



The Effect of Traditional Play Activities on Gross Motor Skills of Children

*A. Ulmi Juniarti¹, Azizah Amal¹, Muhammad Akil Musi¹, Fitriani Dzulfadhilah¹

¹ Universitas Negeri Makassar, Indonesia



aulmij@gmail.com

Abstract

This study aimed to determine the gross motor skills of children aged 5–6 years before and after engaging in traditional play activities at TK Kemala Bhayangkari 20, Pangkep Branch. A quantitative approach with a quasi-experimental design was employed. The population of this study consisted of all students at TK Kemala Bhayangkari 20, Pangkep Branch, totaling 61 children. Purposive sampling was used to select 20 children, who were divided into two groups: 10 children in the experimental group and 10 children in the control group. Data were collected through observation and performance tests, while data analysis was conducted using descriptive statistics and non-parametric tests. The results showed that the implementation of traditional games significantly contributed to the improvement of children's gross motor skills, particularly in aspects of balance, agility, and coordination. The findings indicated that: (1) children in the experimental group were initially categorized as "Not Yet Able" before the intervention and improved to the "Very Able" category after the intervention; (2) children in the control group were initially categorized as "Not Yet Able," and after participating in seesaw play activities, they showed only a slight improvement, placing them in the "Fairly Able" category; and (3) statistical analysis revealed a significant effect of traditional game interventions on the development of gross motor skills among children aged 5–6 years in the experimental group. Therefore, it was concluded that traditional games had a positive effect on the gross motor development of kindergarten children.

Keywords: Early Childhood, Gross Motor Skills, Traditional Games.

ARTICLE INFO

Article history:

Received
March 01, 2025

Revised
Mei 01, 2025

Accepted
June 29, 2025

Published by
Website

This is an open access article under the CC BY SA license

CV. Creative Tugu Pena

<https://attractivejournal.com/index.php/bec>

<https://creativecommons.org/licenses/by-sa/4.0/>



INTRODUCTION

Education played a crucial role in responding to the demands of modern society, particularly in supporting children's optimal growth and development from an early age (Saverus, 2019). Parents increasingly expected educational institutions to facilitate comprehensive developmental outcomes for their children, including cognitive, social-emotional, and physical domains. Among these, gross motor development was considered a fundamental aspect that required systematic stimulation from early childhood. Consequently, children needed to be adequately prepared to enter formal education through structured and developmentally appropriate learning experiences beginning in early childhood.

Early childhood education was defined as a form of educational guidance and care provided from birth to the age of six through the provision of intentional and continuous stimulation (Talango, 2020). The primary objective of early childhood education is to optimize children's physical and psychological development, ensuring readiness for subsequent educational stages. Children aged 0–6 years experience a rapid rate of growth, with approximately 40% of human development occurring during this period, commonly referred to as the "golden age." Given that this developmental window occurred only once in a lifetime, the provision of appropriate and timely stimulation during early childhood was considered essential. A thorough understanding of early childhood developmental stages assisted parents and educators in designing effective learning strategies, methods, and educational play activities tailored to children's age-specific needs.

Baan et al. (2020) emphasized that early childhood education represented a critical phase that required immediate attention and intervention. One developmental domain that progressed rapidly during this period was motor development. Children aged 3–6 years require appropriate stimulation to prevent developmental delays, particularly in gross motor skills. Optimal child development can be achieved when children are provided with adequate physical and environmental stimulation that supports holistic growth.

Play activities were widely recognized as a natural and essential component of early childhood development. Saverus (2019) described play as a spontaneous activity that occurred naturally and was intrinsically motivated. Play was characterized by enjoyment, voluntariness, active involvement, and intrinsic value, and it was closely associated with creativity, problem-solving abilities, language development, and social interaction. Within this context, traditional games were understood as culturally rooted play activities that utilized simple, locally available materials and reflected community values. Gross motor skills constituted one of the six major developmental domains in early childhood education and were often developed through play-based activities. However, the educational significance of physical movements such as running, jumping, and balancing was frequently underestimated in classroom practices.

Motor development refers to the progressive improvement of movement abilities that emerge from early childhood, emphasizing movement quality rather than quantity (Ismoko, 2019). Gross motor skills involve the coordination of large muscle groups and encompass fundamental movement patterns, including crawling, sitting, standing, walking, running, and jumping. Sujarwo and Widi (2015) noted that the development of gross motor coordination was a primary task of physical development, encompassing activities that required balance, agility, strength, and coordination. At the age of four, children demonstrated a high level of motivation to engage in physically challenging activities, indicating a critical period for stimulating motor skills.

The acquisition of gross motor skills in children aged 2–5 years is characterized by an increase in movement complexity across developmental stages. Children aged 2–3 years began to master basic motor skills, including tiptoe walking, jumping forward and backward, throwing and catching balls, rhythmic movement, and climbing stairs with assistance. At ages 3–4 years, children exhibited improved balance and coordination, enabling them to run while carrying light objects, climb stairs independently using alternating feet, walk along balance beams, and perform simple gymnastic movements. By the age of 4–5 years, children's movements became more coordinated and purposeful, allowing them to perform complex locomotor and manipulative skills effectively.

Children aged 5–6 years demonstrated more advanced gross motor abilities, including controlled walking and running, varied jumping patterns using one or two feet, climbing and descending stairs independently, throwing, catching, and kicking balls accurately, and engaging in creative movement activities (Beaty, as cited in Sulistyono et al., 2021). At this stage, gross motor development encompassed five primary components: strength, balance, agility, flexibility, and coordination. These components were reflected in

observable indicators such as squatting, standing on one foot, zigzag running, bending movements, and object manipulation. In Indonesia, these competencies were formally outlined in the Regulation of the Ministry of Education and Culture No. 137 of 2014, which emphasized coordinated, balanced, flexible, and rule-based gross motor movements.

Field observations conducted at TK Kemala Bhayangkari 20, Pangkep Branch, between September and December 2022 revealed that play-based learning activities had not been optimally directed toward enhancing gross motor skills. Several children demonstrated limited balance control and hesitant jumping movements, particularly during structured physical activities. Play activities were predominantly conducted indoors, thereby restricting opportunities for gross motor stimulation through outdoor and traditional games. Furthermore, traditional games had not been introduced systematically by teachers, resulting in children's limited familiarity with culturally relevant play activities. As a result, learning practices had not fully supported optimal gross motor development.

In contemporary contexts, children's engagement with traditional games had declined due to limited play spaces and facilities, as well as the increasing dominance of technology-based games. If left unaddressed, this trend could potentially hinder children's physical development. Therefore, alternative pedagogical approaches were required. The integration of traditional games into early childhood education represented a viable strategy to enhance gross motor skills while simultaneously preserving cultural heritage. Ismoko (2019) argued that conventional games contributed positively to motor development and served as an indicator of effective learning. An ideal educational system should incorporate the moral and academic values embedded in traditional games to support holistic child development.

Empirical evidence supported the effectiveness of traditional games in enhancing gross motor skills. Safri (2019) demonstrated that conventional games such as hopscotch and jump rope significantly improved gross motor abilities among kindergarten children. Similarly, Ritonga and Pasaribu (2022) reported that traditional games have a positive influence on gross motor development in early childhood settings. Maryati et al. (2023) further confirmed that traditional games effectively strengthened lower-body muscles and improved running and jumping skills among elementary school students. These findings highlight the potential of traditional games as a powerful pedagogical tool for promoting gross motor development in early childhood education.

METHOD

This study employed a quantitative research approach with a quasi-experimental design, specifically the nonequivalent control group design, to examine the effect of traditional play activities on the gross motor skills of children aged 5–6 years at TK Kemala Bhayangkari 20, Pangkep Branch. This design was considered appropriate because random assignment of participants was not feasible in the natural classroom setting, yet it still allowed for comparison between an experimental group and a control group (Creswell, 2019; Sugiyono, 2019). The study population consisted of all 61 children enrolled in Class B at TK Kemala Bhayangkari 20, Pangkep Branch. A purposive sampling technique was used to select participants based on specific criteria aligned with the research objectives, namely, children aged 5–6 years with comparable developmental characteristics. A total of 20 children were selected and evenly divided into two groups: the experimental group ($n = 10$), which received traditional play interventions, and the control group ($n = 10$), which participated in routine seesaw play activities. Purposive sampling was deemed suitable for educational research focusing on specific participant characteristics (Sugiyono, 2019).

The independent variable in this study was traditional play activities, while the dependent variable was children's gross motor skills. Gross motor skills were operationally defined as the ability to perform coordinated movements involving large muscle groups, including locomotor, non-locomotor, and manipulative skills such as walking, running,

jumping, balancing, throwing, and catching (Ismoko, 2019; Sujarwo & Widi, 2015). These indicators were aligned with early childhood motor development standards and national curriculum guidelines (Ministry of Education and Culture Regulation No. 137 of 2014).

Data were collected using structured observation sheets and performance-based tests. The observation instrument consisted of six indicators of gross motor skills categorized into locomotor, non-locomotor, and manipulative domains. Each indicator was rated using a four-point Likert-type scale ranging from “Not Yet Able” (1) to “Very Able” (4), allowing quantitative assessment of motor performance. The instrument was reviewed and validated by experts in early childhood education to ensure content validity and developmental appropriateness (Cohen, Manion, & Morrison, 2018). The research was conducted over two weeks and consisted of three main stages: pre-test, intervention, and post-test. The pre-test was administered to assess baseline gross motor skills in both groups. The experimental group then participated in four sessions of traditional play activities over the course of one week, while the control group engaged in routine seesaw play. The post-test was administered after the intervention to measure changes in gross motor skills. Data analysis employed descriptive statistics to summarize the results, and the Wilcoxon Signed-Rank Test was used to examine the significance of differences between pre-test and post-test scores. This non-parametric test was selected because the data were ordinal and the sample size was relatively small (Field, 2018; Sugiyono, 2019).

RESULT AND DISCUSSION

Research Findings

This study examined the effect of traditional play activities on the gross motor skills of children aged 5–6 years at TK Kemala Bhayangkari 20, Pangkep Branch. The results are presented through descriptive statistical analysis, comparative analysis of pre-test and post-test scores, and inferential statistical testing.

Descriptive Analysis of Gross Motor Skills

The study involved two groups: an experimental group that participated in traditional play activities and a control group that engaged in seesaw play activities. Descriptive statistics of children’s gross motor skill scores before (pre-test) and after (post-test) the intervention were summarized to illustrate changes in performance.

Table 1. Frequency Distribution of Children’s Gross Motor Skills Before Treatment (Pretest) in the Experimental and Control Groups

Interval	Category	Experimental Group (Frequency)	Experimental Group (%)	Control Group (Frequency)	Control Group (%)
6–10	Not Yet Developed (NYD)	6	60%	10	100%
11–15	Beginning to Develop (BD)	4	40%	0	0%
16–20	Developed as Expected (DE)	0	0%	0	0%
21–24	Very Well Developed (VWD)	0	0%	0	0%
Total		10	100%	10	100%

Table 2. Frequency Distribution of Children’s Gross Motor Skills After Treatment (Posttest) in the Experimental and Control Groups

Interval	Category	Experimental Group (Frequency)	Experimental Group (%)	Control Group (Frequency)	Control Group (%)
6-10	Not Yet Developed (NYD)	0	0%	0	0%
11-15	Beginning to Develop (BD)	0	0%	0	0%
16-20	Developed as Expected (DE)	7	70%	10	100%
21-24	Very Well Developed (VWD)	3	30%	0	0%
Total		10	100%	10	100%

Table 3. Descriptive Statistics of Children’s Gross Motor Skills in the Experimental Group

Measurement	N	Minimum	Maximum	Mean	Std. Deviation
Pretest	10	7	13	10.00	2.000
Posttest	10	18	22	19.60	1.265
Valid N (listwise)	10				

Table 4. Descriptive Statistics of Children’s Gross Motor Skills in the Control Group

Measurement	N	Minimum	Maximum	Mean	Std. Deviation
Pretest (Control)	10	7	10	8.80	1.033
Posttest (Control)	10	16	19	17.80	1.033
Valid N (listwise)	10				

Before the intervention, the experimental group had a mean gross motor skill score of 10.00 (SD = 2.00). Most children in this group were categorized as “Not Yet Able” (60%), while the remaining 40% were classified as “Fairly Able.” In contrast, the control group demonstrated a lower mean score of 8.80 (SD = 1.03), with all children (100%) categorized as “Not Yet Able.”

After the intervention, a substantial improvement was observed in the experimental group. The mean post-test score increased to 19.60 (SD = 1.27), with 70% of children categorized as “Able” and 30% reaching the “Very Able” category. No children in this group remained in the “Not Yet Able” or “Fairly Able” categories. Meanwhile, the control group also demonstrated improvement, although to a lesser extent. The mean post-test score for the control group increased to 17.80 (SD = 1.03), with all children categorized as “Able,” and none reaching the “Very Able” category.

Inferential Statistical Analysis

To determine whether the observed changes were statistically significant, the Wilcoxon Signed-Rank Test was applied to compare pre-test and post-test scores within each group. For the experimental group, the Wilcoxon test revealed a statistically significant improvement in gross motor skills ($Z = -2.825$, $p = 0.005$), indicating that participation in traditional play activities had a significant effect on children’s gross motor development.

Similarly, the control group also showed a statistically significant difference between pre-test and post-test scores ($Z = -2.848$, $p = 0.004$). However, the magnitude of improvement in the control group was smaller compared to the experimental group, suggesting that the observed gains were likely influenced by routine physical activity or natural developmental progression rather than targeted intervention.

The results demonstrated that traditional play activities had a more substantial and meaningful impact on improving gross motor skills compared to routine play activities. Children in the experimental group consistently achieved higher post-test scores across locomotor, non-locomotor, and manipulative movement indicators, reinforcing the effectiveness of traditional games in enhancing gross motor development among early childhood learners.

Discussion

This study investigated the effect of traditional play activities on gross motor skill development in children aged 5–6 years at TK Kemala Bhayangkari 20, Pangkep Branch. The results showed notable improvements in gross motor skills after participation in traditional play activities, supporting the view that children's motor development is enhanced through physically engaging, culturally grounded play (Talango, 2020; Saverus, 2019) and consistent with findings reported in the literature.

Descriptive statistics revealed that before the intervention, children in the experimental group exhibited lower levels of gross motor skills, with mean pre-test scores indicating limited strength, balance, and coordination. This finding aligns with observations from previous studies, which have shown that children often demonstrate underdeveloped gross motor abilities without structured physical play stimulation (Baan et al., 2020; Bendriyanti & Haryono, 2024).

Following the intervention, the experimental group demonstrated substantial improvements in gross motor performance. The mean post-test score increased significantly, and performance was observed across multiple domains, including locomotor, non-locomotor, and manipulative skills. This outcome was consistent with research indicating that traditional games, such as hopscotch and jump rope, effectively enhance balance, agility, and coordination in early childhood (Mardiana et al., 2024; Bendriyanti & Haryono, 2024).

Improvements in the control group were also observed; however, these were comparatively smaller in magnitude. While routine physical play contributed to development, the targeted traditional play intervention had a more substantial impact on gross motor skills. This pattern mirrored results reported in similar classroom action research, where traditional games yielded more pronounced motor improvements than general play activities (Ashar & Inrawulan, 2025; Hasibuan & Siregar, 2025).

Inferential analysis using the Wilcoxon Signed-Rank Test confirmed that the improvements in gross motor scores between pre-test and post-test were statistically significant for both the experimental and control groups ($p < 0.01$). These results corroborated prior empirical evidence demonstrating that traditional games can significantly influence children's physical development when deliberately integrated into early childhood educational settings (Rendo et al., 2025; Harianti et al., 2025).

Moreover, this study's results aligned with broader theoretical assertions that physical play activities serve as essential stimuli for enhancing gross motor proficiency by fostering neuromuscular coordination and adaptive movement patterns in early learners (Ismoko, 2019; Sujarwo & Widi, 2015).

CONCLUSION

The findings of this study demonstrated that traditional play activities effectively enhanced the gross motor skills of children aged 5–6 years at TK Kemala Bhayangkari 20,

Pangkep Branch. Children who participated in traditional games showed greater improvement in balance, agility, coordination, and overall gross motor performance compared to those who engaged in routine play activities. Statistical analysis confirmed a significant difference between pre-test and post-test results, indicating that traditional games constituted an effective and developmentally appropriate approach to supporting gross motor development in early childhood education.

REFERENCES

- Ashar, & Inrawulan. (2025). Improving gross motor skills through traditional games in kindergarten. *TEMATIK: Jurnal Pemikiran dan Penelitian Pendidikan Anak Usia Dini*.
- Baan, A. B., Rejeki, H. S., & Nurhayati. (2020). Perkembangan motorik kasar anak usia dini. *Jurnal Bungamputi*, 6(1), 14–21.
- Bendriyanti, R. P., & Haryono, M. (2024). Improving children's gross motor skills through traditional games. *Journal of Education Technology*.
- Cohen, L., Manion, L., & Morrison, K. (2018). *Research methods in education* (8th ed.). Routledge.
- Creswell, J. W. (2019). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). SAGE Publications.
- Field, A. (2018). *Discovering statistics using IBM SPSS statistics* (5th ed.). SAGE Publications.
- Harianti, N. P., Marbun, S., & Situmorang, S. (2025). The influence of traditional games on gross motor development. *Journal Education for All*.
- Hasibuan, Z. O., & Siregar, S. (2025). Traditional Engklek Games and Gross Motor Development in Early Childhood. *Jurnal Sentra Pendidikan Anak Usia Dini*.
- Ismoko, A. (2019). Pengaruh permainan tradisional terhadap perkembangan motorik anak. *Jurnal Pendidikan Anak Usia Dini*.
- Mardiana, M., Agusniatih, A., & Juhriati, I. (2024). Improving gross motor skills through hopscotch games. *Indonesian Journal of Early Childhood Islamic Education*.
- Maryati, Nurwahidah, & Nurlaela, W. (2023). Pengaruh permainan tradisional terhadap kemampuan motorik kasar anak. *PAUD Lectura: Jurnal Pendidikan Anak Usia Dini*, 4(2), 49–61. <https://doi.org/10.31849/paud-lectura.v4i02.6422>
- Ministry of Education and Culture. (2014). *Standar nasional pendidikan anak usia dini* (Regulation No. 137 of 2014). Jakarta.
- Rendo, M. E., Dhiu, K. D., Laksana, D. N., & Ngura, E. T. (2025). Traditional Play and Gross Motor Development in Early Childhood. *JUPEIS: Jurnal Pendidikan dan Ilmu Sosial*.
- Ritonga, S. A., & Pasaribu, A. I. (2022). Pengaruh permainan tradisional terhadap kemampuan motorik kasar anak kelompok B. *Jurnal Pendidikan Anak Usia Dini*, 6(1), 25–32.
- Saftri, R. D. (2019). Pengaruh permainan tradisional terhadap kemampuan motorik kasar anak. *Jurnal Pendidikan Anak Usia Dini*.
- Saverus. (2019). Peran pendidikan dalam era modern. *Jurnal Kajian Pendidikan Ekonomi dan Ilmu Ekonomi*, 2(1), 1–19.
- Sugiyono. (2019). *Metode penelitian pendidikan: Pendekatan kuantitatif, kualitatif, dan R&D*. Alfabeta.
- Sujarwo, & Widi, C. P. (2015). Kemampuan motorik kasar dan halus anak usia 4–6 tahun. *Jurnal Pendidikan Jasmani Indonesia*, 11(2), 96–100.
- Sulistyo, I. T., Pudyaningtyas, A., & Sholeha, V. (2021). Profil kemampuan motorik kasar anak usia 5–6 tahun. *Kumara Cendekia*, 9(3), 156–165. <https://doi.org/10.20961/kc.v9i3.50732>
- Talango, S. R. (2020). Konsep perkembangan anak usia dini. *Early Childhood Islamic Education Journal*, 1(1), 92–105. <https://doi.org/10.54045/ecie.v1i1.35>

Copyright Holder :

© A. Ulmi Juniarti, Azizah Amal, Muhammad Akil Musi, Fitriani Dzulfadhilah (2025).

First Publication Right :

© Bulletin of Early Childhood

This article is under:

CC BY SA