

The Effect of the Traditional Boy-Boyan Game on the Gross Motor Skills of Children Aged 5-6 Years

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Abstract

Gross motor skills are a fundamental aspect of development that needs to be optimally stimulated in early childhood. This study aims to determine the effect of the traditional “boy-boyan” game on the gross motor skills of children aged 5–6 years. This study employed a quantitative approach using a Quasi-Experimental Design and a Nonequivalent Control Group Design. The sample consisted of 20 children selected through purposive sampling, divided into an experimental group of 10 children who received the modified traditional “boy-boyan” game intervention and a control group of 10 children who received the “engklek” game intervention, each for six sessions. The novelty of this study lies in the modification of the “boy-boyan” game using rubber balls and stackable donut rings to enhance safety and visual appeal for children while stimulating basic motor skills. Data were collected through tests, observations, and documentation, then analyzed using descriptive statistics and the Wilcoxon Signed-Rank Test. The results showed that the average gross motor skill score of the experimental group increased from 10.30 on the pre-test to 21.80 on the post-test, with 80% of the children achieving the “Very Good” category. The results of the Wilcoxon test showed an Asymp. Sig. (2-tailed) value of $0.004 < 0.05$, leading to the conclusion that the traditional “Boy-Boyan” game has a significant effect on the gross motor skills of 5- to 6-year-old children and is proven to be more effective than the “Engklek” game.

Keywords: traditional games; boy-boyan; gross motor skills; early childhood; early childhood education.

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INTRODUCTION

Early childhood refers to individuals aged 0–8 years who are undergoing a critical phase of growth and development, known as the “golden age.” At this stage, children exhibit unique learning characteristics, namely through direct experiential learning, exploration of their environment, and play activities. Given that a child’s brain is highly responsive to external stimulation, all experiences and learning acquired during this period will serve as the foundational basis for the child’s future personality development. Therefore, providing adequate stimulation and resources in education and childcare is of utmost importance as preparation for the child’s future life.

In the policy context, Ministry of Education and Culture Regulation No. 12 of 2025 stipulates that early childhood education (ECE) is a form of development designed for children from birth through age six. This program is designed to provide educational stimulation that supports physical growth, cognitive development, and emotional maturity, ensuring children are optimally prepared to enter the next level of formal education. Thus, ECE is not merely a place to play but a strategic platform for preparing children to become independent, self-confident individuals who are ready to learn.

One aspect of development that requires serious attention in early childhood education is motor development. Harlock (Kurnia et al., 2024) explains that motor development is the process of controlling body movements, involving coordination between the nervous system and muscles, and plays a crucial role in supporting children’s ability to perform various physical activities independently. Furthermore, Santrock (Rahmaniah et al., 2025) states that gross motor skills are the ability to perform large-scale body movements that utilize large muscles, such as walking, running, and jumping. Meanwhile, Gallahue (Sugiana et al., 2022) classifies gross motor skills into three main types of movement: locomotor, non-locomotor, and manipulative. Therefore, mastery of these three types of movement forms a crucial foundation for children’s optimal gross motor maturity.

Gross motor skills refer to the development related to a child’s ability to perform body movements involving large muscle groups, such as sitting, jumping, and running (Lismayani, 2023). The development of these motor skills is of high importance because it contributes to the sustained improvement of children’s physical activity and health (Robinson et al. in Rusmayadi et al., 2024). Underdeveloped gross motor skills can impact a child’s readiness to engage in activities within their surroundings. Therefore, Islami et al. (2024) emphasize that parents play a central role in guiding and continuously monitoring their child’s development. Consequently, a shared understanding between educators and parents regarding the importance of physical activity is essential to support all aspects of a child’s development.

However, this ideal situation has not yet been fully realized. Based on observations conducted by the researcher at Aisyiyah Bustanul Athfal Parangtambung Kindergarten in Makassar, there are still some children who demonstrate limitations in coordinating locomotor movements, maintaining body balance, and performing manipulative movements-particularly in changing the

direction of movement, throwing, and catching a ball. Furthermore, learning activities are still predominantly conducted inside the classroom and do not yet utilize traditional games as a medium for gross motor stimulation.

One potential alternative stimulus to address these issues is through traditional games. According to Cendana & Suryana, traditional games are group physical activities that reflect the daily routines of a community and embody values beneficial for enhancing children's physical, mental, and spiritual well-being (Lismayani & Pratama, 2023). Wahyu & Rukiyati (2022) point out that traditional games offer a variety of benefits, one of which is serving as a medium to stimulate early childhood development across various aspects, including cognitive development, emotional regulation, and the development of discipline. Thus, traditional games serve as a strategic medium for supporting children's comprehensive development.

A traditional game considered effective in stimulating children's gross motor skills is the traditional game of "boy-boyan." This is a group game that uses a ball and roof tile fragments as its main props, in which children take turns throwing the ball to knock down a tower-shaped stack of tiles and then try to rebuild it. According to Saputra et al. (2023), the "boy-boyan" game not only serves as a form of entertainment but also functions as an educational tool that develops children's gross motor skills-such as throwing, catching, running, and maintaining balance-while simultaneously supporting their social-emotional development.

The "boy-boyan" game offers significant benefits for children's development. Tarigan et al. (2025) state that this game involves various physical activities that require coordination and the use of large muscle groups, thereby enabling children to develop several gross motor skills simultaneously. Meanwhile, according to a study by Yuningsih et al. (2021), this game can support six aspects of child development simultaneously: religious and moral values, physical motor skills, cognitive development, language, social-emotional development, and the arts. Based on this description, the "boy-boyan" game is highly beneficial for improving gross motor skills because it involves activities such as running, jumping, catching, and throwing a ball.

The effectiveness of the "boy-boyan" game has been demonstrated by several previous researchers. Saputra et al. (2023) reported a gradual improvement in gross motor skills following the implementation of the "boy-boyan" game. Nurhayati et al. (2022) also noted that the "boy-boyan" game significantly improved gross motor skills, with scores increasing from 10% to 90% by the end of the intervention. Meanwhile, Rahayu & Ismet (2021) found that the group that received the "boy-boyan" game intervention achieved an average motor skills score of 118, higher than the control group, which scored 110.

Nevertheless, the traditional "boy-boyan" game is now rarely integrated into learning activities in kindergartens. This study aims to address this gap by examining the effects of the traditional "boy-boyan" game, which has been modified by replacing the kasti ball with a rubber ball and the roof tile fragments with stackable donut rings to make it safer and more appropriate for the developmental characteristics of young children. Therefore, this study introduces

a novel approach to utilizing the traditional “boy-boyan” game as a gross motor learning activity.

Additionally, to test the advantages of the modified “boy-boyan” game, the researchers designated the “engklek” game as the control condition. This selection was based on the need to ensure an equivalent level of physical activity to prevent experimental bias. Darmawati & Widyasari (2022) explain that the game of engklek has characteristics of partial stimulation because its movements emphasize both locomotor (jumping) and non-locomotor (balance) aspects. This theoretical contrast is ideal for use as a comparison to determine whether the “boy-boyan” game is integrative in improving children’s gross motor skills, as the “boy-boyan” game combines locomotor, non-locomotor, and manipulative movements in a stimulating manner.

Based on the above discussion, the focus of this study is on testing the effectiveness of the “boy-boyan” game on children’s gross motor skills. The objectives of this study are to analyze the implementation of the “boy-boyan” game, identify children’s gross motor skills before and after playing the “boy-boyan” game, and test the effect of the “boy-boyan” game on children’s gross motor skills at Aisyiyah Bustanul Athfal Parangtambung Kindergarten in Makassar.

METHOD

This study employs a quantitative approach using a quasi-experimental design. Punch (Ali, 2022) defines quantitative research as empirical research based on the collection of numerically measurable data, which can then be statistically analyzed to systematically examine the effects or relationships between variables. Meanwhile, Arib et al. (2024) explain that a quasi-experimental design is a type of research involving at least two groups—an experimental group and a control group—designed to test the effect of a specific treatment on the research subjects.

The research design used was a Nonequivalent Control Group Design with pre-test and post-test procedures. Abraham & Supriyati (2022) noted that this design involves an initial assessment (pre-test) before the intervention to determine the baseline conditions of both groups, and a final assessment (post-test) after the intervention is administered.

The research variables consisted of two variables: the independent variable, the traditional “boy-boyan” game; and the dependent variable, the gross motor skills of children aged 5-6 years. The sample was selected using purposive sampling based on the criteria of children aged 5-6 years with varying levels of gross motor skills. The sample comprised 20 children, divided into a control group of 10 children and an experimental group of 10 children.

Data collection techniques in this study included three methods: testing, observation, and documentation. The data collection procedure was carried out in five stages: planning, pre-test administration, intervention, post-test administration, and analysis of results. The measurement of children’s gross motor skills used a Likert-type rating scale with the following categories: a score of 1 for “Poor” (K), a score of 2 for “Fair” (C), a score of 3 for “Good” (B), and a

score of 4 for “Very Good” (SB). The assessment rubric was based on gross motor skill indicators derived from Gallahue’s theory, namely: a) locomotor movements: the child’s ability to jump in various directions and run through obstacles; b) non-locomotor movement: the child’s ability to maintain balance while squatting and standing on one foot for 10 seconds; and c) manipulative movement: the child’s ability to throw a ball accurately at a target and to catch or pass the ball.

The data analysis techniques used consisted of two types. First, descriptive analysis using SPSS version 32 to describe the characteristics of the data, including the minimum, maximum, range, and standard deviation (Sofwatillah et al., 2024). Second, a nonparametric statistical test-the Wilcoxon signed-rank test-was conducted using SPSS version 32, which is an appropriate method for paired data with small samples that are not normally distributed (Zulkipli et al., 2024). The decision criteria used were as follows: if the significance value (2-tailed) < 0.05, then H_0 is rejected and H_1 is accepted, indicating a significant effect; and if the significance value (2-tailed) $\geq$ 0.05, then H_0 is accepted and H_1 is rejected, indicating no significant effect.

RESULTS

The study was conducted at Aisyiyah Bustanul Athfal Parangtambung Kindergarten in Makassar over eight sessions, consisting of one pre-test (April 1, 2026), six treatment sessions (April 3–21, 2026), and one post-test (April 22, 2026). The experimental group received a treatment involving the traditional “boy-boyan” game, which had been modified using a rubber ball and stackable donut rings, while the control group was given the “engklek” game.

The structure of each session consisted of an opening activity, a main activity, and a closing activity. During the six treatment sessions, the researchers gradually increased the complexity of the game by rotating team roles, grouping children by gender, providing additional movement challenges for children who were eliminated from the game, and finally granting the children full autonomy to manage the game independently during the last session. Overall, the implementation of the traditional “boy-boyan” game went well and demonstrated an increase in children’s participation as well as their gross motor skills, which improved from session to session.

Pre-Test

The pre-test results showed that the children’s gross motor skills in both groups were at an equivalent level before the intervention was administered. The frequency distribution of the pre-test results is presented in the following table:

Table 1. Frequency Distribution of Children's Gross Motor Skills on the Pre-Test for the Control Group and the Experimental Group

<i>Interval</i>		<i>Control Group</i>		<i>Experimental Group</i>		<i>Category</i>
		<i>Frequency</i>	<i>Percent</i>	<i>Frequency</i>	<i>Percent</i>	
Valid	6-10	5	50%	4	40%	K
	11-15	5	50%	6	60%	C
	16-20	0	0%	0	0%	B
	21-24	0	0%	0	0%	SB
	Total	10	100%	10	100%	

Based on the table above, the children's gross motor skills in both groups prior to the intervention fell into the "Poor" and "Fair" categories. In the control group, 5 children (50%) each were in the "Poor" and "Fair" categories. Children in the "Poor" category were not yet able to perform coordinated locomotor movements, could not stand on one foot, and had difficulty with manipulative movements such as throwing and catching a ball. Meanwhile, children in the "Fair" category had begun to be able to jump and run, although their movement coordination was not yet completely smooth, and their manipulative movements were not yet consistent. In the experimental group, 4 children (40%) were in the "Poor" category and 6 children (60%) were in the "Fair" category, with characteristics similar to those of the control group.

The descriptive analysis of the pre-test gross motor skills of the children is presented in the following table:

Table 2. Pre-Test Analysis Data on Children's Gross Motor Skills in the Control and Experimental Groups

Descriptive Statistics					
	<i>N</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Mean</i>	<i>Std. Deviation</i>
Control Pre-Test	10	9	11	10.20	.789
Pre-Test of the Experiment	10	9	11	10.30	.823
Valid N (listwise)	10				

Descriptive statistics confirm the equivalence of the initial conditions between the two groups. The minimum and maximum values for both groups are the same 9 and 11, respectively with a very slight difference in the mean: 10.20 for the control group and 10.30 for the experimental group. The standard deviations for both groups are also below 1.00, indicating that the data distribution is homogeneous and there are no extreme outliers. Given these balanced baseline conditions, any differences in outcomes that emerge after the

intervention can be validly attributed to the effectiveness of the treatment administered.

Post-Test

After the intervention which consisted of six sessions a post-test was conducted to measure changes in the children's gross motor skills. The frequency distribution of the post-test results is presented as follows:

Table 3. Frequency Distribution of Children's Gross Motor Skills on the Post-Test for the Control Group and the Experimental Group

Interval		Control Group		Experimental Group		Category
		Frequency	Percent	Frequency	Percent	
Valid	6-10	1	10%	0	0%	K
	11-15	6	60%	0	0%	C
	16-20	3	30%	2	20%	B
	21-24	0	0%	8	80%	SB
	Total	10	100%	10	100%	

The table above shows a stark contrast between the two groups. In the control group, improvement occurred but at a slow pace. There was still 1 child (10%) in the "Poor" category, the majority of children 6 children (60%) remained in the "Fair" category, and only 3 children (30%) advanced to the "Good" category. Meanwhile, in the experimental group, the "Poor" and "Fair" categories no longer existed (0%); 2 children (20%) reached the "Good" category, and 8 children (80%) successfully reached the "Very Good" category. Children in the "Very Good" category were able to perform all locomotor and non-locomotor movements, as well as manipulative movements, accurately, independently, and in a coordinated manner.

To quantify the difference in improvement between the groups, the following presents the results of the post-test descriptive statistical analysis:

Table 4. Pre-Test Analysis Data on Children's Gross Motor Skills in the Control and Experimental Groups

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Post-Test Kontrol	10	10	20	14.80	2.573
Post-Test Eksperimen	10	20	24	21.80	1.549
Valid N (listwise)	10				

Descriptive statistics reveal a very striking difference between the two groups. The minimum score in the experimental group (20) is already equal to

the maximum score in the control group (20), which means that the child with the lowest score in the experimental group is already on par with the high-achieving child in the control group. The mean score of the experimental group (21.80) far exceeded that of the control group (14.80) by a margin of 7 points. Furthermore, the standard deviation of the experimental group (1.549) was smaller than that of the control group (2.573), indicating that the improvement in gross motor skills in the experimental group occurred evenly across all children, not just among a select few.

Furthermore, this study also employed a non-parametric test. Hypothesis testing was conducted using the Wilcoxon signed-rank test via SPSS version 32. The test results are presented in the following table:

Table 5. Results of the Wilcoxon Signed-Rank Test for Children's Gross Motor Skills in the Experimental and Control Groups

	Test Statistics ^a	
	<i>Experimental Post-Test – Experimental Pre-Test</i>	<i>Control Post-Test – Control Pre-Test</i>
Z	-2.844 ^b	-2.814 ^b
Asymp. Sig. (2-tailed)	.004	.005

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

In the experimental group, which included all children (N=10), the Asymp. Sig. (2-tailed) value was $0.004 < 0.05$, so H_0 was rejected and H_1 was accepted. Thus, the traditional game "boy-boyan" has a significant effect on the gross motor skills of children aged 5-6 years. Meanwhile, in the control group, the Asymp. Sig. (2-tailed) value was $0.005 < 0.05$, indicating that the "engklek" game also had a significant effect. However, when compared directly, the Z-value for the experimental group (-2.844) is larger in absolute terms than that of the control group (-2.814), and the significance value is also smaller ($0.004 < 0.005$). This demonstrates that the traditional "boy-boyan" game provides a stronger and more optimal stimulating effect compared to the "engklek" game in enhancing the gross motor skills of children aged 5-6 years.

The success of this intervention was driven by the high level of enthusiasm fostered by an effective and enjoyable play environment, which encouraged children to move more freely and expressively. This aligns with Rachmayanti et al. (2021), who state that a play-based approach is an effective strategy for developing gross motor skills in early childhood. Rahayu & Ismet (2021) added that after participating in the "boy-boyan" game, children were observed to be more active in running, jumping, throwing, and catching, while simultaneously developing social skills through teamwork. Thus, the traditional "boy-boyan" game has been proven to have a tangible and optimal impact on improving the gross motor skills of 5-6 year old children at Aisyiyah Bustanul Athfal Parangtambung Kindergarten in Makassar.

DISCUSSION

The traditional “boy-boyan” game has proven effective as a gross motor stimulation activity because it integrates running, jumping, throwing, and catching into a single structured sequence of activities. This aligns with the findings of Mohammad et al. (2022), who stated that the “boy-boyan” game plays a significant role in stimulating gross motor skills because the throwing and catching activities do not rely solely on arm muscles but require coordination of the entire body. A study by Tarigan et al. (2025) reinforces these findings by emphasizing that the integration of locomotor, non-locomotor, and manipulative movements within a single game is crucial for achieving motor coordination maturity in young children.

The increase in the experimental group’s average score from 10.30 to 21.80 reflects the effectiveness of the “boy-boyan” game as a tool for stimulating gross motor skills. Saputra et al. (2023) state that this game is suitable for use as a means of developing gross motor skills because it encourages children to move actively and comprehensively. Agustina et al. (2022) also note that the intense physical engagement in this game dynamically trains muscle strength and basic motor coordination. These findings are further supported by Izzah (2025), who emphasizes that the running and throwing activities in the “boy-boyan” game can simultaneously stimulate the development of the entire body.

The sharp improvement in the experimental group is also closely linked to the sense of safety provided by the modified game materials. In the conventional traditional “boy-boyan” game, the use of broken roof tiles or stones and hard baseball-style balls often triggers children’s subconscious anxiety. The fear of being hit by a ball or cut by broken roof tiles causes children’s movements to tend to be hesitant and stiff. In contrast, replacing the play materials with soft rubber balls and lightweight stackable plastic rings significantly eliminates children’s perception of danger and aligns with their developmental characteristics (Hayati & Putro, 2021). When the fear of injury disappears, children will feel confident enough to explore movement to the fullest. This fosters a sense of comfort and joy, enabling children to make quick and expressive movement decisions without being haunted by fear.

These benefits impact children’s performance when moving on the field. The removal of psychological barriers allows children in the experimental group to perform locomotor, non-locomotor, and manipulative movements comprehensively, safely, and in a stimulating manner. In contrast, in the control group that played engklek, the stimulation the children received tended to be limited to jumping strength and balance alone, and did not train their manipulative movements (Darmawati & Widyasari, 2022). Therefore, the combination of a psychologically safe sense of and the complexity of physical movements in the modified boy-boyan game is the key reason why the motor skills of the experimental group improved significantly more.

CONCLUSION

The implementation of the traditional “boy-boyan” game for 5-6 years old children at Aisyiyah Bustanul Athfal Kindergarten was carried out through the stages of planning, implementation, and evaluation. This game was implemented over six sessions to ensure that the children’s gross motor skills were strengthened to the fullest extent possible and in a sustainable manner. Based on this intervention, the gross motor skills of 5-6 years old children at Aisyiyah Bustanul Athfal Preschool in Parangtambung, Makassar, in the group that received the “boy-boyan” traditional game intervention showed a highly significant improvement and fell into the “good” and “very good” categories. Meanwhile, the group that played engklek showed only limited improvement and had not yet reached the maximum level of achievement in their gross motor skills. These comparative results empirically prove that the traditional “boy-boyan” game has an impact on the gross motor skills of 5-6 years old children at Aisyiyah Bustanul Athfal Parangtambung Kindergarten in Makassar.

Early childhood educators and teachers are encouraged to regularly incorporate traditional games into their lessons and to be more innovative in adapting game materials using safe, simple, and engaging resources to boost children’s confidence in physical movement. At home, parents are advised to facilitate traditional games to ensure ongoing physical stimulation while reducing children’s reliance on gadgets. Meanwhile, future researchers are encouraged to expand the scope of their studies by examining the impact of traditional games on other aspects of early childhood development.

REFERENCE

- Abraham, I., & Supriyati, Y. (2022). Desain Kuasi Eksperimen Dalam Pendidikan: Literatur. *Jurnal Ilmiah Mandala Education*, 8(3).
- Agustina, E. A., Agatha, S. N. S., & Widiyaningrum, N. (2022). Mengembangkan Motorik Kasar Aud Dengan Bermain Permainan Tradisional. *AT-THUFULY: Jurnal Pendidikan Islam Anak Usia Dini*, 2(2), 92–97.
- Ali, M. M. (2022). Metodologi Penelitian Kuantitatif Dan Penerapan Nya Dalam Penelitian. *JPIB: Jurnal Penelitian Ibnu Rusyd*, 1(2), 1–5.
- Arib, M. F., Rahayu, M. S., Sidorj, R. A., & Afgani, M. W. (2024). Experimental research dalam penelitian pendidikan. *Innovative: Journal Of Social Science Research*, 4(1), 5497–5511.
- Darmawati, N. B., & Widyasari, C. (2022). Permainan Tradisional Engklek dalam Meningkatkan Motorik Kasar Anak Usia Dini. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*, 6(6), 6827–6836. <https://doi.org/10.31004/obsesi.v6i6.3487>
- Islami, A. N. M., Bachtiar, M. Y., & Yusran, R. (2024). Metode Pendidikan Karakter Melalui Pengajaran Moral Pencipta dan Sesama Manusia Anak

- Usia 5-6 Tahun di TK Islam Al-Izhar Cendekia Makassar. *Ihya Ulum: Early Childhood Education Journal*, 2(3), 329–338.
- Izzah, H. P. N. (2025). Permainan Tradisional Bebenaran Terhadap Kemampuan Fisik Motorik Anak Usia 5-6 Tahun. *Jurnal Pendidikan*, 3(1).
- Kurnia, A. T., Riffiana, T., Tabrani, K. A., Aulia, S., Amanda, D. D., & Wahyuni, D. (2024). Peran Perkembangan Motorik pada Anak Usia Dini. *J-CEKI: Jurnal Cendekia Ilmiah*, 3(4), 1633–1640.
- Lismayani, A. (2023). Pengaruh Kegiatan Senam Irama Terhadap Kemampuan Motorik Kasar Anak Usia Dini. *ECEJ: Early Childhood Education Journal*, 1(1), 1–5.
- Lismayani, A., & Pratama, M. I. (2023). Pengaruh Permainan Tradisional Terhadap Kemampuan Sosial Emosional Anak Usia Dini. *Jurnal Ilmiah Wahana Pendidikan*, Oktober, 2023(20), 882–888. <https://doi.org/10.5281/zenodo.10205328>
- Mohammad, I., Purwaningsih, I. R., & Sumarno, A. (2022). Penerapan permainan tradisional boy-boyan untuk meningkatkan minat belajar pendidikan jasmani pada siswa SMP Negeri 2 Majalaya Karawang. *Jurnal Ilmiah Wahana Pendidikan*, 8(24), 355–364.
- Nurhayati, S., Roostin, E., & Azis, W. A. (2022). Upaya Untuk Meningkatkan Kemampuan Motorik Kasar Dan Sikap Kerjasama Anak Melalui Permainan Boy-Boyan. *Jurnal Edukasi Generasi Emas*, 1(1), 43–52.
- Permendikdasmen No. 12 Tahun 2025. (2025). Standar Kompetensi Lulusan Pada Pendidikan Anak Usia Dini, Jenjang Pendidikan Dasar, Dan Jenjang Pendidikan Menengah Menengah.
- Rachmayanti, I., Sunanto, S., Saleh, N. R., & Mahmudah, M. (2021). Penerapan Permainan Tradisional Boy-Boyan Untuk Mengembangkan Motorik Kasar Pada Anak Usia 5-6 Tahun Di TK Al-Ichsan Kenjeran Kota Surabaya. *Sentra Cendekia*, 2(1), 1–5.
- Rahayu, L. D., & Ismet, S. (2021). Pengaruh Permainan Tradisional Boy-boyan Terhadap Perkembangan Motorik Anak di Taman Kanak-kanak Ramah. *Jurnal Family Education*, 1(3), 19–26.
- Rahmaniah, N. F., Hayati, F., Dodyansyah, M. R., Fitria, F., Safitri, H. I., Fashlah, A. G., Muzdalifah, F., Auliya, A. F. S., Sakaerni, & Wahyudi, M. D. (2025). Pengembangan Fisik Motorik Anak Usia Dini (K. I. Nuriza, Ed.). Alifba Media.
- Rusmayadi, Kurnia, R., & Aziza, S. (2024). Enhancing Children's Gross Motor Skills Through the Single Leg Balance Sandbag Game. *JPUD-Jurnal Pendidikan Usia Dini*, 18(2), 367–376.
- Saputra, W. M., Nurhasanah, N., Rachmayani, I., & Astini, B. N. (2023). Pengembangan Permainan Tradisional Boy-Boyan Untuk Meningkatkan Kemampuan Motorik Kasar Kelompok B di TK Rinjani Unram Tahun 2023. *Jurnal Ilmiah Profesi Pendidikan*, 8(4), 2078–2092.
- Sofwatillah, Risnita, Jailani, M. S., & Saksitha, D. A. (2024). Tehnik analisis data kuantitatif dan kualitatif dalam penelitian ilmiah. *Jurnal Genta Mulia*, 15(2), 79–91.
- Sugiana, Pradini, S., Dewi, D. J. K., & Presetyo, T. R. (2022). Meningkatkan Keterampilan Motorik Kasar Gerak Manipulatif Anak Usia 4-5 Tahun.

Jurnal Pengabdian Masyarakat Ilmu Pendidikan UNILA (JPMIP), 02(01), 75–80.

- Tarigan, F. A., Siregar, S., Cristian, D., & Saragih, C. (2025). Meningkatkan Minat Belajar Siswa SD dalam Pembelajaran PJOK Melalui Permainan Tradisional. *PIOR: Jurnal Pendidikan Olahraga*, 4(2), 6–13.
- Wahyu, A., & Rukiyati, R. (2022). Studi literatur: Permainan tradisional sebagai media alternatif stimulasi perkembangan anak usia dini. *Jurnal Pendidikan Anak* (Website Ini Sudah Bermigrasi Ke Website Yang Baru==> <https://Journal.Uny.Ac.Id/v3/Jpa>), 109–120.
- Yuningsih, T. I., Muslihin, H. Y., & Mulyadi, S. (2021). Boy-Boyan dan perkembangan anak usia dini. *Jurnal Riset Golden Age PAUD UHO*, 4(2), 96–101.