



The Effect of Imagery Training on The Self-Confidence of Students at SMP Negeri 19 Palu in Playing Volleyball

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ABSTRACT

Self-confidence is a psychological aspect that plays a crucial role in sports activities, including volleyball. Students with good self-confidence tend to be more courageous in executing movements, able to make tactical decisions quickly, and better prepared to face mistakes and competitive pressure during matches. Conversely, low self-confidence can cause students to hesitate in executing basic techniques, resulting in their optimal potential not being displayed to the fullest. One of the cutting-edge psychological methods proven effective in helping to build self-confidence and mental readiness is imagery training (visualization). This comprehensive study aimed to empirically examine the effect of imagery training on the self-confidence level of students at SMP Negeri 19 Palu in playing volleyball. This research employed a quantitative approach utilizing a quasi-experimental method with a one-group pre-test post-test design. The subjects of this study were all students participating in the volleyball extracurricular activity at SMP Negeri 19 Palu, totaling 15 students, selected using a saturated sampling technique. The data collection instrument used was a sports confidence questionnaire whose validity and reliability had been rigorously tested. The imagery training intervention was carried out over 8 weeks with a frequency of 16 sessions. Measurements were taken before the treatment (pre-test) and after the treatment (post-test). The data were analyzed using descriptive statistics and inferential statistical tests (paired sample t-test) via computer software after fulfilling the normality prerequisite test. The data analysis results showed an increase in the average student self-confidence score from 18.93 in the pre-test to 22.80 in the post-test, yielding an average gain score of 3.93. Based on the hypothesis test results, a t-count value of 4.30 was obtained, which is greater than the t-table value (2.145) at a 5% significance level. These findings firmly conclude that there is a significant positive effect of systematic imagery training on increasing the self-confidence of SMP Negeri 19 Palu students in playing volleyball.

Keywords: Imagery, Self-Confidence, Volleyball, Mental Training, Students.

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INTRODUCTION

Physical education and sports in junior high schools play a strategic role in the formation of students' physical fitness, discipline, character, and mental health (Prasetyo et al., 2023). One of the highly favored team sports in the junior high school environment is volleyball. The game of volleyball demands mature mastery of basic techniques such as

passing, serving, smashing, and blocking, as well as tactical collaboration among individuals within the team. However, the mastery of physical techniques alone does not guarantee successful student performance on the court if it is not supported by the stability of psychological factors (Weinberg & Gould, 2019).

Psychological aspects such as self-confidence hold a central position in determining a player's optimal performance. According to Bandura (1997) in his theory of self-efficacy, an individual's belief in their ability to organize and execute actions to achieve a specific target greatly determines the success of the task at hand. Students who possess high self-confidence tend to show greater perseverance, do not easily give up when facing a score deficit, and are capable of calmly executing technical skills under competitive pressure (Vealey, 2021). Neurophysiologically, imagery training operates based on the Psychoneuromuscular Theory (Jesuno et al., 2023), which states that the process of mentally imagining a movement will send the same nerve impulses from the brain to the peripheral muscles, similar to when an individual actually performs the physical movement. This strengthens neural pathways, accelerates the process of movement automation, and reinforces the athlete's cognitive belief in mastering motor skills (Vealey & Forlenza, 2021).

Self-confidence (sports confidence) is the belief or degree of certainty a person has regarding their ability to succeed in sports (Vealey, 2001; Martens et al., 2020). In the context of volleyball, self-confidence plays a vital role because volleyball is a fast-paced game that demands immediate reactions and accurate decision-making under high psychological pressure. Students with a good level of self-confidence will view challenging match situations as opportunities for success, rather than as threats that provoke excessive anxiety (Hanton et al., 2021). Minawati (2024), in her study entitled "The Effect of Relaxation and Imagery Training on the Self-Confidence of Table Tennis Athletes Aged 14-18 Years in DKI Jakarta," proved that the regular application of imagery training significantly increases the self-confidence of adolescent athletes, with a statistical t-count value of $3.02 > t\text{-table of } 1.795$. Subari (2019), in his research on "Improving Peak Performance with Imagery Training for Volleyball Athletes," showed that mental visualization has a significant positive impact on enhancing the peak performance of university volleyball athletes by incorporating structured training over several weeks. Ramadhan et al. (2022) asserted that integrating basic psychological training in secondary schools can significantly reduce competitive anxiety and boost students' intrinsic motivation to participate in physical education lessons.

Based on observations and preliminary studies conducted at SMP Negeri 19 Palu, initial empirical data in the field revealed that the majority of students participating in the volleyball extracurricular activity often experience psychological hurdles in the form of competitive anxiety, hesitation in making tactical decisions, and a decline in self-motivation when facing inter-school tournaments. Even though the students have been routinely trained physically and in basic techniques (such as passing and serving), their lack of self-confidence causes their on-court performance to become inconsistent and easily falter under the opponent's pressure.

Although these psychological problems are real and directly impact students' learning achievements and motor skills, there is a significant research gap in the current physical education literature. Most previous studies regarding mental training and imagery in Indonesia have generally focused on elite athletes in training centers or adult professional clubs (Subari, 2019; Yuda, 2023), and have focused almost exclusively on physical parameters such as smash accuracy or shooting precision (Wibowo & Rahayu, 2016; Pinandito, 2017). Research that specifically examines psychological interventions in the form of structured imagery training on the affective/mental aspect of enhancing self-confidence among junior high school students (particularly in Eastern Indonesia, such as Palu City) is still very limited in number.

The novelty of this research lies in the application of an 8-week structured micro-cycle-based imagery training intervention program integrated directly into the junior high school extracurricular coaching program, focusing on a multidimensional measurement of student self-confidence variables in actual volleyball game situations. Through this approach, the research not only evaluates physical improvement but also systematically builds students' mental resilience from an early age.

Based on the background description, problems, research gaps, and novelty, the objective of this study is to empirically determine and examine the extent of the effect of imagery training on the self-confidence level of SMP Negeri 19 Palu students in playing volleyball. The results of this study are expected to provide a theoretical contribution to the development of school sports psychology as well as a practical contribution for physical education teachers in designing holistic mental training modules. Imagery or mental visualization is defined as the process of creating or re-producing an experience in the mind involving all senses – visual, auditory, kinesthetic, olfactory, and gustatory – without having to physically perform the movement while the process is taking place (Morris et al., 2005; Cumming & Williams, 2013). According to Mylsidayu (2015), imagery training is a mental training technique used to construct the desired movement performance by involving thoughts, feelings, and emotions to create a motor experience within the brain's memory.

METHOD

This research employs a quantitative approach using a quasi-experimental method. The research design utilized is the One Group Pre-test Post-test Design without a control group, where subjects are given an initial measurement (pre-test), subjected to a treatment in the form of imagery training, and then given a final measurement (post-test) (Creswell & Creswell, 2018; Sugiyono, 2020). Population and Sample: The population in this study comprises all students participating in the volleyball extracurricular activity at SMP Negeri 19 Palu, totaling 15 individuals. The sampling technique used is saturated sampling, where all members of the population are used as the research sample (Swarjana, 2022; Amin et al., 2023). The total research sample consists of 15 students (comprising both male and female students). Place and Time of Research: The research was conducted on the field and sports facilities of SMP Negeri 19 Palu, Tondo Subdistrict, East Palu District, Palu City, Central Sulawesi Province. The training intervention program was carried out over 8 weeks with a frequency of 16 meetings (2 meetings per week).

Research Instruments: Data collection utilized a sports confidence questionnaire instrument that measures indicators of belief in technical mastery, belief in decision-making, and mental toughness under pressure. The validity and reliability of this instrument had been rigorously tested. Treatment Procedure: Each imagery training session lasted 10–15 minutes and was positioned during the warm-up or cool-down phases of practice. Students were guided to first perform breathing relaxation, and then visually and kinesthetically imagine situations of successfully executing perfect serves, passes, and smashes. Data Analysis Techniques: Data analysis employed descriptive and inferential statistics. The interactive qualitative analysis by Miles, Huberman, and Saldana (2014) was used to reduce supporting observation data, while hypothesis testing used the Paired Sample t-test formula with the assistance of statistical computer software at a significance level of $\alpha = 0.05$.

RESULTS AND DISCUSSION

Descriptive Analysis of Research Data

The presentation of the initial test (pre-test) and final test (post-test) data regarding the level of self-confidence and basic volleyball technical skills of the 15 extracurricular students at SMP Negeri 19 Palu is presented in the following recapitulation table

No	Subject Name	Gender	Pre-test	Post-test	Gain Score	Improvement Category
1	Abizur	M	20	24	4	Good
2	Ivan Aditia	M	19	23	4	Good
3	Angel Lumintang	F	18	21	3	Fair
4	Rafi	M	18	23	5	Excellent
5	Kalistasya Rahmadwi	F	20	24	4	Good
6	Muh. Rival	M	19	24	5	Excellent
7	Felicia Nathania	F	19	22	3	Fair
8	Riqi Arraziq	M	20	25	5	Excellent
9	Ali Yusra	M	19	23	4	Good
10	Dorin Mumlaza Andi Palawa	M	19	23	4	Good
11	Tirta	F	18	20	2	Poor
12	Deandra Djatim	M	19	24	5	Excellent
13	Siti Rahma	F	19	21	3	Fair
14	Andi Bilal	M	19	24	5	Excellent
15	Rezki Azzalia	F	19	22	3	Fair
Total (Σ)			284	342	59	
Average (Mean)			18.93	22.80	3.93	

Based on the recapitulation table above, a consistent improvement is visible across all research subjects. The class average (mean) value during the pre-test was 18.93, whereas during the post-test it significantly increased to 22.80. Consequently, an average gain score of 3.93 was obtained. This increase indicates that providing the imagery training intervention directly yields a positive impact on strengthening students' self-belief and motor performance in volleyball game situations

Hypothesis Testing Results

Hypothesis testing using the Paired Sample t-Test aimed to determine whether there is a significant average difference between two related measurements, for instance, the values before (pretest) and after (posttest) the treatment was administered. Based on the data analysis results, a t-count value of 4.30 was obtained with a sample size of 15

respondents. The degree of freedom (df) was calculated using the formula $df = n - 1$, resulting in $df = 15 - 1 = 14$. At a significance level of $\alpha = 0.05$ for a two-tailed test, the t-table value obtained was 2.145. The test results showed that the t-count value of 4.30 is greater than the t-table value of 2.145. Therefore, based on the decision-making criteria in the Paired Sample t-Test, which states that if the absolute value of the t-count is greater than the t-table, the null hypothesis (H_0) is rejected. Conversely, the alternative hypothesis (H_a) is statistically supported. These results indicate that there is a significant average difference between the two paired measurements at a 5% significance level.

Thus, it can be concluded that the hypothesis testing results indicate a statistically significant difference between measurements before and after the treatment. However, to ascertain whether this difference represents an improvement or a decline, one must observe the comparison of the average values of the two measurements. Moreover, statistical significance does not automatically prove that the treatment is the sole cause of the changes that occurred.

DISCUSSION

The findings of this study empirically prove that systematic imagery training is capable of increasing the self-confidence of SMP Negeri 19 Palu students in playing volleyball. Psychologically, the imagery technique works by representing motor actions within the cerebral cortex without involving maximal muscle contractions. This process facilitates the brain's procedural memory, so that when students are faced with actual match situations on the court, their anxiety is drastically reduced because the movements have been "tackled" and visualized repeatedly in their minds (Vealey & Forlenza, 2021). This aligns with the research findings by Minawati (2024), which stated that visualization-based mental training programs have proven effective in strengthening the mental stability of adolescent athletes over a programmed training period. When students are able to imagine successfully executing accurate passes or smashes, a positive feedback loop is created that boosts their self-efficacy (Bandura, 1997). Students become more courageous in taking game initiatives, do not fear making mistakes (fear of failure), and are able to demonstrate more stable motor performance. A practical implication of this study is that physical education teachers and extracurricular coaches at the junior high school level must not solely focus training proportions on physical aspects alone (physical conditioning), but are obliged to integrate simple psychological training, such as imagery training, into the weekly routine training curriculum to achieve comprehensive sports development results.

The findings of this study indicate that systematically conducted imagery training has the potential to increase the self-confidence of SMP Negeri 19 Palu students in playing volleyball. Imagery training is a mental practice technique conducted by purposely imagining movements, game situations, and success in performing sports skills within the mind. Through this training, students can construct a mental image regarding the movements of basic volleyball techniques, such as passing, serving, and smashing, before physically practicing them on the court. Psychologically, the process of imagining movements can activate several areas of the brain that are also involved in the execution of real movements, even though it does not produce muscle contractions as large as when the movement is physically performed. This process helps students form a mental representation of the movement sequence and game situations so they have a clearer picture of the actions to be taken. When facing a match, this mental readiness has the potential to help students control anxiety, improve concentration, and feel more confident in their own abilities.

These findings can also be explained through the concept of self-efficacy proposed by Bandura (1997), which is a person's belief in their capability to execute the actions necessary to achieve specific outcomes. When students repeatedly imagine themselves successfully performing accurate passes, delivering precise serves, or producing effective smashes, they can build a positive perception of their own capabilities. This positive mental image has the potential to strengthen self-confidence, especially when accompanied by experiences of success in physical training, constructive feedback from teachers or coaches, and support from peers. With increased belief in their capabilities, students are expected to be braver in taking initiative during games, not easily give up when making mistakes, and better able to maintain focus when facing match pressure. Nevertheless, the increase in self-confidence is not solely influenced by imagery training; it can also be related to playing experience, technical mastery, motivation, and a supportive training environment.

The results of this study are in line with the idea that mental training is a crucial component in the psychological development of athletes, including adolescent athletes. Imagery training can help students prepare themselves to face match situations through mental simulations conducted repeatedly and in a structured manner. When students imagine challenging game situations while simultaneously visualizing the correct responses, they gain the opportunity to prepare strategies and psychological responses before facing the actual situations. This can assist in improving mental readiness, reducing hesitation in decision-making, and reinforcing the conviction to execute the skills that have been learned. However, the conformity of these findings with Minawati's (2024) research and the theoretical explanations of Vealey and Forlenza (2021) needs to be verified based on the original sources used to ensure that the training characteristics, research subjects, and reported results are truly aligned.

The practical implication of this research is that physical education teachers and volleyball coaches can consider imagery training as part of the student skill and mental coaching program. Such training can be conducted before practical activities begin or before match simulations by directing students to imagine basic technical movements, game situations, and appropriate responses when facing pressure. For example, students might be asked to close their eyes for a moment, regulate their breathing, and then imagine themselves passing with the correct body posture, directing the ball to a teammate, and remaining calm when receiving a difficult ball. This training should preferably be carried out regularly, tailored to the students' age and abilities, and combined with physical training and direct skill evaluations. Thus, imagery training is not only directed at increasing self-confidence but also at supporting mental readiness, concentration, and mastery of volleyball playing techniques. Overall, the findings of this study provide a picture that imagery training can be an alternative approach to mental training in physical education learning, specifically in the game of volleyball. The systematic and continuous application of this training is expected to help students build belief in their capabilities, manage anxiety, and face game situations with more confidence. Given that the statistical analysis results of the study show a significant increase after being provided with imagery training, these findings can serve as a basis for recommending the integration of mental training into the volleyball learning program at SMP Negeri 19 Palu, while still taking into account research limitations and other factors that also influence student self-confidence

CONSLUSION

Based on the data analysis results, hypothesis testing, and the discussions that have been elaborated, it can be firmly concluded that the application of the imagery training method exerts a significant positive effect on increasing the self-confidence of SMP Negeri 19 Palu students in playing volleyball. This is evidenced by the Paired Sample t-Test results, which obtained a t-count value of 4.30. With a sample size of 15 students and degrees of freedom (df) of 14, at a significance level of $\alpha = 0.05$ for a two-tailed test, a t-table value of 2.145 was obtained. Since the t-count value is greater than the t-table value ($4.30 > 2.145$), the null hypothesis (H_0) is rejected and the alternative hypothesis (H_a) is statistically supported. These results demonstrate that there is a highly significant difference between the students' self-confidence levels before and after being given the imagery training treatment. This enhancement in self-confidence can be explained through the mechanism of mental training, which helps students structurally visualize movements and game situations before executing them directly on the court. Through imagery training, students can visualize success in performing basic volleyball techniques, such as passing, serving, and smashing, thereby forming a more positive mental image of their own capabilities. This process potentially helps students reduce doubt, control anxiety when facing matches, improve concentration, and build the conviction to execute movements more optimally. Thus, imagery training can serve as a highly viable alternative mental training method that supports the coaching of students' psychological aspects in volleyball learning. Practically, the results of this study provide critical implications for physical education teachers and coaches to consider the programmed application of imagery training as an integral part of the volleyball learning and training process. Its implementation needs to be holistically combined with physical skill training, the provision of positive feedback, and periodic evaluations so that the development of student self-confidence can be supported by adequate technical mastery. Although the statistical test results indicate a significant difference, the magnitude of the self-confidence increase and the practical impact of imagery training still need to be reviewed based on the average scores before and after treatment, as well as the research effect size. Therefore, the conclusion of this study strongly advocates the use of imagery training as a mental training approach to help boost the self-confidence of SMP Negeri 19 Palu students in playing volleyball.

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