

The effect of improving physical fitness through traditional games in elementary schools

Muhammad Surur^{1*}, Ruslan Abdul Gani², Ega Trisna Rahayu³, Resty Gustiawati⁴, Sutirna⁵
^{1,2,3,4,5}Department of master Physical Education, Universitas Singaperbangsa Karawang, INDONESIA


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ABSTRACT

Problems: Is through traditional games can improve physical fitness learning outcomes on PJOK Learning. **Purpose:** To know the improvement of physical fitness learning through traditional games. **Methods:** The research uses experimental methods with a pretest-posttest control group design. The research population was a fifth-grade student in Muaragembong district of Bekasi. The sample was selected using purposive sampling, which means students who have a low level of physical fitness based on the results of the Indonesian physical fitness test. (TKJI). The sample consisted of two groups, the experimental group and the control group, with a total of 15 students each. **Results:** The results of data analysis showed that there were significant differences between the experimental group and the control group on the posttest, with values $t = -4,76$ and $p = 0,000$ ($p < 0,05$). This means that the average level of physical fitness of the experimental group is higher than that of the control group after being treated as a traditional game. **Conclusion:** From the results of this study, it can be concluded that learning PJOK using traditional game methods can improve the learning results of physical fitness.

Keywords: physical fitness, traditional games, learning results, physical education

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Corresponding Author:

Muhammad Surur

Department of master Physical Education, Universitas Singaperbangsa Karawang, INDONESIA.

Email: surur.pjok@gmail.com

Introduction

Physical education is one of the subjects in schools which is a medium for encouraging the development of motor skills, physical abilities, knowledge, sportsmanship, habituation to healthy lifestyles and character formation (mental, emotional, spiritual and social) in order to achieve the goals of the National education system (Irfandi, M. Or Zikrur Rahmat, 2017).

In physical education there is a physical fitness material to increase students' fitness levels. Physical fitness is the body's ability to carry out optimal physical activity without experiencing excessive fatigue (Bile et al., 2021). Physical fitness is very important for a person's health and quality of life, especially for children who are in their growth and development period (Surur & Gustiawati, 2023). Physical fitness can improve children's cognitive, emotional, social and motor functions, as well as prevent various diseases such as obesity, diabetes, heart disease and osteoporosis (Yohanes Febrianto Bagas Wicaksana, 2019).

One way to improve children's physical fitness is through traditional games. Traditional games are games that originate from local culture and are passed down from generation to generation. Traditional games have many benefits, such as increasing creativity, imagination, cooperation, sportsmanship and a sense of nationalism (Rejeki et al., 2020). Traditional games also involve varied physical activities, such as running, jumping, throwing, catching, and so on, which can improve children's physical fitness (Lestari, 2022).

However, traditional games are starting to be forgotten and abandoned by today's children, who are more interested in modern games, such as gadgets, computers and consoles. In fact, modern games tend to be passive and monotonous, which can reduce children's physical fitness (Anwar, 2022). Therefore, efforts need to be made to preserve and develop traditional games as an alternative for improving children's physical fitness (Mahfud & Fahrizqi, 2020).

Literature studies related to physical fitness have been researched by (Aulia et al., 2022) with the research title "The Influence of Traditional Games on the Level of Physical Fitness of Middle School

Students: Literature Review" with the results of their research showing that traditional games have a relationship with the level of physical fitness of students. Other research was also examined by (Darmawan, 2017) with the title of his research "Efforts to Improve Students' Physical Fitness through Physical Education" with the results of his research that through physical education given to students at school, so far it has not had an effect on increasing students' physical fitness.

Research conducted by (Paryanto, Rusadi, Imran, 2012) with the research title "Efforts to Improve Students' Physical Fitness Through Physical Education" results from his research that there is an influence of physical education on students' physical fitness levels. From several previous studies, researchers have differences in previous research in research, namely in the aspects of fun learning and fun in learning physical fitness with traditional games, that with fun learning and fun in learning will maximize performance and achieve increased student fitness. This research aims to determine the effect of increasing physical fitness through traditional games in elementary schools. The hypothesis proposed is that traditional games can improve the physical fitness of children in elementary schools

Method

This research uses an experimental method with a pretest-posttest control group design (Irfan Oktavianus, Ronni Yenes, Fakhrolrozi, Roma Irawan, 2023) . The research population was grading 5 students at SD Negeri Pantai Mekar 01, Muaragembong District, Bekasi Regency. The research sample was selected using a purposive sampling technique, namely students who had a low level of physical fitness based on the results of the Indonesian physical fitness test (TKJI) (Abduh et al., 2020) . The research sample consisted of two groups, namely the experimental group and the control group, with 15 students each.

The experimental group was given treatment in the form of traditional games for 30 minutes twice a week for four weeks. The traditional games used are engklek, hadang or gobak sodor, fort and stilts. The control group was not given any treatment, but continued to carry out routine physical activities at school, such as gymnastics, sports and rest (Sholehatus et al., 2023) .

Before and after treatment, their physical fitness levels were measured for both groups using the TKJI, which consists of five components, namely cardiovascular endurance, muscle endurance, muscle strength, flexibility and body composition (Junaidi, 2017) . The data obtained were analyzed using an independent t test to determine the average difference between the experimental group and the control group, as well as a paired t test to determine the average difference between the pretest and posttest in each group.

Physical fitness components measured according to (Novianti, 2023) is: 400 meter run: measures cardiovascular endurance, namely the ability of the heart and lungs to supply oxygen throughout the body in a unit of time . Sit ups and push-ups: measure muscle endurance, namely the ability of the muscles to contract repeatedly without getting tired with the number of movements. Long jump: measures muscle strength, namely the muscle's ability to produce power in one contraction with 3 jumps. Back and forth running: measures speed, namely the body's ability to move as fast as possible over a certain distance in a unit of time.

Results

physical fitness variable was taken using the TKJI test instrument, which was carried out with 2 tests, namely the test will be taken at the beginning of the research as a pre-test, and the final test as a post-test. Based on the results of the pre-test carried out, the following results were obtained.

Table 1. Average results of TKJI pre-test for group A and group B

No	TKJI	group A	group B
1	400 m run	96	102.5
2	sit ups	19.6	19.5
3	push ups	15.9	14.5
4	long jump	174.1	166.5
5	stuttle run	14.1	15

Furthermore, based on the results of the post-test that was carried out, the following results were obtained.

Table 2. Average results of TKJI post-test for group A and group B

No	TKJI	group A	group B
1	400 m run	91	101
2	sit ups	25	19.5
3	push ups	20	14.5
4	long jump	178.6	169
5	stuttle run	12	14.5

Based on the average results of the TKJI post-test for the experimental group (A) and the control group (B). Following This is a student graph as follows

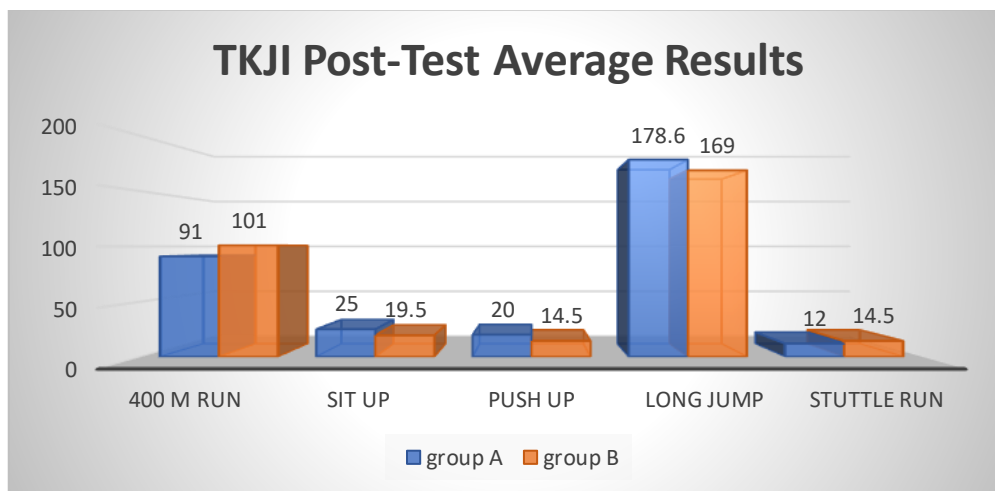


Figure 1. Average results of the TKJI post-test for Group A and Group B

The results of data analysis show that there is a significant difference between the experimental group and the control group in the posttest, with a value of $t = -4.76$ and $p = 0.000$ ($p < 0.05$). This means that the average physical fitness level of the experimental group (A) is higher than the control group (B) after being given treatment in the form of traditional games (Reno, Iyakrus, Meirizal Usra, 2022) .

Apart from that, the results of data analysis also show that there is a significant difference between the pretest and posttest in the experimental group, with a value of $t = -7.32$ and $p = 0.000$ ($p < 0.05$). This means that the average physical fitness level of the experimental group increased after being given treatment in the form of traditional games.

Meanwhile, in the control group, there was no significant difference between the pretest and posttest, with $t = -0.82$ and $p = 0.422$ ($p > 0.05$). This means that the average physical fitness level of the control group did not experience a significant change after not being given any treatment (Sudirman et al., 2021) .

Discussion

Based on the research results, it can be concluded that traditional games can improve the physical fitness of children in elementary schools (Kusnandar et al., 2019) . This is in accordance with the proposed hypothesis and several previous studies which show that traditional games have a positive influence on children's physical fitness (Gustian, 2020) .

One way of creating fun learning can be obtained from traditional games because using a play approach and bringing joy to students can increase student involvement quite significantly, namely learning that integrates game elements into physical activities (Musiandi & Taroreh, 2020) . The play approach can increase students' motivation, creativity, cooperation and sportsmanship, as well as reduce feelings of boredom and boredom and increase student participation in physical education learning. This is in

accordance with previous research studied by (Aulia et al., 2022) . An example of a playing approach is using traditional games, such as engklek, hadang or gobak sodor, fort, and stilts, which involve various physical movements, such as running, jumping, throwing, and catching (Mudzakir, 2020) .

Using a game learning model, namely learning that uses games as a medium to develop physical fitness components, such as strength, speed, endurance, balance and flexibility (Rejeki et al., 2020) . The game learning model can increase students' physical activity, skills and knowledge about games. An example of a game learning model is using ball games combined or with traditional games (Widodo & Lumintuarso, 2017) .

Using an experiential approach, namely learning that provides students with the opportunity to experience and feel for themselves the benefits and impacts of physical activity. An experiential approach can increase students' awareness, attitudes and behavior towards physical fitness (Kusnandar et al., 2019) . An example of an experiential approach is using physical fitness tests, such as running 400 meters, sit ups, push ups, long jumping, and back and forth running, which measure students' physical abilities in various components of physical fitness (Novianti, 2023) .

Traditional games can improve children's physical fitness because they involve varied, intensive and fun physical activity (Suprayitno, 2017) . Varied physical activities can train various components of physical fitness, such as cardiovascular endurance, muscle endurance, muscle strength, flexibility and body composition (Marsuna, 2023) . Intensive physical activity can increase the body's metabolism, calorie burning, and blood oxygenation. Fun physical activity can increase children's motivation, concentration and mood (Siregar, 2018) .

Traditional games also have advantages compared to modern games, such as gadgets, computers and consoles, which tend to be passive and monotonous. Modern games can reduce children's physical fitness because they reduce the time and opportunity to move and interact with the environment. According to (Matur et al., 2021) Modern games can also cause negative impacts, such as vision problems, sleep disorders, concentration problems and addiction.

Apart from that, physical fitness learning must pay attention to the principles of training and the condition of students as a reference in carrying out the learning process for students, so that learning objectives can be achieved optimally from the learning process carried out. In line with research (Furnandi et al., 2022) that to experience an increase in students' physical fitness results. However, the most important thing for students when taking part in physical education lessons is that the learning is fun and the children are in a cheerful condition. This is where the role of the physical education teacher really determines whether the learning process will be enjoyable.

So traditional games can be an alternative to improve the physical fitness of children in elementary schools. Traditional games can be integrated with the physical education curriculum, sports and health, and carried out routinely and regularly (Nopiyanto & Raibowo, 2019) . According to (Olive, 2018) Traditional games can also be developed and modified according to children's conditions and needs, as well as involving parents and the community as companions and reinforcers.

Conclusion

This research succeeded in proving that traditional games can improve the physical fitness of children in elementary schools. Traditional games have many benefits, such as increasing creativity, imagination, cooperation, sportsmanship and a sense of nationalism, as well as preventing various diseases. Traditional games can also be an alternative to preserve and develop local culture, as well as overcome the negative impacts of modern games. Therefore, traditional games need to be preserved and developed as an effective and enjoyable learning medium. Teachers can use traditional games as an effective and enjoyable physical fitness learning medium and physical education teachers can choose traditional games that suit learning objectives, student conditions and available facilities. Teachers can also develop and modify traditional games according to learning needs and situations. From the results of this research, it is hoped that further research can be continued with appropriate learning models related to guidelines for implementing physical fitness programs for elementary school students.

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