

## **Effect of training with the gradual distance drill method on the shooting skills of pétanque players**

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### **Abstract**

Shooting ability in pétanque sports is an important aspect that affects the performance of athletes. The phased distance drill method is very effective in improving skills in various sports areas. The problem lies in the effectiveness of the gradual distance drill training model to enhance the shooting ability of pétanque athletes in the Tebedak pétanque Club. The research method used an experimental approach one group pretest-posttest Design. The experiment will last about 6 weeks at a frequency of 3 workouts a week. The sample totaled 12 athletes. Inturmen research using test Shooting Game station 1 to station 5 with distance increments of 6,7,8, and 9 meters. Data were collected through direct observation of athletes' training before and after training. Data analysis using SPSS version 23 to measure pretest and posttest. The results showed a significant effect of gradual distance drill method training on improving the shooting ability of pétanque athletes in Tebedak pétanque Club. Training summary the gradual distance drill method is very effective in improving the shooting ability of pétanque athletes. The next research can pay attention to the drill training model to design a pétanque athlete training program in other clubs.

**Keywords:** *training; gradual distance drill method; shooting skill; pétanque players*

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## **INTRODUCTION**

Pétanque is a sport that requires high technical skills. One of the important aspects in pétanque is the shooting skill, which is the ability to throw the ball accurately towards the target (Srianto & Sari, 2020). This skill is very important in winning matches. There are two different types of throws in pétanque, namely pointing and shooting (Sutrisna et al., 2018). In pointing, players throw the ball with the aim of approaching the target position, which can be done by blocking or scoring points by placing the ball in certain areas, such as near the boka or in front of the opponent's ball (Mulya, 2020). Pointing is done in a squatting position, but depends on each player's preferences (Lubis et al., 2020). The aim of shooting is to keep the opponent's ball away from the target ball or wooden target. A good shot will easily touch the opponent's ball so that the opponent's ball moves away and the game can be stopped. Shooting techniques from research results are more difficult than pointing in pétanque (Royana & Kresnapati, 2020).

The shooting distances are six, seven, eight and nine meters. The points that can be scored in the shooting game are zero, one, three and five points. Each shooter has only one opportunity to shoot from each given distance (Putra, 2022). The gradual distance drill method is one of the training approaches used in various sports to improve the technical skills of athletes (Hazinah & Hazinah, 2017). The basic concept of the drill method is to gradually and

repetitively train athletes at different distances, starting from closer to longer distances (Harvianto & Bernisa, 2019). This approach is based on the assumption that gradual training can help improve an athlete's accuracy and consistency in shooting (Negara et al., 2022). Although the gradual distance drill method has been shown to be effective in improving the technical skills of athletes in various sports, there are not many studies investigating its use in the context of pétanque (Hudaya, 2024; Latue et al., 2020; Suwo et al., 2021), especially in Indonesia. It is therefore important to evaluate whether the application of this method can have a significant impact on the shooting skills of pétanque players in Tebedak pétanque clubs.

There are four aspects of training that should be prioritized and thoroughly trained in petanque: physical training, technical training, tactical training, and mental or psychological training (Parlindungan et al., 2022; Sutrisna et al., 2018). Mental training is a very important part and should be given the same attention as the rest of the training. Mastering the basic techniques of petanque also depends to a large extent on mental training (Hanief, 2022) and optimal physical condition (Aliriad et al., 2023). Without both, an athlete will not be able to achieve the expected performance (Sahruni et al., 2022). By considering the physical, technical, tactical and mental aspects of training, the study should provide new insights into effective strategies to improve the performance of petanque athletes in the long term. The aim of this study was to evaluate the effect of gradual training using the distance drill method on the shooting skills of petanque players in the Tebedak Petanque Club. Thus, this study is expected to provide a deeper understanding of the effectiveness of this training method in improving the technical skills of petanque players.

## **METHOD**

This research method uses quantitative approach with experimental design. The study design used was one group pretest-post-test design, which included pretest before treatment and post-test after treatment (ASRIN, 2022; M. Sari et al., 2022). This experiment lasted for 6 weeks with a training frequency of 3 times per week. Before the start of the training, a pretest was conducted to measure the ability to shoot pétanque (Wijaya, 2019). Then, drills were given as treatment for 14 sessions using the gradual distance drill method. In the last session, a post-test is carried out to measure the ability to shoot pétanque after treatment. This research was conducted at Tebedak Pétanque Field Club in Tebedak village, Ogan Ilir regency, South Sumatra province. The study period lasted 6 weeks from 7 August 2023 to 14 September 2023. The sample consisted of 12 Tebedak pétanque players, 7 male and 5 female, aged between 15 and 25 years. The research instrument used was a test of shooting skills at 5 stations with drill

methods at a distance of six, seven, eight and nine metres. The data were analysed using ANOVA with a significance level of  $\alpha = 0,05$ , using SPSS version 23.

## RESULTS

Data Characteristic research sample as many as 12 junior athletes in kategorikna still beginners at the time of observation in the field with the following details:

**Table 1.** Data Characteristic research sample

Sample	Category	Age
AD	Male	21
AP	Male	22
AT	Male	19
ASP	Male	18
A	Male	18
CV	Male	20
DB	Male	21
DS	Female	22
DS	Female	20
EFG	Female	18
FEP	Female	18
HA	Female	19
<b>Average</b>		<b>19,66</b>

Table 1 describes the age range and number of samples used, with an age range of 18-22 years. The mean age of the total sample was 19.66 years. Pretest and post-test results can be seen that the average increase from pre-test to post-test is about 5.91 points, with a standard deviation of 3,028. This shows the variation in performance improvement between different sites. Further analysis can be performed to understand the factors that may affect the results of the Pétanque drill method at each location. In addition, the pretest and posttest results of the study of the Pentaque drilling method are shown in the following table:

**Table 2.** Result Pretest and Posttest Method Drill Pétanque

Sample	Pretest	Posttest	Difference
GIJ	2	8	6
GPW	3	6	3
GSR	3	6	3
KLB	3	10	7
KSG	3	17	14
PWH	5	11	6
DB	8	13	5
DS	13	17	4
DS	6	9	3
EFG	1	7	6
FEP	17	23	6
HA	11	19	8
<b>Total</b>	<b>75</b>	<b>146</b>	<b>71</b>

Sample	Pretest	Posttest	Difference
Min	1	6	3
Max	17	23	14
Mean	6.25	12.16	5.91
Std. D	5.011	5.621	3.028

**Table 3.** Anova One-Sample Test

Test Value = 0						
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Pretest	4.320	11	.001	6.25000	3.0659	9.4341
Posttest	7.497	11	.000	12.16667	8.5947	15.7387

The results of the Anova one-sample test show that there is a significant difference between the pretest and post-test scores. For the pretest, the test value of t is 4.320 with 11 degrees of freedom, and the significance  $p < .001$  shows that the average difference between the pretest and the zero value is 6.25000, with a 95% confidence interval for the difference ranging from 3.0659 to 9.4341. Meanwhile, for the post-test, the test value of t is 7.497 with 11 degrees of freedom, and the significance of  $p < .000$  indicates that the average difference between the post-test and the zero score is 12.16667, with a 95% confidence interval ranging from 8.5947 to 15.7387. This shows that there is a significant increase in the post-test score when compared.

**Table 4.** The results of the T-test hypothesis

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.963	0.346		-5.672	0.000
	Pretest	0.048	0.005	0.7744	10.069	0.000

The results show that the pretest variable has a non-standard coefficient of 0.048 with a standard error of 0.005. The standard coefficient (Beta) for the pretest is 0.7744. The resulting t-statistic value is 10.069 and its statistical significance (Sig.) is 0.000, indicating that the pretest variable has a significant effect on the dependent variable, the posttest. In addition, the constant in the model (Constant) has a non-standard coefficient of -1.963, with a standard error of 0.346. The T-statistic for the constant is -5.672, with a statistical significance (Sig.) of 0.000, indicating that the constant also has a significant effect on the dependent variable, Posttest. Thus, the results of the hypothesis test show that both variables, pretest and constant, have a significant effect on the dependent variable posttest.

## **DISCUSSION**

The results of the study show that the use of the Pentaque drill method has a significant positive effect on the improvement of the shooting techniques of Tebedak petanque athletes. This can be seen in the pre- and post-test results. The factors of social interaction and motivation play an important role in the drill training model, so that the results of the drill model provide significant benefits. This is in line with Albert Bandura's social cognitive theory (Boiliu, 2022; Yanuardianto, 2019), which highlights the importance of social influence and observation in the development of skills and behaviours. Motivation also plays an important role in improving the performance of athletes.

Research shows that athletes with experience or higher physical fitness are more responsive to exercise, which may influence the level of performance improvement from pretest to posttest (Mulya, 2020; Wulandari & Wibowo, 2022). In addition, exercise intensity and duration are also important factors affecting the effectiveness of the Pentaque drill method (S Adi et al., 2023). Further research is needed to explore the relationship between exercise intensity or duration and the level of improvement in participants' performance, which may provide insights into the design of more effective exercise programmes (Andibowo & Mahardika, 2021). The method of exercise played an important role in participants' response to the intervention (Sutrisna et al., 2018).

Factors such as exercise facilities, weather or social support (Ellyas et al., 2023; Pratama et al., 2023) from peers or trainers can influence participants' motivation and engagement in exercise (Sahrani et al., 2022; L. P. Sari et al., 2022). Consideration of the supporting factors of athletes' performance may improve the results of the study (Imron et al., 2021; Sulastri et al., 2021).. Further research could investigate whether the performance improvements observed in the post-tests are sustained over time or whether the effects dissipate over time (balfasa et al., 2021; Nurhidayat et al., 2021). Understanding the long-term effects of the Pentaque drill method may provide greater insight into the sustainability and practicality of its use in the context of sports practice. Variations in drill design, including the use of variations in drill techniques or the incorporation of drill methods with more complex game elements, may also influence the observed outcomes. Further research is needed to investigate the effectiveness of different types of pentaque drills to improve understanding of the most effective drill strategies.

## CONCLUSION

Research into the Pentaque sport's Gradual Distance Drill method has had a significant positive impact on improving athletes' shooting skills. Factors such as social interaction, motivation, experience and physical fitness play an important role in the response to training. Suggestions for future research include deepening the understanding of these factors through qualitative research, more detailed measurement of participants' experience and physical fitness, observation of variations in exercise design, and long-term research to assess the sustainability of exercise effects.

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