

Analysis of Setter Concentration and Self-Control Levels on the Accuracy of Overhead Passing in Volleyball

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ABSTRACT

This study aims to analyze the levels of concentration and self-control of setters regarding the accuracy of overhead passing in volleyball. As a dominant basic technique used by setters to orchestrate attacks, the overhead pass requires high precision, focus, and effective self-regulation. This research employs a quantitative descriptive method with a correlational design. The subjects consisted of five volleyball athletes from the Student Activity Unit (UKM) PGRI University of Banyuwangi who play in the setter position. The research instruments utilized include the Concentration Grid Test, a self-control questionnaire, and an overhead passing accuracy test based on AAHPERD standards. Data analysis was conducted to determine the influence of concentration and self-control on the accuracy of overhead passes directed to the side and backward over the head. The results indicate that concentration and self-control play a vital role in a setter's passing accuracy. Higher levels of concentration and self-control in a setter correlate with higher overhead passing accuracy. This study is expected to serve as a reference for coaches in designing training programs that focus not only on technical skills but also on the psychological aspects of the athletes.

Keywords: concentration, overhead passing, self-control, setter, volleyball.

INTRODUCTION

Volleyball is a sport played by two teams separated by a net (Saputra, 2022). In this game, the team that first reaches 25 points wins the set, and three winning sets are required to win a match. To score points, a solid offensive strategy is essential. Attacks consist of powerful or directed hits intended to prevent opponents from receiving or defending the ball. To create such hits, precise and directed sets from the setter are required. A setter must also be capable of positioning the ball so that the smasher can attack (Nasuka, 2019). In delivering these sets, setters most frequently use the overhead passing technique, as it is more accurate and effective in directing the ball to the smasher. Overhead passing is a technique used to direct the ball to a specific spot so that it can be played or set by other players for the smasher (Irwanto, 2017). This statement is supported by Nugroho & Syaokani (2024), who state that the overhand pass involves using the fingers to receive the ball from above. The fingers are positioned above and directly in front of the head to receive an incoming ball. Typically, the overhand finger pass is used to set the ball for a teammate preparing to smash.

In addition to mastering basic strategies and tactics, a setter must understand several supplementary elements, including psychological and physical aspects. In volleyball, competitive anxiety (also known as match anxiety) is a common psychological factor that causes tension, particularly during games (Asykur et al., 2023). A lack of focus

or concentration during a match can lead to various problems and less-than-ideal outcomes (Taufik, 2019). For a setter, this can reduce the accuracy and precision of the sets provided for an attack. Anam & Suharjana (2013) define accuracy as directing something toward a specific goal. Meanwhile, precision in volleyball helps athletes perform better, move more effectively and efficiently, avoid injuries, and understand strategies and tactics (Hermansyah & Permadi, 2018). Therefore, a setter must be able to exercise self-control to achieve the aforementioned goals. According to Marsela & Supriatna (2019), self-control is the capacity to modify one's behavior, regulate both desired and undesired knowledge, and make decisions based on one's perspective. This is further supported by Susanti (2020), who states that controlling one's actions is another definition of self-control. This regulation involves thinking through everything before acting.

Thus, in volleyball, self-control is essential to ensure the match proceeds according to the team's objectives. Both self-control and concentration levels play a vital role in all aspects of volleyball, including the execution of the overhead pass used to set the ball for the smasher. Given this explanation, concentration levels and self-control are closely related to the accuracy of the overhead pass.

METHOD

This study employs a quantitative descriptive research design (Aziza, 2023). The independent variables in this study are Concentration and Self-Control. The dependent variable is the accuracy of the overhead pass. The population for this study consists of students in the volleyball Student Activity Unit (UKM) at *PGRI University of Banyuwangi*. This study utilizes purposive sampling, a strategy that selects samples based on specific population characteristics or attributes. The researcher selected criteria based on the research objectives: active participants in the UNIBA volleyball UKM who play as setters. The sample size used in this study is 5 athletes (setters).

Research Instrument, Concentration Test: The researcher utilized the Concentration Grid Test, a validated instrument for measuring concentration. The Concentration Grid Test serves as a numerical measurement method to determine concentration levels (Yazid et al., 2016). **Self-Control Test:** A self-control scale based on Averill's theory, consisting of 12 positive items and 10 negative items, was used to assess self-control. The questionnaire was adopted from the research of Zulfatiana (2023). **Setter Accuracy Test:** In this study, the setter's accuracy was measured using the AAHPERD test (Winarno et al., 2013).

The data analysis technique used is descriptive analysis with percentages (Russetya, 2023). After obtaining the results from the concentration test, self-control test, and the AAHPERD overhead passing accuracy test, the data were transformed into Norm-Referenced Grading (PAN), as the results of the aforementioned tests used different measurement units.

Statistical Testing, Prerequisite Tests: **Normality Test:** To determine whether the data used in this study are normally distributed. **Linearity Test:** Conducted to ensure a linear relationship between the independent and dependent variables using the ANOVA test. **Heteroscedasticity Test.** **Hypothesis Testing:** Regression analysis is a method used to analyze the relationship between two variables and determine its form. According to Fauziyah (2018), it is a mathematical model used to confirm the nature of the relationship between two or more variables. Furthermore, the purpose of regression analysis is to

predict the value of the dependent variable using the independent variable (Yusuf et al., 2024). This study utilizes Simple Linear Regression analysis performed via SPSS software.

RESULT

The overall description of the measurement data is presented in the following tables:

Table 1. Setter Concentration Results

No	Sample	Score
1	Re	12
2	Ri	11
3	Ek	19
4	Da	14
5	Sya	14

Table 2. Setter Self-Control Results

No	Sample	Score
1	Re	63
2	Ri	70
3	Ek	53
4	Da	58
5	Sya	72

The description of the setter's accuracy measurement data, with the ball positioned to the side of the player,

Table 3. Results for Lateral (Side-Directed) Set-up Accuracy

No	Sample	Front-right	Front-left	Sum
1	Re	8	7	15
2	Ri	10	9	19
3	Ek	9	9	18
4	Da	7	6	13
5	Sya	8	8	16

The description of the setter's measurement data with the ball positioned overhead can be seen in the following table.

Table 4. Results for Backward Overhead Set-up Accuracy

No	Sample	Back-right	Back-left	Sum
1	Re	7	6	13
2	Ri	9	9	18
3	Ek	6	7	13
4	Da	7	4	11
5	Sya	7	6	13

Normality Test

The significance value of the residual variables was examined using the Shapiro-Wilk normality test. Data are considered normally distributed if the value is greater than 0.05. Conversely, data are not normally distributed if the significance value is less than 0.05.

Table 5. Results of the Normality Test

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Konsentrasi	.300	5	.161	.833	5	.146
Kontroldiri	.241	5	.200*	.821	5	.119
ketepatandepan	.241	5	.200*	.821	5	.119
ketepatanbelakang	.300	5	.161	.833	5	.146

Linearity Test

The F-test is used to assess linearity. If the p-value is greater than 0.05, the relationship between the independent variable (X) and the dependent variable (Y) is considered linear.

Table 6. Results of the Linearity Test: Concentration vs. Accuracy

		Sum of Squares	df	Mean Square	F	Sig.
ketepatandepan * Konsentrasi	Between Groups (Combined)	1.500	2	.750	.600	.625
	Linearity	.667	1	.667	.533	.541
	Deviation from Linearity	.833	1	.833	.667	.500
	Within Groups	2.500	2	1.250		
Total		4.000	4			

Table 7. Results of the Linearity Test: Self-Control vs. Accuracy

		Sum of Squares	df	Mean Square	F	Sig.
ketepatandepan * Kontroldiri	Between Groups (Combined)	1.500	2	.750	.600	.625
	Linearity	.250	1	.250	.200	.698
	Deviation from Linearity	1.250	1	1.250	1.000	.423
	Within Groups	2.500	2	1.250		
Total		4.000	4			

Table 8. Linearity Test Results: Concentration and Self-Control on Setter Accuracy for Backward Overhead Passing

		Sum of Squares	df	Mean Square	F	Sig.
ketepatanbelangan * Kontroldiri	Between Groups (Combined)	3.500	2	1.750	1.400	.417
	Linearity	2.250	1	2.250	1.800	.312
	Deviation from Linearity	1.250	1	1.250	1.000	.423
Within Groups		2.500	2	1.250		
Total		6.000	4			

Heteroscedasticity Test

Table 9. Heteroscedasticity Test: Concentration and Self-Control on Lateral Setter Accuracy

Model		Unstandardized Coefficients		Standardized Coefficients		Sig.
		B	Std. Error	Beta	t	
1	(Constant)	-.436	.347		-1.255	.336
	Konsentrasi	.098	.085	.357	1.153	.368
	Kontroldiri	.373	.104	1.113	3.595	.069

Table 10. Heteroscedasticity Test: Concentration and Self-Control on Setter Accuracy for Backward Overhead Passing.

Model		Unstandardized Coefficients		Standardized Coefficients		Sig.
		B	Std. Error	Beta	t	
1	(Constant)	-.489	.481		-1.016	.417
	Konsentrasi	.044	.118	.103	.378	.742
	Kontroldiri	.533	.144	1.012	3.703	.066

Hypothesis Testing

In a simple linear regression test, the decision-making process is based on two criteria: If the significance value (p) < 0.05, it means that variable X has a significant influence on variable Y. If the significance value (p) > 0.05, it means that variable X has no significant influence on variable Y.

Table 11. Results of the Simple Linear Regression Hypothesis Test: Concentration on Lateral Set-up Accuracy.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.667	1	.667	.600	.495 ^b
	Residual	3.333	3	1.111		
	Total	4.000	4			

Table 12. Results of the Simple Linear Regression Hypothesis Test: Self-Control on Lateral Set-up Accuracy.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.250	1	.250	.200	.685 ^b
	Residual	3.750	3	1.250		
	Total	4.000	4			

Table 13. Results of the Simple Linear Regression Hypothesis Test: Concentration on Backward Overhead Set-up Accuracy.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.250	1	2.250	1.800	.272 ^b
	Residual	3.750	3	1.250		
	Total	6.000	4			

Table 14. Results of the Simple Linear Regression Hypothesis Test: Self-Control on Backward Overhead Set-up Accuracy.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.167	1	.167	.086	.789 ^b
	Residual	5.833	3	1.944		
	Total	6.000	4			

Discussion

The results of the simple linear regression indicated that the influence of concentration on lateral set-up accuracy yielded a significance value of $0.495 > 0.05$, which is considered negligible. Similarly, the influence of self-control on lateral set-up accuracy was $0.685 > 0.05$, indicating no significant effect. For backward overhead set-ups, concentration yielded $0.789 > 0.05$, and self-control yielded $0.272 > 0.05$, both of which are statistically insignificant.

In contrast, previous research by Russetya (2023) on the correlation between concentration and overhead passing skills in junior high school students found a substantial correlation (r -count $0.628 > r$ -table 0.396 ; p -value $0.000 < 0.05$). However, that study utilized 24 samples, whereas this research was limited to only 5 samples due to the limited number of volleyball setters in the UKM at *PGRI University of Banyuwangi*. The small sample size significantly impacts the hypothesis test results. According to Widhiarso (2012), a common cause for insignificant results is an undersized sample; for instance, if the actual correlation is 0.50 but the sample consists of only 10 people, the statistical test may fail to find a significant relationship.

Based on the hypothesis tests, the impact of focus on wing-set-up accuracy was found to be non-existent. Concentration is defined as the ability to direct and maintain focus on specific stimuli (Russetya, 2023) and to sustain that focus on various match-related aspects throughout a game (Fikri, 2018). It is clear that concentration is vital during every drill or match to maintain attention.

Regarding self-control, the results also showed no significant effect on set-up accuracy. Self-control is the capacity to regulate emotions and internal impulses (Susanti, 2020) and to modify behavior based on one's beliefs (Marsela & Supriatna, 2019). This leads to the conclusion that self-control is an individual's capacity to regulate emotions and guide constructive behavior during decision-making.

Furthermore, the study found no significant influence of attention on backward overhead positioning. Concentration is one of the most critical mental skills in athletics; athletes who experience a decrease in focus during training or competition may underperform (Taufik, 2019). Athletes are influenced by external stimuli (e.g., crowd applause, critical moments, opponent unsportsmanlike conduct) and internal stimuli (e.g., believing an opponent is stronger), which can lead to mental disorientation and decreased endurance (Jannah, 2017).

Finally, self-control was found to have minimal influence on backward body positioning. Self-control involves understanding one's environment and successfully regulating behavior to comply with rules (Alif & Muhtar, 2019). Ghufro et al. (2010) define it as the ability to lead, regulate, and direct one's behavior constructively. Accuracy itself is influenced by internal factors (movement strength, speed, mastery of technique, and sensory synchronization) and external factors (target size, level of challenge, and external conditions) (Barus et al., 2024; Saputra, 2022)

CONCLUSION

Based on research findings regarding the impact of focus levels and self-control of setters on the accuracy of overhead passes in volleyball, setter athletes from the Volleyball Student Activity Unit (UKM) at *PGRI University of Banyuwangi* were used as the research sample. Data collection and analysis, including conversion into graphic data, were conducted at the *PGRI University of Banyuwangi* volleyball court using SPSS 27. It can be

concluded from the data analysis, descriptions, testing of research findings, and discussions that self-control and concentration do not have a significant influence on setter accuracy. It is hoped that further, more specific research will be conducted by increasing the number of respondents

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