

Level of Underhand Passing Skills in Volleyball Among Junior High School Extracurricular Participants

Alfi Oktalatifah^{1*}, Gatot Jariono¹, Vera Septi Sistiasih¹

¹*Physical Education Study Program, Faculty of Teacher Training and Education, Muhammadiyah University Surakarta, Central Java, Indonesia*

*email corresponding author: a810220072@student.ums.ac.id

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Abstract

Underhand passing is a fundamental technique in volleyball that determines the success of ball control and attack development. At the junior high school level, mastery of this technique is an important indicator in extracurricular coaching. This study aims to analyze the level of underhand passing skills among participants in junior high school volleyball extracurricular activities. The study uses a descriptive quantitative approach with 20 students selected through purposive sampling as subjects. The research instrument was an underhand passing skill test covering five assessment aspects: body position, hand use, passing accuracy, speed and agility, and body balance. The data were analyzed using descriptive statistics, expressed in percentages. The results showed that most participants were in the fair to good category, with body position being the most dominant component in the good category. However, the aspects of passing accuracy and body balance still need improvement. It can be concluded that the underhand passing skills of extracurricular participants are at a fairly good level, but are not yet evenly distributed across all technical aspects. This study recommends developing a more specific, evaluation-based training program focused on technical aspects to improve the quality of coaching in a sustainable manner.

Keywords: ball, extracurricular, underhand passing, volleyball.

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1. INTRODUCTION

Physical education is an integral part of the national education system that plays an important role in shaping Indonesians who are physically healthy, mentally strong, and have good character. In the context of formal education, physical education is not only oriented towards improving physical fitness, but also serves as a vehicle for developing motor skills, social

attitudes, and moral values such as discipline, cooperation, and sportsmanship. One form of physical education implementation in schools is through extracurricular sports activities, which are designed to deepen students' interests and talents in accordance with the characteristics of specific sports (Rahman, A., & Pratama, 2023).

Volleyball constitutes one of the athletic activities that attracts considerable enthusiasm among learners at the junior secondary school stage. The prominence of volleyball cannot be dissociated from the inherent attributes of the game, which are comparatively uncomplicated to perform, oriented toward collective participation, and capable of cultivating coordination, dexterity, and collaborative interaction among participants. In the context of volleyball instruction in educational institutions, proficiency in fundamental techniques is a pivotal factor shaping the overall caliber of play. The elementary techniques in volleyball encompass serving, passing, smashing, and blocking, with passing particularly underhand passing remaining the technique most routinely employed in both competitive play circumstances and structured practice sessions (Putra, A., & Hidayat, 2021).

Underhand passing is a basic technique that serves as the first step in building an attack, especially in receiving serves and opponent attacks. Good underhand passing allows the team to control the ball effectively, enabling them to progress to the next stage of the attack. Conversely, poor underhand passing will hinder the flow of the game and reduce the team's chances of scoring points. Therefore, underhand passing is often considered the foundation in volleyball, especially at the beginner and school-age levels (Sari, I., Nugraha, B., & Wibowo, 2022).

At the junior high school tier, learners are situated within a stage of motor maturation that is markedly propitious for acquiring and refining both fundamental and sport-specific movement competencies. However, students' basic volleyball technical skills often show considerable variation. This variation is influenced by various factors, including playing experience, training frequency, coaching quality, and the training approach used by coaches or physical education teachers (Wicaksono, P. A., & Nugroho, 2020). This circumstance necessitates a methodical appraisal of competencies so that the guidance process may be conducted efficiently and with deliberate orientation.

Extracurricular volleyball activities in schools generally aim to improve students' playing skills and prepare them to participate in various inter-school competitions. However, in practice, extracurricular activities often emphasize routine training without being supported by objective skill evaluation data. As a result, the training programs implemented tend to be general in nature and are not fully tailored to the needs and skill levels of the students (Rahman, A., & Pratama, 2023). In fact, skill evaluation is an important component in the sports coaching process, as it serves as the basis for planning, implementing, and developing training programs.

Previous studies have shown that descriptive measurement of basic technical skills can provide a realistic picture of the students' skill levels and the technical aspects that still need improvement. The results of a study by Putri and Kurniawan (2020) revealed that most junior high school volleyball extracurricular participants were in the adequate category in underhand passing skills, with the main weaknesses being body position and passing accuracy. Similar findings were also reported by (Hidayat, T., Prasetyo, Y., & Raharjo, 2022), who stated that the low quality of underhand passing is often caused by a lack of understanding of the correct technique and a lack of training variety.

Based on these conditions, research is needed that specifically examines the level of underhand passing skills in volleyball among extracurricular participants in schools. This study is important because it provides empirical data to evaluate and improve coaching programs. In addition, descriptive research on underhand passing skills can also be a first step before developing experimental or action research focused on improving skills through specific training models (Rahman, A., & Pratama, 2023).

This research was developed by considering the importance of mastering underhand passing techniques as a fundamental skill in volleyball, especially for junior high school extracurricular participants. SMP Negeri 1 Gondang Sragen was chosen as the research location because this school actively organizes volleyball extracurricular activities and has a relatively stable number of participants. However, to date, there has been no written data that objectively describes the level of underhand passing skills of extracurricular participants at this school. This condition is the basis for the need for descriptive research to determine the overall skill profile of participants.

The principal objective of this investigation was to ascertain the magnitude of underhand passing proficiency in volleyball among individuals participating in the extracurricular program at SMP Negeri 1 Gondang Sragen. Specifically, this study aimed to describe underhand passing skills based on several aspects of technical assessment, including body position, use of hands, passing accuracy, speed and agility, and body balance. This objective was developed based on the view that basic volleyball technical skills are multidimensional and cannot be assessed from only one aspect (Sari, I., Nugraha, B., & Wibowo, 2022).

The operative hypothesis in this investigation posits that the proficiency level of underhand passing skills among volleyball extracurricular participants at SMP Negeri 1 Gondang Sragen resides within the moderate to commendable classification. This presumption was formulated on the basis of preliminary field observations as well as antecedent scholarly findings which indicated that extracurricular participants, in general, had already acquired fundamental technical competencies, yet still necessitated refinement particularly in regard to the consistency and precision of movement execution. (Putra, A., & Hidayat, 2021). Thus, this study aims not only to determine the general skill level but also to identify technical aspects that need further attention in the training process.

The significance of this investigation resides in its contribution to the advancement of volleyball coaching within educational institutions, particularly at the junior high school level. The research data is expected to be used by coaches and physical education teachers as evaluation material in developing a more structured training program based on the needs of students. Furthermore, this investigation likewise possesses scholarly merit, as it is capable of broadening the corpus of scientific discourse within the domain of physical education and sport sciences, particularly in matters pertaining to the appraisal of fundamental volleyball technical proficiencies.

Moreover, the findings of this investigation are anticipated to constitute a foundational reference for subsequent inquiries concentrating on the formulation and empirical examination of efficacious volleyball underhand passing training paradigms that are suitably aligned with junior high school learners. With comprehensive initial data on underhand passing skill levels, further research can be designed in a more targeted manner, whether through experimental approaches, action research, or the development of learning models (Wicaksono, P. A., & Nugroho, 2020).

Based on the aforementioned background exposition, it may be inferred that an inquiry concerning the proficiency level of underhand passing skills in volleyball among junior high school extracurricular participants at SMP Negeri 1 Gondang Sragen possesses substantial urgency, both in pragmatic practice and scholarly discourse. Consequently, this investigation holds notable importance in reinforcing initiatives aimed at enhancing the quality of volleyball extracurricular coaching within educational institutions, as well as advancing the corpus of knowledge in the domain of physical education and sports.

Although numerous investigations have explored underhand passing skills among junior high school learners, the majority of these inquiries predominantly concentrate on assessing the efficacy of particular training models, without initially conducting a thorough delineation of the participants' baseline competencies. In actuality, as articulated in the *Journal of Teaching in Physical Education*, the formulation of effective learning and training strategies ought to be grounded in an examination of the students' authentic needs as well as their prevailing conditions (McPherson, S. L., & Kernodle, 2021). The absence of initial skill profile data can result in training programs that are general and less targeted.

This condition was also found in the volleyball extracurricular activities at SMP Negeri 1 Gondang Sragen. Based on initial observations, the training tended to focus on routine technique repetition without being supported by objective evaluation data on the skill level of the participants. As a result, coaches do not have an empirical basis for identifying which technical aspects have developed well and which still require special attention. This situation is an urgent problem because without systematic evaluation, the coaching process risks being suboptimal and ineffective in improving the quality of students' basic techniques.

Theoretically, the solution to this problem can be achieved through a multidimensional skills assessment approach. Passing skills are not only determined by one technical component, but also involve aspects of movement biomechanics, arm coordination, postural stability, and speed of response to the direction of the ball. From the perspective of sports technique development, *Periodization: Theory and Methodology of Training* emphasizes the importance of structured technique evaluation as the basis for developing a systematic training program. Thus, comprehensive skill measurement is an essential first step before further training interventions are carried out.

In addition, previous studies have shown that variations in underhand passing skills among junior high school students are often influenced by inconsistent movement control and a lack of specific technical feedback (Hidayat, T., Prasetyo, Y., & Raharjo, 2022). However, there is still limited research that specifically maps the distribution of underhand passing skills based on several technical aspects in the context of school extracurricular activities. This research gap underlies the importance of descriptive studies as a baseline for evaluating basic volleyball technique training.

Drawing upon this background, the present investigation seeks to examine the degree of underhand passing proficiency among junior high school extracurricular participants by employing a multidimensional assessment framework encompassing body posture, utilization of the hands, passing precision, rapidity and agility, as well as bodily equilibrium. The findings of this investigation are anticipated to furnish an empirical portrayal of the participants' skill profile, which may serve as a foundation for more systematically organized and needs-oriented training design aligned with the motor developmental attributes characteristic of early adolescence.

Hence, the pressing significance of this investigation resides in the imperative requirement for objective data to serve as a foundation for enhancing the caliber of volleyball extracurricular coaching. From an academic standpoint, this research contributes to broadening the discourse on the evaluation of fundamental sports skills within school environments. In practical terms, the findings of this investigation may function as a guiding reference for physical education instructors and coaches in designing training programs that are more efficient and precisely oriented.

2. METHOD

This investigation employs a quantitative orientation accompanied by a descriptive framework. A descriptive quantitative orientation was selected since this inquiry is not intended to examine causal interrelations or to evaluate the efficacy of a particular intervention; instead, it seeks to portray in an objective and systematic manner the factual condition of the underhand passing skills possessed by extracurricular participants. According to Ratu et al. (2025), quantitative descriptive research is very suitable for use in sports skill studies because it can present a profile of participants' abilities based on measurable and easily interpretable numerical data. This approach allows researchers to obtain a comprehensive picture of skill levels as a basis for evaluation and decision-making in school sports coaching.

2.1 Participants

The research participants comprised 20 learners who were engaged in volleyball extracurricular programs at SMP Negeri 1 Gondang Sragen. The participants were determined through purposive sampling, a sampling approach grounded on particular considerations aligned with the aims of the investigation. The criteria applied in determining the participants encompassed several considerations: first, students who actively participated in volleyball extracurricular activities; second, students who had consistent attendance at practice; and third, students who were willing to participate in the entire series of skill tests.

The use of purposive sampling is considered appropriate in sports skill research because it allows researchers to select participants who truly have experience and direct involvement in the activities being studied (Rahmawati, S., & Fauzan, 2025). This technique is also often used in physical education research to obtain data that is representative of a specific target group, especially in the context of school sports extracurricular activities.

2.2 Research Design

The research design used was quantitative descriptive. This design aims to describe the level of volleyball underhand passing skills of extracurricular participants based on measurements taken at a specific time (cross-sectional). In a descriptive design, researchers do not provide treatment to subjects but only observe, measure, and describe phenomena that occur naturally. This design aims to describe the level of volleyball underhand passing skills of extracurricular participants based on measurements taken at a specific time (cross-sectional). In a descriptive design, researchers do not provide treatment to subjects but only observe, measure, and describe phenomena that occur naturally (Putri, L., & Kurniawan, 2020).

Descriptive quantitative designs are frequently employed in scholastic sports research since they are capable of delivering an empirical portrayal of students' fundamental technical competencies, which subsequently may function as a foundational reference for formulating

training programs that are more efficacious and precisely directed (Wicaksono, P. A., & Nugroho, 2020). The research data are exhibited in the form of scores, proportions, and competency classifications to facilitate the elucidation of the overall level of underhand passing proficiency.

2.3 Instruments

The research instrument used was a volleyball underhand passing skills test. This instrument was developed based on the principles of sports skills assessment, which emphasizes the measurement of specific and observable technical aspects. The underhand passing skill test covers five assessment aspects, namely: (1) body position, (2) use of hands, (3) passing accuracy, (4) speed and agility, and (5) body balance.

The selection of these five aspects was based on the view that underhand passing skills are multidimensional technical skills that cannot be assessed from just one component (Sari et al., 2022). (Winarno, 2013) emphasize that a good volleyball basic technique assessment instrument must include aspects of movement biomechanics, coordination, and body control so that the measurement results reflect technical ability as a whole. Therefore, the instrument in this study was designed to provide a comprehensive picture of the underhand passing quality of extracurricular participants.

2.4 Procedures

The data acquisition procedure was conducted through immediate observation and underhand passing skill assessments. Data collection was conducted during extracurricular volleyball training activities. The research procedure consisted of three main stages. The first stage was preliminary observation, in which the researcher directly observed the underhand passing techniques of the students to obtain a general picture of their movement patterns and technical habits. Preliminary observation is important to ensure that the test is conducted under conditions that reflect the actual conditions of the participants.

The second stage is the implementation of the underhand passing skill test, in which each participant is asked to perform 10 underhand passes in two conditions, namely a structured condition (passing towards a predetermined target) and a dynamic condition (passing in a drill or simple game situation). The use of a combination of structured and dynamic conditions aims to assess the participants' technical abilities in static situations as well as situations that resemble actual games (Putra, A., & Hidayat, 2021). The third stage is scoring, in which researchers assess each skill aspect using a prepared assessment sheet. The scores obtained for each aspect are then summarized for quantitative analysis.

2.5 Data Analysis

The data analysis technique used in this study was descriptive statistics. Descriptive statistics were used to process and present the skill test data in the form of scores, percentages, and ability categories. According to (Gani, A., & Putbangkara, 2023), descriptive statistical analysis aims to describe data characteristics objectively without making generalizations or inferential hypothesis testing. The data analysis procedure within this investigation encompassed several sequential phases, namely: (1) gathering data derived from the underhand passing skill assessment, (2) condensing the data through classification of scores according to evaluation dimensions, (3) displaying the data in the format of tables and diagrams, and (4) formulating conclusions grounded in the percentage distribution of skill categories. This analytical approach

allows researchers to obtain a clear picture of the lower passing skills level of extracurricular participants and the technical aspects that still need to be improved.

3. RESULTS

The research data was obtained through descriptive statistical analysis of the underhand passing skills of junior high school volleyball extracurricular participants. The assessment was based on five technical aspects that represent the multidimensional components of underhand passing skills, namely body position, use of hands, passing accuracy, speed and agility, and body balance. To provide a systematic overview of the distribution of abilities, the measurement results are presented in the form of percentage categories of ability for each aspect. This distribution is shown in Table 1.

Table 1.

Assessment aspect	Scale 1 (%)	Scale 2	Scale 3 (%)
body position	0	20	80
use of hands	10	50	40
passing accuracy	0	60	40
speed and agility	5	50	45
body balance	0	60	40

Note:

Scale 1 = poor, Scale 2 = fair, Scale 3 = good

Based on the allocation displayed in Table 1, it can be discerned that the participants' underhand passing proficiency is predominantly situated within the moderate to favorable classification. The body position dimension demonstrates the most pronounced inclination toward the favorable category, suggesting that the participants have assimilated the fundamental precepts of the initial stance and preparedness to receive the ball. This pattern shows that fundamental and static technical components tend to be mastered more quickly than aspects that require dynamic control. In other words, basic posture stability has been established as a foundation for skill.

Conversely, in terms of hand use and passing accuracy, the distribution of abilities shows greater variation. This condition indicates that arm coordination and ball direction control are not yet fully consistent among all participants. Although most participants are able to perform passing movements correctly, precision in directing the ball to the target still needs improvement. This shows a gap between technical mastery and the quality of movement.

In terms of speed and agility, the distribution of abilities is relatively balanced between the adequate and good categories, indicating that some participants have adequate movement responses in adjusting their position to the direction of the ball. However, the variation in

categories in terms of body balance indicates that dynamic stability when passing is not yet fully optimal. Balance is an important component in maintaining the consistency of the direction and strength of the ball's bounce, so this aspect is one of the points that needs attention in the training program.

Overall, there was no dominance of the poor category in most aspects of the assessment. These findings indicate that extracurricular participants already have a functional foundation of underhand passing skills as a starting point for training. However, the distribution of abilities, which is still dominated by the adequate category in several aspects, indicates the need for a more targeted training approach to improve consistency and technical precision.

4. DISCUSSIONS

The findings of the investigation reveal that the participants' underhand passing proficiency was, in general, situated within the moderate to commendable classification, accompanied by a predominance in the mastery of bodily positioning. These outcomes are congruent with the research conducted by (Sari, I., Nugraha, B., & Wibowo, 2022), which reported that mastery of initial posture and body readiness are fundamental aspects that develop relatively faster than other aspects of volleyball technique. Motorically, this condition is in line with the theory of motor skill development, which states that stable basic movement patterns are mastered more quickly than skills that require precision control and complex coordination (Schmidt, R. A., & Lee, 2019).

However, variations in ability in terms of hand use and passing accuracy indicate that participants still experience inconsistency in movement control. This result aligns with antecedent investigations asserting that arm coordination and the angle of ball contact necessitate systematic and recurrent practice to markedly enhance passing precision (Putra, A., & Hidayat, 2021). This study confirms that certain technical indicators—especially those related to ball control and rapid motor response require different training stimulation compared to static movement patterns such as body position.

In terms of speed and agility, the relatively balanced distribution between the adequate and good categories indicates that the participants already possessed adequate basic movement response abilities. Agility and speed are physical components that contribute to the quality of movement responses in volleyball (Bompa, T. O., & Buzzichelli, 2019). However, postural stability is an important factor in maintaining the consistency of the direction and strength of the ball bounce when performing underhand passing (Hidayat, T., Prasetyo, Y., & Raharjo, 2022).

The distinctive contribution of this investigation resides in its multifaceted framework for appraising underhand passing proficiency among participants engaged in junior high school extracurricular activities, which goes beyond a one-dimensional assessment. While previous studies tended to focus on one technical aspect or a specific training program (e.g., drill or modeling exercises), this study provides a comprehensive profile of abilities as a baseline for evaluation. An initial assessment approach prior to training intervention is recommended in sports learning literature as the basis for effective program planning (McPherson, S. L., & Kernodle, 2021).

The pragmatic implication of these findings is the necessity to formulate training regimens that do not merely reiterate general movements but also accentuate ball control and

corporeal stabilization. Task-specific training and technical feedback have been shown to improve the quality of basic skills in volleyball learning (Sari, I., Nugraha, B., & Wibowo, 2022). Therefore, integrating training with video feedback and using a variety of game situations can help participants improve the consistency of their technical performance.

Nevertheless, this investigation possesses certain constraints. Primarily, the quantity of participants was comparatively limited; therefore, extrapolation to a broader populace ought to be undertaken with prudent consideration. Second, the descriptive approach does not allow for analysis of the causal relationship between physical/psychological factors and technical skills. Third, physical conditions such as core strength and balance also affect the quality of basic volleyball technique execution (Wicaksono, P. A., & Nugroho, 2020). These limitations are important inputs for the development of further studies.

Given these constraints, subsequent investigations are encouraged to employ a quasi-experimental framework or a randomized controlled trial to rigorously evaluate the efficacy of particular training paradigms in enhancing precision and equilibrium. Furthermore, longitudinal inquiries may yield deeper understanding regarding the progressive cultivation of technical competencies across time among individuals participating in extracurricular activities. The integration of measurements of supporting physical components such as core strength, agility, and neuromuscular coordination can also enrich the evidence base for sports learning interventions.

CONCLUSIONS.

Based on the results of data analysis and discussion, it can be concluded that the underhand passing skills of the extracurricular participants at SMP Negeri 1 Gondang Sragen are generally in the fair to good category. This finding shows that the participants have adequate basic underhand passing skills as a result of the training and coaching process that has been carried out.

The principal inference of this investigation indicates that proficiency in the fundamental underhand passing technique has not yet evolved uniformly across every dimension assessed. Body position is the most mastered component, while hand use, passing accuracy, speed and agility, and body balance still need improvement. This indicates that underhand passing skills are multidimensional and require a more specific and targeted training approach for certain technical aspects.

This investigation accentuates the salience of a systematic appraisal of fundamental technical proficiencies within school-based extracurricular sporting engagements. The findings of this inquiry possess practical pertinence as a foundational reference for coaches and physical education instructors in formulating training programs that are more systematically organized, continuous, and aligned with students' developmental necessities, thereby enabling the instructional and coaching process to operate with greater efficacy.

The limitations of this study lie in the relatively small number of subjects and the use of a descriptive design that does not examine cause-and-effect relationships or the effectiveness of a training treatment. Consequently, the findings of this investigation cannot be extrapolated extensively.

As a scholarly contribution to subsequent inquiries, the outcomes of this investigation may function as preliminary evidence for formulating experimental investigations or classroom action research that examine particular training paradigms designed to enhance proficiency in the volleyball underhand passing technique. In addition, further research is recommended to involve

a larger number of subjects and combine technical aspects with physical and psychological variables to obtain a more comprehensive understanding.

5. CONCLUSIONS

This investigation endeavors to scrutinize the profile of passing proficiency among junior high school volleyball extracurricular participants by considering five technical dimensions, namely body posture, hand utilization, passing precision, velocity and agility, and bodily equilibrium. Based on the descriptive analysis results, the participants' skills are generally in the fair to good category, with the best achievements dominating in the body position aspect. However, the aspects of passing accuracy and body balance still show a distribution of abilities dominated by the adequate category, indicating that ball direction control and dynamic stability are not yet fully optimal. Thus, it can be concluded that participants already have an adequate technical foundation but still need reinforcement in the aspects of precision and consistency of movement.

These findings have practical implications that extracurricular training programs need to be designed more specifically and based on the needs of technical aspects that are still weak. The training approach should not only focus on repeating basic movements, but also integrate accuracy control, postural stabilization, and game situation variations. Conceptually, this study contributes to providing a multidimensional mapping of underhand passing skills as a basis for developing technical coaching interventions at the junior high school level.

However, this study has limitations in terms of the relatively small number of subjects and its descriptive research design, which does not allow for an explanation of cause-and-effect relationships or the effectiveness of specific training methods. Therefore, further research is recommended to use experimental or longitudinal designs to test more targeted training models for improving accuracy and movement balance. The integration of physical condition variables and other supporting factors is also necessary to produce a more comprehensive understanding of the development of volleyball technical skills in adolescents.

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