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Article

**The Effect of Backhand Groundstroke Training Variations on Backhand Ability in the Unimed Court Tennis Community in 2022**

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**Abstract**

This study aims to determine the effect of backhand groundstroke training variations on backhand ability in the Unimed tennis community in 2022. This research was conducted on the Unimed tennis court, Jalan William Iskandar Pasar V Medan Estate with a population of 20 students and a sample of 10 students. The research period was conducted from February 18th to April 3rd, 2022 with a frequency of 18 sessions for 6 weeks. This study used experiments with the test instrument in this study, namely the backhand ability test. The independent variable in this study is backhand groundstroke training and backhand ability is as the dependent variable. From the results of data processing with statistical analysis, it is obtained that  $t_{count}$  is equal to 4.56 and  $t_{table}$  is equal to 2.26 based on the distribution table of  $t$  with  $dk (n-1)$  10 - 1 equal to 9 and at the  $\alpha$  level of 0.05 equals to 2.26 which means  $t_{count} > t_{table}$  ( $4.56 > 2.26$ ). Thus,  $H_a$  is accepted and  $H_o$  is rejected. In this case, it can be concluded that variation trainings in backhand groundstroke have a significant influence on the results of backhand ability in the Unimed court tennis community in 2022.

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**INTRODUCTION**

Sport is an activity that involves all members of the body to achieve body or physical health and carried out in a planned manner to develop ability, experience, travel, and compete which brings joy and satisfaction as well as to achieve an achievement. The factors that influence the sports achievements in terms of psychological aspects include

desire and hope, strong motivation, high discipline, commitment, fighting spirit, playing intelligence, self-confidence, team work, communicating, patient, sporty, honest, and sincere (Horn & Smith, 2018; Weinberg & Gould, 2023).

Currently, there are various kinds of sports that can provide great benefits for the health of the body, one of which is tennis. Court tennis is a very old sport. Recorded in sculptures was made around 1500 BC on the walls of a temple in Egypt that had shown a representation of the game of tennis and been played during religious ceremonies. This sport was developed most rapidly in England and its colonies where in 1877 the first tennis tournament was held at Wimbledon. Court tennis is a sport that is almost the same as badminton and table tennis, which are both limited by lines and nets, and use a racket as a tool to play it. In addition, this game is played by requiring foot speed, controlled accuracy, stamina, anticipation, determination, and cunning (Kilit & Arslan, 2019). Court tennis games can also be played in singles and doubles.

Court tennis is a sport that knows no age, gender, physical limitations or physical disabilities, and the background. Anyone can do this sport without any conditions that limit people from doing this sport and even being able to excel in the field of tennis. This tennis has a very fast ball speed and a tool that uses strings, so this sport is rich in game variations. In addition, a tennis athlete must correctly understand when it is the right time for an athlete to hit the ball coming from the opponent's direction. An athlete must take into account the speed and know the direction of the ball's rotation and take into account the direction of rotation. In preparing and producing athletes who excel in the field of tennis, the fundamental thing that must be considered is the mastery and introduction of basic techniques first, namely the groundstroke technique (forehand & backhand).

Groundstroke is the most important technique in the game of tennis because this technique is the most frequently used stroke (Dharmadi & Kanca, 2019). Groundstroke is also one of the weapons in winning matches and this technique is often used as a hitting to attack. For beginner players, one type of stroke that must be mastered is the groundstroke.

Based on the results of observations on March 2nd, 2021 on the Unimed Faculty of Sports Science tennis court, the researcher found that there were still many athletes in the Unimed tennis community having problems performing the backhand groundstroke

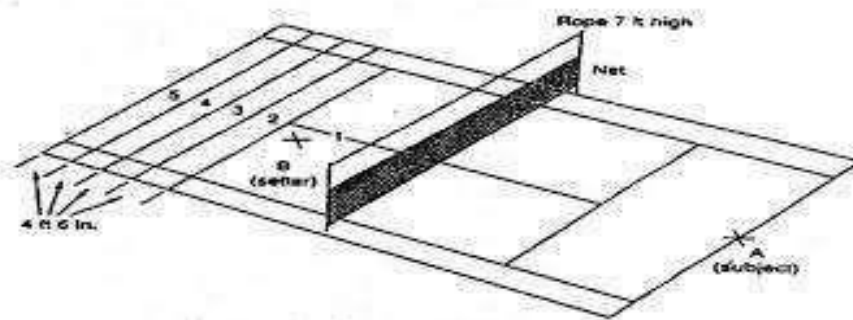
technique. The problems encountered were that (1) most athletes still dominantly used a forehand groundstroke when the ball was on the left (backhand), (2) the ball often got stuck in the net, (3) the touch of the ball when it hit the racket was often not right, (4) the ball was not controlled and often came out opponent's field, (5) ball feeling was still lacking, (6) racket grip was still not perfect, (7) the position of the foot movement was still wrong, and (8) hitting the ball was in an unprepared position. In addition, the variations of the trainings performed were still monotonous so that athletes often felt bored and it was very difficult to increase performance (achievement).

Then, from the results of observations made by researcher according to what has been stated above, the researcher conducted tests on athletes to find out more about their abilities. From the results of tests conducted on athletes, the overall results of the backhand shot were still in the less and very less category. Based on what the reseacher has found in the field and explained in detail, in this case, the researcher will try to examine the lower backhand groundstroke by providing various variations of the trainings. Therefore, in this study, the researcher are interested in carrying out research entitled "The Effect of Backhand Groundstroke Training Variations on Backhand Ability in the Unimed Court Tennis Community in 2021".

## **METHODS**

This study has a design in the form of experimental research by collecting data using tests and measurements. Experimental research is a study that is strictly conducted to determine causal relationships between variables (independent and dependent) (Maksum, 2012). The research design used in this study was one-group pre-test-post-test, meaning that before being given treatment, an initial test was first held and after treatment, a final test was held. The location of this research is at Unimed tennis court, Jalan Willem Iskandar Pasar V Medan Estate, North Sumatra, which was conducted from February 18th to April 3rd, 2022. The total population in this place is 20 athletes and only 10 athletes meet the requirements to be the research sample in which the determination uses a purposive sampling technique.

There was a test instrument in this experimental study, namely Hewitt Tennis Test Accuracy as a backhand groundstroke test tool (Hewitt, 1968). The data that has been collected from the results of the pre-test and post-test were analyzed using the independent one-group t-test method (Sudjana, 2005).



**Fig. 1.** Backhand Groundstroke Test Target Areas  
Source: Hewitt Tennis Achievement Test (Hewitt, 1968)

## RESULTS & DISCUSSION

### Description of Research Data

Based on the data in Table 1, the best pre-test result was achieved by Yonathan Ritonga with a score of 20. Meanwhile, the lowest pre-test result was Gabriel Simatupang with a score of 5. In the post-test data, the best result was achieved by Wahyu Hidayah with a score of 23 and the lowest test results were achieved by Adventus Silalahi and Yonathan Ritonga with a score of 5.

**Table 1.** Data of Pre-Test and Post-Test Backhand Groundstroke Ability

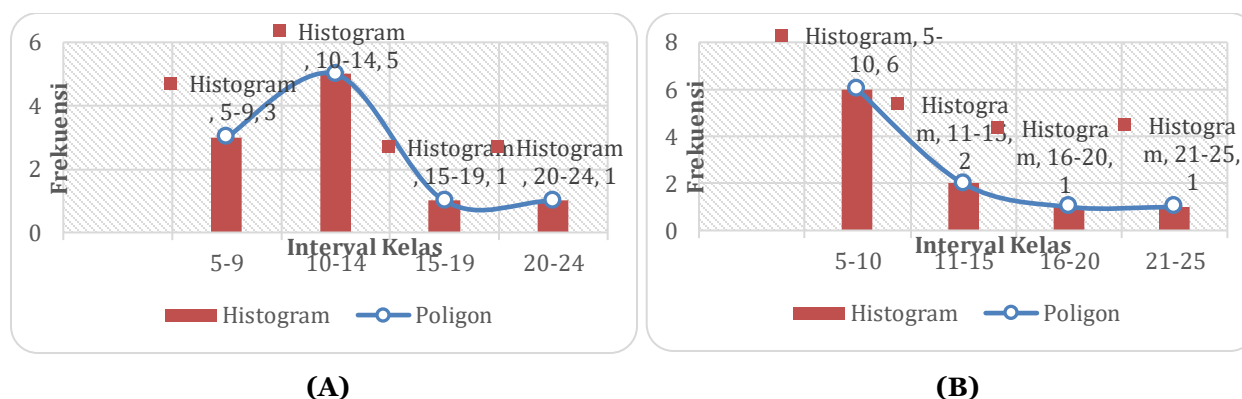
| No | Name               | Pre-Test |         | Post-Test |         |
|----|--------------------|----------|---------|-----------|---------|
|    |                    | $x_1$    | $x_1^2$ | $x_1$     | $x_1^2$ |
| 1  | Oriondo Silalahi   | 12       | 144     | 7         | 49      |
| 2  | Jhosua sinaga      | 12       | 144     | 19        | 361     |
| 3  | Wahyu Hidayah      | 10       | 100     | 23        | 529     |
| 4  | Yonathan Ritonga   | 20       | 400     | 5         | 25      |
| 5  | Alvin Wahyudi      | 7        | 49      | 4         | 16      |
| 6  | Gabriel Simatupang | 5        | 25      | 14        | 196     |
| 7  | Louis Simbolon     | 11       | 121     | 7         | 49      |
| 8  | Adventus Silalahi  | 10       | 100     | 5         | 25      |
| 9  | Christian purba    | 8        | 64      | 8         | 64      |
| 10 | Jeremia Nainggolan | 18       | 324     | 13        | 169     |

|          |     |      |     |      |
|----------|-----|------|-----|------|
| $\Sigma$ | 113 | 1471 | 105 | 1483 |
|----------|-----|------|-----|------|

Pre-test data with a sample of 10 people where the maximum score achieved is 20 and the minimum score is 5 with a range of 15. Meanwhile, from the post-test data, the maximum score achieved is 23 and the minimum score is 5 with a range of 18. The standard deviation of the pre-test was 4.64 and the post-test was 6.50.

**Table 2.** Frequency Distribution of Backhand Groundstroke Pre-Test and Post-Test Results

| Pre-Test       |           | Post-Test      |           |
|----------------|-----------|----------------|-----------|
| Class Interval | Frequency | Class Interval | Frequency |
| 5-9            | 3         | 5-10           | 6         |
| 10-14          | 5         | 11-15          | 2         |
| 15-19          | 1         | 16-20          | 1         |
| 20-24          | 1         | 21-25          | 1         |
| <b>Total</b>   | <b>10</b> | <b>Total</b>   | <b>10</b> |



**Fig. 2.** Histogram and Polygon Graph Results of (A) Pre-Test and (B) Post-Test Backhand Groundstroke

The frequency distribution data from the pre-test results which were processed using the Sturges frequency distribution technique was obtained the results, namely the class range amount of 15, the class amount of 4, and the class interval amount of 4. Then, from the total of 10 athletes, those included in the class interval of 5-9 are three athletes, class of 10-14 are five athletes, class of 15-19 is one athlete, and class of 20-24 is one athlete.

Then, after doing the programmed exercise for 6 weeks with a frequency of exercise 3 times a week, the researchers took the post-test data as the final test. The frequency distribution data from the post-test results was obtained the results, namely the class range amount of 18, the class amount of 4, and the class interval amount of 5. Then, from

the total of 10 athletes, those included in the class interval of 5-10 are six athletes, class of 11-15 are two athletes, class of 16-20 is one athlete, and class of 21-25 is one athlete.

### Normality Test

To see whether the sample data is normally or abnormally distributed in the study population, a normality test is performed. The test was carried out using the Liliefors test.

**Table 3.** Data of Normality Test

| Item                  | Mean(X) and Standard Deviation (S) | N  | $L_o$ | $L_{table}$ | Conclusion |
|-----------------------|------------------------------------|----|-------|-------------|------------|
| Backhand Groundstroke | <b>Pre-Test</b>                    |    |       |             |            |
|                       | X = 11.30                          | 10 | 0.240 | 0.258       | Normal     |
|                       | S = 4.64                           |    |       |             |            |
|                       | <b>Post-Test</b>                   |    |       |             |            |
|                       | X = 10.50                          | 8  | 0.250 | 0.258       | Normal     |
|                       | S = 6.50                           |    |       |             |            |

The results of the normality calculation of the pre-test data were obtained  $L_o$  equal to 0.240 and  $L_{table}$  equal to 0.258 with n total of 10 at the  $\alpha$  level of 0.05. Thus,  $L_o < L_{table}$ , it can be concluded that the sample comes from a normally distributed population. Meanwhile, the results of normality calculation of the post-test data were obtained  $L_o$  equal to 0.240 and  $L_{table}$  equal to 0.258 with n total of 10 at the  $\alpha$  level of 0.05. Thus,  $L_o < L_{table}$ , it can be concluded that the sample comes from a normally distributed population.

### Hypothesis Test

**Table 4.** Hypothesis Test

| Data Description | Result          |                  |
|------------------|-----------------|------------------|
|                  | <i>Pre-Test</i> | <i>Post-test</i> |
| t-count          | 4.56            |                  |
| t-table          | 2.23            |                  |

Based on the t distribution table with dk (n-1) 10-1 equals to 9 at a significant level  $\alpha$  of 0.05 equals to 2.26, which means tcount > ttable (4.56 > 2.26). Thus,  $H_a$  is accepted and  $H_o$  is rejected. It can be concluded that variation trainings in backhand groundstroke have a significant influence on the results of backhand ability in the Unimed tennis community in 2022.

The discussion of this research was carried out to discuss and analyze the results of the research that had been carried out aiming to make it easier to draw conclusions in the research results. This research has been carried out according to the established research methodology and is analyzed in depth to gain a better understanding. Based on the t distribution table with dk (n-1) 10-1 equals to 9 at a significant level  $\alpha$  of 0.05 equals to 2.26, which means  $t_{count} > t_{table}$  ( $4.56 > 2.26$ ). Thus,  $H_a$  is accepted and  $H_o$  is rejected. It can be concluded that variation trainings in backhand groundstroke have a significant influence on the results of backhand ability in the Unimed tennis community in 2022 (Arifianto, Raibowo, & Jatra, 2021).

In this study, researcher provided backhand groundstroke training to athletes intended to improve backhand ability in the Unimed tennis community in 2022 (Nababan & Sinulingga, 2021). Giving training for 6 weeks provided new knowledge in terms of improving backhand skills in Unimed tennis court games. During the research, the athletes looked enthusiastic to carry out the training program provided. Discipline and seriousness of athletes in training were the influential factors in this study (Shogan, 2001). This can be seen from the athlete's ability before being given training (pre-test) and after being given training (post-test).

## **CONCLUSION**

Based on the results of hypothesis test and the research discussion, it can be concluded that there is a significant effect of variation trainings in backhand groundstroke on backhand ability in the Unimed tennis community in 2022. Furthermore, to improve performance, good cooperation is needed from all parties, both athletes, coaches, and administrators of the Unimed tennis community. Then, for future researchers, it is necessary to conduct similar studies with more samples to gain knowledge regarding the effectiveness of the variation trainings of backhand groundstroke used in this study. In addition, to coaches, it is necessary to provide training programs in accordance with the abilities of athletes so that they can increase their achievements both regionally, nationally, and internationally.

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