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The Brain Jogging Training: Solution for Increasing Playing Skill in Field Hockey Athlete

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Abstract

The brain jogging training method is a training method that further sharpens the cognitive abilities of an athlete. The purpose of this study was to find out how the impact this brain jogging exercise had on the playing skills of field hockey athletes. The research method used is an experimental research method with a research design in the form of a one group pre-test post-test design. A total of 23 STKIP Pasundan field hockey athletes were used as research samples. The research treatment was carried out for 8 weeks excluding the pre-test and post-test. The research instrument used is the Game Performance Assessment Instrument (GPAI). The results showed that the increase in playing skills was 0.2 (2%), and showed that there was a significant effect of the application of brain jogging exercises on the playing skills of field hockey athletes (sig. 0.000). So that it can be concluded that the brain jogging training method is very feasible to be applied to the training process of field hockey athletes, especially to improve their playing skills.

Keyword: Brain Jogging, Life Kinetic, Playing Skill, Field Hockey.

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A. Introduction

Playing skill is a skill in which an athlete can make the right decisions regarding the implementation of his technical abilities in a game situation (Budiman et al., 2022). The effectiveness or efficiency of an athlete's game depends on how the playing skills he has (Budiman, 2022). As it is known that in modern sports playing skills are one of the important factors in a sports game in order to get maximum performance (Kunrath et al., 2020). The higher the athlete's playing skill level, the more effective the game will be which will have an impact on achieving maximum performance (Festiawan, 2020; Hidayat et al., 2020; Taufik, 2019).

Likewise in field hockey which is a type of sports game. In addition to important aspects such as physical condition (I Gede Angga Andika & Asmawi, 2022), technique performance (Maekhendra et al., 2022), or physicological (Swann et al., 2017), an athlete, in this case a field hockey athlete, must have very good playing skills (Timmerman et al., 2017). Elementary mistakes such as inaccuracy in decision making during matches are things that must be minimized or even eliminated (Fadilah & Wibowo, 2018). Field hockey athletes who have excellent playing skills are able to make the right decisions even under pressure from opposing players. Like when and where is the time for him to pass against a teammate, when is it time for him to use his dribbling skills to get past opponents, as well as when and how he shoots towards the opponent's goal to score goals. Even while defending, a hockey player must be able to make the right decisions, such as when to tackling to grab the ball from the opponent's possession, when to intercept, and how to make an effective stop ball, whether in a forehand or backhand position. Therefore, good playing skills are needed by field hockey athletes to support their achievements.

However, in fact the playing skills of Indonesian field hockey athletes are considered to be lacking and inferior to other countries. The playing skills of Indonesian field hockey male athletes are at an average of 0.716 or the effectiveness of the skills is only 71.6% (Budiman et al., 2022). This is one of the reasons why the Indonesian field hockey men's team failed to compete on the international stage. One of the efforts to improve the playing skills of field hockey athletes is to implement innovations in training that are not only able to improve the physical aspects but cognitive aspects, including by implementing brain jogging exercises.

Brain jogging or better known as life kinetic was originally designed to train coordination so that brain jogging can also

improve skills (Komarudin & Mulyana, 2016). The brain jogging training model is synonymous with the utilization of an athlete's cognitive abilities which includes behavioral aspects of Neurology namely Attention, Perception, Language, Memory, Visuospacial, Executive Function (Schmahmann et al., 2019) expected to be able to improve skills in playing field hockey athletes.

So far there has been no research that examines the implementation of brain jogging exercises in field hockey, therefore to overcome the problems above and to fill the research void, researchers are trying to conduct a study in the form of implementing brain jogging exercises to improve the skills of playing field hockey athletes.

B. Method

The research method used to meet the needs of this research is an experimental research method using a one group pretest-posttest design (Fraenkel & Wallen, 2008).

Field hockey male athletes at STKIP Pasundan were used as the population in this study, 23 athletes were used as research samples through total sampling technique. Treatment was given in the form of a brain jogging training program given for 8 weeks.

The research instrument to determine the skill level of playing field hockey athletes using the Games Performance Assessment Instrument (GPAI) (Memmert & Harvey, 2008). Data analysis used the paired sample t-test on the SPSS version 25 application.

C. Result and Discussion

The results of the research in the form of pretest and posttest results carried out in measuring the playing skills of field hockey athletes can be seen in table 1 below.

Table 1. pretest – posttest result

$\bar{X}$ pretest	$\bar{X}$ pretest	Gain Score
0,58	0,78	0,2

Based on the results of the pretest, it can be seen that the playing skills of STKIP Pasundan field hockey athletes are at a score of 0.59 (59%). While the results of the psottest for the skill of playing field hockey athletes at STKIP Pasundan were 0.78 (78%), and a gain score of 0.19 (19%) was obtained.

The results of the t-test for the playing skills of STKIP Pasundan's men's field hockey athletes can be seen in table 2 below.

Table 2. T-test Result

Paired Samples Test

		Paired Differences					t	Df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	pretest - posttest	-.20130	.03494	.00729	-.21641	-.18619	-27.629	22	.000

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In table 2 above it can be seen that the sig. of 0.000 which means there is a significant effect of brain jogging exercises on improving the playing skills of STKIP Pasundan field hockey athletes.

Discussion

The results of the above study indicate that the application of brain jogging exercises to field hockey athletes has a significant impact, especially on one aspect of their cognition, namely playing skills. This is in accordance with previous studies which explained that the ability and speed in making decisions in the game of handball athletes who went through brain jogging training proved to be better than handball athletes who were not given brain jogging training. (Lutz, 2011). Other research says that stated that life kinetic training applied on healthy individuals increased the neuron connections of individuals This situation allows to understand the existing problems calmly and to solve them effectively and quickly. Healthy beta production, on the other hand, reduces the attention deficit of the individual and increases his focus and problem-solving skills (Thibault et al., 2015). In the study conducted by (Taskin & BICER, 2015), it was determined that 8-week proprioception training provided increases in quickness, agility and acceleration performances. The results of this research are different from previous studies which put more emphasis on skill development, this research focuses on other aspects of sports, namely improving playing skills, which is one of the cognitive aspects.

The brain jogging or life kinetic training method is actually a training model that always makes athletes think actively continuously (KAYA, 2022). The basic components of brain jogging training are the science of movement and training, functional anatomy, and modern brain research. Brain jogging exercise includes a system that provides training to the brain through a physical activity, using exercises that create new connections between brain cells, combining visual tasks, movement,

and cognitive tasks (Duda, 2015; Gür et al., 2022). In addition, physical activity can trigger the neurotrophic release from the brain, a natural substance that improves cognition by boosting the ability of neurons to communicate with each other (Hamzei et al., 2012; Komarudin et al., 2021).

The concept of his own practice of concentration, problem-solving skills, reflexes, balance and coordination (Komarudin & Awwaludin, 2019). By honing and getting used to the cognitive abilities of an athlete, this will carry over when they compete. Athletes who are used to solving problems through brain jogging exercises will find it easier and more accustomed to solving problems when competing.

In this field hockey sport, for example, when an athlete controls the ball and faces an opponent he will easily understand the situation and solve the problem, either by passing to a friend who is in an unsupervised and more advantageous position, or by making a move. dribbling to face the opponent. The decisions he takes will be made quickly, this will also encourage the effectiveness of the athletes and teams in question.

Or in other cases, when an attacker enters the D-line area, he will make the right and quick decision, whether he shoots directly at goal using a forehand hit, reverse hit, flick, or so on. As is well known, hockey is a sport that has a fast game tempo. If a player is slow to make decisions, the opportunities he gets will just disappear.

D. Conclusion

Based on the research results, it can be concluded that the application of the brain jogging or life kinetic training method is a training program that is indeed effective in improving athletes' cognitive abilities which has an impact on improving field hockey athletes' playing skills.

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F. Conflict Interest

No conflict of interest.

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