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Badminton Smash Accuracy of Male Badminton Extracurricular Participants at SMP Negeri 1 Muaro Jambi

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ABSTRACT

This study aimed to determine the smash accuracy of male participants involved in badminton extracurricular activities at SMP Negeri 1 Muaro Jambi. Using a descriptive quantitative method, 17 students were selected through total sampling. The smash accuracy test served as the primary instrument, with data analyzed using descriptive statistics in percentage form. The findings revealed that the majority of students were in the "Good" category, achieving an average score of 68% of the total maximum. Specifically, 10 students (58.8%) were classified as "Good," 4 students (23.5%) as "Moderate," 2 students (11.8%) as "Very Good," and 1 student (5.9%) as "Poor." These results suggest that participation in badminton extracurricular activities contributes positively to the development of technical skills, particularly in smash techniques. Key factors supporting this development include training intensity, coach involvement, and access to training facilities. The study recommends ongoing coaching and regular evaluation to enhance student performance in badminton.

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A. Conception and design of the study;
B. Acquisition of data;
C. Analysis and interpretation of data;
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INTRODUCTION

Physical education and health are integral parts of comprehensive education, prioritizing physical activities and healthy living habits for physical, mental, social, and emotional growth and development. According to (Liu & Chen, 2020), through physical activities, children are directed to learn so that behavioral changes occur involving physical, intellectual, emotional, social, and moral aspects. The importance of physical activity in education cannot be overstated, as it serves as a foundation for developing motor skills, character building, and overall student well-being (Riyanto & Mudian, 2019). In the Indonesian educational context, extracurricular activities serve as essential platforms for students to explore their interests and talents beyond regular classroom instruction.

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Recent studies have highlighted the significance of badminton as an effective medium for developing students' motor skills and physical fitness. Adi et al. (2023) emphasized that badminton is a sport that requires high coordination, precision, and technical mastery, making it an excellent choice for developing students' psychomotor abilities. Research by (Digantara et al., 2020) demonstrated that systematic badminton training significantly improves students' jumping ability and smash accuracy in adolescent athletes aged 13-17 years. Furthermore, Yanti & Putra (2025) found significant differences in service accuracy performance among badminton extracurricular participants, indicating the measurable impact of structured training programs. These studies collectively support the notion that badminton training, when properly implemented, can yield substantial improvements in students' technical abilities and overall athletic performance.

Despite the documented benefits of badminton training, there remains a gap in understanding the specific technical competencies achieved by students in school-based extracurricular programs, particularly regarding smash accuracy. While previous research has focused on elite athletes or specialized training centers, limited attention has been given to evaluating the technical achievements of students in regular school extracurricular programs. The smash technique, being one of the most crucial attacking shots in badminton, requires comprehensive evaluation to ensure effective coaching and skill development. Additionally, most existing studies have examined training interventions rather than assessing current skill levels, leaving educators and coaches without baseline data to inform their instructional strategies.

This study aims to determine the badminton smash accuracy of male badminton extracurricular participants at SMP Negeri 1 Muaro Jambi and provide valuable insights for improving badminton coaching in school settings. The research addresses the gap by providing a systematic evaluation of smash accuracy using standardized testing instruments, offering empirical data that can inform coaching practices and curriculum development. The novelty of this research lies in its focus on school-based extracurricular programs and its comprehensive assessment of technical skills using validated instruments, providing a foundation for evidence-based coaching practices in Indonesian secondary schools.

METHODS

This study employed a descriptive quantitative research design using survey methodology. According to (Arikunto, 2016), descriptive research is not intended to test specific hypotheses but rather to describe “what exists” regarding certain variables, phenomena, or conditions. The quantitative approach was chosen to provide measurable and objective data regarding students' smash accuracy performance, allowing for statistical analysis and meaningful interpretation of results.

The research subjects consisted of 17 male students participating in badminton extracurricular activities at SMP Negeri 1 Muaro Jambi during the 2024/2025 academic year.

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A total sampling technique was employed, meaning all members of the population were used as research subjects due to the relatively small population size. This approach ensures comprehensive coverage of the target population and eliminates potential sampling bias. The subjects were selected based on their active participation in the school's badminton extracurricular program and their willingness to participate in the research.

Data collection was conducted using the badminton smash skill test developed by (PBSI, 2006), which has demonstrated high validity (0.926) and reliability (0.90) coefficients. The test requires participants to perform 20 smash attempts toward designated target areas on the badminton court, with scoring based on the accuracy of shuttlecock placement. The testing procedure involved proper warm-up sessions, technical demonstrations, practice attempts, and the actual testing phase conducted under standardized conditions. All tests were administered by qualified personnel to ensure consistency and accuracy in data collection.

Data analysis employed descriptive statistics, specifically percentage calculations, to determine the distribution of students across different accuracy categories. The categorization system was based on (Wala, 2025) using norm-referenced assessment scales, establishing five categories: Very Good, Good, Moderate, Poor, and Very Poor. Statistical calculations were performed to determine mean scores, standard deviations, and percentage distributions, providing comprehensive insights into the students' smash accuracy performance levels.

RESULTS AND DISCUSSION

Results

The research findings revealed the distribution of badminton smash accuracy among 17 male students participating in extracurricular activities at SMP Negeri 1 Muaro Jambi. Based on the standardized test using (PBSI, 2006) instrument, students achieved varying levels of accuracy in their smash performance. The overall average score achieved by students was 68% of the maximum possible score, indicating a generally satisfactory level of technical competency in smash execution.

Table 1.
Percentage Calculation of Smash Accuracy by Category

No	Category	Calculation Formula	Percentage (%)
1	Very Good	P = (2 ÷ 17) × 100 = 11.76%	11.8%
2	Good	P = (10 ÷ 17) × 100 = 58.82%	58.8%
3	Moderate	P = (4 ÷ 17) × 100 = 23.52%	23.5%
4	Poor	P = (1 ÷ 17) × 100 = 5.88%	5.9%

Table 2.
Category Recapitulation of Smash Accuracy Results

Category	Number of Students	Percentage
Very Good	2 students	11.8%
Good	**10 students**	**58.8%**
Moderate	4 students	23.5%
Poor	1 student	5.9%
Total	**17 students**	**100%**

The results demonstrate that the majority of students (58.8%) achieved the "Good" category in smash accuracy, representing the largest proportion of participants. Additionally, 11.8% of students reached the "Very Good" category, indicating exceptional technical proficiency. A considerable portion (23.5%) fell into the "Moderate" category, while only one student (5.9%) was classified in the "Poor" category, suggesting that most participants have developed adequate smash technique through their extracurricular training.

Discussion

The findings indicate that badminton extracurricular activities at SMP Negeri 1 Muaro Jambi have been effective in developing students' smash accuracy skills, with the majority achieving satisfactory performance levels. The predominance of students in the "Good" category (58.8%) suggests that the current training program provides adequate technical instruction and practice opportunities for skill development. This result aligns with previous research by (Iqbal et al., 2024), who emphasized that systematic badminton training with proper technique instruction leads to measurable improvements in students' attacking skills. The relatively high average score of 68% demonstrates that students have successfully internalized the fundamental mechanics of smash execution, including proper timing, body positioning, and shuttlecock contact.

The distribution of students across different accuracy categories reflects the natural variation in motor learning and skill acquisition among adolescents, as described by (Suadi et al., 2019) regarding individual differences in coordination and precision development. The presence of students in the "Very Good" category (11.8%) indicates that some participants have exceptional natural ability or have benefited significantly from the training program. These students may serve as models for their peers and could be considered for advanced training opportunities. Conversely, the single student in the "Poor" category represents an opportunity for individualized coaching attention to address specific technical deficiencies and improve overall performance (Ma et al., 2024).

Several factors contribute to the observed results, including training frequency, coaching quality, facility adequacy, and individual student characteristics. According to (Armanda et al., 2021), accuracy development requires consistent practice with proper feedback and gradual progression in training complexity. The weekly training schedule at SMP Negeri 1 Muaro Jambi, conducted every Wednesday from 15:30 to 17:00, provides regular practice opportunities, though the frequency may be limited for optimal skill development. The indoor court facility and adequate equipment availability support effective training sessions, while the presence of qualified coaching staff ensures proper technique instruction and error correction (Wijaya et al., 2024).

The research findings have important implications for badminton coaching and physical education curriculum development in secondary schools. The predominantly positive results validate the effectiveness of school-based extracurricular programs in

developing technical sports skills when properly structured and implemented. However, the variation in student performance suggests the need for differentiated instruction approaches to accommodate diverse skill levels and learning rates. Coaches should consider implementing individualized training programs for students in different accuracy categories, providing additional challenges for advanced students while offering remedial instruction for those requiring skill development support.

CONCLUSION

Based on the research findings and analysis, this study concludes that the majority of male badminton extracurricular participants at SMP Negeri 1 Muaro Jambi demonstrate satisfactory smash accuracy performance, with 58.8% achieving the "Good" category and an overall average accuracy of 68%. The badminton extracurricular program has proven effective in developing students' technical skills, particularly in smash execution, which is a crucial attacking technique in badminton. The distribution of students across different accuracy categories reflects normal variation in skill acquisition and suggests that the current training approach accommodates diverse learning needs and abilities.

The research limitations include the relatively small sample size and focus on a single school, which may limit the generalizability of findings to other educational contexts. Future research should consider expanding the study to include multiple schools, female participants, and longitudinal tracking of skill development over time. Additionally, investigating the relationship between training frequency, coaching methods, and skill improvement could provide valuable insights for optimizing badminton instruction in school settings.

Practice recommendations include implementing differentiated coaching strategies to address varying skill levels, increasing training frequency where feasible, and conducting regular skill assessments to monitor student progress. Schools should also consider providing additional training opportunities for students showing exceptional ability while ensuring adequate support for those requiring skill development assistance. The research contributes to the body of knowledge regarding sports skill development in educational settings and provides empirical evidence supporting the value of well-structured extracurricular programs.

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