COMPETITOR:
JURNAL PENDIDIKAN KEPELATIHAN OLAHRAGA
e-ISSN: 2657-0734 & p-ISSN: 2085-5389 ‖ Volume 17, Number 1, 2025 ‖ P.190-209
DOI: 10.26858/cjpko.v17i1.71042

Does Altitude Affect The Physical Literacy Outcomes of Elementary School Students in Lowland and Highland Areas?

Immanuel Berli Septian[1A-E*], Adi S[2B-D]

[1,2]Physical Education Department, Faculty of Sports Science, Semarang State University, Semarang City, Central Java, Indonesia

immanuelberli4@students.unnes.ac.id[1], adis@mail.unnes.ac.id[2]

ABSTRACT

This research is motivated by the limited physical literacy in Indonesia, whereas physical literacy can enhance individuals' quality of life. The objective of this study is to compare physical literacy in elementary schools located in lowland areas with those in highland areas and to provide new references related to physical literacy research in Indonesia. The data collection method used interviews for observation and the TLJSD-DKF instrument, physical literacy in elementary schools, and questionnaires. Data analysis in this study used Microsoft Excel and SPSS version 26 for normality tests, homogeneity tests, and t-tests. The results of the data analysis in the hypothesis testing of physical literacy assessment for both male and female students showed significant values greater than the alpha value of 0.05, namely 0.234 > 0.05 for males and 0.362 > 0.05 for females. Then, in the hypothesis testing of knowledge and understanding, it showed a significant value of 0.094, greater than the alpha value of 0.05, whereas in the hypothesis testing of motivation and self-confidence, it showed a significant value of 0.008 less than the alpha value of 0.05.

ARTICLE HISTORY
Received: 2025/02/18
Accepted: 2025/02/24
Published: 2025/02/28

KEYWORDS
Altitude;
Physical Literacy;
Lowland Areas;
Highland Areas;

AUTHORS' CONTRIBUTION
A. Conception and design of the study;
B. Acquisition of data;
C. Analysis and interpretation of data;
D. Manuscript preparation;
E. Obtaining funding

Cites this Article : Septian, Immanuel Berli; S., Adi. (2025). Does Altitude Affect The Physical Literacy Outcomes of Elementary School Students in Lowland and Highland Areas? **Competitor: Jurnal Pendidikan Kepelatihan Olahraga**. 17 (1), p.190-209

INTRODUCTION

It is currently known that more than 28% of adults and 80% of adolescents are physically inactive and this has been identified as a major risk factor for global mortality as well as being the leading cause of a common health problem is overweight (Willumsen & Bull, 2020). The level of physical activity in children who are still relatively low and do not meet World Health Organization (WHO) standards is certainly also experienced by the Indonesian people (Rosiana et al., 2023). Currently, children's game patterns are starting to shift to game patterns in the house such as watching television shows, games through game stations, mobile games and computers (Yoga Brata Susena et al., 2021) This is also exacerbated by a shift in the learning landscape in schools which has been focusing more on indoors, while early childhood prefers to explore their environment, not only indoors but also outdoors (Ratnasari, 2020)

Immanuel Berli Septian[1A-E*], Adi S[2B-D]
immanuelberli4@students.unnes.ac.id[1*]

Various statements related to the current physical condition of children are also strengthened by evidence that the development of science and technology (IPTEK) has an impact on physical education in Indonesia, where there is low public attention to physical education for children and prioritizes the subjects that are tested so that they can guarantee their next education or in this case only as complementary (Lengkana & Sofa, 2017). Of course, these various things have a big impact on the physical condition of children in Indonesia and will hinder the realization of national education goals in Indonesia which are listed in Article 3 of the National Education System Law Number 20 of 2003. According to (Adi S et al., 2018) physical education, sports, and health are mandatory subjects that must be followed by students at all levels of education from elementary school to high school. Therefore, Physical Education, Sports and Health (PJOK) is one of the important aspects to realize the goals of national education, namely to form character and maintain physical fitness (Rozi et al., 2023) Physical education also plays a role in shaping development in each individual such as physical and mental development, motor, cognitive, social, and affective abilities so that they can contribute directly to education (Mustafa, 2022) In addition, according to (O. Candra et al., 2023) physical education can help remind concentration, memory, and learning ability, so that students' academic results are also good. Physical education is an educational process that aims to form a complete individual by involving students' interaction with the environment through physical activities (Iyakrus, 2019) Another definition says that physical education is one of the lessons that can guide the process of growth and development of children such as physical, mental, social and emotional development (Widodo & Wahyuni, 2016) From the various statements above, it can be concluded that physical education is an educational process that utilizes physical activity to improve a person's overall quality of life, especially in the academic performance of students in increasing changes in physical, mental, social and emotional quality.

There is an appropriate concept to foster the spirit of doing physical activities in children, namely through the concept of physical literacy. Physical literacy is a concept that applies to anyone, anytime, and anywhere in carrying out physical activities according to their age, ability, and culture where they live (Kusuma et al., 2024) Whitehead as the initiator of physical literacy offers the concept that physical literacy is motivation, confidence, physical competence, knowledge and understanding to appreciate and take responsibility for lifelong involvement in physical activity (Edwards et al., 2017) According to (Adi et al., 2024) physical literacy is a broader concept than just understanding the physical, but rather includes the ability of individuals to move and interact with their physical environment effectively and sustainably. Physical literacy is also a basis for every individual who functions for daily activities and efforts to achieve quality performance (Wibowo et al., 2023) From the above statement, it can be concluded that the concept of physical literacy is closely related to self-drive and confidence, physical ability, and cognitive competence, so that every individual can continue to be active in carrying out physical activities anywhere and anytime.

Immanuel Berli Septian[1A-E*], Adi S[2B-D]
immanuelberli4@students.unnes.ac.id[1*]

In Indonesia, the term literacy is growing along with the incessant literacy movement in every school, namely the reading movement 15 minutes before lessons which aims to foster students' interest in reading. However, as the times progress, the scope of literacy has become wider, so a terminology has emerged in the sports group, namely physical literacy. The development of the word literacy in the world of sports is also combined with the term digital literacy developed in the physical education process(Adi et al., 2023) Until now, the term "physical literacy" does not exist in Indonesian and it, some physical education experts in Indonesia still use various terms such as physical literacy, physical literacy, physical literacy and physical literacy (Widodo, 2018) This is further strengthened by the reality, that in Indonesia physical literacy is still limited to concepts and understandings and in indexed journals only one relevant article is found about the study of physical literacy and outside of journal articles there are only two, namely in the Indonesian Physical Education Teachers Association (AGPJI) and the Physical Education Webinar(Permana & Habibie, 2021). This condition shows that the concept of physical literacy in Indonesia is still limited and has not been considered. Meanwhile, in the education system in neighboring Malaysia, physical education classes are the best opportunity to introduce and develop physical literacy in children starting when registering for elementary school (Reni et al., 2024) This, of course, will bring something bad for future generations, because physical literacy is considered valuable because it has the potential to improve the quality of human life and explore the best potential in life (Bachtiar et al., 2024) In addition, the benefits that can be obtained are increased immunity, being able to move confidently in various situations and being able to respond appropriately through intelligence and imagination (Arindi et al., 2023) Therefore, in order for children's physical literacy in Indonesia to develop, schools and teachers must be involved in it, such as providing better understanding and knowledge in carrying out physical activities through physical education and sports extracurricular programs (Rosiana et al., 2023; Reni et al., 2024). From the above statement, it can be concluded that the concept of physical literacy in Indonesia is still poorly understood, while physical literacy itself can provide benefits such as improving the quality of human life and exploring the best potential in oneself.

Physical activity can certainly be done anywhere, such as in lowland and highland environments. Children who live in lowlands are more likely to be active on flat land, while children who live in highlands tend to be more active on roads that go up and down (Pamungkas et al., 2022) Doing daily activities in areas that have differences such as regional topography turns out to have a close relationship with the physical condition of individuals. The geographical location of this place of residence will affect the children's leg ability and sports talent (A. T. Candra, 2016) This condition will also indirectly affect their physical fitness such as aerobic capacity (VO2max) (Yogantoro & Ferianto, 2016) In addition, research (Riski et al., 2024) shows that the topography of an area influences motor skills, especially on balance elements. From the above statement, it can be concluded that differences in geographical conditions can affect physical conditions in

Immanuel Berli Septian[1A-E*], Adi S[2B-D]
immanuelberli4@students.unnes.ac.id[1*]

children such as leg ability, aerobic capacity and motor skills, especially in the element of balance.

Based on observations and explanations in the background, researchers found several problems related to physical literacy such as the lack of widespread research on physical literacy in Indonesia, then physical education at SD Negeri Sukorejo 01 and SD Negeri Nongkosawit 01 has not measured physical literacy often about his physical fitness. Based on these problems, this study aims to provide new references related to physical literacy research in Indonesia and compare the results of physical literacy in elementary schools located in the lowlands with schools located in the highlands.

METHODS

Research Design

This research is a quantitative descriptive research (non-experimental). According to (Sugiyono, 2023) quantitative research is defined as a research method based on the philosophy of positivism to examine certain populations and samples that in data collection use research tools using quantitative or statistical data analysis with the aim of testing predetermined hypotheses. This type of research is comparative research, which is a study that compares one sample group with another sample group based on certain variables or measures.

Participants

The researcher took the population in schools in Semarang City, namely grade V elementary school students from SD Negeri Sukorejo 01 totalling 26 students living in lowland areas with an altitude of 0-200 meters above sea level (masl) and class V students from SD Negeri Nongkosawit 01 totalling 26 students living in highland areas with an altitude above 200 meters above sea level. So the total population is 52 students. The sampling technique in the study is purposive sampling a sampling technique that takes certain conditions deliberately and determines who the informant is, thereby making it easier for the researcher to determine the criteria and consider certain reasons in this study. So there are several sample criteria in this study such as class V students, lowland schools and highland schools, as well as a sample of 52 students.

Table 1.
Research Sample

NO	School	Class	Female Students	Male Students	Number of Female and Male Students
1.	SD Negeri Sukorejo 01	V	15	11	26
2.	SD Negeri Nongkosawit 01	V	8	18	26
Total			**23**	**29**	**52**

Data Collection Techniques

In this study, data was taken and obtained by conducting a series of tests. There are several domains in Physical Literacy, namely the domain of physical skills, the domain of motivation and confidence, and the domain of knowledge and understanding. The data

collection technique used in this study uses the Physical Literacy Test for Elementary Schools in the Physical Competency Domain (TLJSD-DKF) made by (Fathiyati, 2022) and the Physical Literacy Assessment of Elementary Schools made by (Permana et al., 2024) in the form of initial observations with interviews and assessments physical literacy with the domain of physical skills, the domain of motivation and confidence and the domain of knowledge and understanding. Therefore, there are provisions and procedures for the implementation of research instruments, which are as follows:

1. Tiamsa

   The TIAMSA test aims to determine children's motor skills by combining traditional games so that it is hoped that children will know traditional games and be able to play actively. The equipment used in this test is a field, duct tape/chalk, a caste ball, a soccer ball, 6 cones, 12 pieces of tile slabs, stationery, an assessment sheet and a stopwatch.

   Implementation Process

   Post 1: participants perform the movement of throwing slabs and jumping the tile slabs to the prepared engklek box and jump with two feet in each box without touching the line.

   Post 2: After that the sliding movement with the sideways body position to be slid in the opposite direction. To touch the cone, bend the knees with the legs apart and the body is lowered.

   Post 3: catch the kasti ball with one or two hands and do not use the body to prevent the ball from falling and hold the kasti ball properly. Followed by throwing a tennis ball (bancakan) towards the slab/paper on the wall.

   Post 4: after throwing then run with the correct leg pattern, that is, running the antelope swings the legs and hands alternately correctly. Return to the original position in post 1 and make a jump but with one foot without touching the line.

   Post 5: participants are in a position to kick the ball in the direction between the cones. Measurement results are recorded in seconds and get points if you successfully perform the task, Here's a clearer picture of the series of implementations of the Tiamsa test.

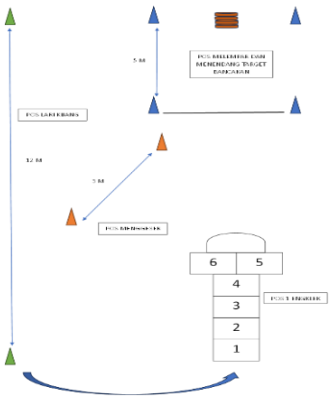

Image 1.
Tiamsa Test Field

2. Pacer

Immanuel Berli Septian[1A-E*], Adi S[2B-D]
immanuelberli4@students.unnes.ac.id[1*]

This test aims to measure cardiorespiratory endurance. The equipment used in this test is a gauge (meter), 10 cones/markers for each end, a field, a loudspeaker or tape recorder, a cassette or CD containing the PACER test guide, test form, and stationery.
Implementation Process
Stand up and make sure you are behind the start line.
At the first beep, you should run immediately, to make sure that you cross the line on the other side before the next beep.
Once you get there, turn around and wait for the next beep.
As soon as you hear the next beep, start running to the other side. Every minute the beep will get faster.
When you hear a triple beep, it's a sign that you've completed a level and the beep will be a little faster.
Keep running back and forth until you can't cross the line before the next beep. We will give you a warning the first time you do not cross and line up on time.
When we warn you that you should go faster, immediately turn around and run back to the next line.
The second time you don't make it across the line before your beep is over.

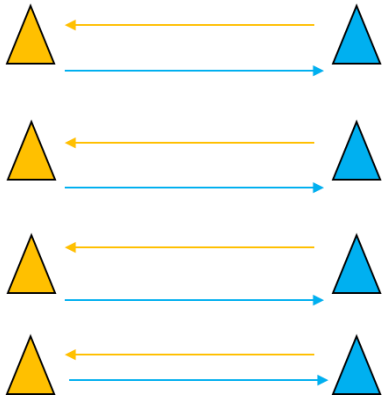

Image 2.
Pacer Test

3. Situp

This test aims to measure the strength and endurance of the abdominal muscles. The equipment needed for this test is a stopwatch, a base/mat/mat (if needed), stationery, and a test form.
Implementation Process
The officer prepares the equipment used in the sit-up test.
Testi performs the initial posture by lying on the floor/mattress, with both knees folded approximately at an angle of 90°, and the position of the hands placed next to the ears.
The officer or testator can hold both ankles so that they do not lift.
Before starting, the officer can instruct the "willing" and "starting" cues.
After the cue starts, participants can change the position to sit so that both elbows touch both thighs and return to the original position.
The movement is repeated with a predetermined time of 30 seconds.

Immanuel Berli Septian[1A-E*], Adi S[2B-D]
immanuelberli4@students.unnes.ac.id[1*]

Image 3. Sit up

4. Questionnaire

   Assessment activities in the domains of motivation and confidence as well as the domains of knowledge and understanding can trigger students to feel incapable, unintelligent, and unenthusiastic. The assessment is carried out through a questionnaire of motivation and confidence, knowledge and understanding. This test assessment aims to determine students' motivation and confidence, knowledge and understanding after participating in physical skills test activities. Data collection on this domain is carried out by filling in the Google form link that has been provided.

   Implementation Process

   The researcher prepared a questionnaire through a Google form.

   The teacher prepares a mobile phone that is already connected to the internet signal.

   Students who can access the Google form link can fill out the questionnaire independently.

   Researchers and teachers accompany students who fill out questionnaires,

   Valuation

   There is a classification of numbers 1 to 4 with classifications that are very inappropriate, inappropriate, appropriate, and very appropriate. To calculate the results of students' answers, it can be done by adding the number of answers to the number of questions in each domain. After obtaining the results of the number of student answers for each student, the researcher can calculate the interpretation of the score with the formula:

$$Results\ of\ Number\ of\ Student\ (1-40)x\ 100 : Highest\ Score\ (40) = ResultValue\ (0-100) \quad (1)$$

The formula for Calculating Questionnaire Score Results

The final value can be matched with the value that has been interpreted as follows:

Table 2.
Questionnaire Categorization

Beginning	Progressing	Achieving	Excelling
0-25	26-50	51-75	76-100

5. Norm Table

   After carrying out each series of physical competency domain tests, it will be used as a conclusion/interpret the results of the score. The classification that has been designed in the TLJSD-DKF instrument, is made into four categories. The four categories are interpreted as follows:

Immanuel Berli Septian[1A-E*], Adi S[2B-D]
immanuelberli4@students.unnes.ac.id[1*]

Beginning, this level considers that children have limitations in carrying out a series of physical literacy test instruments so they need significant encouragement and support.

Progressing, this level assumes that the child is making better progress in improving and utilizing the health they have achieved according to their peers.

Archiving, this level assumes that the child has achieved physical literacy in improving and utilizing the health they have achieved. Encouragement and support will allow them to continue their physical literacy journey to excellence.

Excelling, this level assumes that the child has an advantage in the process of improving and utilizing substantial health.

To be able to determine the final value of the entire physical competency domain. Then it is necessary to calculate the overall score, which is as follows:

$$TIAMSA\ (10\ Point) + Pacer\ (10\ Point) + Sit\ Up\ (10\ Point) = PhysicalCompetency\ Assesment\ (Range\ 0 - 100\ Points) \quad (2)$$

The formula for Calculating Physical Literacy Assessment

After finding the result of the number of points obtained from adding up all the points on the test item. Thus, the final point can be matched with the final point that has been classified as follows:

Table 3.
Interpretation of Physical Literacy Assessment Categorization

	Beginning	Progressing	Achieving	Excelling
Female				
8 Tahun	<13.2	13.2-18.0	18.1-20.3	>20.3
9 Tahun	<13.7	13.7-18.6	18.7-20.9	>20.9
10 Tahun	<14.1	14.1-19.1	19.2-21.6	>21.6
11 Tahun	<14.5	14.5-19.8	19.9-22.3	>22.3
12 Tahun	<15.2	15.2-20.7	20.7-23.3	>23.3
Male				
8 Tahun	<13.4	13.4-19.4	19.5-22.0	>22.0
9 Tahun	<13.7	13.7-19.9	20.0-22.5	>22.5
10 Tahun	<14.0	14.0-20.3	20.3-23.0	>23.0
11 Tahun	<14.3	14.3-20.8	20.9-23.6	>23.6
12 Tahun	<14.9	14.9-21.6	21.7-24.5	>24.5

Data Analysis Techniques

This study uses quantitative data processing techniques obtained in the form of numbers from the field by calculating the results of a series of tests using the help of computerization, namely Microsoft Excel, to find out the classification results obtained. Furthermore, the data obtained will be tested for normality using the Shapiro-Wilk test, followed by a Levene homogeneity test. After both samples in the lowlands and highlands have passed the prerequisite test, then the data obtained from the two samples are tested differently using the Independent Samples t-test if the data is normally distributed and using a nonparametric alternative test, namely the Mann Whitney test if the data is abnormally distributed. In data analysis using the Statistical Package for the Social Sciences (SPSS) version 26, the significance level used was $\alpha = 0.05$.

RESULTS AND DISCUSSION

Result

Results of Physical Literacy Assessment (Tiamsa, Pacer, Sit up)

Based on the results of the Physical *Literacy Assessment* of grade 5 male and female students of SD Negeri Sukorejo 01 and SD Negeri Nongkosawit 01, data can be obtained with the following results:

Table 4.
Results of Physical Literacy Assessment of Grade 5 Male and Female Students of SD Negeri Sukorejo 01 and SD Negeri Nongkosawit 01

Total Final Score Physical Literacy	SD Negeri Sukorejo 01		SD Negeri Nongkosawit 01	
	Average Score	Classification	Average Score	Classification
Male	22	Achieving	20,4	Progressing
Female	18	Progressing	16,5	Progressing

Based on the table above, it is known that the results of the physical literacy assessment of male grade 5 students of SD Negeri Sukorejo 01 have an average score of 22 which is included in the achieving classification and the results of the physical literacy assessment of male grade 5 students of SD Negeri Nongkosawit 01 have an average score of 20.4 which is included in the progressing classification. Meanwhile, the results of the physical literacy assessment on 5th grade female students of SD Negeri Sukorejo 01 have an average score of 18 which is included in the progressing classification and the results of the physical literacy assessment on 5th grade female students of SD Negeri Nongkosawit 01 have an average score of 16.5 which is included in the progressing classification.

Motivation & Confidence and Knowledge & Understanding Results

Based on the results of the measurement of the motivation and confidence questionnaire test as well as the knowledge and understanding of 5th-grade male and female students of SD Negeri Sukorejo 01 and SD Negeri Nongkosawit 01, data can be obtained through a questionnaire with the following results:

Table 5.
Results of Questionnaire on Motivation & Confidence and Knowledge & Understanding of Grade 5 Students of SD Negeri Sukorejo 01 and SD Negeri Nongkosawit 01

Item	SD Negeri Sukorejo 01		SD Negeri Nongkosawit 01	
	Average Score	Classification	Average Score	Classification
Motivation and Self-Confidence	64,4	Achieving	57,3	Achieving
Knowledge and Understanding	70,7	Achieving	65	Achieving

Based on the table above, it is known that the results of the motivation and confidence questionnaire of grade 5 students of SD Negeri Sukorejo 01 have an average score of 64.4 which is included in the achieving classification and the results of the motivation and confidence questionnaire of grade 5 students of SD Negeri Nongkosawit 01 have an average score of 57.3 which is included in the achieving classification. Meanwhile, the results of the knowledge and understanding questionnaire for grade 5

Immanuel Berli Septian[1A-E*], Adi S[2B-D]
immanuelberli4@students.unnes.ac.id[1*]

students of SD Negeri Sukorejo 01 have an average score of 70.7 which is included in the achieving classification and the results of the knowledge and understanding questionnaire for grade 5 students of SD Negeri Nongkosawit 01 have an average score of 65 which is included in the achiving classification.

Normality Test

The normality test in this study uses the Shapiro-Wilk normality test with a significance level of α = 0.05. If the P value is < 0.05, the data is not normally distributed, while if the P value is > 0.05, the data is normally distributed.

Table 6.
Results of the Normality Test of Physical Literacy Assessment of Grade 5 Students of SDN Sukorejo 01 in the Lowlands and SDN Nongkosawit 01 in the Highlands

Physical Literacy Assessment	*Statistic*	df	Sig	Information
SDN Sukorejo 01	914	26	0,033	Sig< α 0,05= Abnormal
SDN Nongkosawit 01	878	26	0,005	Sig< α 0,05= Abnormal

Based on the table above, the results of the normality test with Shapiro Wilk show that the assessment of physical literacy (tiamsa, pacer, *situp)* of grade 5 students of SD Negeri Sukorejo 01 and SD Negeri Nongkosawit 01 with the description Sig< α 0.05 = abnormal.

Table 7.
Results of Normality Test of Motivation and Confidence of Grade 5 Students of SDN Sukorejo 01 in the Lowlands and SDN Nongkosawit 01 in the Highlands

Motivation and Confidence	*Statistic*	df	Sig	Information
SDN Sukorejo 01	972	26	0,674	Sig> α 0,05= Normal
SDN Nongkosawit 01	972	26	0,664	Sig> α 0,05= Normal

Based on the table above, the results of the normality test with *Shapiro Wilk* show that the motivation and confidence of grade 5 students of SD Negeri Sukorejo 01 and SD Negeri Nongkosawit 01 with the information Sig> α 0.05 = normal.

Table 8.
Results of the Normality Test of Knowledge and Understanding of Grade 5 Students of SDN Sukorejo 01 in the Lowlands and SDN Nongkosawit 01 in the Highlands

Knowledge and Understanding	*Statistic*	df	Sig	Information
SDN Sukorejo 01	899	26	0,015	Sig< α 0,05= Abnormal
SDN Nongkosawit 01	979	26	0,857	Sig> α 0,05= Normal

Based on the table above, the results of the normality test with *Shapiro Wilk* show that the knowledge and understanding of grade 5 students of SD Negeri Sukorejo 01 with a description of Sig< α 0.05 = abnormal and students of grade 5 of SD Negeri Nongkosawit 01 with a description of Sig> α 0.05 = normal.

Homogeneity Test

The homogeneity test in this study uses a statistical levene homogeneity test with a significance level of α = 0.05. If the P value is < 0.05, the data variance is not homogeneous, while if the P value is > 0.05, the data variance is homogeneous.

Table 9.
Results of the Homogeneity Test of Physical Literacy, Motivation and Confidence Assessment of Knowledge and Understanding of Grade 5 Students of SDN Sukorejo 01 in the Lowlands and SDN Nongkosawit 01 in the Highlands

Item	Levene Statistic	df1	df2	Sig	Information
Physical Literacy Assessment	0,101	1	50	0,752	Sig> α 0,05= homogeneous
Motivation and Self-Confidence	1,652	1	50	0,205	Sig> α 0,05= homogeneous
Knowledge and Understanding	1,107	1	50	0,298	Sig> α 0,05= homogeneous

Based on the table above, the results of the homogeneity test with Levene show that the assessment of physical literacy, motivation and confidence, as well as the knowledge and understanding of grade 5 students of SD Negeri Sukorejo 01 in the lowlands and SD Negeri Nongkosawit 01 in the Sig> α highlands 0.05= homogeneous. So it can be concluded that the data has homogeneous or equal variants.

Hypothesis Testing

The hypothesis test in this study uses the Independent Samples T Test if the data is normally distributed and uses a nonparametric alternative test, namely the Mann-Whitney test if the data is abnormally distributed with a significance level of α = 0.05.

Mann Whitney

If the value of Asymp. Sig. (2-tailed) < 0.05 concludes that there is a significant difference, while if the Asymp value. Sig. (2-tailed) > 0.05 concluded that there was no significant difference.

Table 10.
Results of *the Mann-Whitney Assessment* of Physical Literacy of Grade 5 Male Students of SDN Sukorejo 01 in the Lowlands and SDN Nongkosawit 01 in the Highlands

Schools	N	Mean	Sum of Ranks	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)	Information
SDN Sukorejo 01	11	17,36	191,00	73,000	244,000	-1,190	0,234	Asymp. Sig. t > α 0,05 = no difference (0,234 > 0,05)
SDN Nongkosawit 01	18	13,56	244,00					

Based on the table above, the final results of the Mann-Whitney test show that the significant value (0.234) is greater than the alpha value (5%) or 0.05. Thus, it can be concluded that there is no significant difference in physical literacy assessment (Tiamsa, pacer, situp) between male students in lowland areas (SDN Sukorejo 01) and male students in highland areas (SDN Nongkosawit 01).

Table 11.
Results of the Mann Whitney Assessment of Physical Literacy of Grade 5 Female Students of SDN Sukorejo 01 in the Lowlands and SDN Nongkosawit 01 in the Highlands

School	N	Mean	Sum of Ranks	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)	Information
SDN Sukorejo 01	15	12,93	194,00	46,000	82,000	-0,912	0,362	Asymp. Sig. t > α 0,05 = no difference (0,362 > 0,05)
SDN Nongkosawit 01	8	10,25	82,00					

Immanuel Berli Septian[1A-E*], Adi S[2B-D]
immanuelberli4@students.unnes.ac.id[1*]

Based on the table above, the final results of the Mann-Whitney test show that the significant value (0.362) is greater than the alpha value (5%) or 0.05. Thus, it can be concluded that there is no significant difference in physical literacy assessment (tiamsa, pacer, situp) between female students in lowland areas (SDN Sukorejo 01) and female students in highland areas (SDN Nongkosawit 01).

Table 12.
Results of the Mann Whitney Test Knowledge and Understanding of Grade 5 Students of SDN Sukorejo 01 in the Lowlands and SDN Nongkosawit 01 in the Highlands

School	N	Mean	Sum of Ranks	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)	Information
SDN Sukorejo 01	26	30,00	780,00	247,000	598,000	-1,676	0,094	Asymp. Sig. t > α 0,05 = no difference (0,094 > 0,05)
SDN Nongkosawit 01	26	23,00	598,00					

Based on the table above, the final results of the Mann-Whitney test show that the significant value (0.094) is greater than the alpha value (5%) or 0.05. Thus, it can be concluded that there is no significant difference in knowledge and understanding between students in lowland areas (SDN Sukorejo 01) and students in highland areas (SDN Nongkosawit 01).

Independent Samples T Test

If the significance value (2-tailed) < 0.05 concludes that there is a significant difference. Meanwhile, if the significance value (2-tailed) > 0.05, it is concluded that there is no significant difference.

Table 13.
Results of the Motivation and Confidence T-Test of Grade 5 Students of SDN Sukorejo 01 in the Lowlands and SDN Nongkosawit 01 in the Highlands

					95% Confidence Interval of the Difference		
T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper	Information
2,749	50	0,008	2,462	0,895	0,663	4,260	Sig. t < α 0,05 = there is a difference (0,008 < 0,05)
2,749	47,980	0,008	2,462	0,895	0,661	4,262	Sig. t < α 0,05 = there is a difference (0,008 < 0,05)

Based on the table above, the final results of *the Independent Samples T Test* show that the significant value (0.008) is smaller than the alpha value (5%) or 0.05. Thus, it can be concluded that there is a significant difference in motivation and confidence between students in lowland areas (SDN Sukorejo 01) and students in highland areas (SDN Nongkosawit 01).

Discussion

As times progress, the scope of literacy has become wider, so that a terminology has emerged in the sports group, namely physical literacy. In physical literacy, there are several domains, namely motivation, confidence, physical competence, knowledge, and

Immanuel Berli Septian[1A-E*], Adi S[2B-D]
immanuelberli4@students.unnes.ac.id[1*]

understanding. So, based on the explanation of the data analysis above, it will be discussed related to each test that has been carried out by students of SD Negeri Sukorejo 01 and SD Negeri Nongkosawit 01.

In this study, it can be seen that in the *physical literacy assessment* test (physical competence) consisting of tiamsa, pacer, and *situp* between students in the lowlands (SDN Sukorejo 01) and highland (SDN Nongkosawit 01) there is no difference between both boys and girls. In *physical literacy*, the domain of physical competence has the intention of achieving psychomotor abilities in students. One of the factors causing this is the daily physical activity carried out by students. Physical activity is a process that requires the expenditure of energy that involves body movements produced by muscles (Riyanto & Mudian, 2019).

In the study (Sufitriyono & Yahya, 2020) it was stated that daily activities carried out at school and outside of school, indirectly affect the level of movement skills of students living in their respective areas. In addition, (Riski et al., 2024) argue that activities outside of physical education learning hours also play a role, such as playing or doing activities, especially in playing activities, the running aspect is always involved and running ability is one of the motor skills that must be mastered by students. In this case, students who are in lowlands and highlands are assumed to have activity habits that are not much different such as playing football, running, and so on, which indirectly affects their movement skills. A child, especially an elementary school student, wants to always actively move and play in the initial stage of the child's learning process (Sufitriyono & Yahya, 2020). This is also in line with research (Bariyah et al., 2022) which states the opinion that the characteristics of students aged 6-12 years when they have free time, on average, use it to play because it is a fun activity, that play cannot be separated from the lives of boys and girls both in the city and in the village.

Physical fitness is a state where a person can perform tasks does not feel tired and still has energy reserves to do other activities (Ma'arif & Prasetiyo, 2021). A fit physique is certainly needed by everyone, including elementary school students, which is used to support their activities such as participating in learning at school and playing. As explained in the background, currently school-age children tend to like activities inside the house such as playing on computers and mobile phones, and watching television, rather than playing outdoors with their peers, while this results in an energy imbalance (Izatulislami & Kumaat, 2022). In research (Kurniawati & Utomo, 2021) although playing *online games* is entertaining, it also has negative impacts such as difficulty concentrating and decreased motivation when studying and reducing physical fitness, because players do not move their bodies which makes them less active. This is in line with the results of research (Zenitha, 2019) that the lack of physical activity affects the level of physical fitness of students. The negative impact of this massive technological development certainly does not only occur in urban or lowland areas but is also experienced by people, especially children in the highlands. Because now technology has become a need for everyone everywhere (Kurniawati & Utomo, 2021). Thus, one of the factors that cause the absence of differences in physical literacy assessments (physical

competence) between students in lowlands and highlands is the influence of technological advances that affect a person to be lazy or *mager.*

Physical education learning at school is one of the things that can be used as a means to improve students' physical fitness. This is of course the teacher's task so that the goal of physical education can be achieved. According to (Izatulislami & Kumaat, 2022), teachers play a role in finding interesting and fun learning to increase students' interest in moving. The use of less effective teaching methods by teachers can hurt the learning process of students (Sari et al., 2024). This is also in line with the opinion the learning outcomes of penjas are influenced by several variables, including the teacher's ability to teach that is not optimal, the selection of methods, and the right media for penjas learning materials. The results of the study (Darmawan, 2018) show that there is a significant direct influence of the role of teachers on students' interest in learning in PE subjects. Therefore, a teacher must have high abilities in learning, considering his important role in improving the quality of students such as improving cognitive, affective, and psychomotor abilities (Erfan, 2017). In addition to these causative factors, there are also causal factors that are no less important, namely motivation. Even though a teacher has tried his best, if there is no motivation in the students, then it is difficult to achieve the improvement of movement skills. In penjas, the stronger the motivation to exercise, the better the mastery of certain movement skills. This is in line with the results of research (Prabowo et al., 2023) that learning motivation has an influence on the learning outcomes of basic engineering skills.

In physical literacy, in addition to testing with physical activity, tests with questionnaires are also carried out. The implementation of the test with questionnaires is used to research the domains of motivation and confidence as well as the domains of knowledge and understanding. Based on the explanation of the data analysis above, it shows that there is no significant difference in knowledge and understanding between students in lowland areas (SDN Sukorejo 01) and students in highland areas (SDN Nongkosawit 01). In physical literacy, the domain of knowledge and understanding has the intention of achieving cognitive abilities in students. One of the factors causing the absence of this difference is the role of parents. Parents are a small group (family) that is closest to children. Every adult needs a job to meet his needs, including the parents of the sample in this study. Work is a positive activity, but if done excessively, it can have negative consequences, one of which is on children's development. Because it is from this family that a child will get his first education. This is also in line with the opinion (Wahidin, 2020) that parents play the role of the main and first educator for their children because it will affect the development and growth of children. In terms of education, parents play the role of educators, motivators, facilitators, and guides. If some of these roles can be fulfilled, then indirectly children's cognitive skills will develop well, because parents are one of the determining factors in the treatment of education following the child's age level and thinking ability (Miranda, 2018). Therefore, the development of a child is determined by how his parents educate, nurture and nurture their children to prepare for their future life.

Immanuel Berli Septian[1A-E*], Adi S[2B-D]
immanuelberli4@students.unnes.ac.id[1*]

There is another factor that causes no difference in knowledge and understanding between students in lowland areas (SDN Sukorejo 01) and students in highland areas (SDN Nongkosawit 01), namely the role of teachers. Like parents, teachers also have almost the same role as parents, namely educating, teaching, and guiding. According to (Wiwikananda & Briansyah, 2024) as an educator a teacher must have a quality personality such as independence and discipline, the teacher must be able to explain the material well and define concepts clearly, and as a supervisor, the teacher must be able to direct the growth and development of students including cognitive, affective, and psychomotor aspects. If a teacher does not have any of these roles, it can affect the quality of students. In addition, according to (Asnawi et al., 2023) as educators, it is important to understand the potential that exists in students and develop them through the participation of the environment, training and adequate facilities. Therefore, if a teacher can carry out various existing roles optimally, it can improve the quality of education and help the development of potential in students. Based on this explanation, it can be seen that teachers have an essential role in the implementation of education to achieve educational goals (Arifin, 2017).

Thus, it can be concluded that parents and teachers have a vital role in the overall self-development of students. In addition, it also plays a role in the achievement of national education goals.

Based on the results of the data analysis above, show that there is a significant difference in motivation and confidence between students in lowland areas (SDN Sukorejo 01) and students in highland areas (SDN Nongkosawit 01). The test results also show that students in the lowlands (SDN Sukorejo 01) have a higher average score of 64.4, compared to students in the highlands (SDN Nongkosawit 01) which is 57.3. In the domain of physical literacy, motivation and self-confidence have the intention of achieving affective abilities in students.

In a study (Reza et al., 2021) that examined the level of students' confidence in learning floor gymnastics, it was argued that the level of confidence of students differed in terms of individuals, each school, and geographical location both in rural and urban areas. Then, in reality, students who lack motivation and confidence tend to become students who are awkward, nervous, embarrassed and full of doubts when faced with new material, because they think that they cannot do it (Reza et al., 2021; Asiyah et al., 2019).

Various factors can affect students' motivation and confidence, both internal and external. According to (Riska Handayani, 2019), motivation in oneself will be more influential and provide continuity in learning, because motivation that comes from outside cannot be controlled by the individual. The factors in the self that cause the difference in results are self-concept, self-esteem, achievements, and physical condition. These internal factors direct individuals to strive to become positive-minded, optimistic, independent, and strong, and encourage individuals to excel (Pangestu et al., 2020).

In addition, there are also external factors that affect individual motivation and confidence, namely the role of parents and teachers. In this case, parents can play a role such as giving rules, rewards or punishments, giving attention or response, while

teachers can foster students' motivation to learn by creating a fun learning atmosphere, a variety of interesting learning methods, and providing praise, assessment, and comments on students' learning outcomes (Riska Handayani, 2019). The results of the study (Pangestu et al., 2020) show that parental care affects students' confidence.

High confidence will also cause high motivation because the two things are interconnected (Mulya & Lengkana, 2020). This condition also affects the learning outcomes of students. This is in line with the results of research (Mulya & Lengkana, 2020) which shows that there is a relationship and a great influence between self-confidence, learning motivation and physical education learning achievement of elementary school students. In addition, the results of the study (Asiyah et al., 2019) show that there is a positive influence between confidence and students' motivation to excel in learning science in elementary school. Thus, it can be concluded that students' motivation and confidence can grow well if there is a will in students and get the right parenting and guidance from parents and teachers.

CONCLUSION

Based on the results of the analysis, it can be concluded that efforts to foster the spirit of physical activity in children can be made through the application of physical literacy in a structured manner because it can help children to be actively involved in carrying out physical activities in a sustainable manner. However, there are still problems in efforts to implement physical literacy as seen in the analysis results which show that there is no difference in the physical competency domain. Some of the factors that cause the absence of these differences are the daily activities carried out by students both in the school and outside the school environment, the influence of technological advances, the role of teachers and strong motivation. These various factors can cause the physical condition of students to be poor, while in physical literacy, the physical competency domain requires excellent physicality.

The domain of knowledge and understanding between students in the lowlands and those in the highlands shows that there is no difference. Some of the factors that cause it are the role of parents and teachers. Parents and teachers have an essential role in the overall development and growth of students. Because these two factors have almost the same duties and responsibilities such as educating and guiding. So a child's development is very determined by how his parents and teachers direct.

In addition, there is also a significant difference in motivation and confidence between students who are in the lowlands and those in the highlands. There are *internal* and *external* factors that cause these differences. Internal factors that cause this to happen are self-concept, self-esteem, achievement and physical condition. These *internal* factors can direct individuals, especially elementary school students, to become a person with a positive personality. There are also *external* factors such as the role of parents and teachers. Both have their important roles such as when at home parents provide rules and attention, while at school teachers foster motivation and confidence

by creating a fun learning atmosphere and giving praise and assessment. Thus, differences in motivation and confidence of elementary school students can occur due to factors from within and from outside.

There are limitations in this study, such as the ability of respondents who do not understand instructions and demonstrations when collecting data and reference sources about physical literacy comparison, which are still limited. So it is hoped that there will be further research on physical literacy in physical education.

REFERENCES

Adi, S., Nurharsono, T., Soenyoto, T., & Yuwono, C. (2024). Mapping the Landscape of Physical Literacy Research: A Bibliometric Analysis. *Proceedings of International Conference on Physical Education, Health, and Sports*, *4*, 32–36.

Adi, S., Soegiyanto, Rohidi, T. R., & Rustiadi, T. (2023). Digital literacy of physical education teachers in the 5.0 era. *Sport TK*, *12*, 1–11. https://doi.org/10.6018/SPORTK.562941

Adi S, Soenyoto, T., & Sulaiman. (2018). The Implementation of Media in Teaching and Learning of Physical, Sport, and Health Education Subject. *Journal of Physical Education and Sports (JPES)*, *7*(1), 13–21. https://journal.unnes.ac.id/sju/index.php/jpes/article/view/19740

Arifin, S. (2017). Peran guru pendidikan jasmani dalam pembentukan pendidikan karakter peserta didik. *Multilateral: Jurnal Pendidikan Jasmani Dan Olahraga*, *16*(1). https://doi.org/https://dx.doi.org/10.20527/multilateral.v16i1.3666

Arindi, M., Rachmawati, T. S., & Perdana, F. (2023). Media Sosial Sebagai Wadah Berbagi Pengetahuan Literasi Fisik Anak Usia Dini di Halo Kids Indonesia. *Pustakaloka*, *15*(2), 327–343. https://doi.org/10.21154/pustakaloka.v15i2.7088

Asiyah, A., Walid, A., & Kusumah, R. G. T. (2019). Pengaruh Rasa Percaya Diri Terhadap Motivasi Berprestasi Siswa pada Mata Pelajaran IPA. *Scholaria: Jurnal Pendidikan Dan Kebudayaan*, *9*(3 SE-Articles), 217–226. https://doi.org/10.24246/j.js.2019.v9.i3.p217-226

Asnawi, A., Rakhmat, C., & Sidik, G. S. (2023). Peran Guru dalam Menemukan dan Mengembangkan Potensi Kecerdasan Peserta Didik di Sekolah Dasar. *Jurnal Educatio FKIP UNMA*, *9*(2 SE-Articles), 1089–1099. https://doi.org/10.31949/educatio.v9i2.5017

Aulia, W., Suryansah, S., & Januarto, O. B. (2022). Pengaruh Permainan Tradisional Terhadap Tingkat Kebugaran Jasmani Siswa SMP: Literature Review. *Sport Science and Health*, *4*(1), 94–102. https://doi.org/https://doi.org/10.17977/um062v4i12022p94-102

Bachtiar, F., Agustiyawan, A., Wibisono, H., Kurniawan, A., Adriani, A., & Dzakira, F. S. (2024). Gerakan Literasi Fisik Anti Malas Bergerak di Sekolah Master Indonesia. *Prima Abdika: Jurnal Pengabdian Masyarakat*, *4*(2), 405–415. https://doi.org/https://doi.org/10.37478/abdika.v4i2.4300

Bariyah, K., Ashari, I. A., & Yuliawan, E. (2022). Pengaruh Permainan Tradisional

Masyarakat Jambi Terhadap Peningkatan Kebugaran Jasmani Siswa Sekolah Dasar. *Jurnal Pendidikan Tematik Dikdas*, *7*(2), 156–165. https://doi.org/https://doi.org/10.22437/jptd.v7i2.21544

Candra, A. T. (2016). Studi Tentang Kemampuan Lompat Tegak Siswa Sekolah Dasar Negeri Berdasarkan Perbedaan Geografis Sebagai Identifikasi Bakat Olahraga. *Jurnal Sportif*, *2*(2).

Candra, O., Pranoto, N. W., Ropitasari, R., Cahyono, D., Sukmawati, E., & CS, A. (2023). Peran Pendidikan Jasmani dalam Pengembangan Motorik Kasar pada Anak Usia Dini. *Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini*, *7*(2), 2538–2546. https://doi.org/10.31004/obsesi.v7i2.4506

Darmawan, S. (2018). Pengaruh Lingkungan Sekolah, Peran Guru Dan Minat Belajar Siswa Terhadap Motivasi Belajar Penjas Sd Inpres Buttatianang I Makassar. *Jurnal Muara Pendidikan*, *3*(2 SE-Articles), 103–111. https://ejournal.ummuba.ac.id/index.php/mp/article/view/78

Edwards, L. C., Bryant, A. S., Keegan, R. J., Morgan, K., & Jones, A. M. (2017). Definitions, Foundations and Associations of Physical Literacy: A Systematic Review. *Sports Medicine*, *47*(1), 113–126. https://doi.org/10.1007/s40279-016-0560-7

Erfan, M. (2017). Peran guru penjas terhadap kebugaran (kesegaran) jasmani siswa. *Seminar Nasional Pendidikan Olahraga*, *1*(1), 184–192.

Fathiyati, T. N. (2022). *PENGEMBANGAN INSTRUMEN TES LITERASI JASMANI DOMAIN KOMPETENSI FISIK UNTUK SISWA SEKOLAH DASAR-(SKP. PGSD. 0080)*. Universitas Muhammadiyah Tasikmalaya.

Iyakrus, I. (2019). Pendidikan Jasmani, Olahraga Dan Prestasi. *Altius : Jurnal Ilmu Olahraga Dan Kesehatan*, *7*(2). https://doi.org/10.36706/altius.v7i2.8110

Izatulislami, D. S. N., & Kumaat, N. A. (2022). Hubungan aktivitas fisik dan kualitas hidup siswa Sekolah Dasar Negeri Kedungdoro IV Surabaya. *Jurnal Kesehatan Olahraga*, *10*(4), 93–102.

Kurniawati, I., & Utomo, H. (2021). Pengaruh Kebiasaan Bermain Game Online terhadap Prestasi Belajar Siswa SD. *Elementa: Jurnal Pendidikan Guru Sekolah Dasar*, *3*(1 SE-Research). https://doi.org/10.33654/pgsd.v3i1.1297

Kusuma, D. A., Maret, U. S., Riyadi, S., Maret, U. S., Seminar, P., Hmp, N., & Maret, U. S. (2024). *Pentingnya Literasi Fisik Dalam Pendidikan Jasmani Usia Anak-Anak Abstrak*. *May*.

Lengkana, A. S., & Sofa, N. S. N. (2017). Kebijakan Pendidikan Jasmani dalam Pendidikan. *Jurnal Olahraga*, *3*(1), 1–12. https://doi.org/10.37742/jo.v3i1.67

Ma'arif, I., & Prasetiyo, R. (2021). Tingkat Kebugaran Jasmani Siswa Sekolah Dasar Saat Pandemi Covid - 19. *Jurnal Pendidikan Tambusai*, *5*(2 SE-Articles of Research), 3451–3456. http://jptam.org/index.php/jptam/article/view/1418

Miranda, N. (2018). Peran Orang Tua Dalam Menumbuhkan Motivasi Belajar Pada Anak Sekolah Dasar. *Jurnal Ilmiah Pendidikan Dasar*, *3*(1), 10–27. https://doi.org/https://doi.org/10.23969/jp.v8i1.8365

Mulya, G., & Lengkana, A. S. (2020). Pengaruh Kepercayaan Diri, Motivasi Belajar terhadap

Prestasi Belajar Pendidikan Jasmani. *Competitor*, *12*(2), 83–94. https://doi.org/10.26858/cjpko.v12i2.13781

Mustafa, P. S. (2022). Peran pendidikan jasmani untuk mewujudkan tujuan pendidikan nasional. *Jurnal Ilmiah Wahana Pendidikan*, *8*(9), 68–80. https://doi.org/10.5281/zenodo.6629984

Pamungkas, R., Wahyudi, U., & Angga, P. D. (2022). Studi Perbandingan Kemampuan Gerak Lokomotor dan Manipulatif di Dataran Rendah dan Dataran Tinggi pada Siswa Sekolah Dasar. *Sport Science and Health*, *4*(5), 407–415. https://doi.org/10.17977/um062v4i52022p407-415

Pangestu, C., Sujati, H., & Herwin, H. (2020). Pengaruh self efficacy dan pengasuhan orang tua terhadap kepercayaan diri siswa. *FOUNDASIA*, *11*(1). https://doi.org/http://dx.doi.org/10.21831/foundasia.v11i1.32600

Permana, R., & Habibie, A. (2021). *Analisis Assesmen Literasi Jasmani dengan Kebutuhan Pembelajaran PJOK di Sekolah Dasar Muhammadiyah Tasikmalaya*.

Permana, R., Winarno, M. E., Rahayu, S., & Hadi. (2024). *Literasi Fisik di Sekolah Dasar: Teori dan Praktik ia Menilai Literasi Fisik Usia 8-12 Tahun* (A. Fitriyanti (ed.)). EDU PUBLISHER.

Prabowo, R. A., Hita, I. P. A. D., Lubis, F. M., Patimah, S., Eskawida, E., & Siska, S. (2023). Pengaruh Motivasi Terhadap Hasil Belajar Dribbling Permainan Bola Basket. *Journal on Education*, *5*(4), 12648–12658. https://doi.org/https://doi.org/10.31004/joe.v5i4.2253

Ratnasari, E. M. (2020). Outdoor Learning Terhadap Literasi Numerasi Anak Usia Dini. *ThufuLA: Jurnal Inovasi Pendidikan Guru Raudhatul Athfal*, *8*(2), 182. https://doi.org/10.21043/thufula.v8i2.8003

Reni, S. K. A., Hendrayana, Y., & Rahmat, A. (2024). Persepsi Guru Penjas Terhadap Literasi Fisik Pendidikan Jasmani: Systematic Literature Review. *Jurnal Dunia Pendidikan*, *4*(2), 852–860. https://doi.org/https://doi.org/10.55081/jurdip.v4i2.1908

Reza, E. A., Syafei, M. M., & Achmad, I. Z. (2021). Tingkat Rasa Percaya Diri Siswa Pada Pembelajaran Senam Lantai. *Gelanggang Olahraga: Jurnal Pendidikan Jasmani Dan Olahraga*, *4*(2), 142–149. https://doi.org/https://doi.org/10.31539/jpjo.v4i2.1832

Riska Handayani. (2019). PENGARUH LINGKUNGAN TEMPAT TINGGAL DAN POLA ASUH ORANGTUA TERHADAP MOTIVASI BELAJAR SISWA SEKOLAH DASAR. *Jurnal Tunas Bangsa* , *6*(1 SE-Articles), 15–26. https://ejournal.bbg.ac.id/tunasbangsa/article/view/916

Riski, A. M., Wahyudi, U., & Yudasmara, D. S. (2024). STUDI KEMAMPUAN MOTORIK ANAK USIA 10 TAHUN PADA DATARAN RENDAH DAN DATARAN TINGGI DI KABUPATEN JEMBER. *Jayabama: Jurnal Peminat Olahraga*, *4*(1), 11–20.

Riyanto, P., & Mudian, D. (2019). Pengaruh Aktivitas Fisik Terhadap Peningkatan Kecerdasan Emosi Siswa. *Journal Sport Area*, *4*(2 SE-RESEARCH ARTICLES), 339–347. https://doi.org/10.25299/sportarea.2019.vol4(2).3801

Rosiana, W., Angga, P. D., & Tahir, M. (2023). Pengembangan Media Literasi Fisik (Melifis) bagi Siswa Sekolah Dasar. *Jurnal Educatio FKIP UNMA*, *9*(2), 964–975.

https://doi.org/10.31949/educatio.v9i2.4707

Rozi, M. F., Putra, J., Suwirman, S., & Arsil, A. (2023). Motivasi Siswa Dalam Pembelajaran Pendidikan Jasmani Olahraga dan Kesehatan (PJOK). *Wahana Didaktika : Jurnal Ilmu Kependidikan*, *21*(1), 143–153. https://doi.org/10.31851/wahanadidaktika.v21i1.11011

Sari, Y. Y., Dhitia Putri Ulfani, Muhammad Ramos, & Padli. (2024). PENTINGNYA PENDIDIKAN JASMANI OLAHRAGA TERHADAP ANAK USIA SEKOLAH DASAR. *Jurnal Tunas Pendidikan*, *6*(2 SE-Articles), 478–488. https://doi.org/10.52060/pgsd.v6i2.1657

Sufitriyono, S., & Yahya, A. A. (2020). Struktur Tubuh Anak Usia 11-14 Tahun Berdasarkan Wilayah Tempat Tinggal (Dataran Tinggi, Perkotaan Pesisir Pantai). *Jendela Olahraga*, *5*(1), 35–41.

Sugiyono. (2023). *Metode Penelitian Kuantitatif, Kualitatif, dan R&D* (Sutopo (ed.); Kedua). Alfabeta.

Wahidin, W. (2020). Peran Orang Tua Dalam Menumbuhkan Motivasi Belajar Pada Anak Sekolah Dasar. *JURNAL PANCAR (Pendidik Anak Cerdas Dan Pintar)*, *3*(1).

Wibowo, A., Susongko, P., & Basukiyatno, B. (2023). Model Asesmen Literasi Fisik Guru Pendidikan Jasmani Olahraga dan Kesehatan di Sekolah Dasar. *Journal of Education Research*, *4*(4), 2281–2289. https://jer.or.id/index.php/jer/article/view/615

Widodo, A. (2018). Makna dan Peran pendidikan jasmani dalam pembentukan insan yang melek jasmaniah/ter-literasi jasmaniahnya. *Motion: Jurnal Riset Physical Education*, *9*(1), 53–60. https://doi.org/https://doi.org/10.33558/motion.v9i1.1432

Widodo, A., & Wahyuni, E. S. (2016). Hubungan Tingkat Kebugaran Jasmani Siswa Dengan Hasil Belajarpendidikan Jasmani, Olahraga Dan Kesehatan (Studi pada siswa Kelas VIII di SMP Negeri 1 Sukorame Lamongan). *Jurnal Pendidikan Olahraga Dan Kesehatan*, *04*(1), 48–55. http://ejournal.unesa.ac.id/index.php/jurnal-pendidikan-jasmani/issue/archive

Willumsen, J., & Bull, F. (2020). Development of WHO guidelines on physical activity, sedentary behaviour, and sleep for children less than 5 years of age. *Journal of Physical Activity and Health*, *17*(1), 96–100. https://doi.org/10.1123/jpah.2019-0457

Wiwikananda, S. K. S., & Briansyah, D. A. (2024). Peran Guru Terhadap Keterampilan Membaca Melalui Gerakan Literasi Sekolah Peserta Didik Sekolah Dasar. *JESE: Journal of Elementary School Education*, *1*(01), 50–59.

Yoga Brata Susena, Y., Danang Ari Santoso, D., & Puji Setyaningsih, P. (2021). Ethnosport permainan tradisional gobak sodor. *Jurnal Pendidikan Kesehatan Rekreasi*, *7*(2), 450–462. https://doi.org/https://doi.org/10.5281/zenodo.5035410

Yogantoro, Z. S., & Ferianto, B. (2016). Perbandingan tingkat kebugaran jasmani siswa kelas VIII di Sekolah Menengah Pertama Negeri Dataran Tinggi dan Daerah Pesisir. *Jurnal Pendidikan Olahraga Dan Kesehatan*, *4*(3), 24–29.

Zenitha, N. M. (2019). Hubungan Aktivitas Fisik Diluar Jam Pelajaran Pjok Terhadap Tingkat Kebugaran Jasmani Siswa. *Jurnal Pendidikan Olahraga Dan Kesehatan*, *7*(3).