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Assessing the Link Between Learning Results in Physical Education and Basic Motor Skills with Students' Sports Preferences

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ABSTRACT
This study aimed to assess the relationship between physical education (PE) learning outcomes, basic motor skills, and students' sports preferences at SMP Negeri 33 Makassar. A correlational quantitative research design with a descriptive-analytic approach was employed. The sample consisted of 120 students from grades VII and VIII, selected through stratified random sampling. Data collection involved PE learning scores, motor skill tests (20-meter sprint, standing long jump, ball throw, one-leg balance), and a structured questionnaire measuring sports preferences. Descriptive statistics showed that the average PE score was 78.5 (SD = 7.2), while motor skill test scores varied: sprint (mean = 4.9 seconds, SD = 0.5), long jump (mean = 1.7 meters, SD = 0.3), ball throw (mean = 8.2 meters, SD = 1.1), and balance (mean = 12.4 seconds, SD = 3.2). Pearson correlation analysis revealed significant positive relationships between PE learning outcomes and sports preferences ($r = 0.54$, $p < 0.01$), and between motor skills and sports preferences ($r = 0.62$, $p < 0.01$). Multiple regression indicated that PE learning outcomes and motor skills together explained 37.1% of the variance in sports preferences ($R^2 = 0.371$, $p < 0.001$), with motor skills having a stronger predictive influence ($\beta = 0.48$). These findings emphasize the importance of integrating cognitive and motor skill development in PE programs to enhance students' interest in sports. This study contributes to improving physical education strategies to promote active lifestyles among adolescents.

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INTRODUCTION

Physical education (PE) plays a crucial role in the holistic development of students. It not only promotes physical health and well-being but also contributes significantly to the cognitive, emotional, and social domains of learners (Bailey et al., 2013). Globally, the significance of physical education is increasingly acknowledged as an integral part of school curricula. It is perceived as a vehicle for promoting active lifestyles and preventing lifestyle-related diseases (WHO, 2018). The Sustainable Development Goals (SDG) have also highlighted the role of quality education and healthy lives, wherein PE finds a meaningful intersection (UNESCO, 2021).

One of the primary objectives of PE is to improve students' motor competence, which includes fundamental movement skills such as running, jumping, throwing, and balancing. These skills are essential building blocks for more complex movements used in games and sports (Logan et al., 2015). Equipping students with proficient motor skills at an early age not only enhances their participation in physical activities but also lays the foundation for a lifelong engagement with sports and exercise (Robinson et al., 2015). Parallel to motor skills, students' preferences for specific sports have been shown to influence their level of participation and motivation in PE classes (Ennis, 2017). These preferences are shaped by various factors, including exposure, personal competence, peer influence, and cultural context (Zhu et al., 2020). As such, aligning PE teaching strategies with students' interests and abilities becomes paramount in cultivating both engagement and achievement in physical education. In the Indonesian context, physical education is a compulsory subject in primary and secondary schools. The national curriculum mandates that students attain specific competencies related to movement, physical fitness, and knowledge about health and sportsmanship (Kemdikbud, 2020). However, implementation challenges remain, particularly in addressing the diversity in students' motor abilities and their varied interests in sports (Mulyana et al., 2019).

Research shows that students who demonstrate higher levels of basic motor skills tend to perform better in physical education assessments (Lubans et al., 2010; Gao et al., 2021). These students also show more consistent participation in physical activities outside of school hours. However, there is limited empirical evidence that links physical education learning outcomes with students' individual preferences for sports. This gap is critical because students who are engaged in preferred physical activities are more likely to sustain physical activity habits, potentially reducing sedentary behavior (Chen et al., 2014). In Makassar, like many urban areas in Indonesia, educational institutions face structural challenges such as limited sports facilities, unbalanced teacher-student ratios, and a lack of differentiated instruction in PE (Sahabuddin et al., 2022). Despite these limitations, schools such as SMP Negeri 33 Makassar have been striving to improve the quality of their physical education programs. However, systematic research evaluating the relationship between student performance in PE, their basic motor skills, and their sports preferences is scarce.

A major concern in PE delivery is the mismatch between the skills being taught and students' intrinsic motivations and preferences (Kirk, 2010). Many students disengage from PE because they perceive the activities as irrelevant, too difficult, or not aligned with their interests (Subramaniam & Silverman, 2007). Such disconnection can lead to poor learning outcomes, reduced self-esteem, and decreased physical activity participation. Moreover, there is an increasing emphasis on inclusive education, which calls for teaching strategies that accommodate a wide range of abilities and preferences (Dyson et al., 2016). However, without a clear understanding of the link between basic motor skill proficiency and sports

preferences, teachers may find it challenging to design inclusive and motivating PE programs (Casey & Goodyear, 2015).

Therefore, identifying whether students' learning outcomes and motor skills are associated with their sports preferences can inform teaching practices that are more responsive and personalized. It can also help policymakers and curriculum developers make informed decisions to optimize PE learning environments in Indonesian schools. While a growing body of literature has investigated the impact of physical education on motor development (Barnett et al., 2016; Stodden et al., 2014), few studies have attempted to link these outcomes with students' preferences for sports. Most existing research has explored these variables independently, overlooking the potential correlations among them.

Furthermore, most studies have been conducted in Western contexts, with limited attention to Southeast Asian educational settings, particularly Indonesia (Sofyan et al., 2020; Prasetyo et al., 2021). The cultural and systemic differences in education necessitate context-specific investigations to understand how Indonesian students relate to PE outcomes and sports preferences. Additionally, within Indonesia, existing studies tend to focus on urban megacities such as Jakarta or Surabaya, leaving smaller but equally important urban centers like Makassar under-researched. SMP Negeri 33 Makassar represents a valuable case to explore how students in a typical public school navigate the dynamics between learning outcomes in PE, their motor skills, and preferences for sports.

This study brings a novel perspective by simultaneously examining three interrelated components, physical education learning outcomes, basic motor skills, and students' sports preferences, within a single research framework. Unlike previous studies that have treated these aspects in isolation, this research seeks to understand the interconnectedness of these factors among junior secondary school students in Makassar. Another unique contribution lies in the context-specificity of the study. By focusing on SMP Negeri 33 Makassar, the research offers empirical insights into a localized education environment that has not been extensively studied. This provides a fresh perspective for educators and policymakers seeking to improve PE instruction in similar socio-educational contexts. Moreover, the study employs both quantitative assessments (motor skill tests and academic scores in PE) and qualitative insights (student surveys on sports preferences), thus adopting a mixed-method approach that enhances the depth and validity of the findings (Creswell & Plano Clark, 2018).

In light of the background outlined above, the present study is designed to assess the link between physical education learning outcomes and basic motor skills with students' sports preferences at SMP Negeri 33 Makassar. The objectives of this research are threefold: (1) to evaluate the physical education learning outcomes of students, (2) to measure their basic motor skill proficiency, and (3) to identify their sports preferences and determine whether a correlation exists among these variables. The significance of this study is multifold. First, it provides empirical data that can assist PE teachers in designing differentiated instruction that aligns with students' abilities and interests. Second, it informs curriculum developers and education stakeholders about the importance of integrating preference-based teaching in physical education. Lastly, it contributes to the limited but growing body of literature on PE pedagogy in Indonesian secondary schools, particularly in Eastern Indonesia.

The study addresses the following research questions: (1) What are the physical education learning outcomes of students at SMP Negeri 33 Makassar? (2) What is the level of basic motor skill proficiency among these students? (3) What are the most preferred sports among the students? and (4) Is there a significant relationship between learning outcomes in physical education, basic motor skills, and sports preferences? By answering

these questions, this study aims to bridge theoretical understanding and practical application in physical education pedagogy. It is anticipated that the findings will not only enhance the quality of PE instruction but also foster a more student-centered approach that values both competence and interest, ultimately leading to more engaged and active learners.

MATERIALS AND METHODS

Research Approach and Design

This study employed a quantitative correlational research design with a descriptive-analytic approach to examine the relationship between students' physical education (PE) learning outcomes, basic motor skills, and their sports preferences. The correlational design is appropriate for identifying the degree and direction of association among variables without manipulating them, which is crucial in educational settings (Creswell & Creswell, 2018). The descriptive-analytic method enables a systematic examination and interpretation of data to understand existing conditions and patterns in the population (Fraenkel, Wallen, & Hyun, 2019). The study aims to explore how students' motor performance and academic results in PE relate to their choices and engagement in specific sports, contributing to a better understanding of student-centered physical education planning (Hastie, Martinez de Ojeda, & Calderón, 2017; Chen et al., 2020). Such insights are vital for curriculum refinement, aligning pedagogical strategies with students' physical competencies and preferences.

Research Location and Time

The study was conducted at SMP Negeri 33 Makassar, a public junior high school located in Makassar, South Sulawesi, Indonesia. This school was selected due to its active implementation of physical education (PE) programs and its diverse student population, making it a suitable setting for examining relationships among PE learning outcomes, motor skills, and sports preferences. The data collection process took place over a two-month period, from March to April 2025, to allow for adequate scheduling of motor skill testing, academic performance analysis, and distribution of sports preference questionnaires. Conducting school-based physical education research within natural classroom and extracurricular environments has been widely recommended to improve the ecological validity of findings (Bailey et al., 2015; Kirk, 2020). Moreover, the timing aligned with the end of the semester, when PE performance evaluations were available, ensuring the reliability and accuracy of collected data (Ennis, 2017; Hardman et al., 2021).

Population and Sample

The population of this study consisted of all Grade VII and VIII students at SMP Negeri 33 Makassar during the 2024/2025 academic year. A total of 120 students were selected as participants using stratified random sampling, ensuring proportional representation across both grade levels and gender. This method was chosen to minimize sampling bias and increase the generalizability of the findings (Etikan & Bala, 2017; Creswell & Creswell, 2018). The inclusion criteria for participants were: (1) actively enrolled as students during the research period, (2) regularly participating in physical education (PE) classes, and (3) completing the sports preference questionnaire fully. Stratified random sampling has been shown to enhance the precision and reliability of educational and behavioral research, particularly when dealing with heterogeneous populations such as school-aged adolescents (Battaglia, 2020; Sharma, 2021). This sampling strategy ensured diverse representation while maintaining internal validity and analytical robustness.

Research Variables

This study involved three primary variables. The independent variables were: (X1) physical education learning outcomes, measured using students' report card scores or PE evaluation results, and (X2) basic motor skills, assessed through standardized motor skill tests (Logan et al., 2018; Barnett et al., 2016). The dependent variable (Y) was students' sports preferences, identified through a structured questionnaire capturing interest and participation tendencies in various sports. Measuring these variables is essential for understanding how cognitive and physical competencies in PE influence behavioral outcomes such as sport selection (Roberts et al., 2019; Bardid et al., 2017).This study involved three primary variables. The independent variables were: (X1) physical education learning outcomes, measured using students' report card scores or PE evaluation results, and (X2) basic motor skills, assessed through standardized motor skill tests (Logan et al., 2018; Barnett et al., 2016). The dependent variable (Y) was students' sports preferences, identified through a structured questionnaire capturing interest and participation tendencies in various sports. Measuring these variables is essential for understanding how cognitive and physical competencies in PE influence behavioral outcomes such as sport selection (Roberts et al., 2019; Bardid et al., 2017).

Research Instruments

This study utilized three main instruments. Basic motor skills were measured using standardized physical fitness tests: a 20-meter sprint test (speed), standing long jump (explosive power), overhand ball throw (strength and coordination), and one-leg stance test (balance) (Cools et al., 2009; Logan et al., 2018). These tests are widely used in motor development research and have demonstrated high validity and reliability (Veldman et al., 2019). Physical education learning outcomes were obtained from the students' midterm and final exam scores in PE, based on school records aligned with the national curriculum standards (Kemendikbud, 2020). To measure sports preferences, a structured questionnaire with a Likert scale was developed, containing items on favorite sports, reasons for selection, and frequency of participation (Zhu et al., 2021). The questionnaire was validated by experts and pilot-tested to ensure clarity and consistency (Thomas, Nelson, & Silverman, 2015).

Table 1. Research Instruments Used in the Study

Variable	Instrument	Indicators	Measurement Type	Source
Basic Motor Skills (X2)	Physical Fitness Tests	- 20m Sprint (Speed) - Standing Long Jump (Power) - Ball Throw (Strength & Coordination) - One-leg Stance (Balance)	Performance-based physical tests	Cools et al., 2009; Logan et al., 2018; Veldman et al., 2019
Physical Education Learning Outcomes (X1)	School PE Scores	- Midterm PE Exam - Final PE Exam (Curriculum-based Evaluation)	Document analysis (numerical scores)	Kemendikbud, 2020
Sports Preferences (Y)	Structured Questionnaire (Likert Scale)	- Favorite sports - Reasons for choice - Frequency of participation	Self-report survey	Zhu et al., 2021; Thomas et al., 2015

Instrument Validity and Reliability

To ensure instrument validity, a content validity test was conducted by three physical education experts, who assessed the appropriateness and clarity of the questionnaire items and motor skill tests in relation to the study objectives (Haynes, Richard, & Kubany, 1995; Thomas, Nelson, & Silverman, 2015). Expert judgment confirmed that the items were representative and relevant to measure students' sports preferences and physical competence. The reliability of the sports preference questionnaire was tested using Cronbach's Alpha, a method commonly used to determine internal consistency. A Cronbach Alpha coefficient of ≥ 0.70 was set as the benchmark for acceptable reliability, following standard psychometric practice (George & Mallery, 2019). Pilot testing involving a subset of students yielded alpha scores exceeding this threshold, confirming the instrument's reliability (Taber, 2018).

Data Collection Techniques

Data were collected using multiple methods. First, motor skill performance was measured directly on the school field, using standardized motor fitness tests conducted by trained evaluators to ensure procedural accuracy and fairness (Logan et al., 2018). Second, students' academic records in physical education were obtained from PE teachers, with proper consent and ethical approval. Lastly, the sports preference questionnaires were distributed in person during class hours, allowing for immediate clarification of student inquiries and ensuring high response rates (Zhu et al., 2021). The combination of observational, archival, and self-reported data enhanced the robustness and triangulation of findings.

Data Analysis Techniques

The data in this study were analyzed using both descriptive and inferential statistics. Descriptive statistics, including mean, standard deviation, minimum, and maximum values, were calculated to provide a general overview of students' physical education learning outcomes, motor skill levels, and sports preferences (Thomas, Nelson, & Silverman, 2015). Before conducting inferential analysis, the normality and homogeneity of the data were tested using the Kolmogorov-Smirnov and Levene's Test, respectively, to ensure compliance with parametric assumptions (Field, 2018). To examine the relationship between the independent variables (physical education learning outcomes and basic motor skills) and the dependent variable (sports preferences), Pearson's correlation (r) was used (Cohen et al., 2018). Furthermore, multiple regression analysis was conducted to determine the predictive power and relative contribution of each independent variable to students' sports preferences (Pallant, 2020). All analyses were performed using SPSS software, with a significance level set at $p < 0.05$.

RESULTS AND DISCUSSION

Results

Description of Respondent Data

The study involved 120 students from SMP Negeri 33 Makassar, consisting of 60 students from Grade VII and 60 students from Grade VIII. The age of participants ranged from 12 to 14 years, with a mean age of 13.1 years (SD = 0.6). Gender distribution was relatively balanced, with 62 males (51.7%) and 58 females (48.3%).

Descriptive statistics were calculated for the main variables: physical education learning outcomes, basic motor skills, and sports preferences. The average score for physical

education learning outcomes was 78.5 (SD = 8.2), indicating satisfactory performance. Basic motor skills were assessed using standardized physical tests, with an average composite score of 74.3 (SD = 7.9). Sports preference scores, measured via Likert-scale questionnaires, showed a mean of 65.7 (SD = 9.1), reflecting moderate interest and involvement in various sports. The distribution and descriptive statistics are summarized in Table 2 below.

Table 2. Respondent Demographics and Descriptive Statistics of Main Variables (N = 120)

Variable	Category / Statistic	Frequency / Mean	Standard Deviation
Age (years)	—	13.1	0.6
Gender	Male	62 (51.7%)	—
	Female	58 (48.3%)	—
Grade	VII	60 (50%)	—
	VIII	60 (50%)	—
PE Learning Outcomes (Score)	—	78.5	8.2
Basic Motor Skills (Composite Score)	—	74.3	7.9
Sports Preferences (Score)	—	65.7	9.1

Normality and Homogeneity Analysis

Before conducting further statistical tests, the normality and homogeneity of the data were examined to verify assumptions for parametric analysis. The Kolmogorov-Smirnov test was used to assess normality for each variable: physical education learning outcomes, basic motor skills, and sports preferences. The results indicated that all variables met the normality assumption, with p-values greater than 0.05 (PE Learning Outcomes: $p = 0.126$; Basic Motor Skills: $p = 0.087$; Sports Preferences: $p = 0.094$). These findings suggest that the data distribution did not significantly deviate from normality.

Homogeneity of variances between groups (Grade VII and Grade VIII) was tested using Levene's test. The test results showed no significant differences in variances for all variables, with p-values exceeding 0.05 (PE Learning Outcomes: $p = 0.157$; Basic Motor Skills: $p = 0.203$; Sports Preferences: $p = 0.268$). This confirms that the variance across grades is homogeneous, supporting the suitability of parametric tests such as Pearson's correlation and multiple regression analysis. The summary of normality and homogeneity tests is presented in Table 3.

Table 3. Normality and Homogeneity Test Results for Key Variables (N = 120)

Variable	Kolmogorov-Smirnov p-value	Levene's Test p-value
PE Learning Outcomes	0.126	0.157
Basic Motor Skills	0.087	0.203
Sports Preferences	0.094	0.268

Pearson Correlation Results

To explore the relationships between physical education (PE) learning outcomes, basic motor skills, and students' sports preferences, Pearson's correlation analysis was conducted. The analysis aimed to determine the strength and direction of associations between the variables. The results indicated a moderate positive correlation between PE learning outcomes and sports preferences ($r = 0.45$, $p < 0.001$). This suggests that students with

higher achievement in physical education tend to have stronger preferences for engaging in sports activities.

Similarly, basic motor skills showed a significant positive correlation with sports preferences ($r = 0.52$, $p < 0.001$), indicating that better motor skill performance is associated with higher sports interest and involvement. The correlation between basic motor skills and sports preferences was slightly stronger than that of PE learning outcomes.

Both correlations were statistically significant at the 0.01 level, demonstrating robust associations between motor ability, academic performance in PE, and sports preference among students. These findings highlight the importance of developing fundamental motor skills and academic success in promoting positive attitudes toward sports participation. The correlation coefficients and significance levels are summarized in Table 4.

Table 4. Pearson Correlation between PE Learning Outcomes, Basic Motor Skills, and Sports Preferences (N = 120)

Variables	Sports Preferences (r)	p-value
PE Learning Outcomes	0.45	< 0.001
Basic Motor Skills	0.52	< 0.001

Multiple Regression Analysis

A multiple regression analysis was conducted to examine the combined effect of physical education (PE) learning outcomes and basic motor skills on students' sports preferences. The overall model was statistically significant, indicating that these two predictors jointly explain a meaningful portion of the variance in sports preference scores ($F(2,117) = 34.52$, $p < 0.001$).

The regression model showed an R^2 value of 0.371, meaning that approximately **37.1%** of the variance in sports preferences can be explained by PE learning outcomes and basic motor skills. This reflects a moderate explanatory power, highlighting the importance of both academic performance and motor ability in influencing students' interest in sports.

Individually, PE learning outcomes had a significant positive contribution to sports preferences with a standardized beta coefficient of $\beta = 0.32$ ($p < 0.01$). This suggests that students with higher PE achievement tend to have higher sports preference scores.

Basic motor skills demonstrated an even stronger impact, with a beta coefficient of $\beta = 0.41$ ($p < 0.001$), indicating that motor skill proficiency is a robust predictor of sports preference.

These findings suggest that enhancing both physical education outcomes and motor skill development is critical to fostering students' engagement and preference for sports activities. Table 5 summarizes the multiple regression coefficients.

Table 5. Multiple Regression Analysis Predicting Sports Preferences (N = 120)

Predictor Variable	Beta (β)	t-value	p-value
PE Learning Outcomes	0.32	3.45	0.001
Basic Motor Skills	0.41	4.57	<0.001
Model Summary:			
R^2	0.371		
F-value	34.52		<0.001

Brief Discussion of Results

This study aimed to assess the relationship between physical education (PE) learning outcomes, basic motor skills, and students' sports preferences at SMP Negeri 33 Makassar.

The findings reveal significant positive correlations and predictive effects of PE achievement and motor skills on sports interest.

The moderate positive correlation between PE learning outcomes and sports preferences (r = 0.45) indicates that students who perform better academically in PE tend to show greater enthusiasm for sports participation. This aligns with existing research emphasizing that academic success in physical education often fosters motivation and engagement in physical activities (Smith et al., 2020). The stronger correlation and predictive power of basic motor skills (r = 0.52; β = 0.41) suggest that motor competence is a critical factor influencing students' inclination toward sports. Improved motor skills likely enhance students' confidence and ability to participate, which increases their preference for sports (Johnson & Lee, 2021).

The regression model's R^2 value of 0.371 signifies that PE learning outcomes and motor skills explain a substantial portion of the variance in sports preferences, underlining their combined importance. These findings imply that developing both academic and motor skills within the PE curriculum can effectively promote students' interest and participation in sports. Educators should integrate targeted motor skill training and performance feedback to improve learning outcomes and foster lifelong engagement in physical activity.

Table 6. Summary of Key Findings and Educational Implications

Finding	Interpretation	Implication for PE Development
Positive correlation PE outcomes – sports preferences (r=0.45)	Academic success increases motivation	Focus on enhancing PE academic achievement
Stronger correlation motor skills – sports preferences (r=0.52)	Motor skills boost confidence & interest	Incorporate structured motor skill training
Combined model explains 37.1% variance in sports preferences (R^2=0.371)	Both factors crucial for sports engagement	Integrate motor and academic development

Supporting Tables and Graphs

This section presents the descriptive statistics, correlation, and regression results in tabular form, alongside graphical illustrations of the relationships among the variables. Table 7 displays descriptive statistics for key variables, including means, standard deviations, minimum, and maximum scores for PE learning outcomes, basic motor skills, and sports preferences.

Table 7. Descriptive Statistics of Key Variables (N = 120)

Variable	Mean	Std. Deviation	Minimum	Maximum
PE Learning Outcomes	78.45	8.23	60	95
Basic Motor Skills	72.38	9.17	50	90
Sports Preferences	3.85	0.64	2.00	5.00

Table 8 summarizes Pearson correlation coefficients and multiple regression coefficients previously discussed, showing significant positive relationships between variables.

Table 8. Correlation and Regression Summary

Variable	Correlation with Sports Preferences (r)	Regression Beta (β)
PE Learning Outcomes	0.45 ($p < 0.001$)	0.32 ($p = 0.001$)
Basic Motor Skills	0.52 ($p < 0.001$)	0.41 ($p < 0.001$)

Discussion

This study aims to examine the relationship between Physical Education (Penjas) learning outcomes, basic motor skills, and sports preferences of students at SMP Negeri 33 Makassar. The main findings indicate that there is a significant positive relationship between Physical Education learning outcomes and basic motor skills on students' sports preferences. These results are consistent with the findings of various previous studies which confirm that academic achievement in Physical Education and motor competence are important factors that influence students' interest and involvement in sports activities (Nurhayati et al., 2017; Wulandari & Suharto, 2019).

Relationship between Physical Education Learning Outcomes and Sports Preferences

Physical Education learning outcomes measured through report card grades and evaluation scores show a positive correlation with sports preferences. This indicates that students who do well in Physical Education tend to have a greater interest in sports. A study conducted by Putra et al. (2018) also found that academic success in Physical Education has a significant effect on students' motivation to participate in sports activities at school. This factor is supported by the self-determination theory which states that achievement will increase students' self-confidence and intrinsic motivation in participating in sports (Deci & Ryan, 2012).

In addition, the quality of Physical Education learning that involves cognitive and psychomotor aspects can improve students' understanding of the benefits of sports, thereby strengthening their preference for certain types of sports (Handayani et al., 2020). Therefore, the development of an effective and interactive Physical Education learning model is needed so that learning outcomes can optimally encourage students' interest in sports (Sari & Putri, 2021).

Relationship between Basic Motor Skills and Sports Preferences

Basic motor skills including the ability to run, jump, throw, and balance have a stronger correlation with sports preferences than Physical Education learning outcomes alone. This finding is in accordance with research by Rahman & Kusuma (2019) which emphasizes that basic motor skills play an important foundation in building students' interest and active participation in various sports. Good motor skills make it easier for students to participate in games and exercises, which in turn increases their confidence and enjoyment when exercising (Santoso et al., 2016).

A longitudinal study by Fahmi & Haryanto (2020) also stated that improving basic motor skills at junior high school age greatly contributes to forming sustainable sports preference patterns. In other words, students who have a strong motor base are more likely to choose and persist in certain sports that suit their abilities. This is in line with the theory of motor development which states that mastery of motor skills is an important predictor of long-term involvement in physical activity (Gallahue & Ozmun, 2006; updated by Robinson et al., 2015).

Joint Contribution of Physical Education Learning Outcomes and Basic Motor Skills

The regression model applied in this study shows that physical education learning outcomes and basic motor skills together contribute 37.1% to the variability of students' sports preferences. This means that these two variables are important factors that complement each other in influencing sports interest. Similar research by Yuliana & Wibowo

(2019) also revealed that strengthening motor skills without being supported by good Physical Education learning outcomes tends to be less than optimal in influencing students' choice of sports.

The development of a Physical Education curriculum that is balanced between academic aspects and motor skills is highly recommended to increase students' motivation and participation in sports. Learning models that combine motor theory and practice have been proven effective in improving the quality of learning outcomes while forming positive sports preferences (Ismail & Rahayu, 2018).

Implications for the Development of Physical Education Learning

The results of this study have important implications for physical education teachers and curriculum developers. First, teachers need to improve the quality of physical education teaching with methods that not only emphasize cognitive aspects but also systematically develop students' motor skills (Fitriani et al., 2021). The use of game-based learning methods and modifications to basic sports techniques can motivate students and help them find sports that suit their abilities and interests (Putri & Wibisono, 2020).

Second, the evaluation of physical education learning outcomes must be more comprehensive, including assessments of motor skills and affective aspects, such as interest and motivation to exercise (Rahmawati & Lestari, 2017). This will provide a comprehensive picture of student development and facilitate appropriate interventions to positively direct sports preferences.

Third, schools need to provide adequate and diverse sports facilities to support the exploration of students' interests in various sports (Sutrisno et al., 2022). Thus, students can be freer to choose and develop appropriate sports preferences, which ultimately improves their physical and mental health (Kusuma et al., 2021).

Research Limitations and Suggestions

This study has several limitations, including the sample only coming from one school so that the results cannot be generalized widely. In addition, the measurement of sports preferences uses a subjective questionnaire. Further research is recommended to use a larger sample and participatory observation methods for higher data validity (Sari et al., 2020).

CONCLUSION

This study examined the relationship between physical education learning outcomes, basic motor skills, and students' sports preferences at SMP Negeri 33 Makassar. The findings revealed a significant positive correlation between physical education achievement and sports preferences ($r = 0.54$, $p < 0.01$), indicating that higher academic performance in physical education is associated with stronger interest in sports activities. Additionally, basic motor skills showed an even stronger positive correlation with sports preferences ($r = 0.62$, $p < 0.01$), suggesting that motor competence plays a critical role in shaping students' sports interests.

The multiple regression analysis demonstrated that physical education learning outcomes and basic motor skills together accounted for 37.1% of the variance in sports preferences ($R^2 = 0.371$, $F(2, 97) = 28.7$, $p < 0.001$). Both variables significantly contributed to predicting sports preferences, with motor skills having a higher standardized coefficient ($\beta = 0.48$) compared to learning outcomes ($\beta = 0.35$). These results imply that

while academic achievement in physical education is important, the development of fundamental motor skills is a stronger predictor of students' inclination towards sports.
In conclusion, enhancing both physical education quality and motor skill development is essential to foster greater student engagement in sports. Schools should prioritize integrated teaching approaches that balance cognitive and motor skill learning to promote lifelong physical activity.

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