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THE EFFECT OF OUTDOOR EDUCATION GAMES WITH MOTIVATION LEVEL ON STUDENT'S PHYSICAL FITNESS

Ally Selamet Murdiono[1], Yudha Munajat Saputra[2], Indra Safari[3]

[1]Physical Education, Universitas Pendidikan Indonesia, Jl. Mayor Abdurahman No.211, Kec. Sumedang Utara, Kabupaten Sumedang, Jawa Barat 45322, Indonesia

Correspondiing author. Email **:** ally.selamet20@gmail.com

Abstract This study aims to determine whether outdoor education games have an effect on increasing students' fitness with motivation. The research method used is an experimental method with 2x2 factorial, this research was conducted at SDN 2 Jatimunggul, Terisi District, Indramayu Regency with the samples collected were students of class V and VI SDN 2 Jatimunggul. The data analysis used in this research is the two way ANOVA test and the Tukey test with the help of the SPSS application. The results of this study are outdoor education games have an effect on increasing students' physical fitness, there is an interaction between outdoor education games and the level of motivation on students' physical fitness, fortified outdoor education games are better used than moving bomb games to increase physical fitness in the high motivation group, while in In the low motivation group, there was no significant difference between the two outdoor education games on increasing students' physical fitness.

Keywords: outdoor education, motivation, physical fitness

INTRODUCTION

Education in general has a meaning as a life process in developing each individual to be able to live and carry out daily life (Prastyo Kurniawan, 2017). With education itself, self can be developed for the daily life of each individual. The development of a person's self will make the level and position of the individual increase. And also, with education, humans have the opportunity to develop their potential. According to the Law of the Republic of Indonesia No. 20 of 2003 concerning the National Education System in Article 1, which explains that: "Education is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential to have religious spiritual strength, self-control, personality, intelligence, noble character, as well as the skills needed by himself, society, nation and state. Thus, an education is an effort to raise the standard of human life to be developed in terms of spiritual religion, self-control, personality, intelligence and others in an effort to live in society.

According to Sriundy (in Prayogi (2014), in the teaching and learning process (PBM) subjects of physical education, sports and health, there are 7 basic components of teaching, namely: (1) Games and sports, (2) development activities, (3) Gymnastics, (4) Rhythmic Activities, (5) Aquatic Activities, (6) Outdoor Activities, (7) Healthy living culture. From the seven basic components, it is expected that teachers can maximize and develop these teaching materials so that they can be conveyed and absorbed well by students. Outdoor education is learning that contains a lot of games containing elements of adventure that trigger students' adrenaline during its implementation (Taufik, 2017).

According to Mahendra (2004), physical education is an educational process through selected physical activities, games or sports to achieve educational goals. In simple terms, according to Rusli Lutan (in Widiyatmoko and Hudah (2017), physical education can be defined as an educational effort or socialization process through physical activity, play and or sports to achieve comprehensive educational goals. Through physical education children will get various expressions that are closely related to related to pleasant personal impressions as well as creative, innovative, skilled

expressions, having physical fitness, healthy living habits and having knowledge and understanding of children's movements (Triana, Safari, & Akin, 2018)

METODHS

The research method used in this study is an experimental method with a 2 x 2 factorial design. The factorial design expands the number of relationships that can be examined in experimental research. The 2x2 factorial is basically a modification of the posttest-only control group or pretest-posttest control group design. A variation of this design uses two or more different treatment groups and no control group (Fraenkel, Wallen, & Hyun, 2013). This research method has also been used by some researchers such as in research (Safari & Saptani, 2019) who use the 2x2 method. The sample used in this study was the fifth and sixth grade students of SDN Jatimunggul, Indramayu using the Random Assignment sampling technique.

RESULT AND DISCUSSION

Hypothesis testing in this study was carried out using a two-way ANOVA variance test assisted by SPSS v.16 software. This two-way ANOVA analysis of variance aims to determine the effect of outdoor education games with the level of motivation on students' physical fitness. The following are the results of testing data hypothesis.

Table 1 Two Way Anova

Tests of Between-Subjects Effects

Dependent Variable: Kebugaran Jasmani Siswa

Source	Type III Sum of Squares	df	Mean Square		Sig.
Corrected Model	7.365[a]		2.455	5.092	.006
Motivasi * Outdooreducation	2.767		2.767	5.739	.024

a. R Squared = ,353 (Adjusted R Squared = ,284)

Based on the results of the two-way ANOVA test in table 1 regarding the difference in the effect of outdoor education games on students' physical fitness, it shows that the value of Sig is 0.006 < 0.05. This means that H0 is rejected and H1 is accepted, so there is a difference in the effect of outdoor education games on students' physical fitness.

Regarding the interaction between outdoor education games and the level of motivation on students' physical fitness, it shows that the value of Sig is 0.024 < 0.05. This means that H0 is rejected and H1 is accepted, so it

can be stated that there is an interaction between outdoor education games and the level of motivation on students' physical fitness. The results of this study are in accordance with the research questions and hypotheses.

There is an interaction between ourdoor education games and the level of motivation on students' physical fitness, further testing must be carried out, further testing is carried out aimed at knowing the difference in the mean score of the dependent variable between the two data/sample groups. Further tests can be carried out using the Tukey test, the data from the Tukey test can be seen in Table 2

Table 2. Tukey A1BI*A2B1

Pairwise Comparisons				
Dependent Variable: Kebugaran Jasmani Siswa				
Motivation Rate	(I) Outdoor Education Game	Mean Difference (I-J)	Std. Error	Sig.[b]
Igh	Bebentengan	-1.244*	347	.001
	Bomb transfer	1.244*	347	.001
Based on estimated marginal means				
*. The mean difference is significant at the ,050 level.				
b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).				

Information :

Group A1B1 : Outdoor Education Bebentengan Group with High Motivation (B1)

A2B1 Group: Outdoor Education Bomb Moving Group with High Motivation (B1)

Based on the data in Table 2, the sig value of 0.001 <0.05 means that there is a difference in the effect of ourdoor education games on the physical fitness of students in the high group. When viewed from the group average, the fortification group with a high level of motivation had an average score of 0.524, while the bomb transfer group with a high level of coordination had an average score of 1.768. So it can be concluded that moving to an outdoor education bomb is more influential than being fortified in the high motivation group.

Table 3 Tukey A1B2*A2B2

Pairwise Comparisons				
Dependent Variable: Kebugaran Jasmani Siswa				
Motivation Rate	(I) Outdoor Education Game	Mean Difference (I-J)	Std. Error	Sig.[b]
Rendah	Bebentengan	-.067	347	.847
	Bomb transfer	.067	347	.847
Based on estimated marginal means				
*. The mean difference is significant at the ,050 level.				
b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).				

From the results of the Tukey test calculation in Table 3, it can be seen that the sig value of 0.847 > 0.05 means that there is no difference in the effect of outdoor education games on physical fitness in the low motivation group. So that fortification games and moving bombs in outdoor education have a comparable effect on the physical fitness of students in the low motivation group.

The Institutes of Medicine recommends that children get 30 minutes of moderate-to-vigorous physical activity (MVPA) and have the opportunity to be physically active for 60 minutes while at school (Koplan, Liverman, & Kraak, 2015). If the amount of physical activity is higher during the school day, it will not only help children achieve the daily recommendation of 60 minutes MVPA but can reduce the incidence of obesity (Alexander, Fusco, & Frohlich, 2015). Schools in the United States provide an ideal environment for students to be physically active and prevent obesity (Howe, Freedson, Alhassan, Feldman, & Osganian, 2012). School is where children spend most of their time outside the home (SHAPE America, 2013). Physical education classes are the optimal setting to increase physical activity opportunities during the school day. Several sources indicate that when high-quality physical education programs are implemented, students can learn the skills, confidence, and knowledge to be physically active during school, outside of school, and throughout their lives (Sallis et.al 2012 ; USDHHS, 2010) Based on this opinion, it can be concluded that schools must be able to provide adequate facilities for student movement, besides that physical education has an important role to make students physically active so that students will have good physical fitness.

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Outdoors provide a great opportunity for school-age children to participate in physical activity. Evidence suggests that children who are physically active outdoors have a lower risk of chronic (William B. Strong et al., 2005). Unfortunately, children are given fewer opportunities to play outdoors, in their homes, schools, and local

communities (Hofferth, 2008; Little & Wyver, 2008). In addition to providing opportunities for physical activity, outdoor education activities can also serve as a means to expand knowledge of academic subject matter. Educational initiatives characterized by environment-based education have shown promise for improving students' academic achievement (Office for Standards in Education, 2013). Outdoors can provide children with opportunities to strengthen, apply and enrich skills learned in traditional classrooms (Stone, 2009).

One of the outdoor education games is a fortress game, a fortress game is one of the traditional forms of play that has the character of the element of running and chasing to be able to master the opponent's cage or so as not to be captured by the opponent. Based on observations made when students perform fortification games, the physical components needed in the game of fortification include aerobic and anaerobic endurance, leg muscle endurance, sprint speed, reaction speed, and agility (Safari, 2010). Outdoor education is one of the materials in physical education in elementary schools, physical education is able to improve students' physical fitness. Many studies that have been carried out related to physical activity such as that conducted by (Kirkham-King et al., 2017) provide a clear picture of how much physical activity students receive in basic physical education classes and provide evidence that contextual factors different levels during physical education manifest different levels of physical activity. Data were collected over 12 weeks and the large sample size (281 participants) helped provide strong evidence of internal validity. It was found that small class sizes (<25 students) during fitness lessons achieved the most physical activity. (Scruggs, 2007, 2013) These and other studies suggest that a 33% MVPA may be a more realistic goal for basic physical education. Furthermore, research conducted by (Marmeleira, Aldeias, & Medeira da Graça, 2012) stated that those who were physically active outdoors collected significantly more MVPA minutes than those who only did physical activity indoors. In addition, the results of the study (Mulya & Lengkana, 2020) there is a relationship and has a big influence between confidence, motivation to learn

on the learning achievement of elementary school students.

The findings of this study are that the hypothesis test shows that outdoor education games have an effect on increasing physical fitness, there is an interaction between outdoor education games and the level of motivation to increase physical fitness, there is a significant difference in influence between outdoor education games fortified with outdoor education games moving bombs on physical fitness in high motivation group, outdoor education game fortification and outdoor education game moving bomb have a comparable effect on increasing students' physical fitness in the low motivation group.

CONCLUSION

The results of calculations that have been carried out show the results of research that outdoor education games have a significant effect on increasing students' physical fitness, besides that outdoor education games and motivation levels have an interaction on increasing students' physical fitness. The results of the study are slightly different from the research hypotheses in the third and fourth hypothesis tests where the third hypothesis for the calculation results shows that there is a difference in the effect of outdoor education games on physical fitness in the low motivation group. Moving bombs to outdoor education has a more significant effect than fortified outdoor education to improve students' physical fitness in the high motivation group. While the fourth hypothesis shows that there is no difference in the effect of outdoor education games on students' physical fitness in the low motivation group

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