



TRADITIONAL SPORT MODEL TO IMPROVE FUNDAMENTAL MOVEMENT SKILLS AND SOCIAL ATTITUDES OF STUDENTS DURING COVID-19

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Abstract

The study purpose. COVID-19 caused many negative impacts, including a significant decrease in the fundamental movement skills and social attitudes among students, which becomes the main problem in this study. Therefore, this study aims to investigate the effect of traditional sport on improving students' fundamental movement skills and social attitudes.

Materials and methods. This study adopted an experimental method with a pretest-posttest design. The subjects were elementary school students in Yogyakarta city and they were selected using random sampling ($n = 30$). The traditional sports program was carried out for 7 weeks with once-a-week meetings. The instrument for assessing students' fundamental movement skills was using a gross motor development test and social attitudes were assessed using the questionnaire of Physical Education Activity Attitude. Shapiro-Wilk was used to test the normality of the data, while the Paired Sample t-test was used to assess differences in the values of students' fundamental movement skills and social attitudes before and after the program.

Results. The results of this study indicate that traditional sports have a significant effect on improving fundamental movement skills ($p < 0.05$) and social attitudes ($p < 0.05$).

Conclusions. Thus, traditional sports programs can be used as an alternative activity that can be used by physical education teachers during the COVID-19 crisis.

Keywords: traditional sports, fundamental movement skills, social attitudes, experimental method.

Introduction

The COVID-19 pandemic has caused all sectors including education, industry, offices, medical as well as physical and exercises activities meet obstacles and cannot run normally throughout the world (Taufik, Solahuddin, Pratama, Iskandar & Ridlo, 2021; Alhazmi et al., 2020). In addition, the COVID-19 pandemic had a negative impact on children in elementary schools, namely by reducing fundamental movement skills (FMS). FMS is the ability to perform three basic movement skills such as locomotor skills, sta-

bility skills, and manipulative/object control skills (Engel, Broderick, Broderick, Hardy & Parmenter, 2018; Platvoet et al., 2018; Behan, Belton, Peers, O'Connor & O'Connor, 2019). FMS is an important factor that causes students to be able to perform physical movements in physical education classes (Eddy et al., 2021; Basman, 2019; Lawson, Eyre, Talis & Duncan, 2021), and various kinds of physical activities (Haegele, Brian & Brian, 2015). There were some data reported that the FMS aspect of students during the pandemic has decreased significantly (Bai et al., 2020; Nurulfa et al., 2021). Several factors causing a significant decline in FMS during the COVID-19 pandemic crisis are including staying at home, closures, isolation/lockdown, and social distancing (Pombo, Luz, de Sá, Rodrigues & Cordovil, 2021). Many experts and international health organizations in several countries highlight that isolation/lockdown was able to re-

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duce the transmission rate of COVID-19, but it has a negative impact on reducing FMS levels (Nurulfa et al., 2021). Therefore, developing FMS in primary school students is an extremely important goal and a priority during the current pandemic (Logan et al., 2015; Foulkes et al., 2017). In addition, the impact of COVID-19 has attacked psychological aspects in a person (Ai, Yang, Lin & Wan, 2021). For example, lack of social attitudes among students (Buzzi et al., 2020). A social attitude is a person's behavior to socialize or interact with other people (Krings, Steeden, Abrams & Hogg, 2021). Students who have a social attitude will be able to establish a harmonious relationship when working together in the learning process (Baker et al., 2021). A recent study reported that COVID-19 has attacked the health aspects of students in Saudi Arabia and another negative impact is a disruption in social attitudes, for example, students cannot conduct group discussions to complete the assignments, cannot interact intensely with relatively large numbers of students (Elmer, Mephram & Stadtfeld, 2020; Alghamdi, 2021). Considering the importance of physical activity and social attitudes for students in the current era of the COVID-19 pandemic, it is needed to improve these two aspects.

One method that is used to increase the level of FMS and social attitudes of students is through traditional sport. Traditional sport is a game activity that is passed down from one generation to the next generation that is available in a country (Martínez-Santos, Founaud, Aracama & Oiarbide, 2020; Saputra, Hanif, Sulaiman & Ningrum, 2021). According to Maryuni and Nasrulloh, (2022), traditional sports involve physical activity and the movement of running and throwing an object, which causes children until teenagers to like to play this game. Several previous studies claimed that traditional sports could improve physical fitness (Birri, Hariyanto & Tuasikal, 2020). Research on traditional sports has been reported internationally by previous studies (Gipit, Abdullah, Musa, Kosni & Maliki, 2017; Trajkovik, Malinovski, Malinovski & Vasileva, 2018; Bhinder et al., 2021). However, according to our knowledge, there is limited literature that discussed the effects of traditional sports on increasing students' FMS and social attitudes during the COVID-19 crisis. This research has the implication to provide benefits for students' FMS and social development, as well as becoming important information for teachers to improve both aspects. Therefore, our study aims to investigate the effects of traditional sport on increasing students' FMS and social attitudes during the COVID-19 period. We hypothesized that: traditional sports programs have a significant effect on improving students' FMS and social attitudes.

Materials and Methods

Study participants

This study adopted a pre-experimental method with One Group Pretest-Posttest Design (Fraenkel & Wallen, 2012). There were 30 subjects came from 3 elementary schools located in Yogyakarta city (Indonesia) and they were selected using a random sampling technique. Before the research was carried out, all subjects were given an explanation regarding the rules in this research and they were asked to sign a statement letter that describe their willingness to participate in all activities in this research. The detail on the characteristics of the subject is presented in Table 1.

Table 1. Subject Characteristics

Explanation	Frequency	%
Gender		
Male	15	50
Female	15	50
Age		
11 years	7	23
12 years	10	33
13 years	13	43
Weight		
35 kg	5	17
36 kg	15	50
37 kg	10	33
High		
135 cm	6	20
136 cm	16	53
137 cm	8	27
Class		
5	9	30
6	21	70
School		
Elementary School 1	10	33
Elementary School 2	10	33
Elementary School 3	10	33

Instrument

Fundamental movement skills. The instrument for assessing FMS among students was the Test Gross Motor Development (TGMD-2) second edition created by Ulrick in 2000 (Cohen, Morgan, Plotnikoff, Callister & Lubans, 2014). The FMS test consists of a locomotor movement test and an object control test (De Meester et al., 2016; Ryu, Lee, Liu, McDonough & Gao, 2021). Each FMS in TGMD-2 is accompanied by performance criteria. For example, in locomotor motion the criteria was: running, leap, jumping, horizontal jump was carried out correctly according to the assessment norm, then subject would get a score of 1 to 4 and if the activity did not match the assessment norm the subject would obtain a value of 0. Meanwhile, for object control, there were three performance criteria for catching movement: a.) the preparatory phase in which the hands are in front of the body and the elbows are bent, b) the arms are outstretched while reaching for the ball as the ball enters, and, c) the ball is caught with the hands only. Each student tried twice for each movement skill and was assessed on the performance criteria (Vernadakis, Papastergiou, Zetou & Antoniou, 2015). The total score of children (the sum of individual scores) was calculated. This instrument has a Cronbach Alpha reliability coefficient of 0.90, and a validity coefficient scale of 0.87 in this study.

Social Attitude. Instruments for assessing students' social attitudes was a questionnaire of Physical Education Activity Attitude with a Likert scale from score 1 = strongly agree to 5 = strongly disagree (Zeng, Hipscher & Leung, 2011). The questionnaire consists of 27 items questions. This instrument has a Cronbach Alpha reliability coefficient of 0.92, and a validity coefficient scale of 0.93.

Table 2. Traditional Sport Program

Meeting	Types of game	How to play	Repetition/Rest
Week 1-3	Benteng Bate	This sport is played by 4-6 people. Players are divided into two groups, where the first group is tasked with throwing the ball so that it hits the arranged ceramic shards and the second group is tasked with guarding. If the arranged ceramic shards can be knocked down by the ball, then the throwing group must run to find a hiding place and the watch group must catch the throwing group.	This sport is done for 4 repetitions and each repetition is done with a duration of 5 minutes. In addition, each repetition of students are given a rest for 5 minutes.
Week 4-7	Ketik Kuda	This sport is played by 5-10 people. Players are divided into two groups, where the first group is tasked with keeping the ball in the circle from being taken. While the second group (thief) tries to steal the ball contained in the circle.	This sport is done for 4 repetitions and each repetition is done with a duration of 5 minutes. In addition, each repetition of students are given a rest for 5 minutes.

Study organization

This research was conducted from January to February 2022 at Yogyakarta State University for 7 weeks with three times meetings in a week, namely Tuesday, Wednesday and Saturday. This research has been approved by the ethics committee of Yogyakarta State University (N0:458/UNY/2022). In addition, this research has followed the guidelines of the Declaration of Helsinki for research with human objects. On the first day, 30 subjects carried out the initial test, namely

the FMS test and filling out a social attitude questionnaire from 0.08 to 10.00 in the morning. On the second day all subjects received treatment, namely traditional sport for 40 minutes. This treatment was carried out for 13 meetings and in the last meeting, all subjects carried out the FMS test and filled out social attitude questionnaires. The traditional sport programs are presented in Table 2.

Statistical analysis

All data was analyzed using the IBM SPSS version 25.0 to test descriptive statistics presented in the form of $M \pm SD$ and data normality (Shapiro-Wilk). Meanwhile, Paired sample t-test was used to observe the improvement of students' FMS and social attitudes before and after the intervention of traditional sport programs. The level of significance was 0.05.

Table 3. Descriptive statistics (n = 30)

Variable	Pre-Test		Post-Test	
	Male	Female	Male	Female
	M(SD)	M(SD)	M(SD)	M(SD)
FMS (Locomotor)	2.33(.488)	1.93(.458)	3.93(.258)	4.00(.000)
FMS (Object Control)	2.13(.640)	1.60(.507)	3.93(.258)	3.87(.352)
SA	2.67(.617)	3.07(.884)	4.47(.516)	4.60(.507)

Note: M = Mean; SD = Standard deviation; FMS = Fundamental movement skills; SA = Social Attitude

Results

The normality test of data in this study showed normally distributed ($p = 0.144 > 0.05$). Meanwhile, Table 3 shows

Table 4. Paired t-test analyses of pretest and posttest scores of FMS and Social Attitude grade 5 students (n = 9)

Variable	Pretest-Posttest			Pretest-Posttest		
	Male			Female		
	M(SD)	t	p-value	M(SD)	t	p-value
FMS (Locomotor)	2.11(.782)	8.102	0.000	2.56(.527)	14.54	0.000
FMS (Object Control)	1.33(.500)	8.000	0.000	1.88(.601)	9.430	0.000
SA	1.11(.333)	10.000	0.000	1.33(.333)	4.000	0.004

Note: M = Mean; SD = Standard deviation; FMS = Fundamental movement skills; SA = Social Attitude

Table 5. Paired t-test analyses of pretest and posttest scores of FMS and Social Attitude grade 6 students (n = 21)

Variable	Pretest-Posttest			Pretest-Posttest		
	Male			Female		
	M(SD)	t	p-value	M(SD)	t	p-value
FMS (Locomotor)	1.33(.483)	12.649	0.000	1.42(.507)	12.910	0.000
FMS (Object Control)	1.28(.463)	12.728	0.000	1.23(.539)	10.527	0.000
SA	1.19(.512)	10.66	0.000	1.42(.811)	8.076	0.000

that traditional sport programs have a significant effect on increasing FMS ($p < 0.05$) and social attitudes ($p < 0.05$).

Discussion

Our study aims to investigate the effect of a traditional sport program for 7 weeks during the COVID-19 pandemic as an effort to improve students' FMS and social attitudes. Our hypothesis proves that traditional sports programs has a positive effect on improving FMS and social attitudes abilities among students. Traditional sport are basically motion activities in the form of fun games, which encourage students actively move and have much more movement experience (Suherman et al., 2019). According to Lestari and Ratnaningsih (2016), if exercises activities has abundant motion experience, they will certainly have an optimal impact on the development of FMS among students. The results of this study are in line with previous research which explains that traditional sport are learning programs that have many traditional games, such as "Banteng Bate" and "Ketik Kuda", thus providing an effective impact on increasing students' basic movement level (Fatoni et al., 2015; Suherman et al., 2019; Saputra et al., 2021). In fact, a study confirmed that traditional sport programs are more effective than daily activities for developing FMS (Akbari et al., 2009). However, other studies have shown different results, namely not all traditional sport can be used as pedagogical tools to improve students' movement skills, so they need to be adapted to the characteristics of students (Suherman et al., 2019). Considering the diversity of types and differences among traditional sport towards the development of students' basic movement skills.

The second finding in our study showed that traditional sport have a positive impact on improving students' social attitudes. According to previous study reports, traditional sport not only have significant capability to develop students' movement skills but can also be used to develop social skills, because it has the values of discipline, responsibility, exercises, honesty, tenacity, patience (Dewi & Verawati, 2021). Moreover, this exercise can train teamwork and build a friendly, caring, and patient character. Traditional sports provide a valuable experience for students to interact with each other, show each other care, cooperate and motivate each player. This kind of social interaction is expected in every game and sport that will be carried out, children will become more communicative and care about others and have high motivation in achieving goals (Irmansyah, Lumintuarso, Sugiyanto & Sukoco 2020). According to the findings in previous studies, it was explained that traditional sport has an extraordinary culture and value for developing students' abilities, including skills, manners, activity, creativity, and practice, and a means to develop students' abilities (Widodo & Lumintuarso, 2017; Veldman et al., 2018). This study supports previous studies that reported the same result, namely that traditional sports were effective in improving social aspects in students (Nugraha, Handoyo & Sulistyorini, 2018; Nur, Ma'mun & Fitri, 2020; Irmansyah, Lumintuarso, Sugiyanto & Sukoco 2020).

Conclusions

This study confirms that the traditional sport program which was carried out for 7 weeks had a significant effect on

improving students' FMS and social attitudes. This research has implications as a way for students to continue to use this traditional sport in the long term during the COVID-19 pandemic to gradually improve FMS and social attitudes. In addition, the results of this study serve as literature to provide important information for lecturers, teachers about the benefits resulting from traditional sports.

Similar to other studies, this study also has limitations in terms of the small number of research subjects, so it is recommended for further research to use a large number of research subjects from several elementary schools in Indonesia. In addition, future research is expected to try to analyze the effects of traditional sports with other types (e.g., sondah, engrang, gatrik, boy-boyan, gobak sodor, bakiak, balap karung, tarik tambang dan galah asin) originating from other areas in Indonesia

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Conflict of interest

All researchers declare that there is no conflict of interest in this research.

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МОДЕЛЬ НАЦІОНАЛЬНИХ ВИДІВ СПОРТУ ДЛЯ ПОКРАЩЕННЯ ОСНОВНИХ РУХОВИХ НАВИЧОК І СОЦІАЛЬНИХ УСТАНОВОК В УЧНІВ ПІД ЧАС ПАДЕМІЇ COVID-19

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Авторський вклад: А – дизайн дослідження; В – збір даних; С – статаналіз; D – підготовка рукопису; E – збір коштів

Реферат. Стаття: 6 с., 5 табл., 34 джерела.

Мета дослідження. Пандемія COVID-19 спричинила багато негативних наслідків, включаючи суттєве зниження рівня розвитку основних рухових навичок і соціальних установок в учнів, що стає основною проблемою цього дослідження. Отже це дослідження має на меті вивчення впливу національних видів спорту на покращення основних рухових навичок і соціальних установок.

Матеріали та методи. У цьому дослідженні використовували експериментальний метод із планом дворазового попереднього та підсумкового тестування. Учасниками дослідження були учні початкових класів у місті Джок'якарта (Індонезія), і вони були відібрані методом випадкової вибірки (n = 30). Програму національних видів спорту проводили

протягом 7 тижнів зі зборами раз на тиждень. Як засіб оцінювання рівня розвитку основних рухових навичок учнів використовували тест на розвиток великої моторики, а соціальні установки оцінювали за допомогою анкети «Ставлення до фізично-виховної діяльності». Для перевірки нормальності розподілу цих даних використовували критерій Шапіро-Вілка, а для оцінки відмінностей між значеннями рівня розвитку основних рухових навичок і соціальних установок учнів до та після виконання програми використовували t-критерій Стюдента для парних вибірок.

Результати. Результати цього дослідження показують, що національні види спорту значно сприяють покращенню основних рухових навичок ($p < 0,05$) і соціальних установок ($p < 0,05$).

Висновки. Таким чином, програми національних видів спорту можна використовувати як альтернативну фізичну активність, яку вчителі фізичного виховання можуть використовувати під час кризового періоду пандемії COVID-19.

Ключові слова: національні види спорту, основні рухові навички, соціальні установки, експериментальний метод.

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