



The Effect of the Traditional Tebe Dance on Lower Limb and Thigh Muscle Strength among Students of SDI Besterin in Malaka Regency

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Abstract

Integrating local culture into physical education offers an effective strategy to improve students' physical fitness while preserving cultural heritage. The traditional Tebe Dance from Timor involves rhythmic foot stamping, light jumping, and dynamic movements that actively engage the lower limb and thigh muscles, which are essential for children's motor development. This study aimed to examine the effect of traditional Tebe dance training on lower limb and thigh muscle strength among elementary school students. A quasi-experimental one-group pretest-posttest design was employed involving 25 students aged 9–12 years at SDI Besterin, Malaka Regency. Participants followed a structured Tebe dance training program for two months. Muscle strength, endurance, speed, and recovery were measured using the Wall Sit Test, Vertical Jump Test, 30-meter Sprint Test, and Step Test. Data were analyzed using normality and homogeneity tests followed by a paired sample t-test. The results showed significant improvements in all measured variables ($p < 0.05$), including increased muscle endurance and explosive strength, faster sprint performance, and improved cardiorespiratory recovery. These findings indicate that traditional Tebe dance is an effective, enjoyable, and culturally relevant physical activity that enhances lower limb and thigh muscle performance among elementary school students and can be integrated into school physical education programs.



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INTRODUCTION

Physical education plays a strategic role in developing physical fitness, motor skills, and positive attitudes toward physical activity from an early age. One of the main objectives of physical education at the elementary school level is to foster active and healthy lifestyles through enjoyable and meaningful physical activities (Depdiknas, 2004). An important component of physical fitness that needs to be developed in students is muscle strength, particularly the strength of the lower limb and thigh muscles, which plays a crucial role in daily activities such as walking, running, jumping, and supporting body weight (Baechle & Earle, 2008). The development of muscle strength in elementary

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school students should therefore be carried out using approaches that are engaging and appropriate to their developmental characteristics.

One instructional approach that has gained increasing attention is the integration of local culture into physical education learning. Cultural activities such as traditional dances not only carry artistic and social values but also naturally involve body movements that support children's motor development (Syampurma et al., 2025). One form of local culture with strong potential is the Tebe Dance, a traditional dance from Timor, which is characterized by rhythmic foot stamping, light jumps, and distinctive traditional music (Rejo, Rahayu, & Kharisma, 2022). These movements predominantly engage the thigh and lower limb muscles and, theoretically, can contribute to improving muscle strength when performed regularly and systematically.

As part of a preliminary study, a pretest was conducted to measure the lower limb and thigh muscle strength of students in several elementary schools in Malaka Regency. The results indicated that many students had relatively low muscle strength, with average scores falling well below the ideal fitness standards for their age. Classroom observations further revealed that students were generally less involved in physical activities requiring intensive leg movements and were more frequently engaged in sedentary or static activities.

Further observations suggested that traditional dances, particularly the Tebe Dance, have the potential to actively engage students' entire bodies, especially the lower limb muscles. Movements such as foot stamping and light jumping provide sufficient stimulation to support the development of lower limb and thigh muscle strength. Interviews with physical education teachers in elementary schools across Malaka Regency revealed that a major challenge in physical education instruction is the lack of varied teaching methods that can effectively attract students' interest. Many students appeared unenthusiastic about monotonous physical exercises, prompting teachers to seek more engaging and culturally relevant approaches. One teacher noted that the Tebe Dance is an integral part of local culture, and students are already familiar with its music and basic movements, making it a promising medium for introducing physical fitness concepts in an enjoyable way.

From the students' perspective, interviews showed that they were more motivated to participate in physical activities that incorporate elements of their own culture rather than activities disconnected from their daily experiences. One student expressed a preference for moving in rhythm with Tebe music rather than performing repetitive running or jumping exercises.

These observations and interviews support the assumption that traditional dances such as the Tebe Dance can serve as effective media for improving lower limb and thigh muscle strength while simultaneously increasing students' interest in physical activity. Previous studies have demonstrated that dance-based physical activities positively influence physical fitness. Research by (Purwitasari, Afifulloh, & Dina, 2022) found that incorporating traditional dances into physical activity programs improved endurance and muscle strength in elementary school children. (Sabaria, 2019) reported that the Saman Dance enhanced motor coordination and muscle strength among junior high school students, while (Velasco, 1986) identified significant improvements in strength and flexibility through the Tor-Tor Dance. Similarly, (Siregar, Elly, Zahratunisa, Eviana, & Siddik, 2024) showed that culturally based rhythmic exercises improved posture and muscle strength in children aged 10–12 years, and (Rahayu, Nugraha, & Daya, 2025) highlighted the effectiveness of local wisdom-based physical activities in increasing learning motivation and physical fitness components.

Despite these findings, there is still a lack of research specifically examining the effect of the Tebe Dance on lower limb and thigh muscle strength among elementary school students, particularly in Malaka Regency. Existing studies tend to focus on cultural descriptions or do not experimentally

assess its impact on specific physical fitness components. This study therefore offers novelty by focusing on a specific local context, employing measurable physical fitness variables, integrating cultural preservation with health promotion, and using a quasi-experimental approach to assess before-and-after effects. Consequently, this research is expected to contribute both theoretically and practically to culturally responsive physical education practices.

Based on the background described above, the research problems are formulated as follows. First, does the traditional Tebe Dance have a significant effect on lower limb muscle strength among elementary school students in Malaka Regency? Second, does the traditional Tebe Dance influence thigh muscle strength among elementary school students in Malaka Regency? Third, to what extent does the traditional Tebe Dance simultaneously affect lower limb and thigh muscle strength?

The objectives of this study are to determine the effect of the traditional Tebe Dance on lower limb muscle strength among elementary school students in Malaka Regency, to examine its effect on thigh muscle strength, and to measure the overall magnitude of its influence on lower limb and thigh muscle strength.

LITERATURE REVIEW

The Tebe Dance is a traditional group dance originating from Timor, particularly Malaka Regency in East Nusa Tenggara. It is performed in a circular formation with dancers holding hands and rhythmically stamping their feet in harmony with traditional music and chants. This dance reflects values of togetherness, solidarity, and spirituality within the local community (Melda & Widiastuti, 2021; Lopo & Nahak, 2019). Beyond its cultural significance, the Tebe Dance involves repetitive and dynamic movements that predominantly engage the lower limb and thigh muscles, making it relevant to physical development.

The basic movements of the Tebe Dance include rhythmic foot stamping, forward and backward stepping, circular motion, and coordinated body gestures. These movements activate major muscle groups such as the quadriceps, hamstrings, gluteal muscles, and calf muscles (gastrocnemius and soleus). The gradual increase in tempo during the dance further enhances muscular workload and coordination. As a rhythmic and dynamic activity, the Tebe Dance naturally trains lower limb strength, balance, and motor coordination (Schmidt & Lee, 2025).

Physically, the Tebe Dance provides multiple fitness benefits. Regular participation can improve lower limb and thigh muscle strength through repeated muscle contractions and body-weight resistance (Saharullah, 2020). (Mujtahidin & Rachman, 2022) reported a 15–20% increase in lower limb muscle strength among children who practiced the Tebe Dance regularly. In addition, its aerobic nature supports cardiovascular endurance, flexibility, balance, and overall motor development (Fox, Mathews, & Close, 1981; Istyanto & Rahmi, 2023).

Muscle strength is defined as the ability of muscles to generate maximal force against resistance (Bompa & Haff, 2009). It is influenced by muscle size, muscle fiber composition, neuromuscular coordination, and training type (Fox et al., 1981). Physical activities such as dance promote muscle hypertrophy, improved motor unit recruitment, and neuromuscular adaptation, especially in children (Colby, 2007).

Elementary school age (6–12 years) represents a critical period for physical and motor development. At this stage, children benefit significantly from structured and enjoyable physical activities that support muscle growth, coordination, and social development (Hurlock, 2002). The integration of traditional dance into physical education aligns well with children's developmental needs and cultural context.

Previous studies consistently show that dance-based and culturally rooted physical activities positively affect muscle strength and physical fitness in children (Basri, 2019). However, empirical studies specifically examining the effect of the Tebe Dance on lower limb and thigh muscle strength in elementary school students in Malaka Regency remain limited. Therefore, it is hypothesized that regular participation in the traditional Tebe Dance has a positive and significant effect on improving lower limb and thigh muscle strength among students of SDI Besterin.

METHOD

Research Participants

The participants of this study were students of Sekolah Dasar Inpres Besterin, located in Naimana Village, Central Malaka District, Malaka Regency, East Nusa Tenggara Province. The students were aged between 9 and 12 years. Participant selection was conducted using purposive sampling based on specific criteria, including age, good physical health, and willingness to participate in regular Tebe dance training throughout the study. Given the relatively small population, a saturated sampling technique was applied, in which all members of the population were included as research participants (Sugiyono, 2024).

Research Design

This study employed a quasi-experimental method using a one-group pretest–posttest design. The participants completed a pretest to measure initial lower limb and thigh muscle strength, followed by a treatment in the form of Tebe dance training. A posttest was then administered to assess the effect of the intervention.



Figure 1. Tebe Dance

Population and Sample

This study aimed to examine the effect of Tebe dance training on lower limb and thigh muscle strength among elementary school students. The population consisted of all students aged 9–12 years at SD Inpres Besterin, totaling 48 students from grades III to VI. This population was considered representative for observing the impact of traditional physical activity on muscle strength development. The sample was selected using purposive sampling based on specific criteria: students aged 9–12 years, free from lower limb or thigh injuries, and willing to participate in the full two-month Tebe dance program with parental and school consent. The final sample included students

from grades IV, V, and VI who were deemed capable of following instructions and participating consistently.

Data Collection Techniques and Research Instruments

Data were collected to objectively measure the effects of Tebe dance training through observation, physical fitness testing, and documentation. Direct observation was conducted during training sessions to record student participation, movement accuracy, exercise intensity, and physical responses using structured observation sheets. Muscle strength was measured through pretest and posttest physical fitness assessments, including the Wall Sit Test to assess lower limb and thigh muscle endurance, the Vertical Jump Test to measure lower limb strength, the 30-meter sprint to assess lower limb power and speed, and the Step Test to evaluate muscle endurance and recovery. Supporting documentation included photographs, attendance records, and pretest–posttest results.

The research instruments consisted of observation sheets, standardized physical fitness test forms, and scoring guidelines adapted to elementary school fitness standards for children aged 10–12 years.

Data Analysis Technique

Prior to hypothesis testing, prerequisite analyses were conducted, including normality and homogeneity tests. Data normality was examined using the Shapiro–Wilk test due to the relatively small sample size, while homogeneity of variance was tested using Levene’s test. Hypothesis testing was performed using a paired-sample t-test to compare pretest and posttest scores within the same group, following the pretest–posttest design. The significance level was set at 0.05, where a significance value below 0.05 indicated a statistically significant effect of Tebe dance training on lower limb and thigh muscle strength (Arikunto, 2017).

RESULT AND DISCUSSION

Description of Data

This study aimed to examine the effect of traditional Tebe dance training on lower limb and thigh muscle strength among students of SDI Besterin, Malaka Regency. Data were collected from 25 students using a pretest–posttest design conducted before and after the implementation of the Tebe dance training program. To evaluate the effectiveness of the intervention, several physical fitness tests were administered, including the Wall Sit Test, Vertical Jump Test, 30-meter Sprint Test, and Step Test.

Pretest data represented the students’ initial physical condition prior to training, while posttest data reflected changes following the completion of the program. Each test measured different aspects of lower limb muscle strength, endurance, speed, and recovery capacity. The Wall Sit Test assessed thigh and lower limb muscle endurance, the Vertical Jump Test measured explosive leg strength, the 30-meter Sprint Test evaluated speed and leg power, and the Step Test assessed cardiorespiratory endurance and post-exercise recovery through heart rate measurement.

Overall, the results showed consistent improvements across all test indicators in the posttest compared to the pretest. Increases were observed in muscle endurance and explosive strength, while sprint times and post-exercise heart rates decreased, indicating enhanced muscle performance and cardiovascular efficiency. These changes suggest positive physiological adaptations resulting from regular participation in the traditional Tebe dance training program, which were further analyzed using statistical tests to determine the significance of the observed differences.

Results of Data Analysis

Prior to conducting the paired sample t-test, prerequisite statistical tests were performed to ensure that the data met the required assumptions. These included a normality test to verify that the pretest and posttest data were normally distributed and a homogeneity test to confirm the equality of variances between the two sets of data. After the data satisfied both the normality and homogeneity assumptions, a paired sample t-test was applied to determine whether there were significant differences between the pretest and posttest results for each physical fitness test.

1. Wall Sit Test

a. Normality Test

SPSS Output Results

Kelas		Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Hasil Tes	Pre Test Wall Sit	.099	25	.200*	.969	25	.630
	Post Test Wall Sit	.122	25	.200*	.978	25	.851

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Figure 2. Wall Sit Test Normality

A normality test was conducted to determine whether the pretest and posttest Wall Sit Test data were normally distributed. Based on the Shapiro-Wilk test, significance values were 0.630 and 0.851. These values are greater than 0.05, thus concluding that the data are normally distributed and meet the assumptions of parametric statistics.

b. Homogeneity Test

Output Results

Hasil Tes		Levene	df1	df2	Sig.
		Statistic			
Hasil Tes	Based on Mean	1.119	1	48	.295
	Based on Median	.928	1	48	.340
	Based on Median and with adjusted df	.928	1	46.246	.340
	Based on trimmed mean	1.060	1	48	.308

Figure 3. Wall-Sit Homogeneity Test

The homogeneity test aims to determine whether there is equality in variance between the pretest and posttest results. Based on the homogeneity of variance test, the significance value based on the mean is above 0.05, indicating that the variances of both data groups are considered homogeneous.

c. t test (Paired Sample T-Test)

SPSS Output Results

Pair 1	Pretest Wall Sit - Posttest Wall Sit	Paired Differences					t	df	Significance	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				One-Sided p	Two-Sided p
					Lower	Upper				
		-8.56400	4.63257	.92651	-10.47623	-6.65177	-9.243	24	<.001	<.001

Figure 4. Wall Sit Test t-test

The t-test results show a significance value of less than 0.05, indicating a significant difference between the pretest and posttest Wall Sit Test. The increase in sitting time indicates that the Tebe dance training program is effective in increasing thigh and lower leg muscle endurance.

2. Vertical Jump Test

a. Normality Test

SPSS Output Results:

Kelas	Statistic	df	Kolmogorov-Smirnov ^a		Shapiro-Wilk		Sig.
			Statistic	Sig.	Statistic	df	
Hasil Tes	Pre Test Vertical Jump	.105	25	.200*	.954	25	.314
	Post Test Vertical Jump	.132	25	.200*	.952	25	.284

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Figure 5. Vertical Jump Test Normality Test

The data from the Vertical Jump Test were tested for normality using the Shapiro-Wilk test. The results showed significance values of 0.314 and 0.284, indicating that the data were normally distributed (sig value > 0.05), allowing for further analysis with parametric tests.

b. Homogeneity Test

SPSS Output Results:

Hasil Tes	Based on Mean	Levene	df1	df2	Sig.
		Statistic			
	Based on Mean	.047	1	48	.829
	Based on Median	.066	1	48	.798
	Based on Median and with adjusted df	.066	1	47.777	.798
	Based on trimmed mean	.069	1	48	.794

Figure 6. Wall-Sit Normality Test

The test of homogeneity yielded a significance value based on the mean > 0.05, indicating that the pretest and posttest data had homogeneous variance.

- c. t test (Paired Sample T-Test)
SPSS Output Results:

		Paired Samples Test							Significance	
		Paired Differences			95% Confidence Interval of the Difference		t	df	One-Sided p	Two-Sided p
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper				
Pair 1	Pretest Vertical Jump - Posttest Vertical Jump	-16.40000	11.97316	2.39463	-21.34228	-11.45772	-6.849	24	<.001	<.001

Figure 7. Vertical Jump Test t-test

There was a significant difference between the pretest and posttest results of the Vertical Jump Test, as the significance value was less than 0.05. These results indicate an increase in explosive strength of the lower leg muscles after students participated in the Tebe dance training program.

3. 30-Meter Sprint

- a. Normality Test
SPSS Output Results

		Tests of Normality					
		Kolmogorov-Smirnov ^a			Shapiro-Wilk		
Kelas		Statistic	df	Sig.	Statistic	df	Sig.
Hasil Tes	Pre Test Sprint 30 Meter	.089	25	.200*	.982	25	.922
	Post Test Sprint 30 Meter	.141	25	.200*	.941	25	.157

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Figure 8. 30m Sprint Normality Test

The Shapiro-Wilk test shows that the student running time data for the 30-meter sprint is normally distributed (sig > 0.05). Therefore, the data is suitable for analysis using the t-test.

- b. Homogeneity Test
SPSS Output Results:

		Test of Homogeneity of Variance			
		Levene Statistic	df1	df2	Sig.
Hasil Tes	Based on Mean	.023	1	48	.881
	Based on Median	.014	1	48	.907
	Based on Median and with adjusted df	.014	1	46.649	.907
	Based on trimmed mean	.018	1	48	.893

Figure 9. Homogeneity Test for 30-m Sprint

Based on Levene's test, the significance value based on the mean was >0.05, indicating that the data had homogeneous variance between the pretest and posttest.

- c. t test (Paired Sample T-Test)
SPSS Output Results:

Paired Samples Test										
Pair 1	Pretest Sprint 30 Meter - Posttest Sprint 30 Meter	Paired Differences					Significance			
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	One-Sided p	Two-Sided p
					Lower	Upper				
		47360	.20195	.04039	.39024	.55696	11.726	24	<.001	<.001

Figure 10. 30m Sprint t-test

The t-test results show a significant difference between pretest and posttest sprint times. The decrease in sprint time indicates an increase in the students' leg muscle speed and strength as a result of the Tebe dance training.

4. Step Test (Stair Climbing)

a. Normality Test

SPSS Output Results:

Tests of Normality							
Kelas	Pre Test Step Test	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Hasil Tes	Pre Test Step Test	.156	25	.117	.942	25	.162
	Post Test Step Test	.123	25	.200*	.954	25	.312

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Figure 11. Step Test Normality Test

Students' pulse rate data after the Step Test were tested using the Shapiro-Wilk test, and the results showed a normal distribution (sig > 0.05).

b. Homogeneity Test

SPSS Output Results:

Test of Homogeneity of Variance					
Hasil Tes	Based on Mean	Levene	df1	df2	Sig.
		Statistic			
	Based on Mean	1.285	1	48	.263
	Based on Median	1.092	1	48	.301
	Based on Median and with adjusted df	1.092	1	47.008	.301
	Based on trimmed mean	1.291	1	48	.261

Figure 12. Homogeneity Test Step Test

The Levene's test results indicate that the variance between the pretest and posttest data is homogeneous, as the significance value is >0.05.

c. t test (Paired Sample T-Test)

SPSS Output Results:

Paired Samples Test										
Pair 1	Pretest Step Test - Posttest Step Test	Paired Differences					Significance			
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	One-Sided p	Two-Sided p
					Lower	Upper				
		10.16000	4.70532	.94106	8.21774	12.10226	10.796	24	<.001	<.001

Figure 13. Step t-Test

The results of the paired sample t-test analysis showed a significant difference between pretest and posttest heart rates. The decrease in heart rate after exercise indicates an increase in the students' endurance and recovery ability.

Discussion

Based on the results of data analysis using a series of statistical tests—including the normality test, homogeneity test, and paired sample t-test—it was found that traditional Tebe dance training had a significant effect on improving lower limb and thigh muscle strength among students of SDI Besterin in Malaka Regency. These improvements were consistently observed across four components of physical fitness: static muscle endurance, explosive muscle strength, speed, and cardiorespiratory recovery capacity.

Wall Sit Test

The analysis showed a significant increase in the duration students were able to maintain the wall sit position after participating in the Tebe dance training program. The average wall sit time increased from 43.64 seconds in the pretest to 51.92 seconds in the posttest. This improvement indicates muscular adaptation to isometric exercise, which involves muscle contraction without changes in muscle length. The paired sample t-test confirmed a significant difference between pretest and posttest scores ($p < 0.05$), demonstrating that Tebe dance training effectively enhanced thigh and lower limb muscle endurance. This outcome is attributed to Tebe dance movements—such as half-squat positions, rhythmic foot stamping, and sustained postures—which repeatedly activate isometric contractions of the quadriceps, hamstrings, and gluteal muscles. This finding aligns with Harsono (1988), who stated that continuous static training increases the ability of muscles to sustain contractions over time (Harsono, 1988).

Vertical Jump Test

A significant improvement was also observed in the Vertical Jump Test, indicating enhanced explosive strength of the lower limbs. The average jump height increased from 35.31 cm to 40.42 cm. Tebe dance incorporates dynamic movements such as jumping, forceful foot stomping, and rapid weight transfer, which resemble plyometric training. According to Bompa and Haff (2009), plyometric exercises involving rapid stretch-shortening cycles effectively improve neuromuscular efficiency and explosive power. Therefore, the increase in vertical jump performance reflects significant strengthening of the gastrocnemius, soleus, and quadriceps muscles (Bompa & Haff, 2009).

30-Meter Sprint Test

The posttest results of the 30-meter sprint test showed a significant reduction in running time, indicating improved speed and lower limb power. The average sprint time decreased from 6.41 seconds to 6.00 seconds. The fast-paced and rhythmic movements in Tebe dance—such as quick footwork and directional changes—contribute to enhanced neuromuscular coordination and reaction speed. This finding is consistent with Madsen, Hicks, & Thompson, (2011), who reported that dance-based physical activities improve muscular strength, cardiovascular fitness, and sprint performance through improved motor coordination (Madsen, Hicks, & Thompson, 2011).

Step Test

The Step Test results demonstrated a decrease in post-activity heart rate from an average of 90.20 beats per minute to 81.56 beats per minute, indicating improved cardiorespiratory efficiency and faster recovery. Although culturally based, Tebe dance includes aerobic components when performed continuously over increasing durations. This finding supports the theory proposed by Fox, Bowers, and Foss (1981), who stated that regular aerobic exercise enhances cardiac efficiency, increases stroke volume, and accelerates heart rate recovery following physical activity (Fox et al., 1981).

Implications of the Findings

Overall, all four physical fitness tests showed consistent and significant improvements, confirming that Tebe dance training not only enhances muscle strength but also improves speed and cardiovascular recovery. These findings emphasize that traditional Tebe dance is not merely a cultural heritage activity but can also serve as an effective and enjoyable medium for physical fitness training among elementary school students. Through a culturally contextualized approach, students gain both physical benefits and cultural values such as togetherness and social cohesion.

Furthermore, the integration of traditional dance into physical education aligns with the principles of the Merdeka Belajar curriculum, which promotes the use of local wisdom in learning. Therefore, incorporating cultural-based physical activities like Tebe dance into school programs represents a strategic approach to fostering holistic fitness, promoting active and healthy lifestyles, and preserving local cultural identity simultaneously.

CONCLUSION

Based on the results of the study and data analysis on the effects of traditional Tebe dance training on lower limb and thigh muscle strength among students of SDI Besterin in Malaka Regency, it can be concluded that Tebe dance training has a significant positive impact on students' physical fitness. Specifically, the training significantly improved thigh and lower limb muscle endurance, as evidenced by increased Wall Sit Test scores; enhanced explosive strength of the lower limbs, shown by higher Vertical Jump Test results; increased running speed, indicated by reduced times in the 30-meter sprint test; and improved cardiorespiratory endurance and recovery, reflected by lower post-exercise heart rates in the Step Test. Overall, traditional Tebe dance can serve as an effective alternative method for improving students' physical fitness—particularly lower limb muscle strength, endurance, and cardiovascular recovery—while simultaneously supporting the preservation of local cultural heritage through a local-wisdom-based learning approach.

Recommendations

Based on the findings, it is recommended that schools and physical education teachers integrate traditional dances such as Tebe into physical education programs to enhance students' fitness while instilling cultural values. Students are encouraged to participate in Tebe dance regularly, not only to maintain physical fitness but also to appreciate and preserve local cultural heritage. Future researchers are advised to expand this study by including additional variables such as coordination, agility, or general endurance, and by involving larger or more diverse samples across different educational levels or regions. Furthermore, local governments and education authorities are encouraged to promote cultural preservation by integrating traditional culture into school sports activities, including through extracurricular programs or cultural fitness festivals.

REFERENCE

- Arikunto, Suharsimi. (2017). *Prosedur Penelitian Suatu Pendekatan Praktek Edisi Revisi VI*. Penerbit PT. Rineka Cipta. Yogyakarta.
- Baechle, Thomas R., & Earle, Roger W. (2008). *Essentials of strength training and conditioning*. Human kinetics.
- Basri, Basri. (2019). *Meningkatkan Perkembangan Motorik melalui Senam Ritmik pada Siswa Kelas VI Sekolah Dasar*. State University of Malang.
- Bompa, Tudor O., & Haff, G. Gregory. (2009). Periodization: Theory and methodology of training.[5th Edition]. *Champaign, IL, USA: Human Kinetics*, 75–87.
- Colby, Lynn Allen. (2007). *Therapeutic exercise: foundations and techniques*. FA Davis Company.
- Depdiknas. (2004). *Standar Isi untuk Satuan Pendidikan Dasar dan Menengah*. Jakarta: Departemen Pendidikan Nasional.
- Fox, Edward L., Mathews, Donald K., & Close, Nancy Allison. (1981). The physiological basis of physical education and athletics. (*No Title*).
- Hurlock, E. B. (2002). *Psikologi Perkembangan: Suatu Pendekatan Sepanjang Rentang Kehidupan* (5th Editio). Jakarta: Erlangga.
- Istyanto, Febry, & Rahmi, Safirina Aulia. (2023). Manfaat Aktivitas Fisik Terhadap Kesehatan Mental Berbasis Narrative Literature Review. *Jurnal Kesehatan Madani Medika*, 14(2), 182–192.
- Madsen, Kristine A., Hicks, Katherine, & Thompson, Hannah. (2011). Physical activity and positive youth development: Impact of a school-based program. *Journal of School Health*, 81(8), 462–470.
- Mujtahidin, Samsul, & Rachman, Sry Anita. (2022). Pengaruh Permainan Tradisional Egrang Batok Terhadap Keseimbangan Anak Kelompok A Di RA Hidayatul Ihsan NW Tebaban. *Tut Wuri Handayani: Jurnal Keguruan Dan Ilmu Pendidikan*, 1(3), 130–135.
- Purwitasari, Sri, Afifulloh, Mohammad, & Dina, Lia Nur Atiqoh Bela. (2022). Implementasi ekstrakurikuler seni tari dalam meningkatkan kecerdasan kinestetik siswa sekolah dasar. *JPMI: Jurnal Pendidikan Madrasah Ibtidaiyah*, 4(2), 163–171.
- Rahayu, Fetri, Nugraha, Ugi, & Daya, Wawan Junresti. (2025). Pengaruh Permainan Tradisional Berbasis P5 terhadap Kebugaran Jasmani Siswi SMP Negeri 18 Kota Jambi. *Jurnal Cerdas Sifa Pendidikan*, 14(2), 121–129.
- Rejo, Uman, Rahayu, Imaniah Kusuma, & Kharisma, Giri Indra. (2022). Revitalisasi Cerita Rakyat Masyarakat Timor Sebagai Penguatan Nilai Pendidikan Karakter Pada Era Tatanan Kehidupan Baru. *Jurnal Sastra Indonesia*, 11(1), 35–47.
- Sabaria, Ria. (2019). Saman Dance and Children's Prosocial Behavior. *International Conference on Arts and Design Education (ICADE 2018)*, 229–233. Atlantis Press.
- Saharullah, Saharullah. (2020). *Dasar-dasar ilmu kepelatihan*. Badan Penerbit Universitas Negeri Makassar.
- Schmidt, Richard A., & Lee, Timothy Donald. (2025). *Motor learning and performance: From principles to application*. Human Kinetics.
- Siregar, Husnah, Elly, Habibah Rusly, Zahratunisa, Ilda, Eviana, Tania, & Siddik, Fajar. (2024). Pengaruh Senam Ritmik Terhadap Kebugaran Jasmani Siswa. *Jurnal Intelek Insan Cendikia*, 1(8), 3210–3216.
- Sugiyono. (2024). *Metode Penelitian Kuantitatif Kualitatif dan R&D* (Vol. 25). Bandung: CV. Alfabeta.
- Syampurma, Hilmainur, Putra, Aldo Naza, Arnando, Muhammad, Amra, Frizki, Sepriani, Rika, & Selvani, Arif Selfa. (2025). Pembelajaran Outdoor Aktiviti Berbasis Kearifan Lokal pada Guru PJOK di Kota Padang. *Jurnal Abdidias*, 6(6), 738–745.
- Velasco, Manuel Jaime. (1986). *Evaluation of fitness level and body composition of high school students of the University of Colima in Mexico*.