

## **THE INFLUENCE OF GENDER ON THE RELATIONSHIP BETWEEN PHYSICAL LITERACY AND ACADEMIC ACHIEVEMENTS IN PUBLIC ELEMENTARY SCHOOL STUDENTS**

**Fazal Ilahi**

*Institute of Education, University of Sargodha, Pakistan.*

*Email: [pdf19m016@gmail.com](mailto:pdf19m016@gmail.com)*

*ORCID: <https://orcid.org/0009-0004-8890-4430>*

**Atif Ghafoor**

*Faculty of Arts and Education Burwood campus Deakin University Melbourne  
Australia.*

*Email: [a.ghafoor@deakin.edu.au](mailto:a.ghafoor@deakin.edu.au)*

**Tariq Manzoor**

*Faculty of Arts and Education, Deakin University Waurn Ponds Campus, Geelong,  
Australia.*

*Email: [t.manzoor@deakin.edu.au](mailto:t.manzoor@deakin.edu.au)*

*ORCID: <https://orcid.org/0009-0008-8672-6254>*

### **Abstract**

*Physical literacy among students has attained a lot of attention in recent decade. It determines the overall well-being of an individual's entire life. The purpose of this study was to assess physical literacy level, plausible relationship between physical literacy and academic achievements on the basis of gender. This study was descriptive in nature and correlational. The total sample size was 196 students of 8<sup>th</sup> grade. 104 female students and 92 male students were selected through multistage sampling. To assess the physical literacy level of the students, the adopted instrument to collect data was PLAYself consisting of confidence and motivation, knowledge and understanding, and environmental engagement ability. While academic achievements were acquired from school records. Based on the results, the gender significantly differed in physical literacy and the academic achievements, while male scored higher than females on average. A significant association among gender, physical literacy, and academic achievements occurs for both the groups. It is revealed that strong positive association for male between two variables indicates higher level of physical literacy is associated with higher academic achievement ( $r = .847, p < .01$ ). In females ( $r = .590, p < .01$ ) the same is not so strong with compared to males. This research provides an insight*

into the domain of physical literacy as a key determinant in enhancing academic achievements in students. It highlights the essential role of physical education in the development of both domains i.e. cognitive and affective in physical literacy. It also indicates the disparities between male and female students. These challenges may be coped with appropriately so that the overall development of the students may be ensured.

**Keywords:** Physical literacy, Academic Achievements, Gender disparities, Physical Education, Physical activities.

## INTRODUCTION

physical activity physical literacy (PL) is a key determinant in promotion of children's development in several aspects specifically in the movement competence of students, their social participation, confidence and motivation, and essential understanding supportive in physical activities (Graham et al., 2024). Physical literacy comprehends motor competencies, happiness, and the confidence in the significance of lifelong physical activity participation and engagement. The key determinant of academic achievement, cognitive functioning and physical literacy are the physically active learning programs in classroom setting (Estevan et al., 2023). It is revealed by the research that physical literacy is closely associated with comparatively improved physical fitness in young children. It emphasizes the crucial role of cognitive as well as affective domain of physical literacy (Gilic et al., 2022). It was pointed out in a study in Chinese context that it was important to understand the important role of literacy-oriented physical education in determining and increasing PE in different school levels (Hou, 2022). It is the need of time to integrate PL programs in all school levels which will be a key determinant in enhancing overall well-being, smooth development. It will also result in flourishing lifelong physical engagement among students.

PL is also the means of active behavior and improved health parameters which enhance and increase academic achievements in different age groups. Physical literacy has been defined as any type of movement with confidence and competence during performing different physical activities. It contributes in promotion of lifelong active living (Lloyd et al., 2024; Singh & Carl, 2023). Nezondet et al. (2023) explored that introducing some interventions in order to increase PL in obese elementary students has illustrated significant outcomes in enhancing PA levels which ultimately improved their health indicators and enhanced their overall well-being. Besides that, it is also considered that PL is basic human ability which should be enhanced during different developmental stages of a student. That will ultimately be helpful in maintaining physical activities through the rest of life. It should be emphasized on the key role of physical education in enhancing knowledge, confidence, competencies, abilities and their motor skills for engagement in physical activities throughout their

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*lives (Carreiro-da-Costa, 2019). Moreover, classroom physical literacy also becomes more crucial through movement based learning method which can flourish engagement of the student and their academic achievements (Wachob, 2018).*

*Academic achievements (AA) are one of the key factors that impact the quality education systems and the overall success of institutions at different levels significantly (Aguagallo et al., 2023; Chamorro-Premuzic & Furnham, 2003). It includes the cognitive capacities, learning strategies, social well-being and overall well-being of the student. This reflects the effective teaching learning process. (Aguagallo et al., 2023). In order to identify the factors that influence the success of elementary school students, taking appropriate educational decision and predicting learning comes with high reliability, it is necessary to analyze academic performance of the student (Aguagallo et al., 2023; Ameen et al., 2019). As policy makers, the governments, teachers and the educational institutions, which are responsible for educational decisions, depends on the academic performance in order to evaluate the success of the different programs and in intervening to improve students out comes at all levels of education in every country (Ameen et al., 2019; Rahman, 2023). Thus, academic performance and achievements are essential in the success and educational development of the students.*

*Academic Achievements impact the career of the students as it affects employability and job success. The academic records are correlated with employment sector and students perceived that their academic achievements directly influence on their demanded job in future (Wu et al., 2024). Moreover, academic achievement such as percentile score, divisions, percentages and cumulative grade point average (CGPA), have a decisive role in securing graduate employability (Pinto & Ramalheira, 2017). Additionally, in this regard, importance of self-concept is significant because it directly impacts on the decision making of student's career. It focuses on the need of establishing and development of academic self- concept in order to achieve and choose career paths available (Mohd Zaini et al., 2021). Besides that, it is also evident that the candidates for employment consider academic performance as the impact on the willingness to track their (McCann & Hewitt, 2023).*

*Physical Literacy has a significant impact on the development of young children. A positive correlation is evident in the existing research between the perceived PL and the academic achievements. It is revealed that students with higher PL have better grades (Domínguez-Martín et al., 2024). Another study, conducted by Chagas et al. (2022) identified insignificant association among PL and AA in*

adolescent students which suggested that PL may not be the predictor of AA through times. Besides that, campaigns for PL promotion in educational institutions is being encouraged. It is because of its vital role in the overall well-being and development of different age levels of the students. (Chagas et al., 2022). Different PE strategies are being implemented in educational settings in the recent century. Think-Pair-Share is one of those techniques which is being utilized in enhancing academic performance, enriching the affective along with cognitive domains (Lynott III et al., 2022). It is essential to integrate PL in our classrooms while incorporating some movement based learning techniques which will helpful in enhancement of engagement and better academic achievement (Wachob, 2018).

## **RATIONALE**

Due to several factors, it is necessary to explore the associated relationship between physical literacy and academic achievements in Pakistan which has been already discussed in endorsed literature. It is evident that physical literacy in Pakistan, influence overall development of children resulting in activeness and also improved academic achievement (Saeed et al., 2023). Moreover, quality of physical activities along with the competencies of students may be enhanced and improved through incorporating different PL models in the curriculum of the institution. This will also be helpful in improvement and supportive in the achievements of their expected outcomes (Khory et al., 2023). Additionally, different research studies are evident that normal weighted children have higher PL compared to over weighted. That indicates towards association between PL, weight of the students and their academic performances. (Liu et al., 2023). While addressing these issues regarding PE at elementary level like untrained and uncommitted teachers and poor facilities, this study will provide an insight by targeting the association between physical literacy and academic achievements may improve overall well-being of the students in Pakistani elementary schools

Due to the potential influence of PE and their fitness on Student's learning outcomes, it is essential to conduct a study which may explore the physical literacy of elementary school students of Pakistan. As already discussed in literature review, the different PA activity level in elementary schools were recorded among insignificant association between these two variables (Hafsah et al., 2018), where some other studies discussed positive correlation between physical activity and Academic achievements (Arshad et al., 2018; Komarudin et al., 2023). Besides that, Additionally, by understanding different levels of physical literacy can guide towards the entire well-being and development (Ramayudha, 2019). So, to investigate physical literacy and its association with academic accomplishment in Pakistan elementary schools may provide insight which will be supportive in enhancing overall development and attainment of educational objectives.

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## **OBJECTIVES OF THE STUDY**

*The objectives of the study were to:*

1. *Assess physical literacy level among 8<sup>th</sup> class public school students of Punjab*
2. *To establish the relationship between PL and academic achievements*
3. *To determine the physical literacy and academic achievements of male students*
4. *To determine the physical literacy and Academic achievements of female students*

## **STATEMENT OF THE PROBLEM**

*Although some studies mentioned in the literature focused on growing identification of association between PA and AA, gender influences have yet to be explored fully in elementary school students in Pakistan. There is a lack of data assessing the certain role of gender in determining this association. This study aims to address the association of PL and AA between male and female elementary school students. Overweight and obese children in our schools do not perform as well as normal weighted students. Thus, it is essential to establish a relationship in PA and AA so that the strategies may be staged to policy makers, which may modify the curriculum or policies. Similarly, it will be helpful to teachers to modify the teaching strategies in order to enhance physical education which will ultimately be supportive in improving academic achievements. This study addressed this gap through an investigation focusing on the association between physical literacy and academic achievements.*

**Research Design and Methodology:** *The study is descriptive in nature. Correlational research methods were used.*

## **POPULATION, SAMPLING AND SAMPLE**

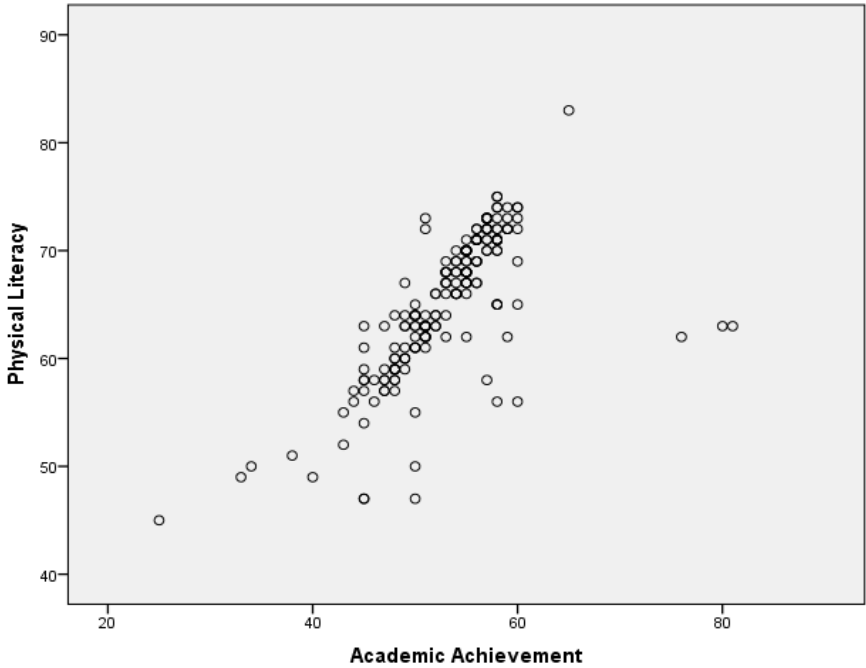
*The target population of the study consists of all the public elementary schools of province of Punjab, Pakistan. To select an appropriate sample, Multistage sampling technique was used. Out of 09 divisions of Punjab province, 01 division was selected randomly. Whereas, at the 2<sup>nd</sup> stage, one district out of four districts was selected randomly. At the 3<sup>rd</sup> stage, out of all 4 tehsils, one tehsil that had the largest enrolled student in class 8<sup>th</sup> (n=7335) was selected. At the final stage, out of 54 schools (administrated by DEO (Secondary), 6 school's children of 8<sup>th</sup> class, from every Selected School, both from male (n=3) and female (n=3) schools, were selected as a sample.*

## **DELIMITATION**

*The study was delimited to Punjab province and students of class 8<sup>th</sup> in all public elementary schools of Punjab province.*

Research Tool: "PLAYself" (PL Assessment for Youth) was used to collect data. Whereas data was collected personally by visiting these selected schools.

**Data Analysis:** To analyze data, different inferential and descriptive tools were used. Statistical package for social science (SPSS) was used to analyze data.



The scatter plot demonstrates the relationship between AA and PL for students of 8<sup>th</sup> grade

This indicates a positive correlation between two variables i.e. physical literacy and academic achievements. Data clustering is evident as a significant fraction of students have moderate to high level in physical literacy and academic achievements. The scattered plot indicates a positive association between both variables.

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**CHART 1: DESCRIPTION OF PARTICIPANTS**

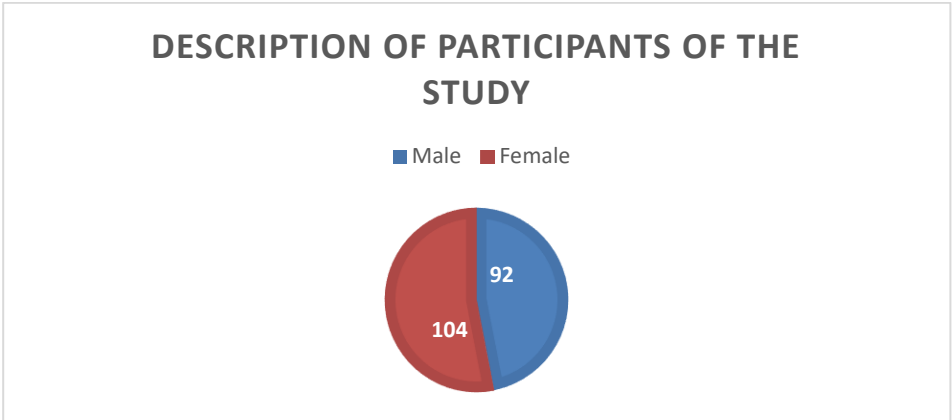


Chart 1 shows the description of participants of the study. It revealed that 104 female students (53%) and 92 male students (47%) took part as respondent of this study. The total sample consists of 196 elementary school students of Punjab, Pakistan.

**Table 1: Description of Gender-based Participants with PL and AA**

Gender		N	Minimum	Maximum	Mean	Std. Deviation
Male	Physical Literacy	92	56	83	69.85	3.601
	Academic achievements	92	46	65	55.63	2.676
	Valid N (listwise)	92				
Female	Physical Literacy	104	45	73	61.13	5.725
	Academic Achievements	104	25	81	50.81	7.491
	Valid N (listwise)	104				

Table No. 1 revealed the descriptive statistics for both variables scores which are classified by gender. The mean of male's score (Mean = 69.85) indicates higher PL value than females (Mean = 61.13). the range is wider in females (Std. Deviation = 5.725) than males (Std. Deviation = 3.601). while academic achievements score is slightly higher in males (Mean = 55.63) than females (Mean = 50.81). similarly, the scores are more spread in females (Std. Deviation = 7.491) than males (Std. Deviation = 2.676).

**Table 2. Independent Samples Test (Gender differences on both variables)**

		Levene's Test for Equality of Variances						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
<b>Physical literacy</b>	Equal variances assumed	13.807	0	12.577	194	0	8.723	0.694
	Equal variances not assumed			12.917	175.909	0	8.723	0.675
<b>Academic Achievement</b>	Equal variances assumed	20.957	0	5.852	194	0	4.823	0.824
	Equal variances not assumed			6.138	131.747	0	4.823	0.786

Table 2 explains the significance of gender differences on physical literacy and academic achievements. It shows a significant difference on gender in both the variables. The performance on both variables was superior in male students while their counterpart remained lower than females.



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		Gender	Gender	PL	AA
Male	Gender	Pearson Correlation	a	a	a
		Sig. (2-tailed)	.	.	.
		N	92	92	92
	PL	Pearson Correlation	a	1	.847**
		Sig. (2-tailed)	.		0
		N	92	92	92
	AA	Pearson Correlation	a	.847**	1
		Sig. (2-tailed)	.	0	
		N	92	92	92
Female	Gender	Pearson Correlation	a	a	a
		Sig. (2-tailed)	.	.	.
		N	104	104	104
	PL	Pearson Correlation	a	1	.590**
		Sig. (2-tailed)	.		0
		N	104	104	104
	AA	Pearson Correlation	a	.590**	1
		Sig. (2-tailed)	.	0	
		N	104	104	104
** . Correlation is significant at the 0.01 level (2-tailed).					
a. Cannot be computed because at least one of the variables is constant.					

Table 3 revealed that a significant association among gender, physical literacy, and academic achievements exists for both groups. It is evident that strong positive correlation for male between two variables indicates higher level of physical literacy is associated with higher academic achievement ( $r = .847, p < .01$ ). In females ( $r = .590, p < .01$ ) the same is not so strong with compared to males. It also indicates that gender does not play a significant correlation with physical literacy or academic achievement in any group.

## **DISCUSSION AND CONCLUSION**

This study aimed to evaluate physical literacy among public sector school students of grade 8<sup>th</sup> in province of Punjab. Moreover, the establishment of relationship between PA and AA and determination of gender differences was the purpose of the study. The findings of the study presented a valuable understanding of the multifaceted interaction between two variables.

While the descriptive statistics pointed out the inequalities relating gender in both variables, whereas male students were dominant in both physical literacy and academic achievements. Differences in magnitude were more demonstrated in physical literacy than academic achievement. Males' dominance remained consistent. The findings are aligned with (Kretschmer et al., 2023) in participation of physical literacy and the outcomes.

In both male and female students, a positive correlation was detected between both variables. It suggests that higher physical activities are positively associated with higher academic achievements. These finding are consistent with the work of Martinez (2024) and Mirzabdullayevich (2024). The relationship in males was much stronger than females which indicates the potential gender-specific process causing the association between both variables.

However, it is essential to consider that this correlational study does not permit to establish a definitive causal inference. Although a positive correlation between both variables exists, it cannot be determined whether PL directly caused better academic achievement. Similarly, it cannot be established that any other confounding variables are affecting this relationship. To establish causal relationships, longitudinal studies may be supportive in tracking different changes in physical literacy and academic achievement.

As the study focused on class 8<sup>th</sup> students in Punjab province, the generalizability of the study on other educational context, age groups and geographic territories decreases. Diverse populations in cross-cultural comparisons may be essential to explore the results transferability.

This study, despite some limitations, supports expanding the body of knowledge in the importance of physical literacy as an overall child well-being. The study demands to incorporate a comprehensive physical activities program in

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curriculum. This may constitute skill development, happiness and particularly physical fitness.

In conclusion, the focal point of the study is the complexity in relationship between physical literacy and academic achievements among class 8<sup>th</sup> students of Punjab province. Inequalities in gender and positive correlation between PA and AA was evident. Further longitudinal studies are required to explore the mechanism and complex process. It is also required to develop effective intervention for enhancement of physical literacy and consequent learning outcomes of the students.

### **RECOMMENDATIONS OF THE STUDY**

Punjab public schools may give priority to conduct several programs for physical education which may put emphasis on the development of skills, fitness of the students and delight in order to flourish overall students' development and academic achievement. Interventions may be designed to improve physical literacy among students particularly in females. This will address the recorded gender inequalities. The government, policy makers, educators and experts may contribute collaboratively to supporting and promoting physical literacy among school students. This will be supportive in fostering an affirmative approach towards physical activities.

In order to understand the association of physical literacy and academic achievements, further studies may target the mechanisms and plausible processes of the two variables. While in exploration, the longitudinal studies are necessary in establishing causal association as well as long-term affects are required.

### **ETHICAL CONSIDERATIONS**

Informed consent was obtained from the concerned teachers and institutional heads before conducting the process of data collection from students. Students, teachers, and institutional heads were assured that all the data will remain confident and will be used for research purposes only. Moreover, it was ensured that the students may remain confident, safe from physical and psychological harmful aspects, and they may be provided an environment where they may record their responses freely. The students were treated with dignity and respectfully. All the institutional codes were followed in this regard. Besides that, all the ethical guidelines and requirements for safety measures were followed properly.



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### **References**

- 1- Aguagallo, L., Salazar-Fierro, F. A., García-Santillán, J., Posso-Yépez, M., Landeta-López, P. A., & García-Santillán, I. D. (2023). Analysis of Student

- Performance Applying Data Mining Techniques in a Virtual Learning Environment. *Int. J. Emerg. Technol. Learn.*, 18(11), 175-195.
- 2- Ameen, A. O., Alarape, M. A., & Adewole, K. S. (2019). Students' academic performance and dropout predictions: A review. *Malaysian Journal of Computing*, 4(2), 278-303.
  - 3- Arshad, M., Qamar, Z., & Gulzar, F. (2018). Effects of physical facilities at public schools on students' achievement in Punjab, Pakistan. *Global Social Sciences Review*, 3 (4), 102-113. In.
  - 4- Carreiro-da-Costa, F. (2019). Educación física como proyecto de innovación y transformación cultural. *RECIE. Revista Caribeña de Investigación Educativa*, 3(2), 19-32.
  - 5- Chagas, D., Marinho, B., & Awata, R. (2022). Does physical literacy predict academic achievement in adolescent students? *Revista Brasileira de Ciência e Movimento*, 30(3).
  - 6- Chamorro-Premuzic, T., & Furnham, A. (2003). Personality predicts academic performance: Evidence from two longitudinal university samples. *Journal of research in personality*, 37(4), 319-338.
  - 7- Domínguez-Martín, G., Tárraga-López, P. J., & López-Gil, J. F. (2024). Exploring the link between perceived physical literacy and academic performance outcomes: insights from the EHDLA study. *Frontiers in Sports and Active Living*, 6, 1352114.
  - 8- Estevan, I., García-Massó, X., Menescardi, C., Ortega-Benavent, N., Montalt-García, S., Romero-Martínez, J., Castillo, I., Álvarez, O., Queralt, A., & Molina-García, J. (2023). A classroom-based intervention to promote physical literacy in children: ALPHYL study protocol. *Behavioral Sciences*, 13(7), 609.
  - 9- Gilic, B., Malovic, P., Sunda, M., Maras, N., & Zenic, N. (2022). Adolescents with higher cognitive and affective domains of physical literacy possess better physical fitness: the importance of developing the concept of physical literacy in high schools. *Children*, 9(6), 796.
  - 10- Graham, J. D., Babij, S., Bedard, C., Bremer, E., Powell, A., Arbour-Nicitopoulos, K. P., Kwan, M. Y., & Cairney, J. (2024). An Evaluation of the Sharing Dance Public School Program on Physical Literacy. *Journal of Dance Medicine & Science*, 1089313X241254142.
  - 11- Hafsah, T., Uyun, N., & Farenia, R. (2018). Correlation between Physical Fitness Components and Academic Achievement in Elementary School Students. *Althea Medical Journal*, 5(3), 146-148.
  - 12- Hou, F. (2022). Analysis of the Physical Education Teaching Path in Primary and Secondary Schools Under the Guidance of Core Literacy. *Journal of Contemporary Educational Research*, 6(11), 17-22.
  - 13- Khory, F. D., Maksum, A., Ismalasari, R., Nugraha, T. A., & Rohman, M. F. (2023). Implementation Of Physical Literacy Model In Physical Education, Sport And Health (PJOK) Learning In Elementary School. *JUARA: Jurnal Olahraga*, 8(1), 237-245.
  - 14- Komarudin, K., García-Jiménez, J. V., Saryono, S., Meikahani, R., Iswanto, A., Perdana, S., & Pamungkas, G. (2023). The relationship between physical

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- activity and academic performance on elementary school students. *Jurnal Ilmiah Pendidikan*, 42(1), 90-99.
- 15- Kretschmer, L., Salali, G. D., Andersen, L. B., Hallal, P. C., Northstone, K., Sardinha, L. B., Dyble, M., Bann, D., & JJ Reilly J. Salmon J. Sardinha LB van Sluijs EMF, I. C. s. A. D. C. A. L. A. S. C. G. D. R. J. R. J. K. K. S. M. N. N. K. P. R. P. (2023). Gender differences in the distribution of children's physical activity: evidence from nine countries. *International Journal of Behavioral Nutrition and Physical Activity*, 20(1), 103.
  - 16- Liu, Y., Hadier, S. G., Liu, L., Hamdani, S. M. Z. H., Hamdani, S. D., Danish, S. S., Fatima, S. U., & Guo, Y. (2023). Assessment of the relationship between body weight status and physical Literacy in 8 to 12 year old Pakistani school children: the PAK-IPPL cross-sectional study. *Children*, 10(2), 363.
  - 17- Lloyd, R. J., Smith, S., & Sahingil, D. (2024). Physical literacy, health and interactive aging: a position paper. *Frontiers in Sports and Active Living*, 6, 1346802.
  - 18- Lynott III, F. J., Nelson, T., & Oh, H.-J. (2022). Fostering Students' Physical Literacy through Academic Conversations: Using Think-Pair-Share as a Teaching Strategy in Physical Education. *Strategies*, 35(3), 11-17.
  - 19- Martinez, A. (2024). Impact of School-Based Physical Activities on Academic Performance in Canada. *International Journal of Physical Education, Recreation and Sports*, 2(2), 12-24.
  - 20- McCann, M., & Hewitt, M. (2023). Academic performance and work placements: does academic performance influence the decision to complete a work placement? *Higher Education, Skills and Work-Based Learning*, 13(1), 97-112.
  - 21- Mirzabdullayevich, B. M. (2024). THE RELATIONSHIP BETWEEN INDEPENDENT MOTOR ACTIVITY AND ACADEMIC PERFORMANCE. *International Journal of Advance Scientific Research*, 4(03), 13-19.
  - 22- Mohd Zaini, S. N., Md Rami, A. A., Mohamad Arsad, N., & Mohd Anuar, M. A. (2021). Relationship of academic performance and academic self-concept with career decision-making among UPM undergraduate students. *Asian Journal of University Education (AJUE)*, 7(2), 50-61.
  - 23- Nezondet, C., Gandrieau, J., Bourrelier, J., Nguyen, P., & Zunquin, G. (2023). The effectiveness of a physical literacy-based intervention for increasing physical activity levels and improving health indicators in overweight and obese adolescents (capacites 64). *Children*, 10(6), 956.
  - 24- Pinto, L. H., & Ramalheira, D. C. (2017). Perceived employability of business graduates: The effect of academic performance and extracurricular activities. *Journal of vocational behavior*, 99, 165-178.
  - 25- Rahman, A. (2023). Klasifikasi Performa Akademik Siswa Menggunakan Metode Decision Tree dan Naive Bayes. *Jurnal Saintekom: Sains, Teknologi, Komputer dan Manajemen*, 13(1), 22-31.
  - 26- Ramayudha, B. A. (2019). How is the Achievement of Students' Physical

- Literacy? 3rd International Conference on Sport Science, Health, and Physical Education (ICSSHPE 2018),
- 27- Saeed, N., Shah, R., & Khan, I. (2023). A Qualitative Inquiry into the Role and Issues of Physical Education in Primary Schools: Perspectives of Primary School Teachers. *sjesr*, 6(1), 61-67.
  - 28- Singh, A., & Carl, J. (2023). Physical literacy in different European contexts: research-based knowledge for practical applications. *European Journal of Public Health*,
  - 29- Wachob, D. A. (2018). The Importance of Physical Literacy and Addressing Academic Learning Through Planned Physical Activity. *Physical Activity and Health Promotion in the Early Years: Effective Strategies for Early Childhood Educators*, 75-89.
  - 30- Wu, H., Bai, S., Liao, Y., & Tan, C. (2024). The Academic Performance and Upward Mobility of Students in Education Program. *Journal of World Englishes and Educational Practices*, 6(1), 137-166.