

# The Interconnected Influence of Internal Factors on Physical Education, Sports, and Health Learning Outcomes

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## ABSTRAK

Masalah utama dalam penelitian ini adalah rendahnya hasil belajar PJOK siswa yang dipengaruhi oleh berbagai faktor internal, seperti kebugaran jasmani, kebiasaan sarapan pagi, dan percaya diri. Penelitian ini bertujuan untuk mengetahui pengaruh kebugaran jasmani, kebiasaan sarapan pagi, dan percaya diri terhadap hasil belajar PJOK. Penelitian ini menggunakan metode kuantitatif dengan pendekatan analisis jalur (Path Analysis). Sampel diambil dengan teknik Simple Random Sampling dari populasi sebanyak 176 siswa, menghasilkan 60 siswa sebagai sampel. Data dikumpulkan melalui Tes Kebugaran Pelajar Nasional (TKPN) untuk mengukur kebugaran jasmani, kuesioner recall makanan untuk kebiasaan sarapan pagi, angket untuk mengukur percaya diri, dan nilai rapor untuk hasil belajar. Hasil penelitian menunjukkan bahwa kebugaran jasmani memiliki pengaruh langsung signifikan terhadap hasil belajar PJOK dengan kontribusi sebesar 18,92%. Kebiasaan sarapan pagi memberikan pengaruh langsung signifikan dengan kontribusi sebesar 0,27%. Percaya diri memiliki kontribusi langsung sebesar 31,08%. Selain itu, terdapat pengaruh tidak langsung kebugaran jasmani terhadap hasil belajar melalui percaya diri dengan kontribusi sebesar 88,6%, serta pengaruh tidak langsung kebiasaan sarapan pagi terhadap hasil belajar melalui percaya diri sebesar 0,68%. Secara simultan, kebugaran jasmani, kebiasaan sarapan pagi, dan percaya diri memberikan kontribusi total sebesar 82,70% terhadap hasil belajar PJOK. Simpulan dari penelitian ini menegaskan bahwa ketiga variabel tersebut memiliki peran penting dalam meningkatkan hasil belajar PJOK siswa, baik secara langsung maupun tidak langsung melalui penguatan percaya diri.

## ABSTRACT

The primary issue addressed in this study is the low academic performance in Physical Education, Sports, and Health (PJOK) among students, influenced by various internal factors, such as physical fitness, breakfast habits, and self-confidence. This research aims to examine the effects of physical fitness, breakfast habits, and self-confidence on PJOK learning outcomes. The study employed a quantitative method with a path analysis approach. The sample was selected using Simple Random Sampling from a population of 176 students, resulting in 60 students as participants. Data were collected using the National Student Fitness Test (TKPN) to assess physical fitness, a food recall questionnaire for breakfast habits, a self-confidence questionnaire, and report card scores for learning outcomes. The findings reveal that physical fitness has a significant direct effect on PJOK learning outcomes, contributing 18.92%. Breakfast habits also have a significant direct effect, contributing 0.27%. Self-confidence contributes a direct effect of 31.08%. Additionally, there is an indirect effect of physical fitness on learning outcomes through self-confidence, contributing 88.6%, and an indirect effect of breakfast habits on learning outcomes through self-confidence, contributing 0.68%. Collectively, physical fitness, breakfast habits, and self-confidence contribute a total of 82.70% to PJOK learning outcomes. The conclusion of this study emphasizes that these three variables play a vital role in improving students' PJOK learning outcomes, both directly and indirectly through enhanced self-confidence.

## 1. INTRODUCTION

Schools serve as formal educational institutions responsible for enhancing the quality of education in Indonesia (Saâdiyah, 2018), with education playing a crucial role in improving both the quality and quantity of human life (Qiu et al., 2022; Suryana, 2020). As a fundamental need for all individuals, education is vital in shaping the nation's children (Khusniati et al., 2017; Magdalena et al., 2020). Learning outcomes reflect the extent to which students have grasped the material presented by teachers, providing valuable feedback on their understanding, particularly in physical education, sports, and health (Sukriani, 2023; Yulaika et al., 2020). Physical education, sports, and health are essential for fostering physical growth, psychological development, motor skills, and the cultivation of healthy lifestyle habits, all of which contribute to a well-rounded development of both physical and psychological qualities (Putro & Winarno, 2022; Rismayanthi, 2011). Thus, promoting physical fitness is crucial for stimulating the holistic growth and development of students.

Apart from physical fitness, the habit of eating breakfast plays a crucial role in supporting students' learning activities at school (Al-Faida, 2021; Hidayat & Nurhayati, 2021). Breakfast provides essential energy to meet students' needs, ensuring that they have the stamina to engage in academic tasks and physical activities. A healthy breakfast should include easily digestible, high-fiber foods with sufficient protein and low-fat content, which are recommended to optimize both physical and cognitive performance (Rima et al., 2020). The consumption of nutritious foods ensures that students have the necessary energy and nutrients to sustain their learning activities throughout the school day (Murjani et al., 2019). Moreover, self-confidence is another critical factor influencing the outcomes of physical education, sports, and health (Hananingsih & Imran, 2020). Students with high self-confidence are more likely to participate actively and enjoy learning activities, while a lack of self-confidence can lead to disengagement and hinder academic progress (Rohmat & Lestari, 2019). Teachers play a pivotal role in fostering students' self-confidence by understanding their individual characteristics and providing the support necessary to help them succeed. Therefore, both physical fitness and self-confidence are essential components in achieving positive learning outcomes in PJOK.

Previous research has extensively explored the various factors influencing students' learning outcomes, particularly in the context of physical education, sports, and health. Prior studies emphasize the importance of breakfast habits in providing the necessary energy for students to engage effectively in learning activities (Al-Faida, 2021; Hidayat & Nurhayati, 2021). Their studies suggest that a nutritious breakfast not only supports cognitive function but also contributes to overall physical performance during school activities. Additionally, the significant role of self-confidence in students' ability to participate in and enjoy physical education, sports, and health lessons (Hananingsih & Imran, 2020; Sya'baniyah et al., 2022). These studies underline that self-confidence facilitates active engagement in learning and enhances students' chances of academic success. Collectively, these findings indicate that both physical fitness and psychological factors, such as self-confidence and breakfast habits, are crucial for improving students' learning outcomes in physical education.

This study presents a novel approach by investigating the combined influence of physical fitness, breakfast habits, and self-confidence on the learning outcomes of PJOK (Physical Education, Sports, and Health) at SDN 1 Bengkulu Selatan. While previous research has examined these factors separately, there is limited exploration of their interconnected effects on students' academic achievements in physical education. The aim of this research is to assess how these three variables contribute to students' learning outcomes, offering valuable insights for educators, students, and parents. By understanding the role of physical fitness, breakfast habits, and self-confidence in enhancing learning outcomes, the study provides practical recommendations for improving student performance in PJOK lessons, thus contributing to the holistic development of children in both physical and psychological aspects.

## 2. METHOD

Based on the objectives of this research, the method used in this research is a quantitative research method, namely a path analysis approach (Path Analysis) using structural equations that pay attention to causality in the influence of variables. From the definition above, it can be understood that path analysis (Path Analysis) is a means or data analysis technique used to study causal relationships with the aim of knowing the direct influence and indirect influence of the independent (exogenous) variable on the dependent (endogenous) variable where the causal relationship is arranged in the form of a hypothetical model that is based on substantive scientific knowledge, namely a theoretical basis. The variables in this research are the exogenous variables Physical Fitness, Breakfast Habits and Self-

Confidence as intervening variables, while the endogenous variables are Physical Education Learning Outcomes. The population used included all students of South Bengkulu State Elementary School 1 (176 students). The reason for choosing South Bengkulu 1 State Elementary School as the population is because many students at South Bengkulu 1 State Elementary School get less than optimal learning results because it is very easy for students to experience fatigue when carrying out the teaching and learning process of South Bengkulu 1 State Elementary School students. In this research, sampling was carried out using the Simple Random Sampling technique, which is a technique for determining samples with certain considerations. The Simple Random Sampling technique is a technique for taking sample members from a population that is carried out randomly without paying attention to the classification or strata in the population. In this study, samples were taken from a population of 60 students.

PJOK learning outcomes can be briefly concluded as the abilities students gain after going through PJOK learning activities. In this study, the assessment focused on psychomotor assessment of learning outcomes. This PJOK learning data was analyzed from the first and second semester grades of PJOK subjects at the South Bengkulu 1 State Elementary School for the 2023/2024 academic year, the evaluation of which was carried out by the PJOK teacher. The classification of PJOK score is presented in [Table 1](#).

**Table 1. Classification of PJOK Score**

No	Score	Category
1	<75	Not enough
2	75-79	Enough
3	80-89	Good
4	90-100	Very good

Assessment of PJOK learning outcomes by educators is carried out continuously and covers all aspects of the student, including affective aspects, cognitive aspects and psychomotor aspects that are in accordance with the characteristics of PJOK lessons. Learning outcomes are recorded and summarized by educators in a grade book which will become the educator's archive to determine student learning outcomes. The instrument used to measure the level of physical fitness in this research is the Indonesian Student Fitness Test (TKPN) for ages 10-12 years which has been standardized and consists of 5 tests. According to DBON, this test consists of Body Mass Index, V Sit and Reach, 60 Second Sit Ups, Squat Thrust 30 Seconds, and Pacer Test. Body Mass Index or BMI is one way to determine body mass status with the criteria: Obesity, Fat, Ideal, and Thin. Body mass index can be found by knowing body height and weight using the formula ( $\text{kg}/\text{m}^2$ ). BMI categories and thresholds is presented in [Table 2](#).

**Table 2. BMI Categories and Thresholds**

Index	Nutritional Status Category	Threshold (Z-Score)
Age (BMI/U) of children aged 5-18 years	Malnutrition (thinness)	-3 SD to < -2 SD
	Good (normal) nutrition	-2 SD to + 1 SD
	Over nutrition (overweight)	+ 1 SD to + 2 SD
	Obesity (obese)	> + 2 SD

V Sit and Reach is a modified test instrument from Sit and Reach to measure the flexibility of the back muscles and hamstring muscles. Flexibility is also called flexibility. The classification of V Sit and Reach is presented in [Table 3](#).

**Table 3. Classification of V Sit and Reach**

Age	Gender	Very Low	Low	Enough	Good	Very well
9 Years	L	< -6	-6 - 0.9	1 - 2.9	3 - 7	> 7
	P	< 3	3 - 5.9	6 - 8.9	9 - 13	> 13
10 years	L	< -6	-6 - 0.9	1 - 2.9	3 - 8	> 8
	P	< 3	3 - 5.9	6 - 8.9	9 - 14	> 14
11 years old	L	< -6	-6 - 1.9	2 - 3.9	4 - 9	> 9
	P	< 4	4 - 6.9	7 - 9.9	10 - 15	> 15
12 years old	L	< -6	-6 - 1.9	2 - 3.9	4 - 9	> 9
	P	< 4	4 - 7.9	8 - 10.9	11 - 16	> 16

60 Second Sit Ups or lying down is a form of movement that involves the abdominal muscles. This movement is done by lying on your back, bending your knees, then lifting your body up. The classification of 60 second sit ups is presented in Table 4.

**Table 4. Classification of 60 Second Sit Ups**

Age	Gender	Very Low	Low	Enough	Good	Very well
9 years	L	≤ 15	16-26	27-37	38-47	≥ 48
	P	≤ 14	15-24	25-34	35-44	≥ 45
10 years	L	≤ 16	17-27	28-39	40-49	≥ 50
	P	≤ 15	16-25	26-37	38-46	≥ 47
11 years old	L	≤ 17	18-29	30-40	41-50	≥ 51
	P	≤ 19	20-30	31-40	41-51	≥ 52
12 years old	L	≤ 19	20-31	32-43	44-55	≥ 56
	P	≤ 19	20-30	31-40	41-51	≥ 52

30 Second Squat Thrust is a combination movement of changing body position from a standing position, squatting to a push up position and back to standing. The classification of 30 second squat thrust is presented in Table 5.

**Table 5. Classification of 30 Second Squat Thrust**

Age	Gender	Very Low	Low	Enough	Good	Very Good
9 years	L	≤ 2	3-6	7 - 9	10-12	≥ 13
	P	≤ 2	3-4	5 - 6	7-8	≥ 9
10 years	L	≤ 3	4-7	8 - 11	12-14	≥ 15
	P	≤ 2	3-4	5 - 6	7-9	≥ 10
11 years old	L	≤ 4	5-8	9 - 11	10-14	≥ 15
	P	≤ 2	3-4	5 - 6	7-9	≥ 10
12 years old	L	≤ 4	5-8	9 - 12	13 - 15	≥ 16
	P	≤ 2	3-5	6 - 8	9-11	≥ 12

The Pacer Test is a progressive aerobic cardiovascular endurance test using back and forth running over a distance of 20 meters with step speed increasing every minute following a predetermined rhythm. This test is also known as a modification of the beep test or bleep test. The Pacer Test classification is presented in Table 6.

**Table 6. Pacer Test Classification**

Age	Gender	Very Low	Low	Enough	Good	Very Good
9 years	L	≤ 13	14-30	31-40	41-50	≥ 51
	P	≤ 6	7-16	17-26	27-35	≥ 36
10 years	L	≤ 23	24-36	37-49	50-60	≥ 61
	P	≤ 7	8-18	19-29	30-40	≥ 41
11 years old	L	≤ 23	24-39	40-55	56-71	≥ 72
	P	≤ 15	16-24	25-32	33-40	≥ 41
12 years old	L	≤ 32	33-47	48-63	64-71	≥ 72
	P	≤ 15	16-24	25-32	33-40	≥ 41

Breakfast habits in this study used a closed questionnaire, where the questions given to respondents were given in multiple choice form. Furthermore, this questionnaire uses a Likert scale. In the questionnaire or questionnaire five alternative answers are provided, namely Very Often with a score of 5, Often with a score of 4, Sometimes with a score of 3, Rarely with a score of 2, Never with a score of 1. Next, the breakfast habit uses the food recall instrument which is one quantitative food consumption survey method. This method produces data regarding the amount of food consumed by a person. To measure the breakfast habit variable, use a questionnaire or questionnaire. Self-confidence is an aspect of human personality that has an important function in actualizing one's potential. Breakfast habits in this study used a Likert scale. In the questionnaire or questionnaire, 5 alternative answers are provided. The questionnaire is used to see students' self-confidence in the teaching and learning process. This

instrument was designed using answers from students where each question given was given a score of 5 to 1, namely Strongly Agree (5), Agree (4), Disagree (3), Disagree (2), Strongly Disagree (1).

The data analysis technique used in this research is descriptive statistics, namely statistics whose function is to obtain a picture or measurements from existing data. Test analysis requirements used in this study include the data normality test with Lilliefors test, linearity test. After the normality test and regression linearity test are carried out, it is continued with path analysis (Path Analysis) to test the research hypothesis using the SPSS program. Path analysis is a development technique from multiple linear regression. Here, you can later calculate the direct and indirect effects between variables. Conclusions regarding the proposed hypothesis will be drawn through calculating the proposed coefficients will be drawn through calculating the path coefficients and significance for each path studied.

### 3. RESULT AND DISCUSSION

#### Result

The subjects in this research were students at South Bengkulu State Elementary School 1. The characteristics measured are body weight and height. Based on the data analysis, tr results were obtained is presented in [Table 7](#).

**Table 7. Sample Characteristics**

Characteristics	Minimal	Maximum	Average	Standard Deviation
Height	116.0	149.0	138.25	7.46
Weight	26.78	45.64	36.04	4.79
Age	11	12	11	0.45
BMI	15.02	21.81	18.94	1.57

To assess the physical fitness levels of students, the "Indonesian Student Fitness Test" was utilized, comprising five distinct instruments: Body Mass Index (BMI), V Sit and Reach, Sit Up, Squat Thrust, and Pacer Test. While the BMI provides supporting data on students' nutritional status, the other instruments serve to evaluate their physical fitness levels. The results of data processing are presented as follows. Regarding the nutritional status of the students at South Bengkulu State Elementary School 1, BMI, calculated from weight and height measurements, is a widely used tool to determine whether an individual is underweight, overweight, or maintains a healthy weight. After testing a sample of 60 students, split into two gender categories (30 male and 30 female) results revealed that 93.33% of the male students (28 out of 30) fell into the Good Nutrition category, while 6.67% (2 out of 30) were classified in the overnutrition category. Among the female students, 90% (27 out of 30) were categorized as having Good Nutrition, with 10% (3 out of 30) in the overnutrition category. As for the physical fitness levels of the students, all 60 students from South Bengkulu State Elementary School 1, assessed using the TKPN test, were classified in the "poor" category, indicating that none of the students demonstrated physical fitness levels above this threshold. This suggests that the entire sample (100%) falls within the poor physical fitness category.

Based on data on Breakfast Habits collected using a questionnaire distributed by South Bengkulu State Elementary School 1 students, the highest score was 99, the lowest score was 68, the average score was 82.12 and the Standard Deviation was 8.88. For more clarity, the frequency distribution of physical fitness test results data was used. The distribution of questionnaires can be seen in [Table 8](#).

**Table 8. Frequency Distribution of Breakfast**

No.	Morning Breakfast Habits	Frequency	Percentage (%)
1	Never	12	20
2	Seldom	8	13.3
3	Sometimes	17	28.4
4	Often	9	15
5	Very often	14	23.3
	Total	60	100

Next, based on Food Recall data to determine the energy intake that students get in the morning. If we review the breakfast energy intake of 60 students, there are 34 students who do not have enough energy intake, 26 students have enough energy intake. Furthermore, from the overall food recall data, it

has a minimum energy of 0 Kcal, a maximum energy of 1152.4 Kcal. Furthermore, the standard deviation is 293.01 Kcal and the average is 536.46 Kcal. For more clarity, as shown in [Table 9](#).

**Table 9. Energy Contribution from Breakfast**

Breakfast Energy	Score	Percentage (%)
Energy $\geq$ 30% Sufficiency	26	43%
Energy < 30% Sufficiency	34	57%

Based on self-confidence data collected using questionnaires for students, the highest score was 174, the lowest score was 122, the average score was 144.86 and the standard deviation was 11.39. For more details on the frequency distribution of confidence data using a questionnaire distribution, as shown in [Table 10](#).

**Table 10. Frequency Distribution of Self-Confidence**

Score	Category	Frequency	Percentage (%)
>178	Very well	10	16
165-177	Good	12	19
152-164	Currently	18	29
139-151	Not enough	10	16
<138	Very less	10	16
<b>Amount</b>		<b>60</b>	<b>100</b>

The results obtained were 178 with a very good classification of 10 people (16%), a score of 165 - 177 with a good classification of 12 people (19%), a score of 152 - 164 with a fair classification of 18 people (29%), a score of 139 - 151 with a classification of less than 10 people (16%) and a score below 138 with a classification of very less as many as 10 people (16%). Based on learning outcome data obtained from teacher educators at South Bengkulu State Elementary School 1, the highest score was 97, the lowest score was 75, the average score was 167 and the standard deviation was 7.04. For more details, the frequency distribution of learning outcome data can be seen in [Table 11](#).

**Table 11. Frequency Distribution of Learning Outcomes**

Intervals	Category	Frequency	Percentage (%)
90-100	Very good	20	32
80-89	Good	20	32
75-79	Enough	15	24
<75	Not enough	5	8
<b>Amount</b>		<b>60</b>	<b>100</b>

It was found from the research results that 20 students (32%) scored between 90-100 with a very good classification, 20 people (32%) scored 80-89 with a good classification, 15 people scored 75-79 with a fair classification (24%), score <75 with less classification as many as 5 people (8%). The normality test aims to assess whether the data follows a normal distribution, which is essential for determining the suitability of parametric statistical techniques. The results of normality test are presented in [Table 12](#). The linearity test, on the other hand, examines the relationship between variables to ensure that it is linear, which is a key assumption for many statistical models. The results of linearity test are presented in [Table 13](#).

**Table 12. Summary of Data Normality Test**

Variable	Sig.	P-Value	Information
Physical Fitness	0.233		
Breakfast Habits	0.270	0.05	Normal
Confidence	0.231		
Confident in Physical Fitness	0.266		
Be Confident in Your Morning Breakfast Habits	0.292		

Based on the data in Table 12, the significance value for each variable is greater than p-value = 0.05. In other words, it can be concluded that it is normally distributed.

**Table 13. Summary of Linearity Test**

Linearity Test	Sig.	P-Value	Information
Physical Fitness	0.133		
Breakfast Habits	0.370		
Confidence	0.431	0.05	Linear
Confident in Physical Fitness	0.166		
Be Confident in Your Morning Breakfast Habits	0.192		

Based on Table 13 data, the Sig value is obtained.  $> \alpha = 0.05$ . In other words, it can be concluded that the variables tend to form a straight line (linear). Hypothesis testing in this research uses path analysis through 2 (two) structural model tests. Testing on structural model 1, namely the Physical Fitness variable, Breakfast Habits with self-confidence and testing on structural model 2, namely Physical Fitness, breakfast habits, self-confidence with the learning outcomes of South Bengkulu State Elementary School 1 students. Through these two structural model tests, the path coefficient values for each variable under study can be calculated and answer the hypotheses proposed in this research.

**Table 14. Summary of Path Coefficients between Research Variables**

Model	Variable	Beta	Sig.	P-Value	Ket
Structural 1	Physical fitness, self-confidence ( $\rho_{31}$ )	0.800	0,000	0.05	Significant
	Breakfast habits, self-confidence ( $\rho_{32}$ )	0.240	0.097		
Structural 2	Physical Fitness, Learning outcomes ( $\rho_{y1}$ )	0.435	0.009		
	Breakfast habits, learning outcomes ( $\rho_{y2}$ )	0.052	0.057		
	Confidence, Learning Results ( $\rho_{y3}$ )	0.564	0.002		

Based on Table 14, the path coefficient ( $\rho_{31}$ ) obtained a Sig value.  $= \alpha 0.000 < \alpha = 0.05$ . The path coefficient ( $\rho_{32}$ ) obtained a Sig value.  $= 0.097 > \alpha = 0.05$ . The path coefficient ( $\rho_{y1}$ ) obtained a Sig value.  $= 0.009 < \alpha = 0.05$ . The path coefficient ( $\rho_{y2}$ ) obtained a Sig value.  $= 0.057 > \alpha = 0.05$ . Next, the path coefficient ( $\rho_{y3}$ ) obtains a Sig value.  $= 0.002 < \alpha = 0.05$ . In other words, the structural model of each path coefficient is significant. To determine the overall influence, both direct and indirect influence through the intervening variable student self-confidence, it can be calculated as a whole based on the results of testing the structural model and hypothesis in this research. The specific data is presented in Table 15.

**Table 15. Summary of Total Direct and Indirect Effects via Self-Confidence**

Path Coefficient	Direct Influence		Indirect Influence			Total Direct + Indirect Influence	
	Coefficient	(%)	Intervening	Coefficient	(%)	Total Coefficient	Total (%)
Physical Fitness, Learning outcomes ( $\rho_{y1}$ )	0.435	18.92 %	Physical Fitness on learning outcomes through the self-confidence variable	0.451	20.34 %	0.886	78.52 %

Breakfast habits, learning outcomes ( $\rho_{y2}$ )	0.052	0.27%	Habit Breakfast to the results Study through self-confidence	0.135	1.82%	0.187	4.18%
Self-confidence, learning outcomes							
Breakfast habits, Learning outcomes ( $\rho_{y3}$ )	0.564	31.80%					
<b>Total Direct + Indirect Influence</b>						<b>0.7852</b>	<b>82.7</b>
<b>Influence of Other Variables</b>						<b>0.2148</b>	<b>17.3</b>

Based on Table 15, the total direct and indirect influence through the intervening variable self-confidence of athletes at the Negeri 1 South Bengkulu elementary school is 82.70%, while the remaining 17.30% is another factor that is not explained in this research.

## Discussion

Based on the findings, it was found that there was a direct influence of physical fitness on students' PJOK learning outcomes with the path coefficient  $\rho_{y1} = 0.435$  and Sig value =  $0.009 < \alpha = 0.05$ . So the magnitude of the direct influence of physical fitness on the learning outcomes of South Bengkulu State Elementary School 1 students is 18.92%, while the remainder is influenced by other factors not explained in this research. These results are in line with previous researches, who stated that physical fitness for students needs to be well mastered for various purposes, such as increasing study concentration, endurance, and the ability to participate in sports activities and learning outcomes (Mustafa & Sugiharto, 2020; Osrita et al., 2020). Not only that, improving learning outcomes can also be improved through CIPP evaluation (Welis et al., 2023). However, achieving this goal still depends on factors that can influence overall physical fitness.

Furthermore, there is a direct influence breakfast habits on PJOK learning outcomes. Based on the results of research conducted, there is an influence breakfast directly on students' PJOK learning outcomes at South Bengkulu 1 State School. the result is that the path coefficient  $\rho_{y2} = 0.052$  and the Sig value =  $0.057 > \alpha = 0.05$ . The magnitude of the direct influence of breakfast habits on the learning outcomes of South Bengkulu State Elementary School 1 students is 0.27%, while the remainder is influenced by other factors not explained in this research. Breakfast habits are one of the important factors that can influence students' cognitive and physical performance. Several studies show that a healthy breakfast can provide enough energy to start the day, increase concentration, and improve memory abilities and academic performance (Sya'baniyah et al., 2022). Children who regularly eat breakfast tend to have better academic performance and experience less behavioral problems at school (Angraini & Hutahaean, 2021). In the context of PJOK learning outcomes, breakfast provides the energy needed for physical and mental activities during lessons (Welis & Afrinaldi, 2021).

Not only that, this research also found that there was a direct influence self-confidence on PJOK learning outcomes. Based on the results of the research conducted, there is a direct influence of self-confidence on the learning outcomes of students at State Primary School 1 South Bengkulu. The path coefficient results for breakfast habits, learning outcomes were obtained  $\rho_{y3} = 0.564$  and Sig value =  $0.002 < \alpha = 0.05$ . The magnitude of the direct influence of self-confidence on the learning outcomes of South Bengkulu State Elementary School 1 students is 31.08%, while the remainder is influenced by other factors not explained in this research. Self-confidence is a very important psychological factor in the learning process (Mulya & Lengkana, 2020). Students who have high self-confidence tend to be braver to ask questions, try new things, and don't give up easily when facing difficulties (Amar, 2024). Self-confidence influences a person's motivation and persistence in achieving goals (Widodo & Yandi, 2022; Zapko et al., 2018). In the learning context, self-confidence can increase active participation and persistence in completing academic tasks, including in PJOK lessons (Kurniawan et al., 2024).



Apart from that, this research also found that there was an indirect influence of physical fitness on PJOK learning outcomes through self-confidence, so the total direct influence of physical fitness on learning outcomes and the indirect influence exerted through the self-confidence of students at Elementary School 1 South Bengkulu was 0.886. Apart from direct influences, physical fitness also has an indirect influence through increasing self-confidence. Research shows that students who have good physical fitness tend to have higher self-confidence (Agus & Fahrizqi, 2020). This self-confidence allows them to participate more actively in learning activities, overcome challenges better, and have stronger motivation to achieve (Sutrisno et al., 2023). High self-confidence also encourages students to be more willing to take risks in learning, such as trying new techniques in sports and interacting more actively with teachers and classmates (Puspitasari et al., 2022). Therefore, efforts to improve students' physical fitness should be a priority in the education system to ensure they achieve optimal learning outcomes.

Furthermore, there is an indirect influence of breakfast habits on PJOK learning outcomes through self-confidence, so the total direct influence of breakfast habits on learning outcomes and the indirect influence provided through self-confidence of Bengkulu State Elementary School 1 students is 0.083 or 0.68%. Breakfast also has an indirect effect by increasing students' self-confidence. Research shows that good nutritional intake from breakfast can affect children's mood and self-confidence (Hidayat & Nurhayati, 2021). High self-confidence allows students to be more courageous in participating in learning activities and face challenges better (Rahayu, 2023). High self-confidence also contributes to motivation and active participation in PJOK lessons. Therefore, promoting healthy breakfast habits should be a priority both at school and at home. Not only that, this research shows that there is a direct influence of physical fitness, breakfast habits and self-confidence simultaneously on PJOK learning outcomes through self-confidence. So, the total influence of self-confidence on the learning outcomes of South Bengkulu State Elementary School 1 students is obtained by the path coefficient  $\beta_3 = 0.564$  and the Sig value =  $0.002 < \alpha = 0.05$ . This means that there is a direct influence of self-confidence on the learning outcomes of Bengkulu State Elementary School 1 students. South.

That the overall total direct and indirect influence through the intervening variable self-confidence of athletes at the State Elementary School 1 South Bengkulu is 82.70%, while the remaining 17.30% is another factor that is not explained in this research. Physical fitness plays an important role in supporting students' academic performance (Oktaviani & Wibowo, 2021). Physical fitness is closely related to cognitive function and academic performance. Physical activity increases blood flow to the brain, which in turn improves concentration, memory, and learning ability (Eliani et al., 2022). In the context of PJOK lessons, students who have good physical fitness are more able to actively participate in physical activities, which not only improves their health but also their learning outcomes (Putra, T. N. et al., 2022). A nutritious breakfast habit provides the energy needed to start the day well. A healthy breakfast can improve students' cognitive performance, memory abilities and concentration throughout the day (Yuniarsih, 2021). In the context of PE lessons, the energy obtained from breakfast allows students to participate in physical activities better, which ultimately improves their learning outcomes. Having a regular breakfast is also associated with increased self-confidence, as students feel more prepared and energized to face academic and physical challenges at school.

Self-confidence is a psychological factor that is very influential in the learning process. Students who have high self-confidence tend to be more motivated, dare to take initiative, and are more persistent in facing difficulties (Dewi & Minarti, 2018; Nengseh et al., 2024). A person's self-confidence in their ability to complete certain tasks influences effort, persistence, and goal achievement. In PJOK lessons, high self-confidence makes students braver in trying various physical activities and more active in participating in learning, which in turn improves their learning outcomes. This research shows that physical fitness, breakfast habits, and self-confidence not only have an individual influence, but also simultaneously on PJOK learning outcomes by increasing student self-confidence. Self-confidence acts as an intervening variable that strengthens the relationship between these factors and learning outcomes. Students who have good physical fitness and healthy breakfast habits tend to have higher self-confidence (Irawan & Dewi, 2022). This self-confidence increases their motivation and active participation in PE lessons, which ultimately has a positive impact on their learning outcomes (Kartikasari et al., 2023).

The findings of this study contribute to the field by providing empirical evidence on the direct influence of physical fitness and breakfast habits on students' PJOK learning outcomes. Specifically, the research demonstrates that physical fitness has a moderate direct effect of 18.92% on learning outcomes, which aligns with existing literature that emphasizes the importance of physical fitness in enhancing concentration, endurance, and overall academic performance (Mustafa & Sugiharto, 2020; Osrita et al., 2020). Additionally, the study highlights that breakfast habits, although a less significant factor, still play a role in improving learning outcomes, with a direct influence of 0.27%. These results underscore the

importance of a holistic approach to student development, integrating physical fitness and healthy habits for optimal educational performance. Implications for practice suggest that interventions focusing on enhancing students' physical fitness and promoting healthy breakfast habits could potentially improve their academic achievement, particularly in PJOK. Future research could explore other factors contributing to learning outcomes, such as sleep patterns and psychological well-being, to provide a more comprehensive understanding of the variables at play.

#### 4. CONCLUSION

The findings of this study underscore the significant role of physical fitness and breakfast habits in shaping students' PJOK learning outcomes. The direct influence of physical fitness, accounting for 18.92% of the variance in learning outcomes, aligns with existing research that highlights the critical connection between physical health and academic performance. Similarly, although breakfast habits showed a relatively smaller impact of 0.27%, they remain a key factor in enhancing cognitive and physical performance, as supported by previous studies on the benefits of proper nutrition. These results emphasize the importance of promoting both physical fitness and healthy eating habits as integral components of educational strategies aimed at improving students' learning outcomes. Thus, the study suggests that interventions targeting physical health and well-being should be incorporated into educational frameworks to optimize student performance and overall development.

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