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THE EFFECT OF VISUAL IMAGERY TRAINING ON PEAK PERFORMANCE OF FEMALE VOLLEYBALL EXTRACURRICULAR PARTICIPANTS AT SMKN 4 BIMA CITY

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Abstract

The psychological dimension is an essential component of athletic performance and should receive attention alongside physical and technical training. However, mental training programs are still rarely implemented in school-based extracurricular sports activities, resulting in suboptimal psychological readiness among student-athletes. This study aimed to examine the effect of visual imagery training on the peak performance of female volleyball extracurricular participants at SMKN 4 Bima City. A quantitative approach with a quasi-experimental method was employed using a one-group pretest–posttest design. The participants consisted of 16 female volleyball extracurricular students selected through a total sampling technique. Data were collected using peak performance questionnaires and performance tests administered before and after the intervention. The collected data were analyzed through descriptive statistics, normality testing, homogeneity testing, and a paired-sample t-test using SPSS software. The findings revealed a noticeable improvement in participants' peak performance following the implementation of visual imagery training. The average performance score increased from 68.25 during the pretest to 82.13 in the posttest, while the mean questionnaire score improved from 70.10 to 84.20. The results of the normality and homogeneity tests confirmed that the data met the assumptions required for parametric analysis. Furthermore, the paired-sample t-test produced a significance value of 0.000 ($p < 0.05$), indicating a statistically significant difference between the pretest and posttest measurements. These results demonstrate that visual imagery training effectively enhances psychological factors associated with peak performance, including concentration, self-confidence, emotional regulation, motivation, and mental readiness. Therefore, visual imagery training can be considered an effective mental training strategy for improving the performance quality of female volleyball extracurricular participants and may serve as a practical alternative for school-based sports development programs.

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INTRODUCTION

Volleyball is one of the most popular sports implemented through school extracurricular programs because it offers students opportunities to improve physical fitness, develop teamwork skills, and gain competitive experience. In athlete development, performance outcomes are not determined solely by technical mastery and physical condition but are also influenced by tactical understanding and psychological preparedness. For this reason, psychological factors have become an important component in contemporary sports training, as they contribute significantly to athletes' ability to perform effectively during both practice sessions and competitions. One indicator of successful athletic achievement is peak performance, which represents an athlete's capacity to demonstrate optimal performance consistently across different situations (Pratama et al., 2025). Athletes who achieve peak performance generally exhibit strong concentration, emotional stability, and confidence when facing challenging competitive environments (Rahmatilah et al., 2026). Consequently, psychological preparation has become an integral aspect of sports coaching aimed at maximizing performance outcomes.

Despite the importance of psychological readiness, several challenges remain evident in school-based volleyball extracurricular programs. Preliminary observations conducted among female volleyball extracurricular participants at SMKN 4 Bima City revealed a number of issues, including limited confidence when competing against opponents, reduced concentration during matches, anxiety before competition, and fluctuations in performance between training and competition settings. Initial assessments indicated an average peak performance score of 68.25, categorized as moderate, suggesting that the participants had not yet achieved an optimal level of mental readiness. Similar conditions have been reported by (Arief & Akbar, 2025), who found that insufficient psychological preparation frequently contributes to inconsistent athletic performance. Furthermore, (Ibrahim et al., 2026) highlighted that psychological pressures such as anxiety and attentional difficulties may negatively affect performance among young athletes participating in team sports. Supporting this view, (Weber et al., 2023) noted that elevated anxiety levels are often associated with reduced performance under competitive circumstances.

One possible explanation for these problems is that training programs often prioritize technical and physical development while providing limited attention to mental skills training. In many volleyball extracurricular activities, training sessions focus heavily on technical drills such as passing, serving, and smashing, whereas structured psychological preparation receives comparatively less emphasis. Contemporary sports science, however, recognizes psychological development as a critical element of athletic achievement that should be systematically integrated into training programs (Khati et al., 2026). When mental preparation is overlooked, athletes may encounter difficulties in maintaining concentration, controlling emotions, and producing stable performances in different competitive situations. (Saputra et al., 2025) However, limited diversity in training approaches and the insufficient

implementation of structured mental training programs may hinder athletes' ability to regulate emotions, sustain concentration, and demonstrate consistent performance during training and competition. (Özsari et al., 2025) argued that training approaches centered predominantly on physical development without adequate psychological preparation tend to be less effective in producing optimal outcomes. Likewise, (Kusuma et al., 2024) demonstrated that mental training interventions implemented within school sports programs positively contributed to athletes' motivation and psychological readiness.

Among the various psychological training methods available, visual imagery has received considerable attention due to its effectiveness in enhancing athletic performance. Visual imagery refers to a mental practice technique in which athletes deliberately create and rehearse images of movements, skills, and competitive situations to improve performance readiness (Catanzaro, 2025). Previous research has shown that imagery training contributes positively to the development of motor skills, performance accuracy, and consistency among young athletes (Boz & Kul, 2026). Other studies have reported that imagery-based interventions help athletes reduce anxiety and improve attentional control during competition (Rubinstein & Lahad, 2023). (Aulia et al., 2025) further found that imagery training enhances athletes' confidence, motivation, and overall psychological preparedness. Similarly, (Liu et al., 2025), through a multilevel meta-analysis, concluded that imagery practice provides significant benefits for sports performance, particularly among adolescents and student-athletes. In addition, (Tannoubi et al., 2026) reported that imagery interventions contribute to greater concentration and more consistent competitive performance.

Although substantial evidence supports the effectiveness of imagery training, its implementation within school extracurricular environments remains relatively uncommon. Training programs at the secondary school level continue to rely primarily on traditional physical and technical approaches, resulting in limited opportunities for students to develop psychological skills. This discrepancy reflects a gap between theoretical recommendations in sport psychology and actual coaching practices in educational settings. According to (Müller et al., 2025), coaches often prioritize technical and physical preparation while paying less attention to structured mental skills development, which may leave athletes insufficiently prepared for competitive challenges.

Existing studies have largely focused on competitive athletes, club athletes, or university-level participants. Research investigating the influence of visual imagery training among female volleyball extracurricular participants in vocational high schools remains limited. In addition, many previous studies have examined individual psychological variables such as anxiety, confidence, concentration, or motivation (Ayranci & Aydin, 2025), whereas investigations addressing peak performance as a multidimensional construct are still relatively scarce. (Frank et al., 2021) emphasized the need for further research exploring imagery interventions in school-based sport

contexts, particularly studies that evaluate comprehensive performance outcomes rather than isolated psychological variables. Therefore, a significant research gap remains regarding the application of visual imagery training to enhance peak performance among female student-athletes participating in volleyball extracurricular activities.

The novelty of the present study lies in its examination of visual imagery training within a vocational high school extracurricular setting, specifically among female volleyball participants at SMKN 4 Bima City. Unlike previous studies that predominantly investigated separate psychological constructs or involved competitive athletes (Martin et al., 2005), this research evaluates peak performance as a multidimensional concept encompassing concentration, self-confidence, emotional control, involvement in activity, and efficiency of skill execution, consistent with the framework proposed by (Harmison, 2006). Furthermore, this study contributes empirical evidence concerning the implementation of a structured imagery-based training program within a school extracurricular environment, an area that continues to receive limited attention in sport psychology literature (Lindsay et al., 2023). Therefore, this research contributes to the development of mental-based sports coaching programs for student-athletes, particularly in school extracurricular environments.

Considering these issues, an effective strategy is needed to integrate psychological development into sports training programs. Visual imagery training represents one potential approach that can strengthen concentration, confidence, and mental readiness among student-athletes. In addition to its practical benefits, imagery training is relatively simple to implement and does not require extensive facilities, making it suitable for extracurricular sports programs in schools. (Hidayat et al., 2023) reported that imagery interventions can enhance students' focus, motivation, and readiness for sports participation. Likewise, (Astuti et al., 2025) identified imagery training as one of the most effective psychological techniques for improving overall sports performance.

Therefore, this study aims to examine and analyze the effect of visual imagery training on the peak performance of female volleyball extracurricular participants at SMKN 4 Bima City. The findings are expected to provide practical guidance for coaches and physical education teachers in designing more comprehensive training programs while also contributing to the development of evidence-based mental training strategies within school sports settings.

METHODOLOGY

Research Methods

This research employed a quantitative approach with a quasi-experimental method to investigate the influence of visual imagery training on the peak performance of female volleyball extracurricular participants at SMKN 4 Bima City. The study utilized a One-Group Pretest–Posttest Design, in which a single group of participants was

assessed before and after receiving the intervention. Initially, participants completed a pretest to determine their baseline level of peak performance. Subsequently, they participated in a structured visual imagery training program. At the end of the intervention period, a posttest was administered to evaluate any changes that occurred following the treatment. The comparison between pretest and posttest scores served as the basis for determining the effectiveness of the visual imagery training program.

Research Location

The study was conducted at SMKN 4 Bima City, West Nusa Tenggara Province, during the period from March to April 2026. This location was intentionally selected because the school maintains an active volleyball extracurricular program with students who regularly participate in training activities. Preliminary observations conducted before the study revealed that several participants still experienced challenges related to concentration, self-confidence, and emotional control during training sessions and competitive situations. Therefore, the school was considered an appropriate setting for examining the effectiveness of visual imagery training in improving peak performance.

Data Source

The participants involved in this study consisted of 16 female students who actively participated in the volleyball extracurricular program at SMKN 4 Bima City. A total sampling technique was applied, meaning that all members of the population were included as research participants. Since the number of active female volleyball extracurricular participants was relatively small, the entire population was selected as the research sample. All participants regularly attended training sessions and participated in every stage of the research process throughout the intervention period.

Table 1.
Research Data Sources

No	Role	Quantity	Remarks
1.	Female volleyball extracurricular participants	16 students	Research sample
Total		16 students	

The sample size was not determined through randomization but was based on a total sampling technique, in which all female volleyball extracurricular participants who met the research criteria were included as the sample. The selection of the sample was carried out because the participants had characteristics that matched the needs of the study, particularly related to the implementation of visual imagery training and the measurement of peak performance.

Data Sources and Types

The study utilized both primary and secondary data sources to support the research objectives:

1. Primary data: Primary data were collected directly from participants through peak performance measurements administered during the pretest and posttest stages. These data reflected the participants' psychological condition and performance-related characteristics before and after receiving the visual imagery training intervention.
2. Secondary data: Secondary data were obtained from supporting documents, including extracurricular participant records, training schedules, school documentation, and relevant scientific literature. These data were used to complement and strengthen the interpretation of the primary findings.

Data Collection Techniques

Data collection was conducted through several procedures designed to obtain comprehensive information regarding the participants' peak performance:

1. Questionnaire

A Likert-scale questionnaire was employed as the primary instrument for measuring peak performance. The questionnaire was distributed to all participants before and after the implementation of the visual imagery training program. The instrument was developed based on several peak performance indicators, including:

a. concentration and attentional focus;
b. self-confidence;
c. emotional control;
d. motivation; and
e. mental readiness.

Each item required participants to indicate their level of agreement using five response categories: Strongly Agree (SA), Agree (A), Neutral (N), Disagree (D), and Strongly Disagree (SD).

2. Documentation

Documentation techniques were used to collect supporting evidence related to the implementation of the study. The collected materials included participant attendance records, training schedules, photographs and videos of training activities, completed questionnaires, and other relevant documents. These records functioned as complementary data that strengthened the findings obtained through the primary research instruments.

3. Test

Performance assessments were administered through pretest and posttest procedures to evaluate changes in participants' peak performance after the intervention. The pretest was conducted prior to the implementation of visual imagery training to establish baseline conditions, whereas the posttest was administered after all training sessions had been completed. The comparison between the two

measurements provided information regarding the extent of improvement achieved following participation in the visual imagery training program.

Instrument Credibility Testing

To ensure the quality of the collected data, the research instrument underwent validity and reliability testing prior to its application in the study.

1. Validity Test: Instrument validity was examined using the Pearson Product-Moment Correlation technique. This procedure was conducted to determine the extent to which each item accurately measured the intended construct of peak performance. An item was considered valid when the calculated correlation coefficient exceeded the critical value specified in the r-table at a significance level of 5%.
2. Reliability Test: Instrument reliability was assessed using Cronbach's Alpha coefficient to evaluate the consistency of the questionnaire. The analysis produced a Cronbach's Alpha value of 0.873, indicating a high level of internal consistency. Therefore, the instrument was considered reliable and suitable for use in collecting research data.

Data Analysis Techniques

The collected data were analyzed using both descriptive and inferential statistical procedures. Descriptive statistics were applied to summarize the characteristics of the data through measures such as the mean, standard deviation, minimum score, and maximum score. Prior to hypothesis testing, assumption tests were conducted to determine whether the data met the requirements for parametric statistical analysis.

All analyses were performed using the Statistical Package for the Social Sciences (SPSS). The analytical procedures included the following stages:

1. Descriptive statistical analysis: Descriptive analysis was conducted to provide an overview of participants' peak performance before and after the intervention. This analysis included the calculation of mean scores, standard deviations, minimum values, and maximum values for both pretest and posttest measurements.
2. Normality Test: The Shapiro–Wilk test was employed to determine whether the data followed a normal distribution. Data were considered normally distributed when the significance value exceeded 0.05.
3. Homogeneity Test: Levene's Test was used to assess the equality of variances between the research data sets. A significance value greater than 0.05 indicated that the data satisfied the assumption of homogeneity.
4. Hypothesis Testing: The research hypothesis was tested using a paired-sample t-test. This statistical procedure was selected to compare participants' scores before and after receiving the visual imagery training intervention. The hypothesis was accepted when the significance value (Sig. 2-tailed) was less than 0.05, indicating

that visual imagery training had a statistically significant effect on the peak performance of female volleyball extracurricular participants at SMKN 4 Bima City.

RESULTS

This study was conducted to examine the effect of visual imagery training on the peak performance of female volleyball extracurricular participants at SMKN 4 Bima City. The findings were obtained from performance assessments and questionnaire measurements administered before and after the implementation of the visual imagery training program.

1. Descriptive Statistics

Descriptive statistical analysis was performed to provide an overview of the participants' peak performance before and after the intervention. The analysis focused on identifying changes in the mean scores and standard deviations between the pretest and posttest measurements. The results are presented in Table 2.

Table 2.
Descriptive Statistics Results

Variable	N	Mean	Standard Deviation
Pretest	16	68,25	5,12
Posttest	16	82,13	4,87

The descriptive statistics indicate a positive change in participants' peak performance following the implementation of visual imagery training. Improvements were observed across several psychological dimensions associated with athletic achievement, including concentration, confidence, emotional regulation, mental preparedness, and engagement during performance activities. These findings suggest that the intervention contributed positively to participants' ability to manage psychological demands encountered in both training and competition settings.

The comparison between pretest and posttest scores demonstrates an increase in the average peak performance score from 68.25 to 82.13. This improvement reflects

a favorable development in the participants' overall performance condition after receiving the visual imagery training intervention.

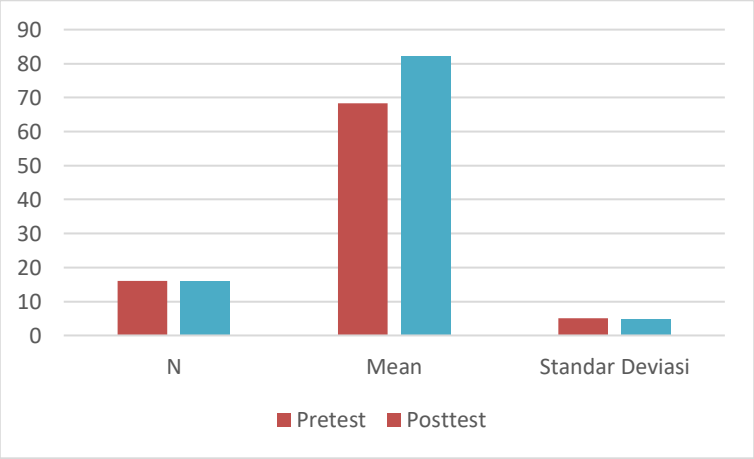

Figure 1. Comparison of Mean Peak Performance Scores Between Pretest and Posttest

The figure illustrates a higher average score in the posttest measurement compared with the pretest, indicating a positive effect of the intervention on participant performance.

2. Peak Performance Questionnaire Results

To examine changes in participants' psychological characteristics associated with peak performance, descriptive statistical analysis was also conducted on the questionnaire data collected during the pretest and posttest stages. The results are presented in Table 3.

Table 3.
Descriptive Statistics Results of Peak Performance

Variable	N	Mean	Standard Deviation
Pretest	16	70,10	4,95
Posttest	16	84,20	4,32

The questionnaire results reveal an improvement in psychological factors related to sports performance following the intervention. Participants demonstrated better psychological readiness, particularly in aspects associated with attention, emotional management, confidence, and motivation. These findings indicate that visual imagery training contributed to strengthening psychological conditions that support effective athletic performance.

The increase in the average questionnaire score from 70.10 during the pretest to 84.20 in the posttest further supports the effectiveness of the intervention. This improvement suggests that participants became more prepared psychologically and

were able to perform with greater confidence and concentration after completing the training program.

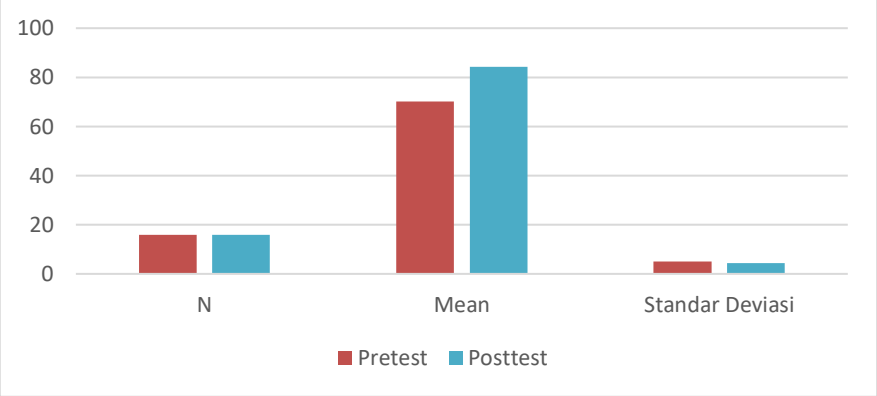

Figure 2.
Comparison of Peak Performance Questionnaire Scores Between Pretest and Posttest

The figure demonstrates a noticeable increase in posttest scores, reflecting improvements in the participants' psychological attributes following participation in visual imagery training.

3. Normality Test

Prior to conducting hypothesis testing, a normality test was performed to determine whether the data satisfied the assumptions required for parametric statistical analysis. The results are displayed in Table 4.

Table 4.
Normality Test Results

Data	Sig.	Description
Pretest	0,200	Normal
Posttest	0,200	Normal

The normality test results indicate that both pretest and posttest data were normally distributed. The significance values obtained exceeded the criterion value of 0.05, suggesting that the data met the assumption of normality required for subsequent parametric analyses.

Since the distribution of the data did not show significant deviations from normality, further statistical procedures could be conducted using parametric techniques. Therefore, the paired-sample t-test was considered appropriate for evaluating the effectiveness of the intervention.

4. Homogeneity Test

A homogeneity test was conducted to assess whether the variances of the data were comparable across measurements. This procedure served as an additional prerequisite for parametric analysis. The results are presented in Table 5.

Table 5.
Homogeneity Test Results

Data	Sig.	Description
Pretest–Posttest	0,317	Homogeneous

The findings demonstrate that the research data satisfied the assumption of variance homogeneity. The obtained significance value was greater than 0.05, indicating that no substantial differences existed in variance between the pretest and posttest measurements.

The fulfillment of this assumption suggests that the data were sufficiently comparable for further analysis using parametric statistical procedures.

5. Hypothesis Testing

Following the completion of the prerequisite analyses, hypothesis testing was carried out to determine whether visual imagery training significantly influenced participants' peak performance. The paired-sample t-test was employed to compare the pretest and posttest scores. The results are presented in Table 6.

Table 6.

Paired-Sample t-test Results

Variable	Sig. (2-tailed)	Description
Pretest–Posttest	0,000	Significant

The hypothesis test results indicate a statistically significant difference between the pretest and posttest measurements. The obtained significance value of 0.000 was below the established alpha level of 0.05, demonstrating that the intervention produced a meaningful effect on participant performance.

These findings provide evidence that visual imagery training contributed significantly to the enhancement of peak performance among female volleyball extracurricular participants. Improvements were observed in both psychological and performance-related aspects after participants completed the training program.

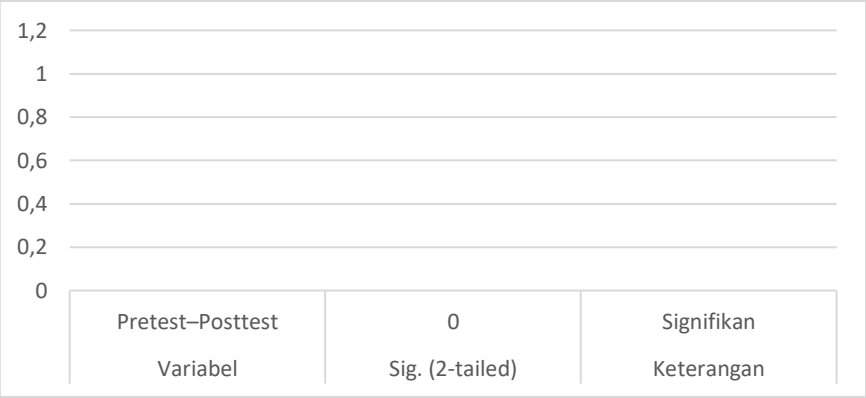

Figure 3.

Changes in Participants' Peak Performance Before and After the Intervention

The figure illustrates the pattern of score changes experienced by participants throughout the study. Most participants demonstrated higher scores after the intervention, indicating a positive response to the visual imagery training program.

Overall, the results consistently demonstrate an improvement in participants' peak performance following the implementation of visual imagery training. This conclusion is supported by increases in average scores, improvements in questionnaire

results, and statistical evidence obtained through hypothesis testing. Collectively, these findings suggest that visual imagery training can effectively strengthen concentration, self-confidence, emotional regulation, and mental readiness among female volleyball extracurricular participants.

Confirmation from Students

Information obtained from participant interviews further supported the quantitative findings. Many participants reported experiencing increased confidence during both training sessions and competitive situations after engaging in visual imagery exercises. Several participants stated that the intervention helped them become more decisive during gameplay and increased their belief in their own abilities.

Participants also explained that the visualization activities allowed them to mentally rehearse game situations before actual performance. As a result, they felt more prepared to face competition, experienced reduced nervousness, and became more motivated to achieve positive outcomes. The repeated practice of imagining successful movement execution appeared to strengthen their confidence in performing volleyball-related tasks effectively.

Observational Findings

Observations conducted throughout the intervention period revealed noticeable behavioral changes among participants. Following the implementation of visual imagery training, participants appeared more attentive during training sessions and demonstrated greater engagement in learning activities. Increased confidence was evident during the execution of volleyball techniques, while communication among teammates also appeared more active and effective.

Furthermore, participants showed calmer responses when confronted with situations requiring concentration and decision-making. These observations support the quantitative findings and suggest that visual imagery training contributed not only to psychological improvement but also to enhanced readiness for performance situations.

Implementation Constraints

Several challenges were encountered during the implementation of the visual imagery training program. One of the primary limitations involved the restricted training schedule, as mental training sessions had to be integrated into the existing volleyball training program. Consequently, careful time management was necessary to ensure that both technical and psychological training activities could be conducted effectively.

Another challenge emerged during the initial stages of the intervention, when some participants experienced difficulty performing visualization exercises. Because imagery training was a new experience for most participants, several required additional guidance to understand how to imagine movements, game situations, and successful performance outcomes in a detailed manner. Variations in concentration

levels and individual learning abilities also influenced participants' responses to the training program.

To address these issues, participants received gradual instruction and continuous assistance throughout the intervention period. Training sessions began with explanations regarding the purpose and benefits of imagery practice, followed by relaxation activities and progressively more complex visualization exercises. Additional support was provided to participants who experienced difficulties in concentration or understanding the instructions. Through this structured approach, participants became increasingly capable of engaging in imagery activities effectively, allowing the intervention to be implemented successfully and contribute positively to improvements in peak performance.

DISCUSSION

The findings of this study demonstrate that visual imagery training contributed significantly to the improvement of peak performance among female volleyball extracurricular participants at SMKN 4 Bima City. The positive changes observed in both test and questionnaire scores after the intervention indicate that participants experienced improvements not only in performance outcomes but also in psychological factors that support athletic achievement. These results suggest that training programs integrating mental and physical preparation can produce more comprehensive benefits than approaches that focus exclusively on technical and physical development. The present findings are in line with (Nawir & Hamid, 2025), who emphasized that psychological readiness plays a crucial role in enabling athletes to reach their optimal level of performance.

From a theoretical perspective, visual imagery is recognized as a psychological training strategy that enables athletes to mentally rehearse movements, game situations, and desired performance outcomes before actual participation. Through repeated mental simulation, athletes become more familiar with potential competition scenarios, allowing them to respond more effectively when confronted with similar situations in real performance settings. According to (Saha et al., 2025) imagery training facilitates the development of confidence, concentration, and psychological preparedness by providing athletes with opportunities to mentally experience successful performance. As a result, individuals who regularly engage in imagery practice are generally better prepared to cope with competitive demands and performance pressure. This explanation is supported by (Hadian et al., 2025), who reported that imagery-based interventions positively influence motivation, concentration, and self-regulation among athletes.

The improvement identified in the current study also reinforces previous evidence concerning the psychological benefits of mental imagery training. (Piepiora et al., 2025) reported that mental imagery contributes positively to both psychological and performance-related outcomes, including enhanced concentration, emotional regulation, and performance stability. Similar patterns were observed in this research,

where participants demonstrated higher levels of motivation, attentional focus, and emotional control following the implementation of the visual imagery program. These improvements indicate that imagery training extends beyond the development of technical skills and serves as an important mechanism for strengthening psychological readiness. (Kelemen et al., 2024) likewise explained that systematic mental preparation can help athletes maintain concentration and minimize distractions that may interfere with performance during competition.

The findings can also be interpreted within the context of psychological preparation theories that emphasize the interaction between mental readiness and athletic achievement. In competitive environments, athletes are frequently required to manage stress, maintain focus, and make rapid decisions under pressure. Athletes who possess stronger psychological skills are generally more capable of adapting to challenging situations while sustaining high levels of performance. Therefore, the improvements observed after the intervention may reflect the participants' enhanced ability to regulate psychological responses during training and competition. This interpretation is consistent with (Hut et al., 2023), who concluded that mental skills training contributes significantly to athletes' psychological preparedness and overall competitive performance.

Another important explanation for the effectiveness of visual imagery training relates to the concept of self-efficacy. Self-efficacy refers to an individual's belief in their capability to successfully perform specific tasks and achieve desired outcomes. Through repeated visualization of successful actions and positive competition experiences, athletes can strengthen their confidence in their own abilities. This increased confidence may subsequently influence motivation, persistence, and performance quality. (Solmaz et al., 2025) found that higher levels of self-efficacy are associated with improved athletic performance among young athletes. In the present study, participants repeatedly imagined successful execution of volleyball skills and positive game situations, which likely enhanced their confidence and contributed to the improvements recorded after the intervention.

In addition to strengthening self-confidence, visual imagery training appears to facilitate emotional regulation and concentration. Emotional control is widely recognized as one of the essential characteristics of athletes who consistently perform at a high level. When athletes are able to manage nervousness, anxiety, and other disruptive emotions effectively, they are more likely to maintain focus on task-related goals. The questionnaire results obtained in this study suggest that participants became more capable of controlling their emotions and sustaining concentration following the visual imagery intervention. These outcomes support the view of (Schinke et al., 2022) who identified attentional control and emotional regulation as fundamental components of peak performance in sport.

The practical observations conducted throughout the intervention further support the quantitative findings. Following participation in the imagery training program, many participants appeared more engaged during training sessions,

demonstrated greater confidence when performing volleyball techniques, and communicated more actively with teammates. These behavioral changes suggest that visual imagery training may positively influence both individual psychological characteristics and social interactions within team sports. Such developments are particularly important in volleyball, where successful performance depends not only on individual skills but also on effective communication, cooperation, and collective decision-making.

Overall, the results of this study indicate that visual imagery training serves as an effective mental training strategy for enhancing peak performance among female volleyball extracurricular participants. The improvements observed across psychological dimensions such as concentration, confidence, motivation, emotional control, and mental readiness provide evidence that imagery training can contribute meaningfully to athlete development in school-based sports programs. Consequently, incorporating structured imagery exercises into extracurricular volleyball training may represent a valuable approach for improving both psychological preparedness and overall performance quality among student-athletes.

CONCLUSION

The results of this study indicate that visual imagery training significantly improved the peak performance of female volleyball extracurricular participants at SMKN 4 Bima City. Statistical analysis showed that the mean peak performance score increased from 68.25 before the intervention to 82.13 after the training program was completed. Similar improvements were identified in the questionnaire results, where the average score rose from 70.10 during the pretest to 84.20 in the posttest. In addition, the normality and homogeneity tests demonstrated that the data satisfied the assumptions required for parametric analysis. The paired-sample t-test further confirmed the effectiveness of the intervention, producing a significance value of 0.000 ($p < 0.05$), which indicates a meaningful difference between the participants' conditions before and after receiving visual imagery training.

The findings suggest that visual imagery training contributes positively to several psychological components that support athletic achievement, including concentration, self-confidence, emotional regulation, motivation, and overall mental readiness. By mentally rehearsing game situations and skill execution, participants became more capable of dealing with the demands and pressures encountered during training sessions and competitions. Consequently, they were able to perform with greater consistency and confidence.

Based on these findings, the research hypothesis stating that visual imagery training has a significant effect on peak performance was accepted. The study provides evidence that visual imagery training can be integrated into extracurricular

sports programs as an effective psychological preparation strategy to support student-athlete development and improve sports performance in educational settings.

This study is subject to several limitations. First, the number of participants was relatively small and limited to a single school, which may restrict the broader applicability of the findings. Second, the use of a one-group pretest–posttest design without a control group limits the ability to completely eliminate the influence of external variables. Third, the intervention period was relatively short, preventing the assessment of long-term effects. Future studies are encouraged to involve larger and more diverse samples, utilize experimental designs that include control groups, and extend the duration of interventions to obtain a more comprehensive understanding of the effectiveness of visual imagery training. Further investigations may also explore its influence on other psychological variables and performance indicators across different sports and educational contexts.

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