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## The Effect of Bocce Games on the Physical Fitness of Children with Grahita SLB AL-GIFARI During the Covid-19 Pandemic

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### Abstract

In this research, the problem is mentally retarded children do not have good physical fitness. So it is necessary to find a bocce game model to measure children's physical fitness this study aims to measure the effect of playing bocce on the physical fitness of mentally retarded children in the Al-Gifari SLB School Bima City. This research method is quasi-experimental. Research design using One Group Pretest-Posttest Design. The research population is mentally retarded children age 13-15 years at the Al-Gifari SLB School, Bima City. The research sample is 6 male students and 4 female students. The test uses the Indonesia physical fitness test (normal TKJI), for ages 13-15 using the 100 meter run test, hanging your elbows, flying, down for 30 second, jumping straight up. And running 30 meters. The purpose of the test is to measure students' physical fitness. The data analysis technique uses the t test through the normality requirements test. The results showed that there was an effect of playing bocce on fitness. The results of data analysis to answer the proposed research hypothesis obtained a t-count value of 6.573 with a significant 0.05% with d.f= 8 and a null hypothesis in the t-value table of 2.306. thus, the null hypothesis is rejected and the alternative "there is an effect of playing bocce on the level of physical fitness of mentally retarded children at SLB Al-Gifari Bima City" Accepted.

**Keywords:** Game Bocce, Physical Fitness

### INTRODUCTION

Sports and Health Physical Education has become an integral part of education as a whole, aims to develop aspects of physical fitness, movement skills, critical thinking skills, social skills, reasoning, emotional stability, moral action, aspects of a healthy lifestyle, and recognition of a clean environment through activities physical education which is planned systematically in order to achieve national education goals. Irfan (2018) physical fitness is the body's ability to make adjustments to physical formation without causing excessive fatigue. The level of physical fitness possessed can be seen from the physical abilities during exercise. The development of the level of physical fitness is greatly influenced by the rapid progress of science and technology, the benefits for life are becoming easier, lighter, faster and smoother as a result of science and technology. Ministry of National Education (2010) physical fitness has two components, those related to health and fitness related to skills. Health-related physical fitness includes: 1)

cardiovascular fitness(*cardiovascular*), 2) muscle strength(*strenght fitness*), 3) balancetubuh (*body weight fitness*), 4) flexibility(*fleksibility*). While physical fitness relates to skills including: 1) speed(*speed*), 2) reaction(*reaction*), 3) explosive power(*power*), 4) agile(*agility*), 5) balance(*balance*), 6) coordination(*coordination*).

Not all children are born in perfect condition, it turns out that there are a small number of children who experience abnormalities so that they experience obstacles, both in physical development and in mental development. Such children are classified as extraordinary children. one of them is mentally retarded children who have slow limitations in terms of movement mentally retarded children are defined as children who are weak in brain, weak mind, weak memory, mental retardation, and an IQ below the average of 70. It should be remembered that children with disabilities are also children of the nation who can grow and develop into adults who have high self-confidence in leading and devoting themselves to the nation and state in the future. Education in Indonesia is not only for normal children, but also for children with disabilities or disabilities who are generally said to be extraordinary children.

The results of research by Fadlih & Riyanto (2019) show that the interest of deaf students in Physical Education and Health subjects is in the good category. The motivation of deaf students in mental physical education lessons is in the good category. The combination of deaf interest and motivation for Physical Education subjects is categorized as good. Furthermore Riyanto (2021) learning outcomes possessed by students are determined by internal and external factors. From within the student, that is related to the physical condition of the student himself. The TGFU model does not only develop in the field of psychology, other elements are also influential factors in improving learning outcomes. A learning model is developed that emphasizes games which will improve the ability to communicate with friends in a team. Thus the results of this study provide an important note that learning physical education in schools provides motivation for children in order to improve physical fitness during the Covid-19 pandemic. Through learning physical fitness sports can also be applied to the bocce game method which is able to spur children to be able to move with acceleration, speed, agility, strategize, and be able to run quickly, and with such activities it is hoped that the influence of bocce games on the physical fitness of mentally retarded children can improve quite well, so that indirectly the process of playing bocce is able to improve the physical fitness of mentally retarded children aged 13-15 years.

Bocce games can improve physical and cognitive fitness and children's motor skills. Based on the results of observations made at SLB Al-Gifari Kota Bima, it was found that the level of physical fitness of students there was still low, this was proven when the learning and physical education process was taking place, students were still found to be unenthusiastic about doing sports, at SLB Al-Gifari, learning had not been implemented. physical fitness optimally and

effectively, because in addition to dealing with children who have various kinds of disabilities, the sports facilities and infrastructure are still lacking, they quickly feel bored and bored, sometimes they remain silent and don't want to listen to what their teacher instructs because their nature is still like small children, especially children with mental retardation who are sensitive to light and slow in moving and speaking. One of the games that can improve students' physical fitness is through the bocce game, because this game is suitable for people with mental retardation in the SLB (special school) curriculum. Bocce ball is a sport that doesn't really require speed, stamina, or agility, but like a game sport that aims to throw a particular ball, this sport requires physical components such as coordination and to train wrist flexibility and arm swing strength. Syarifudin (2012) flexibility (*fleksibilitas*) is the ability of the body to perform exercises with a large or wide amplitude of movement. Children with mental retardation tend to have joint strength that hinders their will to throw.

The benefits of this bocce game are to stimulate the nerves of the body's motor movements and can train gross motor skills of the hands, eyes, feet, be able to hone concentration and practice socializing and teamwork. Cummiskey (2013:28) the game of bocce was founded by the U.S. bocce federation. However, it has been modified for use in physical education, the equipment used is quite simple, namely eight core balls with a diameter of more than 4 inches which are divided into two different colors and one pallina ball. Pallina ball is smaller and different color than bocce ball and can be played between two players or two teams of up to four players. The object of the bocce game is to roll the bocce ball as close to the pallina ball as possible. Bocce is a game *outdoor* Played with two bocce ball sizes slightly larger than *softball* and pallina balls are slightly smaller than tennis balls after observations were made in the learning field so far the bocce game is less interesting and less optimal, because in learning the physical education teacher conveys the material less varied, less effective, less innovative and pays less attention to children individually. Therefore, to improve children's physical fitness, physical education teachers replace using the bocce game learning method to stimulate the child's brain to think and train how to hold, throw and roll a bocce ball towards the child's pallina ball, thus the hope is that after carrying out sports activities physical fitness several times the level the physical fitness of mentally retarded children is getting better.

The effect of physical fitness is the factors that occur in mentally retarded children who really need activities related to personal and physical health, for example with exercises that can improve movement skills through fundamental basic movements, namely a movement that must be learned in the education of mentally retarded children. Based on the description above, the authors are interested in focusing this study on the effect of playing bocce on the physical fitness of mentally retarded children at SLB Al-Gifari Kota Bima.

## **METHOD**

The method used in this research is quasi-experimental (*like experimental*). In this case what will be researched is improving the physical fitness of mentally retarded children aged 13-15 years, through bocce games. According to (Sugiyono, 2017) the design in this study uses *One Group Pretest-Posttest Design*. This research was conducted at SLB Al-Gifari Kota Bima. The research sample consisted of 6 male students and 4 female students. The research instrument used physical fitness test norms with TKJI norms adapted to mild mentally retarded children.

Novi Setyawan Putra (2014: 26) for children aged 13 to 15 years which consists of 5 test components namely (1) run 50 meters, (2) lift the body/*pull up* 60 seconds for men and hanging elbows for women, (3) lying down/*sit up* 60 seconds, (4) Jumping straight/*vertical jump*, (5) running 1000 meters for men and 800 meters for women. This test is a series of tests, because all test items must be carried out continuously and uninterruptedly and sequentially from the first test, namely the 50 meter run to the last test, namely the 1000/800 meter run. From the TKJI theory above, the TKJI test for mentally retarded children will be modified as follows (1) run 10 meters (2) lift the body 30 seconds /*pull up* 10 times for boys and hanging elbows for girls, (3) lying down/*sit up* 30 seconds, (4) Jump straight/*vertical jump*. (5) dash 30 meters. The instrument used is the Indonesian physical fitness test (TKJI) for children aged 13-15 years (Kemendiknas, 2010). Data analysis techniques before testing the hypothesis, it is necessary to do a prerequisite test. Testing the measurement data related to the research results aims to assist data analysis, so that it becomes better. The normality test is used to analyze whether or not the data being analyzed is normal. Tests are carried out depending on the variables to be analyzed and processed. The normality test uses the Kai Square formula with the SPSS 16 program.

Data is said to be normally distributed if the calculated Kai Square value ( $X^2_{\text{count}}$ ) is smaller than the table Kai Square value ( $X^2_{\text{table}}$ ) at a significance level of  $\alpha=0.05$ . Homogeneity test, besides testing the distribution of values to be analyzed, homogeneity tests are needed to ensure that the groups that make up the sample come from a homogeneous population. Homogeneity test using the F test of the data *pretest-posttest* by using the help of the SPSS 16 program. Testing the hypothesis of data analysis techniques to analyze experimental data with models *pretest-posttest design* is to use the t-test (t-test). According to Arikunto (2003) the test formula-*t model pretest posttest design* is :

$$t = \frac{Md}{\sqrt{\frac{\sum d^2}{N(N-1)}}}$$

$$Md = \frac{\sum D}{N}$$

$$xd = d - Md$$

keterangan :

t= Test

Md= Angka rata-rata

d= Gain

N= jumlah Sampel

$\sum d^2$  = jumlah deviasi dari mean berbeda

## RESULT AND DISCUSSION

### Result

The results of this study will be measured by the normalization test for bocce games to improve physical fitness, to be clearer in the analysis table.

Table 1. Normality Test Using the One-Sample Kolmogorov Simirmoy Test

		<i>Unstandardiz ed Residual</i>
<i>N</i>		10
<i>Normal Parametersa</i>	Mean	.0000000
<i>Std. Deviation</i>		1.86640311
<i>Most Extreme Differences</i>	Absolute	.399
<i>Negative</i>	Positive	.399
<i>Kolmogorov-Smirnov Z</i>		1.262
<i>Asymp. Sig. (2-tailed)</i>		.083

#### a. Test Distribution Normal

Based on the results of the normality test, it is known that the significant value is  $0.083 > 0.05$ , so it can be concluded that this study was declared normal.

Table 2. Homogeneity Test

<i>Levene Statistic</i>	<b>df</b>	<b>df2</b>	<i>Say</i>
	<b>1</b>		.
9.000	1	6	.024

Based on the results of the homogeneity test, it was found that the significant value was  $0.024 > 0.05$ , so it can be concluded that this study was stated to be homogeneous.

#### b. Compile Work Table

Next, create a work table as shown in the following table:

Table 3. Table of Physical Fitness Work

<i>No.</i>	<i>X<sub>1</sub></i>	<i>X<sub>2</sub></i>	<b>D = (X<sub>1</sub>-X<sub>2</sub>)</b>	<b>d = (D-Md)</b>	<i>d<sub>2</sub></i>
<i>Massage</i>					
1	2	3	4	5	6
1	10	15	5	0,3	0,09
2	8	15	7	2,3	5,29
3	6	15	9	4,3	18,49
4	5	10	5	0,3	0,09
5	5	10	5	0,3	0,09

6	10	12	2	-2,7	7,29
7	10	12	2	-2,7	7,29
8	5	10	5	0,3	0,09
9	5	10	5	0,3	0,09
10	10	12	2	-2,7	7,29
<b>Total</b>	<b>74</b>	<b>121</b>	<b>47</b>		<b>46,1</b>

The results of the bocce game research on physical fitness are then carried out by calculating the t value using the t test.

Md

$$\begin{aligned}
 t &= \frac{\sqrt{\sum d^2}}{N(N-1)} \\
 &= \frac{4,7}{\sqrt{\frac{46,1}{10(10-1)}}} \\
 &= \frac{4,7}{\sqrt{\frac{46,1}{10(9)}}} \\
 &= \frac{4,7}{\sqrt{\frac{46,1}{90}}} \\
 &= \frac{4,7}{0,715} = 6,573
 \end{aligned}$$

After getting the t-count value  $df(N-2) = 8$ , the t-count shows the number  $6.573 >$  while in the t-table with the number 2.306, on the basis of a significant level of 5%, it means significant. Judging from the results of this comparison, it can be concluded that the t-count is  $6.573 >$  t-table is 2.306 at the significant level, in other words the end result is very significant at the two significant levels of the test. So there is an effect of physical fitness on mentally retarded children at Al-gifari SLB Kota Bima.

### Discussion

This study aims to determine the increase in physical fitness through a play approach (bocce game) for mentally retarded children at SLB Al-Gifari Kota Bima. The results of the study showed that there was an influence or increase in the physical fitness of mentally retarded students at SLB Al-Gifari Kota Bima. The t-test analysis shows that t count is greater than t table, this indicates that there is a significant difference between the pre-test and the average value is 7.4. And the average value for post-test data is 21. 1 This shows the level of physical fitness of mentally retarded children at AL-GIFARI SLB Bima City after practicing by playing bocce ball there is an increase in children's physical fitness after being given treatment through bocce games during the

covid 19 pandemic. This is relevant to some of Sari's research results (2020) that the level of ability to throw the ball in the bocce game for children with mild mental retardation at the 1 Kulon Progo State Special School for the 2019/2020 Academic Year falls into the very high category of 5% (1 child), high of 25% (5 children), moderate category by 45% (9 children), in the low category by 20% (4 children), and included in the very low category by 5% (1 child). Overall, children with mild mental retardation at the State Special School 1 Kulon Progo have sufficient ability to throw the ball in the bocce game. Research by Cindy (2017) that playing using bocce games has a significant effect on the social skills of mentally retarded children, especially mild mental retardation. This, based on the results of the study before the game using the bocce game was applied, the average value was 79.2 and after the bocce game was applied, the average value was 79.2. In addition, the results also show that  $Z_{count} = 2.20$  is greater than  $Z_{table} = 1.96$  with a crisis value of 5% and  $n = 6$ , meaning  $Z_{count} = 2.20 > Z_{table} 1.96$ . Based on these results it is evident that there is an effect of modified bocce games on social skills in mildly disabled children at SLB Siti Hajar Buduran Sidoarjo. Nurbani (2019) the results of this study include a description of learning showing that students are able to practice throwing and rolling straight ahead, practice showing balance in walking and standing straight, and practice showing the accuracy of throwing the ball close to the target but not yet able to throw and roll, such as going right, slanting right, left and slanting left, walking obliquely right and slanted left, standing on one leg, throwing the ball as close to the target as possible; supporting factors are the availability of tools or media; inhibiting factors come from internal factors, such as disturbed mood and concentration; as well as efforts to overcome obstacles in sports learning about the game of Bocce is to provide learning with techniques, strategies and methods as attractive as possible. Based on this, this study found learning the Bocce game to develop and train Gross Motor Skills which takes into account the abilities, supports and obstacles of students with moderate mental retardation.

This study uses a special game treatment for mentally retarded children, namely the bocce game. This aims to improve the physical fitness of mentally retarded children. Physical fitness is a person's ability to carry out activities efficiently. The treatment through the bocce game is chosen by researchers to increase the level of physical fitness because it is adjusted to the characteristics of mentally retarded children who like to play can actively stimulate children's movements even though mentally retarded children have obstacles and deficiencies without being aware that they are already doing physical activities. With the activities carried out for approximately one month, it turned out that the level of physical fitness of mentally retarded students increased from before. This indicated that the treatment through bocce games was the right effort to improve the physical fitness of mentally retarded children at SLB AL-GIFARI Kota Bima. Research Sood et al (2018). Visual Motor Integration (VMI) is the ability of the eyes and

hands to work together in smooth, efficient patterns. Outcome: Intervention(*Bocce Game*) administered over 20 sessions, each one hour in duration and five days per week. The effect of Bocce games on the development of visual motor integration was examined by finger agility tests. The mean scores of the pre and post visual motor integration tests were 163.87 and 218.75 respectively and the t value was 4.82 at a significance level of 0.01 percent . When compared by gender the mean scores for boys and girls were 62.25 and 41.75 respectively and the t score was 2.86 at the 0.05 percent level of significance. Statistical analysis showed a significant effect of Bocce games on visual motor integration development among the selected subjects. Based on the results of the study it was concluded that there is a significant Bocce effect on the development of visual motor integration among children with intellectual disabilities. A similar study was conducted by Türkmen et al (2018) that Bocce players have an almost average body fat percentage, strength and function isometricsflexibility.

Badruzaman's research (2021) this study investigates the effects of the Bocce game on the development of motor perception abilities and object control in mentally retarded adolescents. That there is a significant effect of Bocce's game on perceptual motor skills and object control in mentally retarded adolescents. The results of the several studies above show that the bocce game has a significant effect on the ability of mentally retarded children, thus the results of this study also show that after being given treatment through the bocce game the level of physical fitness of mentally retarded children has increased significantly from before being given the bocce game treatment, this is a a positive thing for the development of physical education because with the results of this study it is hoped that it can be applied to classroom learning, namely by providing treatment through bocce games that can effectively increase children's physical fitness by increasing the physical fitness of mentally retarded children so that children do not easily feel excessively tired when For this reason, it is hoped that in physical fitness training (to maintain physical fitness) it is enough to play bocce games regularly because bocce games are games specifically designed for mentally retarded children which are easy and can be done anywhere, just in the yard and a large area. Bocce games is also a special game for mentally retarded children and in this game students are divided into two groups.

## **CONCLUSION**

Based on the results of data analysis from the proposed research hypothesis, the calculated "t" value is six point five hundred seventy three with a significant level of zero point zero five percent with d.f = eight, it turns out that the zero hypothesis rejection rate is stated in the table of values The magnitude of "t" is two point three hundred six, then the null hypothesis is rejected and the alternative hypothesis says "there is an effect of playing bocce on the level of physical



fitness of mentally retarded children at SLB AL-Gifari Kota Bima" is accepted. The Bocce game is very well applied to mentally retarded children, this game tries to modify the game-based learning model, but does not eliminate the essence of physical fitness that children get.

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