

The Effect of Balinese Traditional Games 'Megoak-goakan' and 'Megala-gala' on Physical Agility in Martial Arts Athletes

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Abstract Agility in martial arts is very important. In martial arts, agility is used to support performances in kicks, punches, and sweeps. Quick kicks and quick punches and quick sweeps will allow an athlete to win in the tournament. This study aims to determine the effect of Balinese Traditional Games 'megoak-goakan' and 'megala-gala' on physical agility of the Banyuning Martial Arts Club Athletes. The sample of this study amounted to 36 athletes aged 10-16 years, using a random sampling technique. This research method uses quasi-experimental, data collection using the Shuttle Run test of agility. This research was conducted by dividing into two groups: the experimental group was given the practice of Balinese traditional games 'megoak-goakan' and the control group was given the practice of Balinese traditional games 'megala-gala' for six weeks, three times a week. The data were analyzed using t-test pair test with one-way ANOVA at a significance level of 0,005. The results showed that 1) the Balinese traditional games 'megoak-goakan' affect the physical agility of the Martial Art Athletes, 2) the Balinese traditional games 'megala-gala' affect the Martial Art Athletes, and 3) there is a difference in the effect between the Balinese traditional games training 'megoak-goakan'

and 'megala-gala' on the physical agility of the Martial Art Athletes where the Balinese traditional games 'megala-gala' are better than the Balinese traditional games 'megoak-goakan'. This shows that Balinese traditional games 'megoak-goakan' and 'megala-gala' are very much needed for martial arts athletes because they can increase physical agility.

Keywords Megoak-Goakan, Megala-Gala, Physical Agility, Martial Arts

1. Introduction

Traditional games are a wealth of local cultural treasures. If it is counted, there may be more than thousands of types of games that have developed in our country, which are the result of thought, creativity, trial, and error, including the results of our ancestors' culture, but where are all these traditional games? When our children are being heavily invaded by modern games through gadgets, then efforts to save the noble culture, namely traditional games, become

an inevitability.

Physical condition is the basic foundation that must be met in advance of the various stages of an athlete to achieve perfect training quality in achieving maximum performance during competition. The physical condition itself consists of the basic components of a motor consisting of the components of strength, agility, endurance, flexibility, and speed. Meanwhile, improving the physical condition required training by following per under the principles of existing exercises. One of the most important aspects of martial arts is physical agility.

Currently, many forms of exercise and physical activity are offered to fill people's free time by exercising. Fitness centers and fitness clubs have flourished in the community. Various modern tools and systems began to develop to attract games interest. However, traditional games are increasingly being abandoned. If it is developed with modern methods, physical activity is very compatible with the character of traditional games which contains cognitive, affective, and psychomotor elements. Traditional games are physical activities that are carried out consciously and intentionally and use rules based on habits that have been passed down from generation to generation in a society [1]. According to Kardiawan [2], many activities in Balinese traditional games fulfill several components of physical fitness and the principles stated above.

In addition, Balinese traditional games activities are more of a game's nature, so they have high appeal because of the competitive aspect. Therefore, the use of Balinese traditional games is very potential as an alternative to improve the physical fitness of the community. There are several types of Balinese traditional games that can be performed in traditional games activities to train and rely on strength, muscular endurance, speed, flexibility, agility, coordination, accuracy, and reaction.



Figure 1. Balinese Traditional Games of 'megoak-goakan'

The game 'megoak-goakan' is a traditional Balinese game that has been around for a long time. This game is played on a field or in a spacious place, where two teams of 5-10 people are drawn to determine which snake is stretched backward, each person hugged the people in front of them, one of them became 'Goak' and 'snake tail'. When the signal is 'started', the person who plays the role of 'goak' tries to catch the person who plays the role of 'snake tail'. The body and tail of the snake, which consists of members

of the players embracing each other's waists in front of them, also move to snake in the direction of the head's movement away from the 'goak'. If the person who becomes the tail of the snake is caught by 'goak' then the 'goak' team is declared the winner, and vice versa (Figure 1).

While the game 'megala-gala' comes from one syllable, namely gala, which means obstacle. This game affects agility because the basic movement of this game is to run as fast as possible and change the direction of running as fast as possible to deceive the guards and escape to the end of the game area. The game is carried out using a field in the form of horizontal and vertical lines (in the middle) with as many as 4 horizontal lines and 1 vertical line in the middle. The guard team stands in the horizontal line area to prevent opposing players from passing through their area. Players who can pass obstacles without being touched by the guard team back, will get a win/point (Figure 2).



Figure 2. Balinese Traditional Games of 'megala-gala'

Based on the foregoing, this study aims to 1) determine the effect of the Balinese traditional games 'megoak-goakan' on the agility of the Banyuning Martial Arts club athletes, 2) find out the effect of the traditional Balinese sport of 'megoak-goakan' on the agility of the Banyuning Martial Arts club athletes, and 3) knowing the effect of the Balinese traditional games 'megoak-goakan' and 'megala-gala' together on physical agility.

2. Methods

2.1. Study Area and Duration

This research was conducted to investigate the effect of 6 weeks of traditional games training with 'megoak-goakan' games and 'megala-gala' games. This study was conducted following the pre-test – post-test model of the quasi-experimental method. This research was conducted for 8 weeks starting from the recruitment of the participants.

2.2. Research Design

An experimental randomized pre-test and post-test control group design was used to test the hypothesis in this

study. This design was selected because it can compare information on the subject's original condition (pre-test) with the result of the post-test after they were given the training. The use of a control group in this study allowed post-test result differences to be attributed to the treatment difference and no other variables.

2.3. Participants

The participants that participated in this study consisted of thirty-six ($n=36$) Athletes from Banyuning Martial Art Club with ages between 10 and 16 years old, grades 2 -6 in elementary school, and grades 1-3 in junior high school in Buleleng. They have been active in martial arts for 2 years. The participants were randomly assigned into two groups; 1) control group (CG) ($N=18$) and 2) intervention group (IG) ($N=18$).

2.4. Instrument

The Agility t-test area was used with a scale of 10 meters by 10 meters with Shuttle Run Agility Test. Participants ran forward or moved when the "go" order as quickly as possible to the central cone. Then, they ran sideway 5 m to the right cone and ran sideway 10 m away to the far-left cone to the left, and ran sideways back to the middle on the right cone. The individual either ran or moved back as soon as possible to reach the finish line. The researcher began the stopwatch and stopped when the participant crossed the finishing line plane. The time to complete each test is measured in seconds. The Agility t-test was highly reliable with intraclass reliability was 0.98 [3].

2.5. Procedures

The participants attended a series of training sessions for traditional games 'megoak-goakan' three times a week for six weeks in the intervention group. The control group was to do traditional games also with 'megala-gala' games three times a week for six weeks. The pre-test data was collected on the 1st week after recruitment and the post-test data was collected after finishing traditional games training on the 7th week. The traditional games training program was focused on the frequency and volume of games. Traditional games training sessions take about 60 minutes

and start with a regular 15 minutes (min) warm-up. Each exercise was performed with five-set exercises. Rest was given 4 minutes between each set.

2.6. Statistical Analysis

In the analysis of the study, the statistic program version 25.0 of the Statistical Package for social science (SPSS) was used. To test whether data were normally distributed, a Shapiro-Wilks test was used. Both variables had a p -value greater than 0.05, and parametric statistics were therefore used for analysis. For comparison of groups, data were evaluated using a Pair T-test. All results were rounded to two decimals. Data with a $p<0.05$ were set to be significant. Therefore, there is significant agility among Banyuning Martial Arts Athletes who performed Balinese traditional games of 'megoak-goakan' and 'megala-gala' and the null hypothesis can be rejected. The s agility test results were measured in seconds (s). The mean, and the standard deviation was provided as descriptive results. Before the treatment, a pre-test will be carried out and after receiving the treatment, a post-test will be given in the form of an agility test.

3. Results

Before being analyzed using IBM SPSS Version 25 assisted ANOVA, the data obtained were tested for normality first with the Shapiro-Wilks test. Based on the normality test, the research data were all normally distributed.

Based on the pre-test and post-test data, the group who practiced the Balinese traditional games 'megoak-goakan' through the one-way Anova test obtained the following results.

The data of Table 1 shows that the significance value is 0.002 which means $<$ from 005, so it can be said that there is an influence of Balinese traditional games training on the physical agility of the Banyuning Martial Artsclub athletes.

Based on the pre-test and post-test data, the group who practiced with the Balinese traditional games 'megala-gala' through the one-way Anova test obtained the following results.

Table 1. Analysis Anova Pre and Post Test for Group with Balinese traditional games 'megoak-goakan' ($n=18$).

Paired Sample Test								
Paired Differences								
Pair 1 Pre Goak- Post Goak	Mean	Std Deviation	Std.Error Mean	95% Confidence Interval of Difference		t	df	Sig. (2-tailed)
				Lower	Upper			
	-1.5956	1.8624	0.4389	-2.5217	-0.6694	-3.635	17	0.002

Table 2. Analysis Anova Pre and Post Test for Group with Balinese traditional games 'megala-gala' (n=18).

Paired Sample Test								
Paired Differences								
Pair 1 Pre Gala- Post Gala	Mean	Std Deviation	Std.Error Mean	95% Confidence Interval of Difference		t	df	Sig. (2-tailed)
				Lower	Upper			
	-2.5456	2.0733	0.4887	-3.5766	-1.5146	-5.209	17	0.000

Table 3. Analysis Anova Pre and Post Test for Group with Balinese traditional games 'megoak-goakan' and 'megala-gala' Simultaneously (n=36)

Paired Sample Test								
Paired Differences								
Pair 1 Pre Test- Post Test	Mean	Std Deviation	Std.Error Mean	95% Confidence Interval of Difference		t	df	Sig. (2-tailed)
				Lower	Upper			
	2.0706	2.0011	0.3335	1.3935	2.7476	6.208	35	0.000

The data of Table 2, shows that the significance value is 0.000 which means < 0.05 , so it can be said that there is an influence of Balinese traditional games training 'megala-gala' on the physical agility of the Banyuning Martial Arts Club athletes.

Based on pre-test and post-test data, the group who practiced Balinese traditional games 'megoak-goakan' and 'megala-gala' simultaneously through the one-way Anova test obtained the following results.

The data of Table 3 shows that the significance value is 0.000 which means < 0.05 , so it can be said that there is an effect of Balinese traditional games training 'megoak-goakan' and 'megala-gala' together on the physical agility of the Banyuning Martial Arts Club athletes.

4. Discussion

The first objective of this study was to find out the effect of the Balinese traditional games 'megoak-goakan' on the agility of the athletes of the Banyuning Martial Arts Club. Based on the results of the study, it was found that the Balinese traditional games 'boasting' after being given for 6 weeks could increase the agility of the Banyuning Martial Arts club athletes with at-count of 3,635. This shows that the Balinese traditional games 'megoak-goakan' has a significant effect on increasing physical abilities in the form of agility.

Agility represents a complex feature that involves not only speed but also balance, coordination, and the ability to react to a change in the environmental elements of running forward, sideways, and backward, and even jumping [4]. With an irregular rhythm, a person who becomes a 'goak' must chase and then catch the 'tail' of the goak, so that all

players in the games 'megoak-goakan' are very active in moving/running slowly and quickly both to the side, to the front and backward.

The pattern of motion in the Balinese traditional games of 'megoak-goakan' really supports athletes in agility, which is obtained from the movement of the game running sideways, forwards and backward. Almost all participants in the game perform the same movement. The Balinese traditional game of 'megoak-goakan' is a game that chases and catches each other. One person becomes the catcher and the rest act as a barrier and secure the person behind as the 'tail'.

The second objective of this research is to find out the influence of the Balinese traditional games 'megala-gala' on the agility of the Banyuning Martial Arts Club Athletes. Based on the results of the study, it was found that the Balinese traditional games 'megala-gala' after being given for 6 weeks could increase the agility of the Banyuning Martial Arts club athletes with at-count of 5.209. This shows that the Balinese traditional games 'megala-gala' has a significant effect on increasing physical abilities in the form of agility. Traditional games are effective in improving basic movement skills for elementary school students [5].

The implementation of the 'everything' game has elements of running, walking, and jumping. Walking can be done slowly and quickly, even very quickly, as well as running. This is done so as not to be touched, caught by the opponent. The ability to dodge is needed in this game, so to be able to avoid the player must be able to change direction quickly. This element is the reason why the Balinese traditional games 'megala-gala' can increase agility. Agility along with quickness and speed in the first few steps represents the key motor ability [6].

The third objective of this research is to find out the

effect of the Balinese traditional games 'megoak-goakan' and 'megala-gala' together to increase the agility of the Banyuning Martial Arts club athletes. Based on the results of the study, it was found that the Balinese traditional games 'megoak-goakan' and 'megala-gala' together can increase agility skills with at-count of 6,208. This shows that the 'megoak-goakan' and 'megala-gala' games together have a significant effect, and looking at the average results obtained, it can be said that the 'megoak-goakan' game is better than the 'megoak-goakan' games.

Agility is a motor component of physical condition which is essential for several games [7]. Accordingly, agility is games movements that can use muscles to perform physical performance change direction rapidly [8]. Agility is one component of physical fitness that is indispensable in all activities that require rapid changes in body position and its parts [9]. In traditional games, it can be played safely for children to increase strength and bone strength [10]. Traditional games contain elements of play, they are not bound by many rules such as competition which will improve students' physical fitness [11]. The results of research conducted by Ahmad Farid Uthman, et al. [12], show that traditional games play a very important role in improving students' gross motor skills. In a similar study conducted by Septi Islinia Yosinta [13], it was found that children's gross motor skills in the aspect of balance can develop optimally. Lutfi Tajul Arifin, et al [14] in their research on the application of traditional games in physical education learning found that there was a significant effect of traditional games on students' physical fitness.

5. Conclusions

Based on the results and discussion above, it can be concluded that 1) the traditional 'megoak-goakan' games training has an effect on the physical agility of Martial Art Athletes, 2) the 'megala-gala' traditional games training has an effect on the Martial Art Athletes, and 3) There is a difference in the effect between the Balinese traditional games training 'megoak-goakan' and 'megala-gala' on the physical agility of the Martial Art Athletes where the Balinese traditional games training 'megala-gala' is better than the Balinese traditional games training 'megoak-goakan'.

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