

Improving Gross Motor Skills Through Play Bangkeng-bangkeng in Early Childhood

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ABSTRACT

The rapid development of technology has led to high levels of gadget use in early childhood. If left uncontrolled, this can negatively impact gross motor development because children lack stimulation through movement activities. Therefore, appropriate and enjoyable stimulation efforts are needed, one of which is through the traditional Bangkeng-bangkeng game, which involves various physical activities. This study aims to determine the increase in gross motor skills after being given the Bangkeng-bangkeng Game to group B children at PAUD SPAS Tamaona, Gowa Regency. This descriptive quantitative study had a sample of 10 children aged 5-6 years. Data collection used observations of children's gross motor skills. Data analysis techniques used descriptive statistics. The results of the study showed a difference in the average gross motor skills of children before and after playing the Bangkeng-bangkeng Game. The average score before (pre-test) was 19.6, and the average score after playing the Bangkeng-bangkeng Game (post-test) was 40.2. This means there was a 20.6 point increase in gross motor skills through the Bangkeng-bangkeng Game at PAUD SPAS Tamaona. These findings imply that educators or parents can stimulate children's gross motor skills using the traditional game Bangkeng-bangkeng.

Keywords: *Gross motor skills, traditional bangkeng-bangkeng game*

1) INTRODUCTION

The rapid development of information technology has led to the widespread use of gadgets by people of all ages, including young children. Intense gadget use can cause various problems, such as damage to children's nervous system and brains if they frequently use gadgets (Yumarni, 2022). Furthermore, it can reduce children's activeness and ability to interact with others. Children become less interactive and prefer to be alone, in their comfort zone with gadgets (Siregar, 2022).

Pebriana (2017) stated that the influence of gadgets negatively impacts children's social interactions. The negative impacts experienced by children include their social interactions with their immediate environment, which can lead to individualistic attitudes and a lack of concern for others, including parents, friends, and others. Furthermore, children are less likely to engage in physical activity, such as gross motor skills. Children who lack gross motor skills experience obesity. Data from

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the 2018 Indonesian Basic Health Research (RISK) showed that problems related to children's gross motor skills, namely obesity, are quite high due to a lack of physical activity (Fauziah et al., 2021). Therefore, parents, caregivers, and educators need to limit the time children spend using gadgets and encourage them to participate in healthy physical and social activities to optimize their gross motor development.

Gross motor skills are fundamental skills that play a crucial role in controlling and coordinating a child's body movements. Activities such as running, jumping, and hopping are part of the natural development process of early childhood. However, not all children demonstrate optimal gross motor skills. Rahmadani (2014) explains that gross motor skills involve body movements using large muscles and require good coordination to produce directed movements. Inability to coordinate body movements can lead to children lacking confidence, being less active, and putting them at risk of developing health problems if not properly stimulated.

Preliminary research findings obtained through an interview with the principal of PAUD SPAS Tamaona on December 10, 2021, indicate that children's gross motor skills at the school have not developed optimally. In the traditional Bangkeng-bangkeng game that has been implemented, some children still frequently fall, are less able to walk quickly, and have difficulty using the play equipment. This difference in ability is clearly visible between children who are already able to play the instruments well and those who still appear to be struggling. This indicates that the Bangkeng-bangkeng game does not provide effective gross motor stimulation for all children. Teachers then strive to integrate important aspects into the game's implementation to maximize the benefits for students' gross motor development.

Based on this description, it can be concluded that optimizing physical activities appropriate to early childhood characteristics is necessary to stimulate children's gross motor skills. Bangkeng-bangkeng, as a traditional game, has great potential to improve strength, balance, and coordination when implemented appropriately. Therefore, research on the use of the Bangkeng-bangkeng game is crucial to optimize children's gross motor development at the SPAS Tamaona PAUD.

2) METHODS

The type of research used in this study is quantitative research using descriptive methods to describe the gross motor skills of students before and after the Bangkeng-bangkeng Game. This

descriptive study was conducted on one group. The location of this study was Tamaona Village, Tombolo Pao District, Gowa Regency. The treatment given to the children was the Bangkeng-bangkeng Game to improve the development of children's gross motor skills. The population in this study was students at PAUD SPAS Tamaona, consisting of one class with a total of 18 students (10 girls and 8 boys). The sample of this study was 10 students from group B PAUD SPAS Tamaona who were selected based on the following criteria: (1) Children can understand instructions; (2) Willing to be research subjects.

The bangkeng-bangkeng game model can be seen in the following image:



Figure 1. *Bangkeng-Bangkeng Game*

The data collection method used observation. The indicators observed are as follows:

Table 1. *Observation Sheet for Children's Gross Motor Skills Assessment*

Indicator	Measured Achievement
1. Performing Coordinated Body Movements to Train Flexibility, Balance, and Agility	1.1 The child can perform flexible movements while walking on the <i>Bangkeng-bangkeng</i> .
	1.2 The child can walk sideways (right and left) in a balanced position using the <i>Bangkeng-bangkeng</i> .
	1.3 The child can change positions quickly, following a zigzag pattern using the <i>Bangkeng-bangkeng</i> .

	2.1 During the activity, the child does not release the <i>Bangkeng-bangkeng</i> from the start to the finish line.
2. Coordinating Eye–Foot, Hand–Head Movements	2.2 During the activity, the child holds the <i>Bangkeng-bangkeng</i> rope firmly and keeps their head focused forward.
	2.3 The child can walk using the <i>Bangkeng-bangkeng</i> correctly and properly.
3. Performing Physical Games According to Rules	3.1 The child does not cross the boundary line between peers when the game is being contested.
	3.2 The child can practice the <i>Bangkeng-bangkeng</i> game according to the correct instructions.
	3.3 The child can perform the <i>Bangkeng-bangkeng</i> game as demonstrated.
4. Skilled in Using Both Right and Left Hands	4.1 The child can pull the <i>Bangkeng-bangkeng</i> rope alternately using the right and left hands.
	4.2 The child can pull the <i>Bangkeng-bangkeng</i> rope firmly while walking sideways using the play equipment.
	4.3 The child can pull the <i>Bangkeng-bangkeng</i> rope firmly using both hands while walking backward using the play equipment.

Observation results were based on a checklist of Not Yet Developing (BB), Starting to Develop (MB), Developing as Expected (BSH), and Very Well Developing (BSB). The data analysis technique used was descriptive statistics. Descriptive statistics (Turmudi & Harini, 2008) are statistics related to how to describe, elaborating, explaining, or describing data for easy understanding.

3) RESULTS AND DISCUSSION

The research was conducted over two days. On the first day of treatment, students appeared to have difficulty standing and walking using Bangkeng-bangkeng. This is because this traditional game requires a high level of balance. Children must be able to stand on a coconut shell and step forward, sideways, and backward. Furthermore, the children struggled to coordinate their eyes, feet, and hands when holding and pulling the Bangkeng-bangkeng string. In the initial stages of treatment, most children still required intensive assistance.

The following day, changes were evident; the children put in more effort and showed enthusiasm in learning to play the game. This enthusiasm was also demonstrated when several children shared that they had asked their parents to make Bangkeng-bangkeng at home. This provided additional practice opportunities for children outside of school, thus indirectly contributing to the development of their gross motor skills.

During the second treatment, the children's abilities improved beyond expectations. They were able to play Bangkeng-bangkeng without assistance, walking forward, sideways, backward, and following a zigzag pattern. Despite occasional falls and minor knee injuries, the children remained enthusiastic, and the researcher acted solely as a controller and provided instruction to reinforce the children's motor maturity.

The study showed an increase in gross motor skills after treatment using the Bangkeng-bangkeng game. The difference in scores before and after treatment is shown in the following table:

Table 2. *Pretest-Posttest Scores*

No	Student Name	Pretest Score	Posttest Score	Difference
1	AZ	20	41	21
2	AN	22	42	20
3	MR	20	40	20
4	RH	19	41	22
5	AM	20	39	19
6	M	18	39	21

7	AH	19	41	22
8	MB	18	39	21
9	MFM	20	39	19
10	NFAM	20	41	21

Table 2 shows a clear difference in motor skills before and after the Bangkeng-bangkeng game. Each child's motor skills improved after the Bangkeng-bangkeng game. A statistical description of the differences in motor skills scores before and after the Bangkeng-bangkeng game in Group B students at Tamaona Early Childhood Education Center (PAUD SPAS) before and after the Bangkeng-bangkeng game is shown in the following table:

Table 3. *Description of Pre-Test and Post-Test Gross Motor Skill Scores*

Statistic	Motor Skill Ability of Students	
	Pretest	Posttest
Lowest Score	18	39
Highest Score	22	42
Average Score	19,6	40.2
Standard Deviation	1	1

Based on Table 3, the lowest, highest, mean, and standard deviation scores increased from the pre-test to the post-test. The mean score increased from 19.6 to 40.2, indicating significant improvement after the traditional Bangkeng-bangkeng game. Specifically, the average scores for each achievement indicator measured in gross motor skills for Group B students before and after the Bangkeng-bangkeng game were as follows:

Table 4. *Average Pre-test and Post-test Scores for Each Achievement Indicator Measured in Gross Motor Skills*

Indicator of Measured Achievement	Average Score (Pretest)	Average Score (Posttest)	Difference
1. Performing coordinated body movements to train flexibility, balance, and agility	1.70	3.03	1.33
2. Coordinating eye-foot and hand-head movements	1.56	3.50	1.49
3. Performing physical games according to rules	1.70	3.70	2.00
4. Skilled in using both right and left hands	1.56	3.16	1.60

Table 4 shows that the average score for each indicator increased after treatment using the traditional game Bangkeng-bangkeng. The following is a comparison of the pre-test and post-test gross motor skill scores for Group B students for each indicator:

- a. Performing coordinated body movements to train flexibility, balance, and agility, obtained an average pre-test score of 1.7 and an average post-test score of 3.03, with a difference of 1.33.
- b. Training eye-foot, hand-and-head coordination obtained an average pre-test score of 1.56 and an average post-test score of 3.5, with a difference of 1.49.
- c. Playing physical games with rules obtained an average pre-test score of 1.7 and an average post-test score of 3.7, with a difference of 2.
- d. Skilled right and left hand use resulted in an average pre-test score of 1.56 and a post-test score of 3.6, with a difference of 1.6.

Overall, the study results showed a difference in children's gross motor skills before and after playing Bangkeng-bangkeng. The significantly higher average post-test score indicates that this traditional game is effective in improving the gross motor skills of group B students at the SPAS Tamaona PAUD.

The following is the documentation of the researchers and students:



Figure 2. *Photo of activities while playing the Bangkeng-Bangkeng game*

The research results showed that children's gross motor skills before being exposed to the traditional Bangkeng-bangkeng game were still moderate, with many unable to accurately follow game instructions. This was evident in the children's poor ability to maintain balance, control their eyes, hand, and foot coordination, and execute movement patterns such as zigzagging. This finding supports the findings of Sudiono (2018) in Ardini and Lestarinigrum, who explained that play provides opportunities for children to gain hands-on experience, but without appropriate stimulation, children are unable to achieve optimal motor development. Furthermore, in line with Piaget's view, as cited in Khadijah and Armanila, children's motor development requires an integration process between reflex movements and body coordination; in the early stages of this study, children had not yet demonstrated these coordinating abilities consistently (Ismatul Khasanah et al. 2011).

Consistently, traditional games are also believed to contribute significantly to children's physical and gross motor development. Hasanah (2016) emphasized that traditional games are physical activities that involve intense body movement, making them excellent for developing children's strength, dexterity, creativity, and gross motor skills. This finding is relevant to the initial conditions of the study, where some children were unable to use play equipment quickly, lacked the confidence to balance, and often dropped equipment before reaching the finish line.

After being treated with the traditional game Bangkeng-bangkeng, children's gross motor skills showed significant improvement. This was reflected in post-test scores that were, on average, higher than pre-test scores, as well as an increase in the number of children in the medium and high categories. This improvement aligns with research by Siahahan et al. (2017), who found that traditional

games such as coconut shell stilts can improve children's gross motor skills through balance and coordinated movement training. Efendi's (2015) findings also support this study, which found that physical activity in traditional games can effectively stimulate children's gross motor skills.

Changes in children's motor behavior during the treatment process were also very visible. On the first day, children have difficulty standing and walking using Bangkeng-bangkeng because this game requires a high level of balance. However, in the following days, children show rapid improvement: they are more stable when walking forward, sideways, and backward, and begin to follow zigzag patterns better. Children also begin to coordinate eye, hand, and foot movements when pulling the Bangkeng-bangkeng string. This indicates that repeated practice can strengthen children's gross motor coordination, as explained by Rofi'ah (2018), who stated that traditional games such as stilts can develop agility, balance, and flexibility.

Furthermore, children's active involvement during play also contributes to improved gross motor skills. Devrizal et al. (2019) explain that children who actively participate in traditional games experience more optimal motor development than children who do not. The fact that some children even continue practicing Bangkeng-bangkeng at home indicates a strong motivation to learn. This finding is supported by Hayati et al. (2017), who stated that learning motivation significantly influences children's gross motor skills; children with high motivation demonstrate better motor skills.

The improvement in children's gross motor skills after treatment also aligns with the gross motor development indicators outlined in Minister of Education and Culture Regulation No. 137 of 2014, as explained by Mustikawati (2018), namely the ability to perform coordinated movements, maintain balance, move agilely, and skillfully use body parts in a balanced manner. In this study, all of these indicators improved after children regularly played the traditional game Bangkeng-bangkeng.

Theoretically, the results of this study support the opinion of Abdullah et al. (2013) that traditional games have a significant influence on gross motor development because they involve physical activities that require coordination, muscle strength, and body balance. The findings of this study also indicate that, in addition to gross motor skills, the traditional Bangkeng-bangkeng game also develops other aspects such as patience, emotional control, sportsmanship, creativity, and educational values. This aligns with Erliani's opinion, which states that the Bangkeng-bangkeng game contains educational values such as precision, accuracy, and balance. Therefore, the traditional Bangkeng-bangkeng game not only improves gross motor skills but also has a positive impact on children's overall development.

Overall, the results of this study indicate that the traditional Bangkeng-bangkeng game is effective in improving early childhood gross motor skills, including balance, agility, coordination, strength, and the ability to follow game rules. This improvement occurs because traditional games provide opportunities for children to perform repetitive, structured, and meaningful movements, thereby gradually strengthening motor skills. Thus, the traditional game Bangkeng-bangkeng can be recommended as a medium for learning gross motor skills in PAUD because it has been proven to be effective, fun, and has educational value.

4) CONCLUSIONS

Bangkeng-bangkeng game can improve children's gross motor skills, which include the ability to (1) perform coordinated body movements to train flexibility, balance, and agility; (2) coordinate eye-foot, hand-head movements; (3) play physical games according to the rules; and (4) be skilled at using the right and left hands. These findings imply that parents or educators should reintroduce traditional games that involve a lot of physical movement to prevent children from being disturbed by excessive gadget use, so that gross motor development remains well stimulated.

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