, hand-eye coordination, arm muscle strength, physical condition, playing experience, concentration level, motivation, training intensity, and various other psychological aspects.

DISCUSSION

The research results indicate that there is no significant relationship between the level of self-confidence and the accuracy of the overhand serve among the SMA Negeri 1 Baregbeg women's volleyball team. Nevertheless, theoretically, self-confidence is a psychological factor that plays a crucial role in supporting athletic performance. Self-

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confidence helps athletes manage anxiety, enhance concentration, and maintain focus while executing various sports skills, including the overhand serve technique (Mega, 2024).

Furthermore, athletes with high levels of self-confidence are generally better able to control their emotions and demonstrate more consistent performance compared to those with low self-confidence. However, success in executing an overhand serve is not solely influenced by psychological aspects; it is also determined by various other factors, such as mastery of basic techniques, movement coordination, physical condition, playing experience, and training intensity (Rhamadian, 2022).

The absence of a significant relationship in this study may be attributed to the relatively homogeneous characteristics of the respondents. All respondents were members of a women's volleyball team participating in extracurricular activities, resulting in comparable training experience. Furthermore, the small sample size—comprising only 13 athletes—may have affected the statistical power to detect relationships between variables. These factors limited the variation in confidence levels and overhead serving ability among the respondents, thereby making it difficult to statistically demonstrate the actual relationship.

Overall, the research findings indicate a tendency toward a negative relationship between self-confidence levels and overhead serve accuracy; however, this relationship is not statistically significant. The coefficient of determination of 21.5% suggests that self-confidence contributes relatively little to the variation in overhead serve accuracy. Therefore, improving overhead serve performance cannot rely solely on developing psychological aspects; support in the form of structured technical training, enhanced physical conditioning, good movement coordination, concentration skills, and sustained training experience is also required to ensure the athlete's overhead serve skills develop optimally.

CONCLUSION

Based on the research findings, it can be concluded that there is no significant relationship between the level of self-confidence and the accuracy of the overhead serve among the SMA Negeri 1 Baregbeg women's volleyball team. Although self-confidence is theoretically a factor that can support the successful execution of an overhead serve, statistical analysis indicates that the relationship between these two variables is not

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significant. These findings suggest that overhead serve accuracy is influenced not only by self-confidence but also by various other factors, such as technical mastery, movement coordination, muscle strength, concentration, playing experience, and training intensity. Consequently, the research hypothesis positing a significant relationship between self-confidence levels and overhead serve accuracy is rejected.

Based on these findings, coaches and physical education teachers are advised not to focus solely on enhancing psychological aspects—such as self-confidence—but also to attend to the development of technical skills, physical conditioning, and other supporting factors to ensure optimal improvement in athletes' overhead serve accuracy. Furthermore, future research should involve larger sample sizes, incorporate additional variables that may influence overhead serve accuracy, and include subjects from various educational levels and volleyball clubs to provide a more comprehensive overview of the factors affecting overhead serve accuracy in volleyball.

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