



## THE EFFECT OF THE APPLICATION OF SHOOTING TRAINING FORMS USING BARRIERS AND WITHOUT BARRIERS ON IMPROVING SHOOTING GAME ABILITIES IN PETANQUE ATHLETES FIK UNM

Anto Sukamto<sup>1</sup>, Andi Mas Jaya<sup>2</sup>, Muhammad kamal<sup>3</sup>

<sup>1</sup> Fakultas Ilmu Keolahragaan. Universitas Negeri Makassar, Indonesia.

\* E-mail: [muhamma.sadzali@unm.ac.id](mailto:muhamma.sadzali@unm.ac.id)

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**Abstract:** This research is an experimental study that aims to determine the form of shooting training using barriers and without barriers in petanque sports. The experimental method uses a 2x2 factorial design. The population in this study were FIK UNM petanque athletes totaling 50 athletes while the sample in this study were FIK UNM petanque athletes as many as 20 athletes who were then divided into 2 groups by purposive sampling. Data collection techniques using concentration tests then division of upper and lower groups, taken 27% of athletes who have high-high scores as the upper group, and 27% of athletes who have low-low scores as the lower group and shooting game tests. The technique was analyzed using the analysis of variance (ANOVA) technique, and continued with the Tukey test. Because this research is experimental research with a 2x2 factorial design, the data analysis also uses ANOVA with a confidence level of  $\alpha = 0.05$ . Based on the results of the research analysis, it can be concluded that (1). There are differences in shooting game skills of FIK UNM petanque athletes in shooting training groups with barriers and without barriers. (2) There is an interaction between shooting practice with barriers and without barriers with concentration on the shooting game skills of FIK UNM petanque athletes. (3) There are differences in shooting game skills of FIK UNM petanque athletes who have high concentration with shooting training groups with barriers and without barriers. (4) There are differences in shooting game skills of FIK UNM petanque athletes who have low concentration with shooting training groups with barriers and without barriers.

**Keywords:** : Concentration, drills with barriers, drills without barriers, shooting games.

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### INTRODUCTION

Sports organizations and governments consistently work to develop sporting achievements. As a result, the development of each sport should focus on improving achievements that are expected to inspire national pride. The game of petanque is one of them.

The modern game of petanque was invented in 1907 in the village of La Ciotat, near Marseilles, by Jules Boule Lenoir, a French player from Lyon. The sport developed rapidly and gained popularity as a kind of Boule due to its increasingly easy and universal rules. The category of performance sports includes the sport of petanque. Performance sports are sports that are played in national and world competitions and have official parent organizations at both levels. Performance sports seek to improve personal abilities to fulfill the goals and aspirations of athletes. For athletes, exercise alone is not enough; they also need a well-planned regimen that includes everything from training schedules and programs to evaluation and careful consideration of their nutritional needs.

Petanque (pronounced [pétanque] in French) is a form of boules in which the object is to throw a metal ball as close as possible to a wooden ball called a cochonnet and the feet must be



within a small circle. The game is usually played on hard or oiled ground, but can also be played on grass, sand or other surfaces. Similar games are bocce and bowling.

With the establishment of the Federation of Petanque Sports Indonesia (FOPI) on March 18, 2011, the sport of petanque gained recognition in Indonesia. The sport was then ready, shortly after its formation, to participate in the November 2011 SEA GAMES XXVI in Jakabaring, South Sumatra, Indonesia. The Indonesian National Sports Committee developed the sport of petanque after the SEA Games proved successful. The sport is not only ready for athlete training, but is also developing into one of the country's official sports. The Indonesian Petanque team could not speak much at the 2011 and 2013 Sea Games. This is due to the uneven socialization of this sport in all provinces in Indonesia.

The foundation for the growth of these sports can also come from the principles of health sports and recreational sports. The sport usually has a competitive nature that requires precision and focus when playing. Petanque is a sport that can be played by anyone, regardless of age, as it does not require the same level of physical fitness as other sports. Petanque is a sport that can be played by anyone, anywhere, and is a great alternative for those looking for a healthy and recreational sport. Petanque also does not require a specialized court.

The basics of playing petanque are important components that players must understand in order to play at their best. To achieve peak performance, players should prioritize mastering these fundamentals. The basics of petanque aiming and shooting techniques are described by FOPI (2012). The technique of aiming the ball involves moving the iron ball closer to the target, a small wooden ball known as the Boka.

In petanque matches, pointing is a defensive tactic. It is usually inexperienced athletes who use this tactic. The goal of the shooting technique is to keep the opponent's ball as far away from you as possible until it leaves the field of play. A team will have difficulty attacking the opponent's ball if one of its players is not a good shooter.

The shooting distances for match numbers are six, seven, eight and nine meters. Points that can be earned are 0 points, 1 point, 3 points, and 5 points for each successful shot. Shooters are only allowed to make shot attempts at each distance that has been determined by the discipline. According to Hermawan (2012: 17), petanque games are included in the category of maximal sports because the main objective of this game is to score points. This implies that in order to get the winning points, the throw must hit a specific target. According to the aforementioned claim, accuracy has an impact on the number of shots; the more precisely you throw at the given obstacles, the more points you receive.

The lack of proficiency in basic technical skills, especially in shooting techniques, is one of the main problems facing the sport of petanque. Because it can keep the opponent's ball near the target, this technique is often used. Athletes who play petanque sports need to be proficient in this technique. based on information on the results of the match on the shot number that has been followed by South Sulawesi petanque athletes.

The fact that South Sulawesi petanque athletes still lack medals or even low achievements in the shooting percentage-they don't even win gold medals at national championships-was discovered by researchers. There are only a few national championships or events where someone received a medal in shooting; at the West Java PON Exhibition in 2016, someone received a bronze medal; at POMNAS Makassar in 2017, someone received a silver medal; and at POMNAS DKI Jakarta in 2019, someone received a silver medal.

In addition, the researchers concentrated more on this basic shooting technique because, based on the results of the needs analysis they conducted with athletes from South Sulawesi, they believed that the athletes really needed to know this shooting skill because it was difficult for them to master and that many variations of this model would help the athletes' skills improve and increase their enthusiasm for practicing.

The researcher was very interested in this problem and decided to investigate it further by conducting a study entitled "The effect of shooting training using obstacles and without obstacles on improving the ability of shooting games in FIK UNM petanque athletes" based on the background of the problem, survey results, and data from the analysis of athlete needs that the

researcher noticed. Researchers work hard to ensure that athletes can improve their shooting game skills through the use of shooting training programs.

## METHODS

The population in this study were FIK UNM petanque athletes totaling 50 athletes. A total of 20 FIK UNM athletes who played petanque became the research sample. These athletes were then randomly divided into two groups. Purposive sampling was used in the sampling procedure. Purposive sampling approach is a sampling technique with certain considerations, according to Sugiyono (2014: 124). Furthermore, the variable limitation test was carried out on the number of samples. This is done with the consideration that the samples used in this study already have identical or almost identical characteristics, in other words, they are homogeneous. After that the results are ranked. Nurhasan (2001) If the test participants are large enough, then the division of the upper and lower groups, 27% of athletes who have high-high scores are taken as the upper group, and 27% of athletes who have low-low scores as the lower group.

Before hypothesis testing, it is necessary to conduct a prerequisite test. For better analysis, measurement data related to the study findings are tested. As a result, this study will analyze the data for homogeneity and normality. The data collected for this study will then be examined and interpreted using the analysis of variance (ANOVA) method, and then the Tukey test will be conducted. Since this study is an experimental study with a 2x2 factorial design, ANOVA with a confidence level of  $\alpha = 0.05$  is also used in data analysis. Before data processing, the analysis requirement test was carried out, namely the Normality Test using the Lilifors Test. In addition, the variance homogeneity test with a confidence level of 0.05 was carried out using the Barleft Test.

## RESULT AND DISCUSSION

The results of each series in this study were obtained by the sample using a 12-session training program that included two training approaches: using barriers and without barriers. Athlete concentration data from a concentration test using a concentration grid test conducted at the beginning of the research process and shooting game data. The analysis carried out on the data obtained was normality test using Liliefors test, homogeneity test using Levene test and hypothesis testing.

### 1. Descriptive analysis

Results of descriptive analysis of concentration

The Concentration Grid Exercise test was used in this investigation through the Concentration Grid Exercise test. In the exercise groups with and without barriers, athletes' focus was divided into two categories: high concentration and low concentration. Table 4.1 below shows the distribution of athletes within each group.

In this study, concentration data was obtained through administering the Concentration Grid Exercise test. The concentration of athletes is divided into two categories: high concentration and low concentration in the training group using barriers and without barriers. The distribution of athletes in each group can be seen in table 4.1 below.

Table 4.1 Distribution of Athletes for Each Group

Konsentrasi	Gaya Mengajar		Deskriptif Konsentrasi
	Dengan Penghalang	Tanpa Penghalang	
Tinggi	5	5	10
Rendah	5	5	10

Based on table 4.1 above shows that for each group has the same distribution of the number of athletes, namely 5 athletes each for each group that has high concentration and

athletes for each group that has low concentration obtained through a normal distribution curve where the proportion of 27% is taken for high concentration and 27% is taken for low concentration.

a. Results of Descriptive Analysis of Shooting Games

In this study, concentration score data was obtained by shooting game tests. The results of the analysis of shooting athletes given training using barriers and without barriers can be presented as follows:

Table 4.2 Statistics on the results of shooting game athletes training with barriers and without barriers

Konsentrasi		Kelompok	
		latihan dengan penghalang	tanpa penghalang
Tinggi	Jumlah sampel	10	10
	Skor maksimum	25	22
	Skor minimum	20	14
	Skor rata-rata	30,00	17,40
	Standar deviasi	3,606	3,435
	Varians	13,000	11,800
Rendah	Jumlah sampel	5	5
	Skor maksimum	20	30
	Skor minimum	14	12
	Skor rata-rata	17,20	22,40
	Standar deviasi	2,588	4,615
	Varians	6,700	21,300

Based on table 4.2 above, it can be seen that for high concentration, the average score of the shooting game in athletes taught with training with barriers is 30.00 and training without barriers the average score is 17.40. Based on the data above, it shows that the average score for high concentration in athletes who practice using training is higher when compared to athletes who practice without barriers. For low concentration, the average score of the shooting game in athletes who trained using a barrier was 17.20 and training without a barrier with an average score of 22.40. Based on this data, it shows that the average score for low concentration in athletes who practice using barriers is lower than athletes who practice without barriers.

The standard deviation obtained based on table 4.2, for high concentration in athletes trained using barriers is 3.606 while the standard deviation of athletes who learn with training without barriers is 3.435. The largest variance for high concentration is found in athletes trained using barriers, which is 3,000 compared to athletes trained without barriers of 11,800.

For low concentration, the average score of the shooting game in athletes trained using barriers is 17.20 and training without barriers with an average score of 22.40. Based on this data, it shows that the average score for low concentration in athletes who train without barriers is higher when compared to athletes who train using barriers.

The standard deviation obtained based on table 4.2, for low concentration in athletes who trained using barriers obtained 2.588 while the standard deviation of athletes who practiced with training without barriers amounted to 4.615. The largest variance for low concentration is found in athletes trained using a barrier which is 6,700 compared to athletes trained without a barrier of 21,300.

1. Inferential analysis

a. Prerequisite testing of analysis

Before testing the hypothesis, first the basic test of analysis is carried out in the form of normality test and homogeneity test.

1) Normality test

Data normality testing was carried out using the Kolmogrov-Smirnov formula, so that the results were obtained as shown in table 4.3 below.

Table 4.3 Data normality test

Latihan	A	Taraf signifikan	Kesimpulan
latihan dengan penghalang	0,05	0.200*	Berdistribusi normal
tanpa penghalang	0,05	0.200*	Berdistribusi normal

Based on table 4.3 testing the normality of data from both training groups in this study shows that the significance value is greater than  $\alpha = 0.05$  so it can be concluded that the data is normally distributed.

#### 1) Homogeneity test

Homogeneity test is conducted to determine whether the data obtained is homogeneous or not. Homogeneity testing is done with the Levene test. So that the results obtained as shown in table 4.4 below:

Table 4.4 Homogeneity Test

		Levene Statistic	df1	df2	Sig.
GAMESH	Based on Mean	5.223	1	18	.135
	Based on Median	4.886	1	18	.140
OOTING	Based on Median and with adjusted df	4.886	1	17.987	.140
	Based on trimmed mean	5.143	1	18	.136

From the results of the analysis carried out using the Levene test, a significance value of  $0.135 > \alpha = 0.05$  was obtained, it can be concluded that the data came from a homogeneous variance.

#### a. Research hypothesis testing

Two-way analysis of variance (ANOVA) test

Hypothesis testing in this study aims to determine whether or not there are differences in the influence of training groups and concentration on shooting games and their interactions. Hypothesis testing using analysis of variance (anava) two paths (2x2) with the SPSS 20 application (Two Way Anova) with a significance level  $\alpha = 0.05$ . If the significance value  $\alpha \geq 0.05$  then  $H_0$  is rejected, meaning there is a difference or interaction.

To facilitate hypothesis testing in this study, a two-way analysis of variance (ANOVA) work table was made with the following data

Source	Type III Sum of Squares	df	Mean Square	F
Corrected Model	540.550 <sup>a</sup>	3	180.183	13.6
Intercept	9461.250	1	9461.250	716.7
KONSENTRASI	76.050	1	76.050	5.7
KELOMPOKLATIHAN	68.450	1	68.450	5.1
KONSENTRASI * KELOMPOKLATIHAN	396.050	1	396.050	30.0
Error	211.200	16	13.200	
Total	10213.000	20		
Corrected Total	751.750	19		

## B. Discussion

Discussion of the results of data analysis of nutritional status and learning outcomes conducted by researchers on 28 samples. This study was conducted to determine the effect of shooting training using barriers and without barriers on improving shooting game skills in FIK UNM petanque athletes. This study discusses (1) the difference in shooting game skills of FIK UNM petanque athletes in shooting training groups with barriers and without barriers, (2) the interaction between shooting training with barriers and without barriers with concentration on shooting game skills of FIK UNM petanque athletes, and (3) differences in shooting game skills

of FIK UNM petanque athletes who have high concentration with shooting training groups with barriers and without barriers, (4) differences in shooting game skills of FIK UNM petanque athletes who have low concentration with shooting training groups with barriers and without barriers. Based on the results of testing the research hypothesis, it appears that all hypotheses proposed in this study reject the null hypothesis ( $H_0$  is rejected). Details of the hypothesis results are as follows:

1. There are differences in shooting game skills of FIK UNM petanque athletes in shooting training groups with barriers and without barriers.

Shooting is the ability to shoot games by getting as many points as possible which are measured according to the shooting game point guidelines in the petanque game with a maximum point of 100 in 20 ball throws.

The basic shooting technique is an important basic technique, although it does not leave other basic techniques. Therefore the shooting technique is the most important thing, because the team's victory in a match is determined by the number of scores determined. shooting is done because it is an important point to win the race. On other occasions players may want to shoot a ball that has no point but can prevent the opposing team from getting more points.

Thus it can be concluded that there is an overall difference in the shooting game skills of FIK UNM petanque athletes in shooting training groups with barriers and without barriers according to the results of the research obtained showing that the average score of shooting practice with barriers is higher than shooting practice without barriers. This happens because shooting practice with barriers makes athletes able to immediately improve shooting accuracy compared to shooting practice without barriers.

2. There is an interaction between shooting practice with barriers and without barriers with concentration on the shooting game skills of petanque athletes FIK UNM.

Exercise is a process of perfecting sports skills that contains theoretical and practical material, using methods and rules. (all about petanque, 2015) In petanque training the things that must be done when running the exercise are concentration, accuracy and consistency.

The exercises used in two ways in its implementation are shooting exercises with barriers and without barriers. Both of these exercises will be useful and successful both used for petanque athletes, what if supported with concentration because concentration is something that athletes must have as a basic capital in shooting.

Variations of training using obstacles are one of the shooting training methods in the sport of petanque, namely shooting exercises using media barriers in the form of car tires, blocks etc. which are placed at a distance of 20 cm - 40 cm in front of the target ball. This training variation the author adopts from a javelin / turbo throwing game "javelin throwing for kids" where the game is carried out by throwing a javelin / turbo towards a target with a distance of 5 meters, 6 meters, 7 meters, 8 meters and must pass through a barrier tire with a height of 1.4 meters with a distance of 3 meters from the target.

Concentration is a state where a person's awareness is focused on a certain object at a certain time. The better one's concentration, the longer one can concentrate. In sports concentration plays an important role. With reduced or disrupted athlete concentration during training, let alone matches, various problems will arise and results that are not optimal.

petanque is one of the most interesting game sports. petanque is a sport that has been competed starting from the district level to the national level. Where athletes must have good training and good concentration as well, for athletes it is very important to need good concentration for shooting.

Athletes who have a high level of concentration will choose training with different barriers than athletes who have low concentration. Athletes who have high concentration will choose training with heavy loads that provide challenges to achieve goals and they will feel satisfied with the results obtained in accordance with the objectives and carried out as effectively and efficiently as possible, while athletes who have low concentration training without barriers are considered to

be easier to not have challenges so they will be satisfied if they can follow the training well according to the goal.

The difference in the level of concentration of athletes and the selection of exercises in learning from each group of athletes will affect the shooting results. Each athlete has a level of concentration and to be able to utilize the concentration of athletes to succeed in shooting, proper training is also needed. This shows that in determining training in the sport of petanque it is necessary to pay attention to the level of concentration of athletes.

The results obtained for the high concentration of athletes who practice using barriers show that the average athlete's shooting game score is higher than the high concentration of athletes trained with training without barriers. Thus it can be concluded that there is an interaction between shooting practice with barriers and without barriers with concentration on the shooting game skills of FIK UNM petanque athletes.

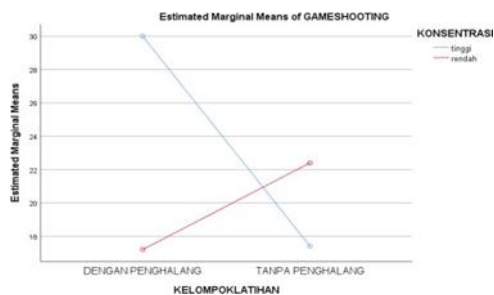


Figure 4.1 The interaction of shooting training with barriers and without barriers with concentration on shooting game skills of petanque athletes FIK UNM

3. There are differences in shooting game skills of FIK UNM petanque athletes who have high concentration with shooting training groups with barriers and without barriers.

Shooting practice with a barrier is an exercise used by athletes to improve shooting section by section in sequence. In shooting practice with barriers, important elements in training are sequential training and athletes are given enough time to do the exercise repeatedly.

In training the motion pattern is formed sequentially section by section in learning shooting, these training steps will help athletes in mastering the correct shooting technique. Disjointed motion patterns will form completely by learning gradually in learning parts of the shooting game.

Exercise is an activity that is carried out sequentially and repeatedly in order to improve maximum results. As for athletes with low concentration, the way of training using barriers oriented to the form of complete motion patterns, will be difficult for athletes with low concentration to master because of the low concentration of shooting techniques.

In shooting training in the form of motion, besides the need for affective, cognitive and psychomotor abilities in the formation of motion programs, concentration is also needed as a basic ability.

Athletes who have low concentration will have difficulty in mastering correct shooting, even though there are athletes who are observers. It is also in accordance with the results of the research obtained for the low concentration of athletes whose training methods without barriers show that the average shooting score is higher than the concentration of athletes who learn by using barriers.

4. There are differences in shooting game skills of FIK UNM petanque athletes who have low concentration with shooting training groups with barriers and without barriers.

Exercise using a barrier is an exercise used by athletes to improve shooting techniques. The goal is for athletes to know how to improve through movement skills then athletes must repeat movements in learning a movement technique in each meeting.

In shooting practice with a barrier for athletes who have high concentration, the athlete's motion pattern is formed completely through athletes who are observers and know mistakes, mistakes known by athletes in a movement to make good movements and learn from mistakes. For athletes who have high concentration and plus complete theoretical mastery of shooting in petanque sports in the brain will certainly make it easier for athletes to learn shooting material.

In without barriers, important elements in the teacher provide demonstrations in teaching each part of the learning material sequentially and athletes are given enough time to do the exercises repeatedly. As for athletes have high concentration by using training without barriers. It is also in accordance with the results of the research obtained showing that the average shooting score of athletes taught with training with barriers is higher than training without barriers.

This conclusion is also reinforced by the results of previous research conducted by N. Komariah, The Effect of Teaching Style and Learning Motivation on Learning Outcomes of Passing over Bolavoli. The results of this study show in general that: (1) in general there is a significant difference between the training teaching style and the command teaching style; (2) athletes who have higher motivation but get training style learning show higher learning outcomes than those who have higher motivation get command teaching style; (3) there was no difference between athletes who had low motivation but received command style teaching and those who had low motivation but received drill style teaching; (4) there was an interaction between teaching style and motivation on the upper passing skills of athletes

## **CONCLUSION**

### a. Conclusion

Based on the results of data analysis and research results as presented in the previous chapter, it can be concluded as follows.

- 1) Overall the difference in shooting game skills of FIK UNM petanque athletes in shooting training groups with barriers and without barriers.
- 2) There is an interaction between shooting practice with barriers and without barriers with concentration on the shooting game skills of FIK UNM petanque athletes.
- 3) There is a difference in the shooting game skills of FIK UNM petanque athletes who have high concentration with the training group
- 4) shooting with a barrier and without a barrier?

There are differences in the shooting game skills of FIK UNM petanque athletes who have low concentration with shooting training groups with barriers and without barriers



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