

## FOREHAND TOPSPIN STROKE AND BACKHAND STROKE ABILITIES OF TABLE TENNIS ATHLETES AT THE PTM TARUNA CLUB BAJANG MATARAM

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ABSTRACTS	ARTICLE INFO
<p>This research is motivated by the process of evaluating table tennis games in the form of carrying out tests to determine the description of forehand and backhand hitting abilities in table tennis games in Bajang Mataram Cadet PTM Club. The subjects of this research were the PTM Taruna Bajang Mataram Club athletes, totaling 24 athletes. The object of this research is the accuracy of forehand topspin strokes and backhand strokes with a back board test for 30 seconds. The research setting took place in the Bajang Mataram Taruna PTM Club field in academic year 2023/2024. The method used to analyze data is a survey method with skill test and measurement techniques. The results of the research showed that there were two categories of their ability; (1) The forehand ability in table tennis at the PTM Taruna Bajang Mataram Club was in the high category at 23.07%; medium category of 50.00%; and the low category was 26.93%. (2) The ability to hit backhand strokes in table tennis at the Bajang Mataram Taruna PTM Club in the high category was 19.23%; medium category of 57.70%; and the low category was 23.07%. so that's why, it can be inferred that the ability of forehand topspin and backhand strokes in table tennis at the PTM Taruna Bajang Mataram Club is in the fair/medium category.</p>	<p><b>Article History:</b> <i>Received: April 14<sup>th</sup>, 2024</i> <i>Revised: April 25<sup>th</sup>, 2024</i> <i>Published: May 2024</i></p> <p><b>Keywords:</b> <i>Forehand Topspin,</i> <i>Backhand Strokes,</i> <i>Table tennis</i></p>

### INTRODUCTION

Physical education has a very important role in intensifying the implementation of education as a process of human development that lasts a lifetime. Through physical education, athletes are expected to gain various experiences to express personal impressions that are fun, creative, innovative, skilled, improve and maintain physical fitness and understanding of human movement. Physical education is a learning process through physical activity designed to improve physical fitness, develop motor skills, knowledge and healthy and active living behavior, sportsmanship, and emotional intelligence (Wawan, 2004: 23). Physical activity in this sense is described as movement activity to improve motor skills and functional values which include cognitive, affective and social aspects. The scope of physical education is through games and sports, development activities and self-testing or through gymnastics, water activities and out-of-class education. One example of a sport using a net (net game) that can be played outside, in the classroom and does not require a large space is table tennis.

Andi Septiono (2009: 5), At first the game of table tennis was only known as a pastime for entertainment or just for recreation. Currently, the game of table tennis has developed a lot, both in society, schools and universities. This game uses a table as a place to bounce the ball hit by the player. Table tennis games can be played individually

or in pairs. When playing table tennis, you must be able to cross the ball and return the ball to your opponent's area after the ball bounces in your own area.

Indra (2013: 3) stated that in the game of table tennis there are several basic playing techniques such as forehand topspin and backhand strokes. Playing table tennis requires learning and practicing the skills of serving and returning the ball to the target so that someone can play table tennis with good basic techniques. Playing table tennis requires target accuracy because it is one of the factors in playing table tennis effectively. A player tries to be able to put the ball on target at a faster ball rate that is far from the opponent's reach, making it difficult to return the ball. Therefore, it is necessary to master basic hitting techniques and skills so that you have mastery and ability in playing. It is hoped that mastery of various stroke techniques in playing table tennis can play effectively and efficiently, thereby improving your ability to play table tennis.

All equipment used to play or compete in table tennis meets the specified requirements. A table tennis player must be able to know the facilities and infrastructure that meet the requirements to be used in playing table tennis. There are basic principles of the game and how to hold the bat/racquet first first before using other techniques. The known ways of holding the bat in table tennis are shakehand grip, seemiller grip and penhold grip. The way you hold the grip has its own influence on the ball hit. However, it all depends on each of us, determination, concentration, talent and interest must be embedded in our minds in order to achieve maximum results in playing table tennis.

Efforts to achieve maximum results Every athlete needs to apply mastery of techniques to develop or improve their ability to play table tennis. In connection with efforts to improve your ability to play table tennis, you must be able to carry out techniques in accordance with the technical demands of table tennis. At first glance, the game of table tennis is indeed simple and not difficult to play. However, if we study the game of table tennis, it is actually one of the games that requires complex movements. This is because the ball used is small in size, the bat uses varying layers of rubber, the wooden table is not too wide and the distance between the players is close together, so it can be guessed that table tennis is a type of sport that is fast and rich in variations. game form. However, players who are already skilled in this sport can create various beautiful movements and kill their opponents.

There are quite a lot of physical sports taught in schools, one of which is table tennis. However, not all schools teach the sport of table tennis due to limited sports facilities and infrastructure in schools such as tables and bats. Krapyak State Elementary School, Godean District, Sleman Regency, the game of table tennis has been taught by Physical Education teachers to student athletes, with the aim of athletes being able to know and understand and be able to perform the techniques in playing table tennis.

Observations from researchers, especially table tennis athletes from the PTM Taruna Bajang Mataram Club, are that almost all athletes are capable and know how to play table tennis, but it appears that not all athletes are proficient in mastering hitting techniques. Athletes' ability to master the basic techniques of playing table tennis is still lacking as seen from the basic movements of athletes who cannot direct topspin forehand strokes and backhand strokes correctly and lack skill in hitting. Evaluation of table tennis requires mastering good hitting techniques so that athletes are able to play well so that the game can be interesting and played optimally.

Playing table tennis is expected for every athlete to be able to master movement techniques and requires good coordination, such as coordination of initial movements,

movements when hitting the ball and follow-up movements. Table tennis is a fast form of game and uses a bat as a playing tool. In table tennis games, hitting techniques are more dominant because table tennis is basically a type of hitting sport. Therefore, hitting technique is one of the basic techniques that must be given or taught first to athletes in table tennis.

Stroking technique is one of the basic techniques in playing table tennis, in addition to other basics that athletes must master when playing table tennis. The techniques in table tennis that are often practiced and mastered are the forehand topspin and the backhand stroke. The topspin forehand is considered the basic stroke because it is easy to learn and is the most powerful stroke because the body does not get in the way when making the stroke, unlike the backhand stroke. Apart from that, the muscles used are usually more optimal than in backhand strokes.

In the game of table tennis there are several strokes, including the forehand topspin stroke and the backhand stroke. From the forehand topspin stroke and the backhand stroke itself, it will result in many strokes, including the position or position of the bat or racket when it touches the ball will produce various effects on the ball after being hit. By knowing the techniques that will be applied in the game, you need a method that suits what will be done. The understanding and mastery of basic techniques in the game of table tennis include direction of rotation, speed of the incoming ball, proper positioning, understanding of various strokes, methods of hitting, variations of hitting, serving or serving the ball, receiving service or receiving, rally defensive techniques and attacking techniques, all of which will be very useful in playing table tennis.

Table tennis is not only a physical sport that is relied upon, but also the ability to think to conceptualize a game, from the ability to control emotions and the ability to play, what must be really understood is when carrying out the basic techniques, from the start then later on the techniques used others will be easy to master. There are many hitting techniques that athletes must master when playing table tennis, but not all athletes are able to master these techniques. Mastery of basic techniques is an important basic asset for developing high quality and artistry in the game of table tennis.

The main secret to making good shots from the left and right sides of the table is to first stand in a good position, so that you can hit the ball without having to reach. By mastering various hitting techniques, it is hoped that when playing table tennis, you can play effectively and efficiently. The strokes in table tennis can be done via the forehand topspin and backhand strokes.

Based on the background above, it can be seen that every athlete is not yet known to be truly capable of playing table tennis and can perform topspin forehand strokes and backhand strokes optimally. Testing the truth through research needs to be carried out, to answer the question regarding "the forehand topspin and backhand stroke abilities of table tennis athletes at the PTM Taruna Bajang Mataram Club"

## **RESEARCH METHOD**

This research is descriptive research, this research only wants to describe or explain the situation that was taking place at the time the research was conducted. This research focuses on the forehand topspin and backhand stroke abilities of table tennis athletes at the PTM Taruna Bajang Club. The method used is a survey with skills testing and measurement techniques. A test is a series of questions or exercises as well as other tools used to measure skills, intelligence knowledge, abilities or talents possessed by

individuals or groups (Suharsimi Arikunto, 2006: 150). What will be studied consists of topspin forehand strokes and backhand strokes.

Population is a generalization area consisting of: objects/subjects which has certain qualities and characteristics determined by researchers to be studied and then conclusions drawn (Sugiyono, 2008: 61). In this study the population was all members of the Bajang Mataram Taruna PTM Club. The sample is part of the number and characteristics of the population. Hulfian, (2014:24). The sampling technique in this study used total sampling, namely sampling by taking the entire research population, namely all table tennis athletes at the PTM Taruna Bajang Mataram Club, totaling 26 athletes.

Instruments are tools or facilities used by researchers to obtain information about individuals or objects (Ismaryati, 2006: 1). The instrument used in this research to measure the level of forehand topspin and backhand stroke ability was the back board test for 30 seconds, which comes from Moth and Lockhart in Heri Prawaka (2012: 29-30).

The research instrument, before being used to collect data, is first tested/tried out. The trial is intended to obtain an instrument that is truly valid (valid) and reliable (reliable), which will be used to gather information about the description of the forehand topspin and backhand stroke abilities of table tennis athletes at the PTM Taruna Bajang Mataram Club.

Testing was carried out on There are 20 table tennis athletes at the PTM Taruna Bajang Mataram Club. According to Siti Rosilah (2010: 30), research trials can be carried out outside the research population, taking into account similar characteristics and close locations. Trials were carried out on table tennis athletes at the PTM Taruna Bajang Mataram Club, with the consideration that table tennis athletes at the PTM Taruna Bajang Mataram Club had been given the game of table tennis. This trial was carried out to determine the validity and reliability of the instruments that will be used in collecting data.

Table 1. Degree of Validity and Size of Correlation Coefficient

Derajat Validitas	Koefisien Korelasi
Sangat Tinggi	0,80 – 1,00
Tinggi	0,70 – 0,79
Sedang	0,50 – 0,69
Jelek (tidak dapat diterima)	0,00 – 0,49

Sumber : Kirkendall D.R dan Gruber J.J Jhonson dalam Ismaryati (2006: 18)

Calculating the validity value and proving the reliability of the instrument using "Product Moment Correlation", the formula for which is as follows:

$$r_i = \frac{N \sum XY - (\sum X) \cdot (\sum Y)}{\sqrt{\{N \cdot \sum X^2 - (\sum X)^2\} \{N \cdot \sum Y^2 - (\sum Y)^2\}}}$$

Source: Sugiyono (2008:228).

After obtaining the validity value and proving the reliability of the

instrument, the instrument can then be used to collect research data. The results of the trial to determine the validity value and prove the reliability of the instrument are explained in full as follows:

1. Validity Test and Proving the Reliability of the Topspin Forehand Stroke Test
  - a. Validity Test of the Topspin Forehand Stroke Test
 

The results of the data collected from 20 trial respondents and the validity calculation process are shown in Appendix 3, resulting in a validity value of "0.520". Based on table 1 above, it can be concluded that the degree of validity of the forehand topspin stroke test instrument is "Medium".
  - b. Proving the Reliability of the Topspin Forehand Shot Test
 

Based on the proof of instrument reliability shown in appendix 3, the results obtained prove that the calculated  $r$  is greater than the  $r$  table with  $n = 20$  for an error level of 5% ( $r_i$  is greater than the 5% error level = "0.520" > "0.444"). So it can be concluded that the forehand topspin stroke test instrument is reliable and can be used for research.
2. Validity Test and Proving the Reliability of the Backhand Stroke Test
  - a. Test the validity of the backhand stroke test
 

The results of the data collected from 20 trial respondents and the validity calculation process are shown in Appendix 4, resulting in a validity value of "0.744". Based on table 1 above, it can be concluded that the degree of validity of the backhand stroke test instrument is "High".
  - b. Proving the Reliability of the Backhand Stroke Test
 

Based on the proof of instrument reliability shown in Appendix 4, the results obtained prove that the calculated  $r$  is greater than the  $r$  table with  $n = 20$  for an error level of 5% ( $r_i$  is greater than the 5% error level = "0.744" > "0.444"). So it can be concluded that the backhand stroke test instrument is reliable and can be used for research.

The data collection techniques used in this research are:

1. Data collection using practical test and measurement techniques.
2. All PTM Taruna Bajang Mataram Club athletes, in order according to the attendance list, underwent a table tennis forehand topspin and backhand stroke test.
3. The implementation of the table tennis forehand topspin and backhand stroke tests is as follows:
  - a. The test taker stands facing the table with a bat and a ball in hand.
  - b. On the signal "yes" the participant plays the ball by bouncing it on the horizontal table, then bouncing it off the vertical wall and moving back to the horizontal table. This movement is done as much as possible for 30 seconds.
  - c. If the test taker cannot control the ball, then he can take the ball available in the box and continue the original movement as much as possible in the remaining time available.
  - d. A bounce is declared invalid if the ball in volleyball test taker presses the table with his free hand when hitting the ball, the ball hits the part of the table below the boundary line, makes a serve while assessing the test, hits

the ball after the ball bounces more than once on the horizontal part of the table, and hitting the ball more than once with his feet resting on the side of the table.

- e. The examiner stands at the table, counting and record the number of valid bounces for 30 seconds.
- f. Each child is given the opportunity to carry out the test 3 times, with a rest time between each opportunity of 15 seconds.
- g. If the stop signal is given but the ball has already been hit, the bounce is considered valid and is counted as the test taker's score.

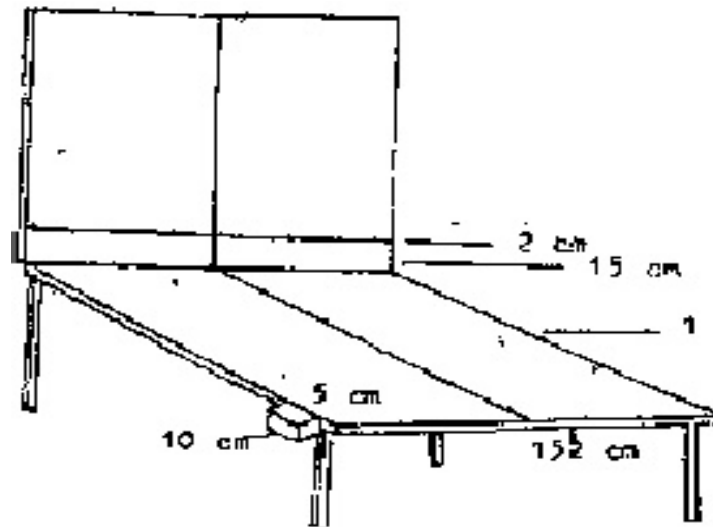


Figure 1 Back Board Field Test

Source: Moth and Lockhart in Heri Prawaka (2012:29-30)

The data analysis technique used is descriptive statistics. This statistic is intended to collect data, present data and determine values. Next, the data is understood as a discussion of the problems addressed by referring to the predetermined standards of table tennis forehand topspin and backhand stroke stroke abilities.

The categorization of table tennis forehand topspin and backhand stroke abilities is arranged into 3 categories, namely: "high", "medium", and "low". Whereas for categorization, 3 norm limits are used as a reference, namely as follows:

Table 2. Category Formula

No	Norm Range	Category
1.	$X \geq M + SD$	Tall
2.	$M - SD < X < M + SD$	Currently
3.	$X < M - SD$	Low

Source: B. Syarifudin (2010 : 112).

Information:

X = Score

m = Mean Calculate

elementary school = Calculated Standard Deviation

After knowing the level of ability of each test participant's forehand topspin

stroke and backhand stroke in table tennis which falls into the categories: "high", "medium" and "low", it will be possible to determine the percentage of each assessment category. According to Anas Sudjana (2007: 43), the way to calculate the percentage is using the formula:

$$\% = \frac{\sum X}{\sum Maks} \times 100$$

Information :

% : Percentage  
 $\sum$  : calculated X score  
 $\sum$  Max : ideal maximum score

## RESEARCH RESULTS AND DISCUSSION

Description of the forehand topspin and backhand stroke abilities of table tennis athletes at the PTM Taruna Bajang Mataram Club, explained below:

### a. Topspin forehand ability

From the results of the forehand topspin stroke test, a minimum score = 5 was obtained; maximum score = 12; sum = 207; average (mean) = 7.96; median = 8.50; mode = 8; and standard deviation = 1.95. The results of the forehand topspin stroke test in table tennis for athletes from the PTM Taruna Bajang Mataram Club are as follows:

Table 3 Norms of Topspin Forehand Shots in Table Tennis Games for Athletes at the PTM Trauna Bajang Mataram Club

No	RangeNorm	Category	Frequency	Percentage
1	$X \geq 10$	Tall	6 athletes	23.07%
2	$6 < X < 10$	Currently	13 athletes	50.00%
3	$X \leq 6$	Low	7 athletes	26.93%
<b>Amount =</b>			<b>26 athletes</b>	<b>100%</b>

From table 3 above, it can be seen that the results of the forehand topspin stroke test in the table tennis game of PTM Taruna Club Mataram athletes who entered the high category were 6 athletes or 23.07%; the medium category was 13 athletes or 50.00%; and for the low category there were 7 athletes or 26.93%.

### b. Backhand stroke ability

From the results of the backhand stroke test, a minimum score = 4 was obtained; maximum score = 13; sum = 185; average (mean) = 7.11; median = 8.50; mode = 7; and standard deviation = 2.39. The results of the backhand stroke test in the table tennis game of PTM Taruna Club Mataram athletes are as follows:

Table 4. Backhand Stroke Norms in Table Tennis Games for PTM Taruna Club Athletes in Bajang Mataram

No	RangeNorm	Category	Frequency	Percentage
1	$X \geq 10$	Tall	5 athletes	19.23%
2	$5 < X < 10$	Currently	15 athletes	57.70%
3	$X \leq 5$	Low	6 athletes	23.07%

<b>Amount =</b>	<b>26 athletes</b>	<b>100%</b>
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From table 4 above, it can be seen that the results of the backhand stroke test in the table tennis game of PTM Taruna Club Mataram athletes who entered the high category were 5 athletes or 19.23%; the medium category was 15 athletes or 57.70%; and for the low category there were 6 athletes or 23.07%.

Description of the forehand topspin and backhand stroke ability of table tennis athletes at the Bajang Mataram Taruna PTM Club can be known after evaluating the type of test. The results of the forehand topspin stroke test in table tennis in table 3 show that most of the athletes have the ability in the medium category, 13 (50%). The table tennis backhand stroke test in table 4 shows that most of the athletes have moderate ability, 15 (57.70%). Based on the results of observations of table tennis games, athletes in the medium category were declared capable of performing forehand topspin strokes and backhand strokes correctly because they had the skills and understanding after being demonstrated by the teacher. The ability to perform topspin forehand strokes and backhand strokes is not only supported by skills, a healthy physique as well as agility in movement. The game of table tennis for measuring or evaluating forehand topspin and backhand strokes is done using a wall as a reflection and half a table, so that to return the ball requires agility and speed in movement.

Athletes who have abilities performed low category forehand topspin strokes 26.93% and backhand strokes 23.07%. Athletes who cannot perform forehand topspin strokes and backhand strokes are due to their lack of mastery of technique, skill and agility in movement, so they cannot return the ball when making a stroke.

In teaching, teachers not only give examples but also provide directions, how to hold the body and forehand topspin and backhand stroke techniques, to athletes who have less ability so that athletes can try correctly. Athletes who have the ability to hit with forehand topspin and backhand stroke techniques, supported by understanding and skills, the teacher will teach by developing and mastering various strokes with special movements.

Table tennis games that are modeled by teachers to develop varied types of strokes and special movements can attract athletes who have high abilities. The results of the forehand topspin stroke test for athletes who had high category ability were 6 (23.07%) and had backhand stroke ability of 5 (19.23%). Athletes who have high abilities and good skills, technique, agility, speed of movement and tactics can support the development and variety of types of table tennis shots.

A person is said to be highly skilled if he can move efficiently and effectively or if he appears to have good potential to perform a specific movement. Skill is needed in playing table tennis, especially for a player. To be able to play table tennis well, apart from having basic abilities and good physical condition, you must also have good skills, techniques and tactics. One of the basic techniques that must be mastered in playing table tennis is the hitting technique. In table tennis, there are several types of strokes, including forehand topspin strokes and backhand strokes. The ability to hit in table tennis greatly influences the game.

The medium and high skills of the PTM Taruna Bajang Mataram Club athletes can be influenced by the athlete's level of learning experience in table tennis. The results above cannot be separated from the individual factors of the child, the role of the teacher

and the environment around them. According to Andi Septiono (2009: 40), individual factors are factors that exist within the athlete, including the athlete's ability and talent in the sport of table tennis. Athletes who have good talent will find it easier to master the skills in question. The teacher factor is a supporting factor that is able to improve athletes' skills. A good teacher will be able to provide motivation and good training methods to improve their table tennis skills. Meanwhile, environmental factors are conditions around the athlete that can support the athlete's skills, such as adequate and complete facilities to support the learning process of playing table tennis.

## CONCLUSION

The results of the research showed that there were two categories of their ability; (1) The forehand ability in table tennis at the PTM Taruna Bajang Mataram Club was in the high category at 23.07%; medium category of 50.00%; and the low category was 26.93%. (2) The ability to hit backhand strokes in table tennis at the Bajang Mataram Taruna PTM Club in the high category was 19.23%; medium category of 57.70%; and the low category was 23.07%. So that's why, it can be inferred that the ability of forehand topspin and backhand strokes in table tennis at the PTM Taruna Bajang Mataram Club is in the fair/medium category.

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