



## Comparison Between Forehand and Backhand Stroke Techniques in the Accuracy of Strikes Among Extra-Curricular Table Tennis Students at State Senior High School 1 Sedayu

Wahyu Hidayat<sup>1</sup>, Ardhika Falaahudin<sup>2</sup>

<sup>1,2</sup> Universitas Mercu Buana Yogyakarta, Indonesia

Corresponding Author: ✉ [wahyuyurai18@gmail.com](mailto:wahyuyurai18@gmail.com)

### ABSTRACT

This research is a descriptive study. The method used is a survey. The study population consists of 12 students participating in table tennis extracurricular activities at SMA Negeri 1 Sedayu. Data collection techniques employed in this research include testing and measurement. The results of the study indicate that (1) Forehand stroke abilities in table tennis extracurricular activities at SMA Negeri 1 Sedayu fall into the "high" category. When calculated as a percentage, the category with a very high level is 33.3%, comprising 4 students, the "high" category is 41% with 5 students, the "moderate" category is 16.6% with 2 students, and the "low" category is 8.3% with 1 student. There are no students in the "very low" category. (2) Backhand stroke abilities in table tennis extracurricular activities at SMA Negeri 1 Sedayu are categorized as "moderate". When calculated as a percentage, the "very high" category is 16.6%, with 2 students, the "high" category is 16.6%, with 2 students, the "moderate" category is 50%, with 6 students, the "low" category is 16.6%, with 2 students, and there are no students in the "very low" category.

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## INTRODUCTION

Physical education plays a crucial role in the implementation of education as a student development process for life sustainability. Through physical education, students can live a balanced and harmonious life. Efforts to enhance the quality of teaching and learning, both in intracurricular and extracurricular activities, should proceed harmoniously, in balance, and systematically. In this context, intracurricular activities refer to those conducted during school hours, while extracurricular activities are those conducted outside school hours.

According to Hastuti (2008), extracurricular activities are organized to fulfill the requirements of mastering subject matter within a separately scheduled time.

Depending on needs, recreational activities can take the form of enrichment activities and support related to educational programs or study visits to specific locations. Extracurricular sports activities are diverse, such as martial arts, basketball, badminton, table tennis, and others. This study specifically focuses on recreational table tennis activities.

Table tennis involves various stroke techniques, including forehand, backhand, drive, push, block, smash, service, chop, loop, and flick. According to Yulianto (2015), the most dominant and effective attacking technique in executing a smash is the forehand technique, although it requires more energy than the backhand stroke. Forehand drive is a frequently used skill for attacking opponents, along with other forehand techniques such as forehand push, forehand chop, forehand block, and forehand spin. Similarly, backhand techniques encompass various strokes, such as backhand drive, backhand push, backhand chop, backhand block, backhand spin, footwork, and tactics to achieve victory in table tennis games (Mahendra, 2012).

One crucial technique in table tennis is the drive stroke, known for its minimal friction force. The drive is executed by a downward slanting stroke pulled upwards with a slightly closed racket position. This technique produces flat and powerful shots, making it fundamental to table tennis.

Simpson (2007) emphasizes that the drive stroke serves both as an attacking shot and a controllable shot according to the player's intention. Therefore, effective and precise training methods are essential to master the drive stroke, enabling players to maintain scores and secure points by mastering both forehand and backhand strokes quickly, accurately, and purposefully.

Accuracy in the drive stroke is vital in table tennis, where precise hits are crucial for effective point scoring. Not all table tennis players can consistently control accuracy and ball placement during the game. Precision in strokes is essential to make opponents struggle to reach or retrieve balls that are out of their range, contributing to winning matches and earning points. The effectiveness of drive stroke precision needs to be examined to determine whether the training methods can enhance this aspect.

Observations during the teaching internship at SMA N 1 SEDAYU revealed that table tennis extracurricular training sessions were conducted once a week from 15:30 to 17:30 WIB before the COVID pandemic. However, after the return to offline classes, several months passed without extracurricular activities due to the school's ongoing COVID recovery phase. The facilities used for table tennis extracurricular training, specifically the tables and tennis bats, were generally good, with a sufficient number of unused tennis bats. However, the school had only one table, leading to students waiting in line to use the facility.

Considering the various issues related to forehand and backhand stroke techniques in table tennis mentioned earlier, forehand strokes are generally favored for

delivering lethal blows to opponents due to fewer hindrances during the hit. However, students tend to be more accustomed to using backhand strokes for ball control and defensive play. The comparison between forehand and backhand stroke techniques is challenging for students to master and is an intriguing area for research. Therefore, the author is motivated to investigate the COMPARISON BETWEEN FOREHAND AND BACKHAND STROKE TECHNIQUES IN THE ACCURACY OF TABLE TENNIS PERFORMANCE among extracurricular students through a systematic and sequential research process, ensuring that all conclusions and findings are scientifically accountable.

## **RESEARCH METHOD**

This research is a descriptive study using a survey method and employing data collection techniques through testing and measurements. According to Arikunto (2006), descriptive research is a non-hypothesis research that collects data as they are about a variable, phenomenon, or condition. The survey method and data collection techniques using tests and measurements are utilized in this research, eliminating the need for hypothesis formulation.

The research was conducted at SMA Negeri 1 Sedayu, located at Jl. Kemusu Panggang, Karanglo, Argomulyo, Sedayu, Bantul 55753. The research period was in November 2023.

Research instruments are tools or objects used by researchers for data collection to make the research process easier and yield more accurate, comprehensive, and systematic results, as explained by Arikunto (2006). The instrument used to measure the accuracy of forehand and backhand drives in table tennis is the instrument for assessing these skills by Tomoliyus (2012). This instrument has high content validity (CVR = 0.99), with a reliability of 0.96 for forehand drive and 0.944 for backhand drive for junior athletes.

The data collection technique used in this research involves testing and measurements. The steps or data collection process include the preparation of tests, beginning with explaining the purpose of the tests to the subjects. The goal is to collect data relevant to the existing issues. In this study, test preparation involves setting up the necessary test tools, including a stopwatch, whistle, table tennis table, table tennis ball, table tennis racket, and writing materials. The test implementation starts with gathering and lining up the subjects for prayer, followed by an explanation of the test instructions and warming up. Subsequently, the subjects are divided into two groups based on the ratio of forehand and backhand strokes, given sequential numbers according to attendance, and then instructed to take turns in the test. The obtained data is then systematically recorded.

The data analysis technique used in this research is quantitative descriptive data analysis. Furthermore, to calculate the percentage of issues in each aspect, the formula according to Sudijono (2006) is used. The formula for calculating the percentage is as follows:

$$P = \frac{f}{n} \times 100\%$$

Information :

P = percentage number

F = frequency the percentage is being searched for

N = the number of frequencies of the number of individuals

From the categorization above, the mean and standard deviation are used. According to Azwar (2016) who stated that to determine the score criteria using a norm reference assessment (PAN) on a modified scale as follows:

**Table 1.**

**Table Tennis Forehand and Backhand Assessment Norms**

No	Interval	Kategori
1	$M + 1,5 S < X$	Very high
2	$M + 0,5 S < X \leq M + 1,5 S$	Tall
3	$M - 0,5 S < X \leq M + 0,5 S$	Currently
4	$M - 1,5 S < X \leq M - 0,5 S$	Low
5	$X \leq M - 1,5 S$	Very low

Information :

M = Mean

S = Standard Deviation

X = Score

## RESULTS AND DISCUSSION

The data in this study are the results of forehand and backhand stroke tests on hitting accuracy in extracurricular table tennis games at SMA Negeri 1 Sedayu. The research test results data are explained as follows:

**Table 2.**

**Table Tennis Extracurricular Forehand and Backhand Ability at SMA Negeri 1 Sedayu**

No	Name	Forehand Drive	Backhand Drive
1	S1	57	47
2	S2	63	51
3	S3	57	49
4	S4	71	51
5	S5	57	53
6	S6	65	51

7	S7	55	49
8	S8	53	55
9	S9	57	61
10	S10	49	45
11	S11	67	63
12	S12	47	57

### Forehand Ability

Descriptive statistics of stroke ability on table tennis extracurricular forehand at SMA Negeri 1 Sedayu obtained the lowest (minimum) score of 47, the highest (maximum) score of 71, the average (mean) of 58.17, the middle (median) of 57.00, the value that often appears (mode) 57, standard deviation (SD) 7.158. Complete results can be seen in the following table.

**Table 3.**  
**Descriptive statistics of forehand hitting ability**

Statistik	
<i>N</i>	<b>12</b>
<i>Mean</i>	<b>58,17</b>
<i>Median</i>	<b>57,00</b>
<i>Mode</i>	<b>57</b>
<i>Std, Deviation</i>	<b>7,158</b>
<i>Minimum</i>	<b>47</b>
<i>Maimum</i>	<b>71</b>

When displayed in the form of assessment norms, the extracurricular table tennis forehand ability of SMA Negeri 1 Sedayu is presented in the table as follows:

**Table 4.**  
**Norms for Assessment of Extracurricular Table Tennis Forehand Ability at SMA Negeri 1 Sedayu**

No	Interval	Kategori	Frekuensi	%
<b>1</b>	60 >	Sangat Tinggi	4	33,3%
<b>2</b>	55 - 59	Tinggi	5	41%
<b>3</b>	49 - 54	Sedang	2	16,6%
<b>4</b>	44 - 48	Rendah	1	8,3%
<b>5</b>	≤ 43	Sangat Rendah	0	0%
<b>Jumlah</b>			<b>12</b>	<b>100%</b>

Based on the assessment norms in the table above, the extracurricular table tennis forehand ability of SMA Negeri 1 Sedayu can be presented in the following picture:

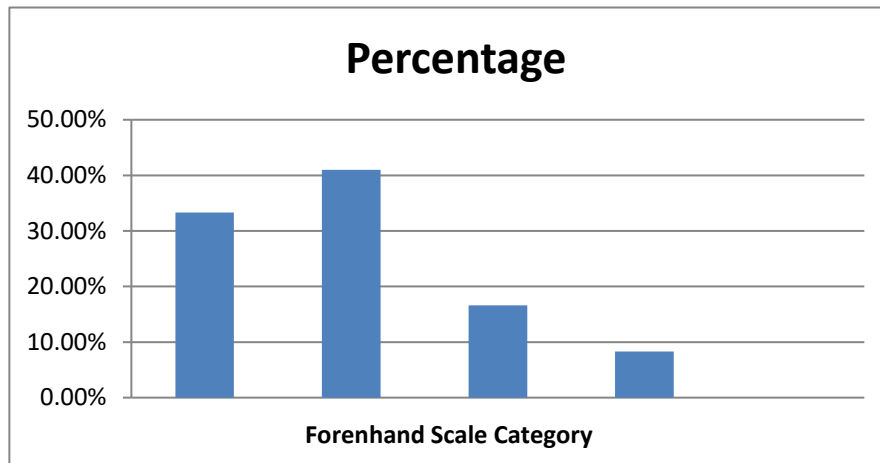


Figure 1.

**Bar diagram of table tennis extracurricular forehand stroke ability at SMA Negeri 1 Sedayu**

Based on the table and figure above, it shows that the extracurricular table tennis forehand ability of SMA Negeri 1 Sedayu is in the "very low" category at 0.00% (0 students), "low" at 8.3% (1 student), "medium" was 16.6% (2 students), "high" was 41% (5 students), and "very high" was 33.3% (4 students). Based on the average score, namely 58.17, the extracurricular table tennis forehand ability of SMA Negeri 1 Sedayu is categorized as "high".

**Backhand Ability**

Descriptive statistics of extracurricular table tennis backhand shot ability at SMA Negeri 1 Sedayu obtained the lowest (minimum) score of 45, the highest (maximum) score of 63, the average (mean) of 52.67, the middle (median) of 51.00, the value that often appears (mode ) 51, standard deviation (SD) 5.449. The complete results can be seen in the following table:

Table 5.

**Descriptive statistics of backhand hitting ability**

Statistik	
<i>N</i>	12
<i>Mean</i>	52,67
<i>Median</i>	51,00
<i>Mode</i>	51
<i>Std, Deviation</i>	5,449
<i>Minimum</i>	45
<i>Maimum</i>	63

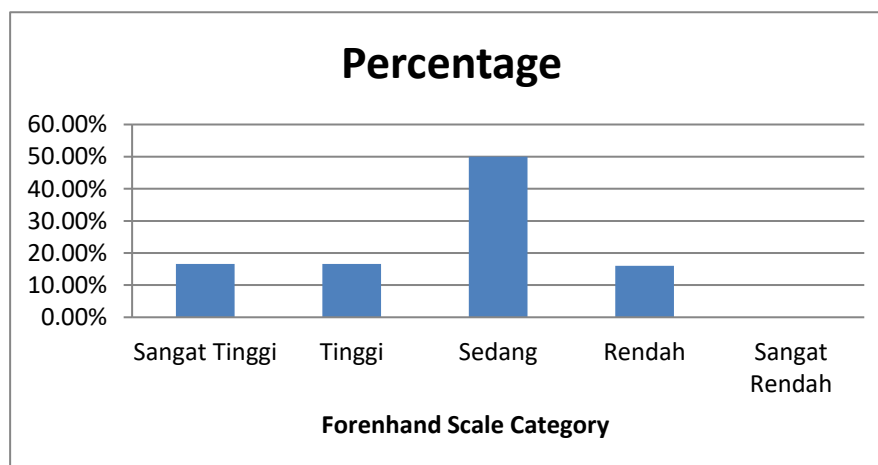
When displayed in the form of assessment norms, the ability of extracurricular table tennis backhand strokes at SMA Negeri 1 Sedayu can be presented in the following table:

**Table 6.**  
**Norms for assessing extracurricular table tennis backhand shot ability at SMA Negeri 1 Sedayu**

No	Interval	Kategori	Frekuensi	%
1	60 >	Sangat Tinggi	2	16,6%
2	55 - 59	Tinggi	2	16,6%
3	49 - 54	Sedang	6	50%
4	44 - 48	Rendah	2	16,6%
5	≤ 43	Sangat Rendah	0	0%
<b>Jumlah</b>			<b>12</b>	<b>100%</b>

Based on the assessment norms in the table above, the ability of extracurricular table tennis backhand strokes at SMA Negeri 1 Sedayu can be presented in the picture below as follows:

**Figure 2.**  
**Bar diagram of table tennis extracurricular backhand shot ability at SMA Negeri 1 Sedayu**



Based on the table and figure above, it shows that the extracurricular table tennis hitting ability of SMA Negeri 1 Sedayu is in the "very low" category at 0% (0 students), "low" at 16% (2 students), "medium" at 50 % (6 students), "high" was 16.6% (2 students), and "very high" was 16.6% (2 students). Based on the average score, namely 52.67, the extracurricular table tennis backhand shot ability of SMA Negeri 1 Sedayu is in the "medium" category.

## Discussion

The aim of this research was to assess the forehand and backhand stroke abilities in table tennis extracurricular activities at SMA Negeri 1 Sedayu. The results indicate that the forehand stroke ability in table tennis extracurricular activities at SMA Negeri 1 Sedayu falls into the "high" category. When calculated as a percentage, the very high level constitutes 33.3%, with 4 students, the high level is 41%, with 5 students, the moderate level is 16.6%, with 2 students, and the low level is 8.3%, with 1 student. No students are in the "very low" category, indicating that all students have mastered this technique to some extent.

The observed proficiency in forehand strokes among students in the table tennis extracurricular activity at SMA Negeri 1 Sedayu is influenced by various factors, one of which is the perceived difficulty level of executing forehand strokes, which students find considerably easier than backhand strokes.

According to Mahendra (2012), mastering movements in executing forehand strokes requires a proper synchronization between the hand and eye, learned thoroughly and continuously to ensure the striking movement aligns with expectations. Once the synchronization between hand and eye movements is mastered, players can develop their table tennis game, especially forehand strokes. Furthermore, precision in foot positioning, hips, waist, and other body parts is crucial in executing accurate forehand strokes.

The research also reveals the proficiency of backhand strokes in table tennis extracurricular activities at SMA Negeri 1 Sedayu, categorized as "moderate." When calculated as a percentage, the very high level constitutes 16.6%, with 2 students, the high level is 16.6%, with 2 students, the moderate level is 50%, with 6 students, and the low level is 16.6%, with 2 students. No students are in the "very low" category, indicating that all students have acquired a certain level of proficiency in backhand strokes.

The difficulty level of executing backhand strokes is cited as a contributing factor to the observed proficiency among students. Students perceive backhand strokes as more challenging compared to forehand strokes.

In table tennis, a sport heavily reliant on hand skills, physical condition plays a crucial role in the technique of strokes. Producing effective strokes requires not only correct stroke technique but also maximizing wrist flexibility and maintaining good coordination between the eyes and hands. This enhances a player's ability to read the opponent's movements, predict the ball's trajectory, and anticipate effectively. As a result, players can execute attacks directed at challenging positions for the opponent, making it difficult for them to respond (Mahendra, 2012).



## CONCLUSION

Based on the results of data analysis, description, testing of research findings, and discussion, the following conclusions can be drawn:

1. The proficiency in forehand strokes in table tennis extracurricular activities at SMA Negeri 1 Sedayu is categorized as "high." When calculated as a percentage, the very high level constitutes 33.3%, with 4 students, and the high level is 41% with 5 students. Furthermore, the moderate level is 16.6% with 2 students, and the low level is 8.3% with 1 student. There are no students in the "very low" category, indicating that none of the students have failed to master this stroke technique, and thus, none fall into the very low category.
2. The proficiency in backhand strokes in table tennis extracurricular activities at SMA Negeri 1 Sedayu is categorized as "moderate." When calculated as a percentage, the very high level constitutes 16.6%, with 2 students, the high level is 16.6%, with 2 students, the moderate level is 50% with 6 students, and the low level is 16.6% with 2 students. Similar to forehand strokes, there are no students in the "very low" category, signifying that all students have acquired proficiency in this backhand stroke technique, and none fall into the very low category.

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