Volleyball Skills Survey Of Ivop Pacitan Youth Athletes

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Abstract

Background : Mastery of basic volleyball techniques is a fundamental requirement for optimal athlete performance, particularly during adolescence, which represents a critical phase for technical development. However, empirical data regarding the actual skill profiles of youth volleyball athletes are still limited, especially at the club level. This lack of objective assessment may hinder coaches in designing training programs that are precise and evidence-based.

Objective : This study aimed to map the level of basic volleyball skills serving, passing, and smashing among 16 years old athletes at the IVOP Pacitan Club as a basis for developing targeted and data driven training programs.

Method : A quantitative descriptive design was employed using purposive sampling involving 20 male athletes aged 16 years. Data were collected using standardized volleyball skill tests developed by Fenanlampir. Descriptive statistical analysis was conducted to calculate mean scores, standard deviations, and percentage distributions.

Results : The results showed that the athletes' overall volleyball skill level was classified as fair (mean = 20.77 ± 2.89). Passing skills demonstrated the highest proficiency (mean = 9.20 ± 1.58) and were generally categorized as good. Serving skills were in the fair category (mean = 13.70 ± 2.39), while smashing skills showed the lowest performance level (mean = 4.97 ± 1.16), indicating notable variability and technical weaknesses among athletes.

Conclusion: The findings indicate uneven mastery of basic volleyball techniques among 16-year-old athletes, with passing skills being relatively superior to serving and smashing. These results highlight the necessity of structured, technique-specific training interventions, particularly for serving and smashing, supported by regular skill evaluations. This study provides empirical evidence to support evidence-based coaching strategies in youth volleyball development.

Keyword : volleyball, basic techniques, serving, passing, smashing, quantitative description

INTRODUCTION

Volleyball is one of the most popular team sports in the world. To achieve success in a match, teamwork, strategy, and good technique are required. One of the key aspects of volleyball is basic volleyball skills, namely the ability to receive the opponent's serve effectively. Volleyball itself is played by two opposing teams with 6 players in each team and uses a rubber ball. Volleyball is a fun and easy game that can be played on a court or in a yard (Ahmad Rithaudin and Bernadicta Sri Hartati, 2016: 52). The objective of volleyball is to get the ball across to the opponent's side of the court, where it is difficult to hit or kill the ball to win the game. Hitting the ball into the opponent's court is the objective of this game. There are many factors to consider when playing volleyball. Volleyball players can learn the basic techniques of the game through regular and well-structured training. The right training methods can reduce the mistakes made by athletes (Destriana et al., 2021).

Skills are a person's abilities and capabilities to perform tasks that require mental thinking to solve problems according to Lendi (2016:32) in Tina, T. O. (2023). Mastering skills is very important for athletes to be able to contribute effectively to a team. According to Achdiani et al. (2017), skills encompass a set of abilities or basic skills that an individual must possess and apply. Volleyball cannot be considered an easy sport, as it requires mastery of the fundamentals of the game. According to Hayati & Sujadi (2018), skills are a person's ability to perform certain tasks obtained through continuous practice. The basics of volleyball consist of serving. According to Ningsih, Witarsyah, Sin, and Setiawan (2020), serving is one of the most important techniques besides passing because it is the initial attack that can earn points or even make it difficult for the opponent to organize an attack. Passing, according to Nugraha and Yuliawan (2021), is the technique of passing the ball from above with the fingers. Smash, according to Destriani and Yusfi (2021), is an attack that directs the ball downward quickly when the hand fully contacts the ball above, which athletes must master. Physical and mental factors also influence volleyball performance. To support volleyball performance, these fundamental aspects play a major role in improving performance. The difference in quality between athletes can be seen in their ability to master basic techniques, which can be used as tools to aid team play. Volleyball is a team sport that is popular among people of all ages. According to Wendi Sahputra, S., and Febrianti, M. (2020:57), skill can also be used to indicate a certain level of proficiency. Skill is a person's ability and capacity to perform tasks that require mental thinking to solve problems. Master-

ing skills is very important for athletes to be able to contribute effectively to a team. Consistent training and focus on skill development can help athletes support their performance and achieve success. The degree of consistent success in achieving goals effectively is known as skill. As stated by Hot-tinger, quoted by Irwan Budi Cahyono (2022: 240) in (Rizma, A. 2023).

Sports facilities play an important role in determining the types of sports for selected athletes. Equipment is supporting equipment used to make volleyball activities run more smoothly. Volleyball is a very simple game and does not require a lot of equipment (Dwi Yulia Mulyadi, & Endang Pratiwi, 2020;7). According to Sinta (2019), sports facilities and infrastructure must be inventoried for maintenance purposes and removed if they are missing or damaged. In high schools, most sports fields have multipurpose fields and supporting facilities such as balls. Examples of these basic facilities include fields, swimming pools, and sports buildings (Amirah, 2019). Facilities and infrastructure are not only designed to improve performance but can also assist in sports education. The facilities and infrastructure required for volleyball are a volleyball court, net, and volleyball (Samsudin et al., 2019). Volleyball is a very simple game and does not require a lot of equipment (Dwi Yulia Mulyadi, & Endang Pratiwi, 2020;7). Volleyball uses simple equipment and can be enjoyable to play. Volleyball is one of the sports that has grown rapidly among the general public, schools, and clubs (Sunardi, 2015: 1). Training requires the availability of facilities and infrastructure to achieve its objectives. Sports cannot be played without facilities and infrastructure.

To play effectively and achieve good results, it is necessary to master basic techniques such as serving, passing, and smashing. These basic techniques are an important foundation that every athlete must have in order to support their performance in a match. Without adequate mastery of basic techniques, play will not be optimal and may reduce the overall quality of the team. Volleyball technique is the correct way to play the ball in accordance with the fourteen rules of the game to achieve optimal results. Volleyball technique is the correct way to play the ball in accordance with the fourteen rules of the game to achieve optimal results (Hermawan Nopendra, 2016). Good and correct mastery of basic volleyball techniques is one of the factors that influence how well a person performs in volleyball. Mastery of basic techniques encompasses all types of basic activities, so a volleyball athlete with good mastery of basic techniques will be able to play well in every position and

master various important skills needed to perform well (Siregar et al., 2021). According to Kardiyanto and Sunardi (2020), some basic techniques that every volleyball player should know are serving, passing, and smashing. If athletes want to excel at volleyball, they must learn these four basic techniques before playing. However, many athletes neglect these basic techniques because all volleyball techniques are interrelated.

According to Asrori and Ali (2016), adolescence is a period when children begin to integrate into adult society. At this age, they no longer feel inferior to their parents, but rather feel equal or on par with them. Student character refers to the attributes, traits, dispositions, and talents that distinguish students from one another (Parede and Nabilah Siregar, 2021). Currently, the process of entering society involves more or less emotional aspects than the adolescent experience. The character of senior high school students covers many things that show the personal, social, and academic development of students during secondary education. There are two characteristics of student-athlete competence that coaches need to know, namely, first, academic background and second, social factors (Jatmiko, 2017). As a result, each person's character becomes unique and has a positive impact on high school students, including during their developmental or adolescent years. This is a transitional period from childhood to adulthood, during which physical and mental changes occur in children.

The IVOP Pacitan Club is one of the volleyball clubs that actively nurtures young athletes in Pacitan Regency. This club is a place for nurturing the talents of students who have an interest and potential in volleyball. One of the age groups that is currently the focus of training is athletes aged 16-18 years. This age group is in their mid-teens, which is a golden period for physical, emotional, and social development. At this age, athletes have great potential to be developed into accomplished athletes, both at the local and wider levels. However, based on observations in the field, some 16-year-old athletes at the IVOP Pacitan Club still show deficiencies in their mastery of basic playing techniques. Many of them only play spontaneously without paying attention to the correct techniques, such as body position when passing, smash accuracy, and serve strength and direction. In fact, a team's success in a match is largely determined by the ability of individuals to apply basic techniques effectively and accurately. This condition highlights the need for an evaluation of the basic technical skills possessed by athletes.

This evaluation is important to determine the extent of their volleyball skills, as well

as to provide input for coaches in developing training programs that suit the athletes' needs. In addition, mapping their skills will motivate athletes to continue improving themselves in order to achieve higher achievements. Based on this, the researchers felt it necessary to conduct a survey of basic volleyball skills among 16-year-old athletes at the IVOP Pacitan Club. Through this study, it is hoped that an objective picture of the athletes' skill levels can be obtained, which can then be used as a basis for developing coaching programs and improving volleyball performance at the regional level.

METHODS

Study Design and Participants

This study employed a quantitative descriptive approach. According to Nasir (as cited in Rukajat, 2018, p.1), descriptive research aims to describe events or phenomena directly, realistically, and accurately. The research used a survey method and was conducted at the Pacitan Sports Hall (GOR Pacitan) involving athletes from the IVOP Pacitan volleyball team. Data collection was carried out in July 2025. The population refers to a broad and extensive collection of data (Darmawan, 2016) and can also be defined as all individuals, objects, or measurable units relevant to a study (Suharyadi & Purwanto SK, 2016). The population in this study consisted of 46 adolescent and adult volleyball athletes registered in the IVOP Pacitan Club. The sample was selected using a purposive sampling technique, consisting of 20 male athletes aged 16–18 years who were actively training and competing with the team. This sample was considered capable of providing representative data related to the fundamental volleyball skills of 16-year-old athletes.

Research Instruments

The research variables were measured objectively in accordance with the requirements of quantitative research. The data collection instrument used was a volleyball skill test consisting of three components: service, passing, and smash. The skill index was calculated using the standardized scoring formula adopted from Fenanlampir & Faruq (2015):

Index = 1.2 (Service Score) + 0.2 (Passing Score) + (0.5 × Smash Score – 1.0 × Smash Time)

These instruments were selected to objectively reflect the athletes' technical abilities in basic volleyball skills.

Data Analysis

Data were analyzed using descriptive statistical techniques with the help of SPSS software. The analysis included the calculation of mean, standard deviation, and percentage distribution, following Sugiyono (2022, p. 226). Percentage calculations were carried out using the formula by Sudijono (2010:43). Furthermore, the categorization of volleyball skill levels was based on the standardized norms developed by Fenanlampir & Faruq (2015). The results were presented in tables and graphs to provide a clear overview of the athletes' skill performance.

Table 1. Volleyball Skill Test Standards

Category	Age And Score Index		
	13–15 Years Old	**13–15 Years Old**	**13–15 Years Old**
Good	>21	>27	>41
Fair	13 – 20	18 – 26	27 – 40
Poor	3 – 12	8 – 17	12 – 16
Bad	<2	<7	<11

RESULTS

This data was obtained through a skill survey conducted on July 14, 2025, on 20 16-year-old volleyball athletes from IVOP Pacitan with the aim of measuring their volleyball skills. This research was conducted at the Pacitan Sports Hall in Sidoharjo Village, Pacitan District, using a survey method and data collection technique based on the volleyball skills test developed by Dr. Albertus Fenanlampir, M.Pd., AIFO and Dr. Muhammad Muhyi Faruq. This volleyball skills test consisted of three series of tests. Based on the results of data processing using the SPSS program, descriptive statistical information was obtained on four aspects of basic volleyball skills.

Table 2. Descriptive Statistics of Volleyball Skill Test Results.

Descriptive Statistics

	N	Minimum	Maximum	Sum	Mean	Std. Deviation
Passing	20	5	11	184	9.20	1.576
Servis	20	9	17	274	13.70	2.386
Smash	20	2.84	6.97	99.38	4.9690	1.16077
Keterampilan Bola Voli	20	15.84	25.59	415.32	20.7660	2.89031
Valid N (listwise)	20					

Passing, serving, smashing, and volleyball skills. In terms of passing, the average

score was 9.2 with a standard deviation of 1.576, a minimum score of 5, and a maximum score of 11. Serving had an average score of 13.7, a standard deviation of 2.386, a minimum score of 9, and a maximum score of 17. Smashing had an average of 4.96, a standard deviation of 1.160, a minimum score of 2.84, and a maximum score of 6.97. Meanwhile, the total volleyball skill score had an average of 20.77, with a minimum score of 15.84, a maximum score of 25.59, and a standard deviation of 2.89. These findings indicate that there are significant differences in skill levels among athletes in each aspect measured, even though the majority of athletes are classified as having fair to good skills.
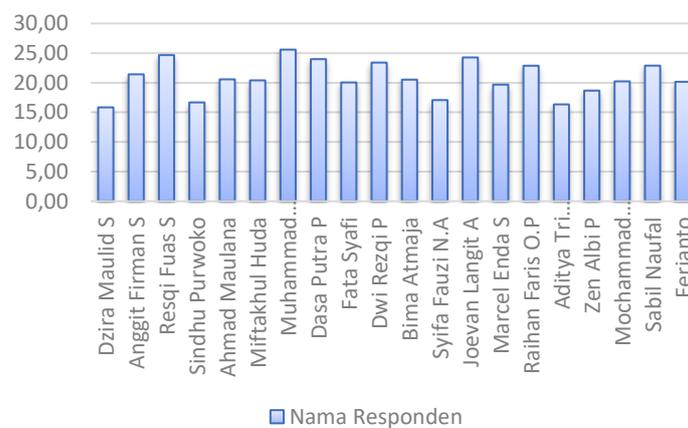

Figure 1. Bar Chart of Total Volleyball Skill Scores

The bar chart above illustrates the total volleyball skill scores obtained by each 16-year-old athlete based on the accumulated results of four aspects of the volleyball skill test, namely passing, serving, smashing, and volleyball skills. From the graph, it can be seen that the athlete named Dasa Putra P obtained the highest score, namely 25.59, while the lowest score was obtained by Dzira Maulid S with a score of 15.84. The majority of students were in the 15.84 score range, reflecting that the basic volleyball skill level of 16-year-old IVOP Pacitan athletes was generally in the "poor" to "fair" category. This diagram helps to clarify the distribution and comparison of the abilities of 16-year-old athletes visually, making it easier to draw general conclusions about the research results.

Table 3. Service Skills of 16-year-old IVOP Pacitan Athletes

Statistik	Nilai
Mean	13,7
Median	14
Modus	15
Std. Deviasi	2,386

Minimum	9
Maximum	17
Jumlah Sampel	20

From the table above, the service skills of 16-year-old IVOP Pacitan athletes can be described as having an average score of 13.7, a median score of 14, a most frequent score of 15, a standard deviation of 2.386, a minimum score of 9, and a maximum score of 17. Based on the test results, the service skills of 16-year-old athletes can be categorized as follows:

Table 4. Categorization of the Serving Ability of 16-year-old IVOP Pacitan Athletes

Interval	Kategori	Frekuensi	Persentase (%)
$31 \geq X$	Sangat Baik	4	20%
$23 \leq X < 31$	Baik	4	20%
$15 \leq X < 23$	Cukup	6	30%
$7 \leq X < 17$	Kurang	5	25%
$X < 7$	Sangat Kurang	1	5%

From the table above, it can be seen that the athletes' serving ability is in the adequate category. It can be seen that 4 athletes or 20% are in the very good category, 4 athletes or 20% are in the good category, 6 athletes or 30% are in the adequate category, 5 athletes or 25% are in the poor category, and 1 athlete or 5% are in the very poor category. Referring to the categorization table, it can be concluded that the athletes' serving ability is in the adequate category.

Table 5. Passing Ability of 16-year-old Athletes at IVOP Pacitan

Statistik	Nilai
Mean	9,2
Median	9
Modus	9
Std. Deviasi	1,576
Minimum	5
Maximum	11
Jumlah Sampel	20

From the table above, the passing ability of 16-year-old IVOP Pacitan athletes can be described with an average score of 9.2, a median score of 9, a mode score of 9, a standard devia-

tion of 1.576, a minimum score of 5, and a maximum score of 11. From the test results, the passing ability of 16-year-old athletes can be categorized as follows:

Table 6. Categorization of Passing Ability of 16-year-old IVOP Pacitan Athletes

Interval	Kategori	Frekuensi	Persentase (%)
12 ≥ X	Sangat Baik	0	0%
10 ≤ X < 12	Baik	9	45%
18 ≤ X < 10	Cukup	9	45%
7 ≤ X < 8	Kurang	1	5%
X < 7	Sangat Kurang	1	5%
Jumlah		**20**	**100%**

From the table above, it can be seen that the athletes' passing skills are in the good category. There are 0 athletes in the very good category, 9 athletes or 45% in the good category, 9 athletes or 45% in the fair category, 1 athlete or 5% in the poor category, and 1 athlete or 5% in the very poor category. Referring to the categorization table, it can be concluded that the athletes' passing skills are in the good category.

Table 7. Smash Ability of 16-Year-Old Athletes at IVOP Pacitan

Statistik	Nilai
Mean	4,969
Median	4,94
Modus	4,14
Std. Deviasi	1,16
Minimum	2,84
Maximum	6,97
Jumlah Sampel	20

From the table above, the smash ability of 16-year-old IVOP Pacitan athletes can be described with an average score of 4.969, a median score of 4.94, a mode score of 4.14, a standard deviation of 1.16, a minimum score of 2.84, and a maximum score of 6.97. Based on the test results, the smash ability of 16-year-old athletes can be categorized as follows:

Table 8. Categorization of Smash Ability of 16-year-old IVOP Pacitan Athletes

Interval	Kategori	Frekuensi	Persentase (%)
6,71 ≥ X	Sangat Baik	2	10%
5,55 ≤ X < 6,71	Baik	5	25%
4,39 ≤ X < 5,55	Cukup	6	30%

3,23 ≤ X < 4,39	Kurang	6	30%
X ≤ 3,23	Sangat Kurang	1	5%
Jumlah		**20**	**100%**

From the table above, it can be seen that the athletes' smash skills are in the adequate category. Two athletes (10%) are in the excellent category, five athletes (25%) are in the good category, six athletes (30%) are in the adequate category, six athletes (30%) are in the poor category, and one athlete (5%) is in the very poor category. Referring to the categorization table, it can be concluded that the athletes' smash skills are in the adequate category.

DISCUSSION

This article discusses the results of a survey of basic volleyball skills among 16 years old athletes at the IVOP Pacitan Club. The study was conducted due to issues with low consistency and accuracy in basic techniques such as serving, passing, and smashing, which affected team performance. Using a quantitative descriptive method, this study measured the skills of 20 athletes through standardized tests based on the guidelines of Dr. Albertus Fenanlampir. Preliminary results show that mastery of basic techniques is in the "fair" category with variations in ability between technical aspects, where passing is relatively better than serving and smashing.

From the analysis results, passing obtained the highest average score of 9.2, which falls into the "good" category, even though some athletes still need improvement. Serving had an average of 13.7 and fell into the "fair" category, with some athletes performing at a very good and good level, but others still lacking. Smashing was the skill with the lowest average, 4.97, and fell into the "fair" category, with many athletes struggling to maintain consistency and accuracy in their shots. The difference in scores between athletes is quite significant, indicating a skill gap that needs to be addressed in training. The discussion emphasizes that even though athletes already understand the basic techniques of volleyball, optimal application has not yet been achieved. Factors such as training frequency, coaching quality, and focus on specific techniques influence these achievements. Passing is the most mastered technique because it is practiced more often, while serving and smashing require more attention. Therefore, periodic data-based evaluations are needed so that coaches can adjust training programs according to the individual needs of athletes.

The volleyball skill level of 16 years old athletes at IVOP Pacitan is generally in the "fair" category. To improve to the 'good' or "very good" level, coaches are advised to

implement structured training that focuses on weak techniques, especially serving and smashing. A personalized approach, regular feedback, and strengthening the athletes' mental and emotional state are also important to support balanced skill development.

Passing skills showed the highest level of mastery compared to serving and smashing. This result aligns with the theoretical perspective that passing is a fundamental skill most frequently practiced during training sessions, as it forms the basis for attack organization and rally continuity. Previous studies have reported similar findings, indicating that passing skills tend to develop more rapidly due to their high repetition frequency and lower technical complexity compared to attacking skills such as smashing. Frequent exposure to passing drills may enhance motor coordination, ball control, and movement efficiency, resulting in more consistent performance among athletes.

In contrast, serving skills were categorized as *fair*, suggesting that although some athletes demonstrated good proficiency, others still experienced technical inconsistencies. Serving requires not only proper biomechanical execution but also concentration, accuracy, and confidence. Previous research has emphasized that serving performance is influenced by both technical repetition and psychological factors, such as focus and emotional control. Inconsistent serving performance among athletes may therefore reflect variations in training emphasis, mental readiness, or individual technical understanding.

Smashing skills recorded the lowest average score, indicating that this skill remains the most challenging for 16-year-old athletes. Smashing involves complex coordination between approach speed, jumping ability, timing, arm swing mechanics, and explosive power. From a physiological perspective, athletes at this age are still undergoing physical maturation, particularly in terms of strength and power development, which may limit their ability to execute effective smash techniques consistently. Similar findings have been reported in previous studies, which highlight that attacking skills often lag behind control-based skills during adolescent development due to higher physical and technical demands.

The observed differences in athletes' skill levels may also be influenced by training characteristics, including training frequency, drill variation, and coaching focus. Training programs that prioritize game-based activities without sufficient technical repetition may result in uneven skill development. Additionally, individual factors such as physical condition, coordination ability, motivation, and psychological readiness may contribute to performance variability among athletes. Athletes with higher confidence and motivation levels tend to

demonstrate better skill execution, particularly in high-risk techniques such as serving and smashing.

These findings suggest that although athletes possess a basic understanding of volleyball techniques, optimal technical mastery has not yet been achieved. This condition emphasizes the importance of structured, progressive, and age-appropriate training programs that balance technical repetition with physical conditioning and psychological development. Regular skill assessments are essential to monitor progress and to ensure that training interventions are aligned with athletes' actual needs.

Overall, this study contributes scientifically by providing empirical evidence on the technical skill profile of 16-year-old volleyball athletes at the club level. The results reinforce existing theories and previous research that emphasize the uneven development of basic skills during adolescence and highlight the need for evidence-based coaching strategies. By integrating objective skill assessment into the coaching process, trainers can design more targeted training programs to support long-term athlete development.

CONCLUSION

This study aims to determine the level of volleyball skills of 16-year-old athletes at IVOP Pacitan through a series of skill tests including passing, serving, and smashing. Based on the results of data analysis using SPSS version 21, it was found that the average skill score of 16-year-old athletes was 20.766, with a standard deviation of 2.89. This average score, when classified based on Sudijono's (2010) volleyball skill norms, falls into the "Fair" category. This means that the athletes have mastered the basic techniques of volleyball but still need improvement to reach the good or very good category. Each type of test showed different results. Passing was the skill that athletes mastered the most, with a high average and low score distribution. This shows that this skill is easier to master because it is taught and practiced more often in the training program for 16-year-old athletes at IVOP Pacitan. Conversely, serving and smashing showed less than optimal results, characterized by low scores and a wider spread of scores, indicating a gap in ability between athletes. In general, the training program that has been provided is capable of developing the basic volleyball skills of 16-year-old athletes at IVOP Pacitan, but it has not been evenly distributed across all types of skills. This shows that teachers need to pay more attention to techniques that have not been mastered well by most athletes. The results of this study provide a number of important implications for var-

ious parties, especially in the context of improving performance and developing sports skills among 16-year-olds.

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