

# The Influence of Traditional Games on the Perceptual Motor Skills and Skill-related Physical Fitness

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**Keywords:** Traditional Games, Perceptual Motor Skills, Physical Fitness, Elementary Students.

**Abstract:** Perceptual motor skills and skill-related physical fitness are crucial to be developed by the elementary students. The development can be achieved by freely doing the interesting physical activities. Traditional games are sorts of enjoyable and exciting games which can be done by the elementary students. The objective of this research is to find out the influence of traditional games on the perceptual motor skills and skill-related physical fitness of the elementary students. It was pre-experimental research with one group pretest and posttest design. The subjects of the research were 30 elementary students. In collecting the data, perceptual motor test by Rachman (2004) was administered as the research instrument. Speed was measured by doing 40-meters run. Power was measured by performing standing board jump. Furthermore, agility was measured by doing 4x10 shuttle run (Nurhasan, 2004). The data were analyzed by administering a t-test by comparing mean scores in the pretest to that in the posttest. The research findings showed that the mean scores in the posttest were higher than that of in the pretest: 1) Perceptual motor skills: posttest mean score 23,70 > pretest mean score 18,90,  $p < 0,05$ , 2) Speed: posttest mean score 8,16 < pretest mean score 8,86,  $p < 0,05$ , 3) Agility: posttest mean score 12,67 > pretest mean score 13,46,  $p < 0,05$ , and 4) Power: posttest mean score 1,44 > pretest mean score 1,33,  $p < 0,05$ . In conclusion, there was influence of traditional games on perceptual motor skills and skill-related physical fitness.

## 1 INTRODUCTION

Physical fitness and motor skills development are part of the objectives of Physical Education, Health, and Sports. Physical fitness is one of the physical aspects of the total fitness which allows a person to productively live the life and adapt to the physical load properly. Previous research revealed that there was significance correlation between physical fitness and the involvement of physical activities. The more the students actively involved in the physical activities, the fitter, slimmer, and less healthy risk would be (Thomas, Lee, Thomas, 1998:10). In addition, some prior research about the physical fitness showed that the physical fitness status of Indonesians including the students was in the low level. The followings are some previous research: 1) the research by Depdiknas in Mutohir (2009) about the level of physical fitness of elementary, junior and senior high school students. For the elementary students, it revealed the following percentage: 15% (very poor), 48% (poor), 31% (fair), 6% (good), and 0% (very good); for junior high school students, there

were 8% (very poor), 46% (poor), 40% (fair), 6% (good), and 0% (very good); for senior high school students, there were 7% (very poor), 40% (poor), 46% (fair), 7% (good), and 0% (very good); and for vocational high school students, there were 11% (very poor), 45% (poor), 39% (fair), 5% (good), and 0% (very good), and 2) the research conducted by Mutohir and Maksum (2007) about the people physical fitness level which found that there were 37,40% (very poor), 43,90% (poor), 13,55 % (fair); and 5,15% (good and very good).

One of the causes of the students' low physical fitness-with its all risks- is the lack of the physical activities. *The Centers for Disease Control and Prevention* or CDC (2006) states that the children who are physically passive tend to be the same when they are adult.

As a result, it can increase the risks of obesity and comes to the chronic-degenerative disease prevalence such as hypertension, diabetes, and heart disease. In relation to the physical fitness, it consists of physical fitness components which are related to health: cardiorespiratory fitness, muscular strength, muscular

endurance, flexibility, and body composition. On the other hands, the physical fitness components which are related to skills are speed, explosive power, balance, agility, coordination, and reaction time.

The improvement of the students' motor skills, primarily in relation to the perceptual motor skills is also believed to be one of the important aspects. Perceptual motor skills reflected in the children's motor development help them explore the knowledge from the environment which is then formulated to be the concepts expressed by the motor ability. The children who easily and quickly move the body tends to have self-confidence and positive self-conception. Cratty (1967) highlights that the children who cannot manage their movement well have low self-conception and often get difficulty to socially and emotionally adapt (Laszlo & Bairstow, 1985). Moreover, Edwards (2010) in Rachman (2018) explains that first to third-grade students who get difficulty in studying at school also get difficulty in the perceptual motor development. As a result, the difficulty in the perceptual motor skills has the basic correlation to the school achievement. In line with this, Thomas, Thomas and Lee (1998) show the influences of perceptual motor skills on the cognitive function encompassing: (1) the consequences and the correlation between perceptual motor skills and academic achievement, (2) perceptual motor skills as the basic of the academic readiness and performance, for example the good eye-hand coordination for the good writing ability. In addition, Morales, et.al (2011) also state that the performance of perceptual motor is closely related to the academic achievement. They highlight that the children who are good in the perceptual motor skills are also good in their cognitive aspects. Therefore, it is assumed that every response yielded by the interaction with the environment produces the response of the motor perception. Although there are some responses which are more complex, basically, perceptual motor skills are the performances which involve the ability to interpret the whole information (visual, kinesthetic, audio, and tactile) which is transferred to the central nervous system. In line with this, perceptual motor skills are believed as the ability produced by the interaction with the environment which involves the process of observation and mobility. It is identified as a term used to correlate between cognitive functions and motor skills on the children. The concept of perceptual motor skills deals with the process of capturing information from the environment to produce the motor behavior. Perceptual motor skills can influence other skills in life such as cognitive

functions, academic skills, social and emotional development, and self-concept.

Perceptual motor skills are constructed by the movement components consisting of (1) body awareness, (2) spatial awareness, (3) qualities of movement, (4) directional awareness, (5) temporal awareness, and (6) relationships. Based on the previous research, developing the perceptual motor for children was fundamental to supporting the children's academic skills (Nourbakhsh, 2006). To develop the perceptual motor skills and physical fitness, it can be done by doing the physical activities. One of the physical activities, generally in Physical Education, Health, and Sports and specifically in elementary school is playing the traditional games. The traditional games are the local and regional games which have unique names and ways of playing in each region. There are some examples of traditional games such as *Bentengan*, *Gobak Sodor*, *Balap Karung*, *Lompat Tali*, *Kasti*, and so forth.

## 2 RESEARCH METHODOLOGY

The design of the research was pre-experimental research. It used one group pretest and posttest design. The subjects of the research were 30 elementary students. The traditional games played were *Hadang*, *Benteng*, *Lari Karung*, *Tujon*, *Nini Thowok*, and *Gateng*. The traditional games were played three times a week for 8 weeks. Each meeting lasted for 60 minutes. In collecting the data, the perceptual motor test by Rachman (2004) was used as the instrument. The speed was measured by doing 40-meters run; power was measured by doing standing board jump; and agility was measured by doing 4x10 shuttle run (Nurhasan, 2004). The data were analyzed by administering a t-test by comparing mean scores in the pretest and the posttest.

## 3 RESULT

Table 1 shows the descriptive statistic of the raw data of the perceptual motor components and skill-related physical fitness development in the pretest and posttest.

Table 2 shows the value of sig.  $0,000 > 0,05$ . Therefore, it could be concluded that there was no significance influence of traditional games on the perceptual motor skills.

Table 1: Descriptive statistic of the perceptual motor components and skill-related physical fitness development.

Components	n	Pretest		Posttest		Improvement
		M	SD	M	SD	
Perceptual Motor Skills	30	18,90	1,47	23,70	1,32	25,40
Speed	30	8,86	0,68	8,16	0,54	7,81
Agility	30	13,46	0,68	12,67	0,52	5,78
Power	30	1,33	0,15	1,44	0,12	8,14

Table 2. t-Test of perceptual motor components.

Z	-4.813 <sup>b</sup>
Asymp. Sig. (2-tailed)	.000

Table 3: t-Test of speed.

Paired Differences					t	df	Sig.
Mean	SD	Std. Error Mean	95 % Confidence Interval of the Difference				
			Lower	Upper			
.6916	.2987	.0545	.5801	.8032	12.67	29	.000

Table 3 shows the sig. value  $0,000 < 0,05$ . In conclusion, there was significance influence of traditional games on speed.

Table 4: T-Test of agility.

Paired Differences					t	df	Sig.
Mean	SD	Std. Error Mean	95 % Confidence Interval of the Difference				
			Lower	Upper			
.7900	.4047	.0739	.6388	.9411	10.669	29	.000

Table 4 shows the sig. value  $0,000 < 0,05$ . In conclusion, there was significance influence of traditional games on agility.

Table 5: T-Test of power.

Paired Differences					t	df	Sig.
Mean	SD	Std. Error Mean	95 % Confidence Interval of the Difference				
			Lower	Upper			
7.460	1.436	2622	16.9239	17.9967	66.571	29	.000

Table 5 shows the sig. value  $0,000 < 0,05$ . As a result, there was significance influence of traditional games on power.

## 4 DISCUSSION

The traditional games actually have many advantages for the children. Besides they need low cost, they can promote the physical fitness. The traditional games can help the children train their physic and mental aspects. Misbach (2006) says that the traditional games can stimulate various aspects of children development as follows. (1) Motor aspects by training the endurance power, flexibility, sensory motor, gross motor and fine motor skills. (2) Cognitive aspects by developing the imagination, creativity, problem solving, strategy, anticipative skills, and contextual awareness. (3) Emotional aspects by being the emotional catharsis media. (4) Linguistic aspects in the form of value concept awareness. (5) Social aspects by conditioning the children to have the good relationship, cooperation, maturity, and training them to be socially skilled by role playing with other people. (6) Spiritual aspects, traditional games can bring the children to be aware of relationships with something that is Great (transcendental). (7) Ecological aspects by facilitating the children to understand how to wisely utilize the natural elements and moral values aspects by facilitating the children to fully comprehend the inherited moral values.

In this research, the traditional games played by the students such as *Hadang*, *Benteng*, *Balap/Lari Karung*, *Tujon*, *Nini Towok*, and *Gateng* basically have different movement characteristics as follows (1) the primary characteristic of movements in *Hadang* and *Benteng* is running. These games allow the players to quickly move and change the directions so they cannot be easily caught by the opponents. Based on the movement characteristics, the games can stimulate the students' speed, agility, spatial and directional awareness, (2) *Balap Karung*, *Tujuon*, *Nini Towok* and *Gateng* have the main movement characteristics such as running and jumping. In line with this, the jumping movement can stimulate the students' power.

The students' perceptual motor development therefore can be increased by playing those traditional games as one of the physical activities. According to Rudolph Laban in Rachman (2004), one's perceptual motor skills are built from (1) body awareness, (2) spatial awareness, (3) qualities of movement, and (4) relationships. The body awareness is closely related to how the body move. Spatial awareness deals with

where the body move. Meanwhile, the aspect of qualities of movement is associated with how the body move. In addition, the aspect of relationships is linked to who moves and what are moved by the body.

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## 5 CONCLUSIONS

The results of the research show the traditional games such as *Hadang, Benteng, Balap/Lari Karung, Tujon, Nini Towok, and Gateng* have significance influence on the students' perceptual motor skills and skill-related physical fitness. Based on this research, hopefully the teachers employ the traditional games to improve the students' perceptual motor skills and skill-related physical fitness.

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