

## The Effect of Shuttle Run and Shadow Training on Students' Agility in Badminton Games Extracurricular

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### ABSTRACT

The aim of this research is to find out whether there is an effect of Shuttle run and Shadow training on agility in extracurricular students at SMA Negeri 1 Kodeoha in badminton. This research uses an experimental method with a "Pre-test and Post-test Group Design" design. The instrument in this research is agility. The sampling technique uses purposive sampling, with the following criteria: (1) Sampling must be based on certain characteristics, properties or characteristics, which are the main characteristics of the population; (2) The subjects taken as samples are truly the subjects that contain the most characteristics found in the population. The research subjects used were extracurricular students at SMA Negeri 1 Kodeoha, totaling 30 students. Based on the research results: (1) there is a significant influence of Shuttle run training on the agility of extracurricular students at SMA Negeri 1 Kodeoha, with  $t$  count  $3.427 > t$  table  $2.145$  and a significant value of  $0.004 < 0.05$ . (2) There is a significant influence of Shadowback training on the agility of extracurricular students at SMA Negeri 1 Kodeoha, with  $t$  count  $2.578 > t$  table  $2.145$  and a significant value of  $0.022 < 0.05$ . (3) Shuttle run training is more effective than Shadow training on the badminton game agility of extracurricular students at SMAN 1 Kodeoha, with a post test difference of 7.38 seconds.

## **INTRODUCTION**

According to the Indonesian National Sports Committee, sport is any physical activity that is based on the spirit of struggle against oneself, other people or natural elements, if competed it must be carried out in a heroic manner so that it is a means of personal education that can lead to an improvement in a higher quality of life. According to Law no. 3 of 2005, sport is a systematic activity to encourage and develop physical, spiritual and social potential. According to the International Council of Sport and Physical Education (ICSPE), sport is any physical activity that contains the characteristics of play and involves elements of struggle against oneself, other people or confrontation with natural factors.

Badminton is a very popular sport in Indonesia. According to Edi, Muhammad Ghofuur Prasetyo (2015) badminton is a sport played using nets, rackets and badminton hitting techniques that vary from relatively slow to very fast feint movements. The aim of badminton is to score points by hitting the badminton racket-shaped game ball over the net and landing on the opponent's court. Each player or pair can only shoot once before it crosses the net. The competition ends when the badminton ball touches the floor or the player's body.

Shuttle run is a movement that is done quickly to form a figure eight which is usually done three times and the fastest time is recorded (Remmy, 1992). Aimed at developing a person's endurance and agility, this exercise will train a person's body control, agility and acceleration when running. Shadow training is a movement that adjusts the body's steps to achieve a body position that makes it easier for the player to hit the ball in the correct position. According to Ahiriah Muthiarani (2020) badminton has the form of picking and placing the shuttlecock on the edge of the badminton court, and moving it to imitate the movement of the ball from six corners of the court.

In badminton, training under cover is very necessary to train agility. Apart from agility, training in the dark can also train your ability to control the terrain and coordinate your movements so you can maintain your balance. Ball training can train foot movements because there are many variations in the exercises. Practicing with the ball can produce agility, speed and balance, so badminton players aim for ball training. As James Poole said (in Marpaung and Manihuruk, 2021) that, by placing his feet well, a badminton player can move as efficiently as possible to all parts of the court. In fact, the results of observations on the field at SMA Negeri 1 Kodeoha show that there is still a lack of agility skills when playing badminton and this can be seen when returning small or short balls due to the lack of an agility training program.

## **LITERATURE REVIEW**

The game of badminton in general is a racket sport played by two people or 2 opposing pairs. The game of badminton is also known using the word badminton. Initially this game was called badminton, but due to looking at the meaning, this sport has another name, namely badminton. In full, badminton comes from two terms, namely badminton and badminton. The word feather is taken from the shape or shape of the shuttlecock, which is used

for goose feathers. Meanwhile, "badminton" is taken from the basic term of parrying. The essence of the game of badminton is parrying the shuttlecock (feather). A person can start a game of badminton using a service directed at his opponent, while each player stands on a court that has been influenced by the rules of the game. With performance - good badminton performance, a badminton player needs to find it easier to face players to win a match.

## METHODOLOGY

This research is a quantitative research using a two groups pre test post test design. This research used two groups who were given different treatments, in the form of a shuttle run in group A and a shadow in group B. This research was carried out at SMA Negeri 1 Kodeoha from May to June 2023. The sample in this study consisted of 30 students of SMA Negeri 1 Kodeoha with a sampling technique, namely purposive sampling. The instrument used is a series of foot exercise tests, through pre-test and post-test, observation and literature study. To find out the results of the influence of shuttle run and shadow on agility in badminton, the data obtained were analyzed using descriptive statistical analysis and inferential statistical analysis using normality tests, homogeneity tests and hypothesis tests with the help of the SPSS.V.20 application.

## RESEARCH RESULT

### Descriptive Analysis

#### 1. Pre-Test and Post-test of Shuttle Run Ability in the Shuttle Run Experiment.

The results of this research are described using descriptive statistical analysis as follows, for pre-test results minimum value = 15.28, maximum value = 19.47, average (mean) = 17.14, middle value (median) = 17.2, value frequently appears (mode) = 15.28, with standard deviation (std. Deviation) = 1.46, while for the post test minimum value = 19.2, maximum value = 19.2, average (mean) = 15.93, mean value (median) = 16.9, frequently occurring value (mode) = 10.37, with standard deviation (std. Deviation) = 2.17.

**Table 4.1 Shuttle Run Ability in the Shuttle Run Experimental Group**

Statistik	<i>Pre Test A Shuttle run</i>	<i>Post Test A Shuttle run</i>
N	15	15
<i>Mean</i>	17,1447	15,9300
<i>Median</i>	17,0200	16,1900
<i>Mode</i>	15,28	10,37
<i>Std. Deviation</i>	1,46254	2,17582
<i>Minimum</i>	15,28	19,02
<i>Maximum</i>	19,47	19,02

2. Pre-Test and Post-Test of Shadow Agility in the Shadow Experiment Group.

The results of this research are described using descriptive statistical analysis as follows, for pre-test results minimum value = 20.17, maximum value = 34.12, average (mean) = 26.21, middle value (median) = 26.16, value frequently appears (mode) = 20.17, with standard deviation (std. Deviation) = 3.83, while for the post test minimum value = 21.03, maximum value = 32.16, average (mean) = 25.55, middle value (median) = 25.55, frequently occurring value (mode) = 21.03, with standard deviation (std. Deviation) = 3.29.

**Table 4.4 Shadow Agility in the Shadow Experiment Group**

Statistik	<i>Pre Test B Shadow</i>	<i>Post Test B Shadow</i>
N	15	15
<i>Mean</i>	26,2180	25,5527
<i>Median</i>	26,1600	25,5500
<i>Mode</i>	20,17	21,03
<i>Std. Deviation</i>	3,83768	3,29892
<i>Minimum</i>	20,17	21,03
<i>Maximum</i>	34,12	32,16

**HYPOTHESIS TEST**

The hypothesis in this research uses a paired sample t test and an independent sample t test. The t test was used to determine whether there was an increase in agility in badminton with shuttle run training and shadow training based on the results of the pre test and post test. The research conclusion is declared significant if the calculated t value > t table and the probability value (sig.) < 0.05 then there is an increase, conversely if the calculated t value < t table (0.05)(df) and the probability value (sig.) > 0.05 then there is no increase (Sugiyono, 2013, p. 163). Hypothesis test results are as follows:

1) Pre Test and Post Test Shuttle Run t Test Results

The first t-test was used to test the hypothesis which states "there is an influence of shuttle run training on agility in badminton at SMA Negeri 1 Kodeoha". Based on the results of the analysis, the following data was obtained

**Table 4.9 Pre-test and Post-test Shuttle Run t test results**

<i>Shuttle run exercise</i>	Mean	t hitung	t tabel	Mean Defference	Sig. (2-tailed)
<i>Pre test</i>	17,1417	3,427	2,145	1,97487	0,004

<i>Post test</i>	15,9300				
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Based on the results of the t test analysis on badminton game agility with shuttle run training, the mean pre test was 17.14 seconds and post test was 15.93 seconds, while the calculated t value was  $3.427 > t$  table 2.145 and the p value (sig.)  $(0.004) < 0, 05$ . So there is a significant influence of shuttle run training on agility in the extracurricular badminton game at SMA Negeri 1 Kodeoha. When displayed in the form of a statistical diagram, the agility data for the badminton game of extracurricular students at SMA Negeri 1 Kodeoha with shuttle run training can be seen in the image below:

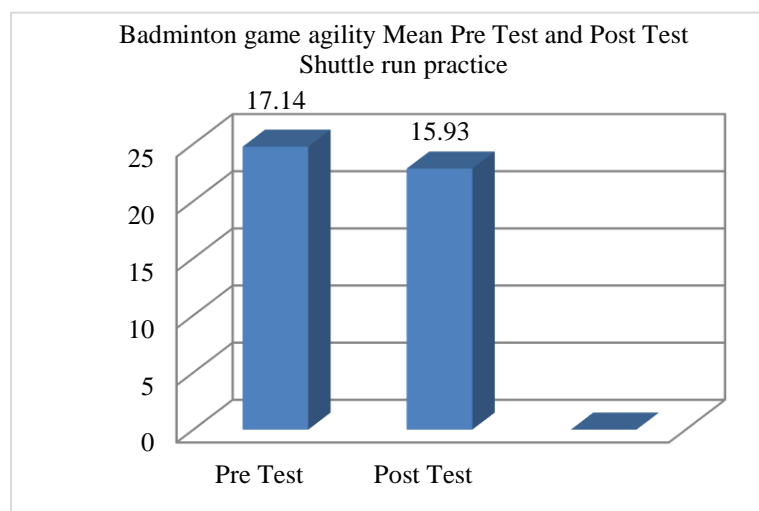


Figure 4.5 Mean Pre Test and Post Test Shuttle run diagram

## 2) Badminton game agility Mean Pre Test and Post Test Shuttle run practice

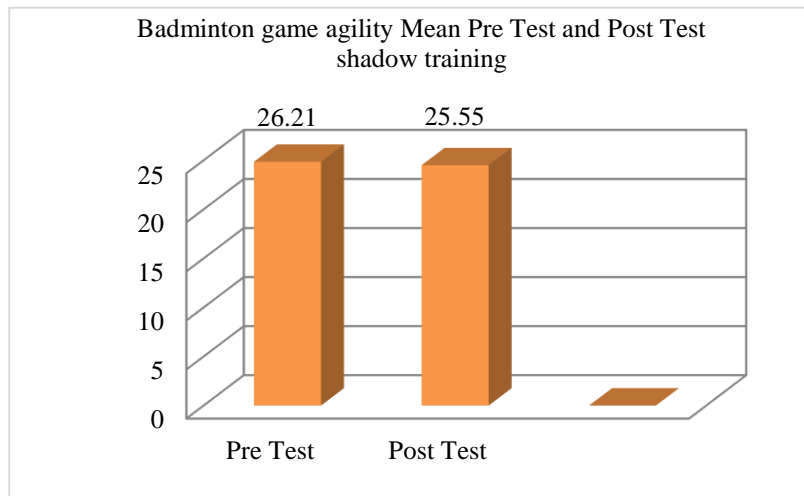
The second t-test was used to test the hypothesis which states "there is an influence of badminton game practice on shadow agility in extracurricular students at SMA Negeri 1 Kodeoha". Based on the results of the analysis, the following data was obtained.

**Table 4.10** Pre-test and Post-test Shadow t test results

<i>Shadow exercises</i>	Mean	t <sub>hitung</sub>	t <sub>tabel</sub>	Mean Defference	Sig. (2-tailed)
<i>Pre test</i>	26,2180	2,578	2,145	1,21878	0,022
<i>Post test</i>	25,5527				

The results of the t test analysis on shadow training obtained a mean pre test of 26.21 seconds and post test of 25.55 seconds. The calculated t value is  $2.57 > t$  table 2.145 and the p value  $(0.022) < 0.05$ . So there is a significant influence of shadow training on the shadow agility of extracurricular

extracurricular students at SMA Negeri 1 Kodeoha. When displayed in diagram form, the agility data for students playing badminton using shadow training can be seen in the picture below:



4.6 Mean Pre Test and Post Test Shadow Diagram

3) T- Test Results Comparison of Shuttle Run and Shadow Practice Post Tests

The third hypothesis reads "Which is more effective of the two methods' influence on agility in the badminton game of extracurricular students at SMAN 1 Kodeoha", can be determined through the difference in the post test between the Shuttle run training group and the post test in the Shadow training group. The results of the post test analysis of badminton game agility using the Shuttle run and Shadow training methods can be shown in the table below.

**Table 4.11 Comparison of Post-test Shuttle Run and Shadow Exercises**

Group	Mean	t <sub>hitung</sub>	t <sub>tabel</sub>	Mean Defference	Sig. (2-tailed)
<i>Post test shuttle run</i>	15,9300	2,048	2,101	9,62267	0,105
<i>Post test shadow</i>	25,5527				

Shuttle run training obtained a mean post test result of 15.93 seconds and shadow obtained a mean post test result of 25.55 seconds. It can be seen that the calculated t value is 9.431 > t table 2.048 and the p value is significant (0.105) < 0.05. With the difference in post test results for groups A and B of 9.62 seconds. The test results show that Shuttle run training is more effective than shadow training for agility in the extracurricular game of badminton for SMA Negeri 1 Kodeoha students. Can be seen in the image below:

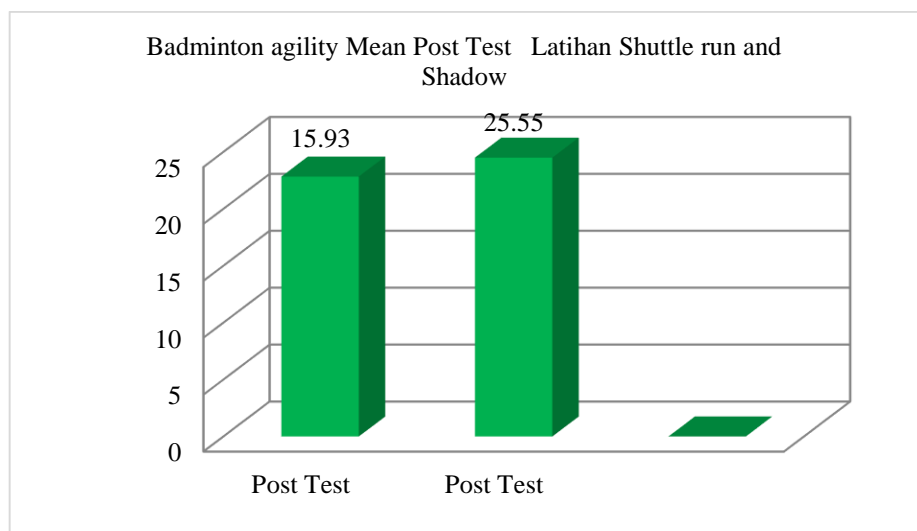


Figure 4.7 Post Test Mean Diagram for Groups A and B

## DISCUSSION

### 1. Effect of *shuttle run* Exercise

Shuttle run training is an exercise that is directed or oriented towards work, speed in getting portions of the exercise. shuttle run to practice changing body movements in a straight direction. Athletes can go back and forth as quickly as possible from one point to another with an effort to quickly turn the body to run to another point.

This exercise is very popular with students who are quite skilled at playing badminton, so there are no significant obstacles in the training process. In contrast to students who are not yet skilled at playing badminton, they have difficulty in the first few meetings changing direction during training, but after going through the process, students are able to adapt to the training given

### 2. The Effect of *shadow* Exercise

Shadow is a shadow movement or making movements like the real thing, the person doing the movement moves left, forward, backward, such as chasing a ball and hitting either with or without a racket using the technique determined by the coach. Basically, in this form of training, athletes have to imagine the ball being returned. For beginners' ball training, they often move in different directions according to the coach's instructions.

Shadow training, athletes or samples must imagine the ball coming in and imagine the ball we return, for beginner ball training athletes or samples often move in different directions according to the coach's instructions.

## CONCLUSIONS AND RECOMMENDATIONS

Based on the research results that have been obtained by data analysis and hypothesis testing, as follows:

1. Extracurricular badminton game for students at SMA Negeri 1 Kodeoha. There is a significant effect of shuttle run training on agility as shown by the

calculated t value of  $3.427 > t$  table 2.145 and a significant value of  $0.004 < 0.05$  with a time difference of 9.62 seconds.

2. There is a significant effect of shadow training on agility in badminton games for extracurricular students at SMA Negeri 1 Kodeoha, shown by the calculated t value of  $2.578 > t$  table 2.145 and a significant value of  $0.022 < 0.05$  with a time difference of 0.43 seconds.

3. Shuttle run training is more effective than shadow training on agility in badminton games for extracurricular students at SMA Negeri 1 Kodeoha, as shown by the calculated t value of  $9.431 > t$  table 2.048 and a significant value of  $0.105 < 0.05$  with a time difference of 7.38 seconds.

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