

SCHOOL Physical Activity Environment, Teaching Competencies, and Students' Satisfaction in Physical Education CLASSES

Jeff Lord M. Acedilla¹, Rachell Ann T. Ramos²

¹Teacher II, Hinatuan National Comprehensive High School
jacedilla_23000002967@uic.edu.ph

²Faculty, University of the Immaculate Conception, Davao City, Philippines
ramos@uic.edu.ph

ABSTRACT

The purpose of this study was to examine associations among the school physical activity environment, teaching competencies, and student satisfaction in physical education (PE) classes. The quantitative research design employed a descriptive-correlational method. Respondents were senior high school students from Hinatuan National Comprehensive High School, Dugmanon National High School, and Cambatong National High School in Hinatuan, Surigao del Sur. Survey questionnaires were used for data collection. Data analysis was performed using the mean, standard deviation, Pearson product-moment correlation, and multiple regression. Findings revealed that the school's physical activity environment, teaching competencies, and student satisfaction in PE were rated high. A strong positive correlation among the variables was also observed. Both the school's physical activity environment and teaching competencies positively affected student satisfaction in PE classes. Abstract should be Times New Roman, 10, Black, 150-200 words only, in single-paragraph form.

KEYWORDS: *Physical education, school physical activity environment, teaching competencies, student satisfaction, Philippines*

INTRODUCTION

Student satisfaction in physical education (PE) classes has become a crucial issue in educational debates because of its effects on students' overall development and academic achievement. Research demonstrates that students frequently return low satisfaction with their PE classes, often due to aspects such as a lack of teacher support, as, including poorly qualified teachers, inadequate

resources, and an inflexible public school curriculum (Mupa and Chinooneka, 2015).

The recent Global Report on Student Satisfaction in Physical Education shows that only 45 percent of learners worldwide are satisfied with their PE experience, and this drops to 30 percent in low-resourced contexts (Guthold et al., 2022). Furthermore, this data helps reveal the challenges faced by students in low-resourced environments, particularly in state schools, where access to adequate infrastructure and qualified physical education staff is inadequate.

Additionally, a study conducted by Ramírez (2022) in the Philippines showed that 35 percent of senior high school (SHS) students are dissatisfied with their PE lessons. This dissatisfaction stems from a lack of modern teaching methods and sufficient sports facilities, as well as monotonous activities. These issues prevent active student participation and restrict the benefits they could obtain from PE. Moreover, Correos and Huelma (2022) reported that public schools in Surigao del Sur face teaching resource inequities alongside inadequate teacher training, which heightens the already prevailing dissatisfaction among SHS students. On the one hand, a study by Moral-Garcia et al. (2021) found that the quality of the school's physical environment is positively related to student satisfaction in PE lessons. Well-resourced environments facilitate enjoyment, engagement, and enthusiasm for physical activity, whereas poorly resourced schools restrict meaningful PE experiences and directly lead to student dissatisfaction.

On the other hand, teaching competencies are also critical to students' experiences in PE. Research indicates that high teaching performance, characterized by clear explanations, engaging pedagogical approaches, and consistent feedback, is associated with greater student satisfaction (Baños et al., 2019). Ramirez and Gonzales (2022) also found that PE teachers who developed classroom management and adaptability skills had students who were engaged and enjoyed their PE class. In addition, according to Tondo and Detecio (2021), although there appears to be a global push to improve PE satisfaction, the research gap remains significant in addressing these challenges in both global and Philippine SHS contexts. Current studies generally apply to PE without considering specific local contexts, such as limited resources in public schools. Further, Licudine's (2024) research examined the role of teacher performance in shaping students' attitudes towards PE. The research revealed that, among several markers of teacher performance, professionalism had a significant impact

on student attitudes, and it is implied that greater teacher capabilities are linked with higher student satisfaction in PE classes. Furthermore, Arban et al. (2023) evaluated PE teachers' competencies and their effects on students' cognitive learning. The research showed that teachers' skills and knowledge were positively associated with students' memory skills, which indicates that effective teaching promotes students' learning experience and satisfaction with PE.

Also, according to Cruz et al. (2021), they reviewed Filipino middle school students' attitudes toward PE and found that physical settings, including infrastructure and equipment, substantially affected students' satisfaction and comfort levels. The study pointed out the potential for reduced student satisfaction in PE courses due to inadequate infrastructure and equipment. While these studies highlight the importance of teaching competencies and physical environments in influencing student satisfaction in PE, there is a notable lack of research focusing specifically on Philippine public senior high schools. Most existing studies concentrate on middle school students or general education settings, leaving a gap in understanding how these factors interplay in the context of senior high schools, particularly in resource-limited public institutions.

This study could provide evidence-based recommendations for improving PE classes, particularly in resource-limited settings. By addressing inconsistencies in the school's physical environment and teaching competency, the research might help construct more inclusive, interactive, and supportive PE courses that foster lifelong physical activity. Improved PE strengthening through community partnerships, including ties with local government offices and sporting agencies, could further ensure that students have access to higher-quality facilities and skilled workers. In the long term, giving communities the power to invest in school-based physical education may result in healthier, more active young people and better community cohesion.

The findings will be shared through local and international conferences, workshops, and LAC sessions for PE teachers, school administrators, and school heads at least to ensure the results contribute to improving student satisfaction and benefit the wider academic community. Additionally, the results will be submitted for publication in at least one refereed journal to further disseminate the knowledge and support evidence-based practices in physical education.

Statement of the Problem

1. What is the level of the school's physical activity environment in terms of: Physical environment; and Social environment?
2. What is the level of teaching competencies in physical education classes in terms of Planning; Development, and Result?
3. What is the level of student satisfaction In PE classes in terms of: Teaching; Relaxation; Cognitive development; Improvement in health/physical condition; Interaction with others; Normative success; Fun/enjoyment; Mastery experiences; and Diversionary experiences?
4. Is there a significant relationship between; Physical activity environment and student satisfaction in PE classes; and Teaching competencies and student satisfaction in PE classes?
5. Do physical activity environment and teaching competencies significantly influence student satisfaction in PE classes?

METHODOLOGY

Research Design. This quantitative research gathered and systematically analyzed numerical data, with the capacity to measure objective data and apply statistical analysis using structured instruments such as surveys (Aliaga & Gunderson, 2000; Babbie, 2021). A descriptive research design was used to identify the current state of variables in the school physical activity environment, the effectiveness of PE teaching, and student satisfaction with PE, without manipulating them (Creswell & Creswell, 2018). In addition, a correlational design was employed to investigate the strength and direction of relationships among variables, including the effects of teaching performance and the physical environment on student satisfaction (Fraenkel et al., 2019). This mixed methodology provides a sound framework for describing natural relationships among variables, promoting generalizability without intervention (Stangor, 201; Essel et al., 2022).

Research Respondents. The target respondents for this study were senior high school students enrolled in three specific schools in Hinatuan, Surigao del Sur, for the 2024–2025 academic year. We selected 300 students as respondents via cluster random sampling. This probability sampling technique ensures that the sample is representative of the student population across the three schools.

Research Instruments. The study employed a validated three-section

survey questionnaire: the School Physical Activity Environment Questionnaire (Martin et al., 2011), the Teaching Competence Questionnaire (Moreno-Murcia et al., 2015), and the Satisfaction Questionnaire with Physical Education Classes (CSCEF). All three were pilot-tested for reliability, with Cronbach's alphas ranging from 0.66 to 0.91 and high internal consistency. The environment questionnaire measured physical and social influences on activity; the teaching competence questionnaire measured planning, development, and outcomes; and the satisfaction questionnaire measured teaching quality, relaxation, cognitive development, and enjoyment.

Statistical Tools. The study utilized three primary statistical tools: the mean to represent the central tendency of student satisfaction, classroom environment, and teaching competencies; the standard deviation to measure the variation in survey responses; and the Pearson product-moment correlation to assess the strength and direction of the relationships among the classroom environment, teaching competencies, and student satisfaction in physical education.

Ethical Considerations. The University of Immaculate Conception Ethics Committee reviewed the study to ensure it met ethical standards, posed no risk to participants, and used accurate materials. Participant's data confidentiality was also maintained.

RESULTS AND DISCUSSION

Level of School Physical Environment in Physical Education Classes

The overall level of the school's physical environment in physical education classes is 3.79, which is described as high, indicating that the school's physical activity environment is often conducive in public senior high schools. It implies that students have adequate access to sufficient facilities, equipment, and spaces that enable high-quality responses to physical education instruction and engagement. In addition to a well-maintained gymnasium, a large outdoor field, and equipment for various sports, there are designated safe areas for physical activities. Alongside regular, fun, and dynamic PE programs, the number and quality of these resources help meet pupils' individual wants and needs. Such acts will further contribute to a more engaging, enjoyable, inclusive, and relevant physical education environment for all students. Students are more likely to thrive when provided with the right tools and in a supportive setting. In

addition, the overall standard deviation is 0.55, which is less than 1, indicating that the respondents' ratings cluster around the mean.

Table 1
Level of School Physical Environment in Physical Education Classes

INDICATORS	Mean	SD	Description
Teaching	4.25	.57	Very High
Relaxation	4.05	.64	High
Cognitive Development	4.10	.61	High
Improvement in Health/Physical Education	4.04	.62	High
Interaction with Others	4.05	.70	High
Normative Success	3.84	.72	High
Fun/Enjoyment	4.27	.74	Very High
Mastery Experiences	4.24	.67	Very High
Diversionary Experiences	4.13	.61	High
Over-all Mean	4.11	.52	High

The findings align with those of Beets et al. (2020), who found that high-quality, accessible physical environments in schools significantly impact students' activity levels and participation in physical education classes. When facilities are well-maintained and diverse, they lead to greater student satisfaction and higher motivation for physical education. In the same vein, Casey et al. (2022) emphasized that a supportive physical education setting—one that is inclusive, fun, and well-resourced—encourages positive experiences for students, stimulating them to take part actively and form healthy attitudes toward lifelong physical activity.

Physical Environment. The category mean is 3.64 (very high), and the item means range from 3.31 to 3.93. Variety of sports teams (3.93) received the highest rating from students, whereas frequency of gym classes (3.31) was rated lowest. This suggests that students are satisfied with extracurricular opportunities but need to enhance routine PE scheduling. The results are consistent with Haerens et al. (2020), Webster et al. (2020), García-Hermoso et al. (2021), and Sevil et al. (2020), who emphasize the importance of regular, organized PE for physical literacy, fitness, enjoyment, and lifelong physical activity behaviors.

Social Environment. The category average is 3.95 (high), with item averages ranging from 3.77 to 4.30. Students enjoyed having quality coaches (4.30) but reported less agreement with teacher supervision during recess (3.77). Generally, students reported feeling socially supported in their physical activity setting. These findings are echoed by research by López-Pérez et al. (2021), Wright et al. (2021), Varea & González-Calvo (2020), McNamara et al. (2021), and Abarca-Sos et al. (2020), emphasizing the importance of quality coaching, adult presence, and positive student–teacher relationships in promoting motivation, safety, and inclusive participation.

Level of Teaching Competencies in Physical Education Classes

The level of teaching competencies in physical education classes is high. An overall mean of 4.07, described as high, indicates that teaching competencies in physical education classes are often observed. The score indicates that physical education teachers typically show a high degree. This score indicates that physical education teachers typically show a high degree of competence in teaching lessons, managing students, and implementing effective teaching strategies. With a high rating, it is reasonable to infer that teachers are experienced in planning engaging, well-organized, and educational physical education classes for students, thereby promoting student learning and physical development. High ratings also indicate that schools provide physical education teachers with sufficient professional development and support, enabling them to have the knowledge and skills necessary to foster positive student learning outcomes. Building teacher capability in PE is essential to providing students with sustained access to high-quality learning that can positively develop their physical literacy, health practices, and enduring commitment to physical activity.

Table 2
Level of Teaching Competencies in Physical Education Classes

INDICATORS	Mean	SD	Description
Planning	3.99	.64	High
Development	4.11	.53	High
Result	4.10	.56	High
Over-all Mean	4.07	.52	High

This outcome supports the perspective of Liu et al. (2023) in their study, who found that physical education teachers' ability to support competence positively affected their students' perceived competence and exercise persistence, which influenced sports participation. Moreover, the findings of this

study are supported by those of Chen et al. (2023), who, through a systematic review, reported that teacher behaviors—such as attentiveness, availability, and encouragement—were associated with higher levels of student attentiveness and engagement during physical education lessons. These teacher practices, which numerous studies regularly observe, highlight the value of teaching skills in creating supportive learning environments in PE settings. Additionally, the overall standard deviation of 0.52, which is less than 1, indicates that the ratings cluster near the mean.

Planning. With a strong mean of 3.99, students valued clear goals and structured content (4.25) but identified weaker connections between lab and classroom activities (3.87). Although PE teachers demonstrate excellent planning and communication, improved integration of theory and practice would maximize learning. Research corroborates that transparent, well-connected instruction enhances motivation, satisfaction, and engagement (Valero et al., 2020; Baena-Extremera, 2020; Reece et al., 2022).

Development. This domain had the highest mean category score of 4.11, with item scores ranging from 3.82 to 4.35. Students rated the advancement of interest and learning motivation the highest at 4.35, and the availability of teacher support the lowest at 3.82. These outcomes are critical and highlight the roles of autonomy-supportive pedagogy and teacher accessibility. Research by Liu et al. (2021), Haerens et al. (2018), and Trigueros et al. (2020) confirms these findings, highlighting that motivational teaching methods and supportive climates enhance student engagement, emotional well-being, and sustained participation in physical activity.

Result. The category average is 4.10 (high), and item means range from 3.95 to 4.36. Fostering research and critical thinking (4.36) was the best-rated item, and clarifying expected competencies (4.21) ranked second. Both indicate that PE teachers are effective at promoting intellectual development and setting clear learning objectives. Evidence from studies by López-Gil et al. (2021) and Baena-Extremera et al. (2020) indicates that promoting critical thinking and transparently conveying expectations enhances students' cognitive abilities, independence, and learning. Studies by Russell et al. (2018) and Dupri et al. (2020) also emphasize the use of physical education as a solution-finding and lifelong learning tool.

Level of Student Satisfaction in Physical Education Classes

The results indicate that the overall mean student satisfaction in physical education classes is 4.11, which is high, suggesting that student satisfaction is generally high in these classes. The high mean rating of 4.11 suggests that students are typically positive and satisfied with their physical education experiences, reflecting both effective instructional strategies and a positive learning climate. This finding emphasizes that students view physical education not just as a means for physical fitness but also as a thinking environment, a laboratory for critical thinking, underscoring the increasing expectation for physical education programs to promote both physical and intellectual development. The relevance of integrating critical thinking is evidenced by Dupri et al. (2020), who suggested that problem-based learning (PBL) approaches in physical education enhance students' critical thinking, problem-solving skills, and motivation, which aligns with the demand for contemporary, student-centered solutions within the PE curriculum. Also, the overall standard deviation of 0.52, which is lower than 1, suggests that students' responses are tightly clustered around the mean, reflecting high agreement among students about their satisfaction levels.

Table 3
Level of Student Satisfaction in Physical Education Classes

INDICATORS	Mean	SD	Description
Teaching	4.25	.57	Very High
Relaxation	4.05	.64	High
Cognitive Development	4.10	.61	High
Improvement in Health/Physical Education	4.04	.62	High
Interaction with Others	4.05	.70	High
Normative Success	3.84	.72	High
Fun/Enjoyment	4.27	.74	Very High
Mastery Experiences	4.24	.67	Very High
Diversionary Experiences	4.13	.61	High
Over-all Mean	4.11	.52	High

This result aligns with the study by Baños et al. (2020), which concluded that students' satisfaction and excitement in physical education programs mediate the relationship between teachers' perceived autonomy support and students' actual PE class performance. Research suggests that

students who feel happy and excited about their learning environment engage more and perform better in physical activities. Similarly, the findings align with those of Altin et al. (2021), who found that positive attitudes toward physical activity are associated with greater life satisfaction among high school students. It appears that students' satisfaction in their physical education classes is not only connected to short-term academic or fitness gains but also to overall well-being and quality of life.

Teaching. Students greatly appreciate teacher enthusiasm, empathy, and lesson clarity. These aspects play a significant role in satisfaction and motivation and support effective pedagogy in PE. This conclusion aligns with research by Baños et al. (2020) and Camerino et al. (2020), which affirm that supportive teaching plays a vital role in increasing motivation and participation.

Relaxation. PE classes are regarded as positive stress-relief and for emotional well-being. Students enjoy the relaxing and pleasurable experience of PE. This complements research by Baños et al. (2020) and Rodríguez-Bravo et al. (2020) regarding the emotional value of supportive PE environments.

Cognitive Development. Students indicate satisfaction with learning core PE principles. This study shows that teacher competency affects cognitive gains, as supported by Arban et al. (2023) and Van Doren et al. (2021).

Interaction with Others. Peers' positive interactions in PE promote students' social and emotional growth. This aligns with Kiliç (2021) and Ge et al. (2024), who highlight the mental health benefits of social interaction in PE.

Normative Success. Satisfaction comes from performing better than others, driven by social comparison and perceived competence. This is in accordance with Deci & Ryan's (2020) Self-Determination Theory and Zimmerman's (2020) and Cid et al. (2019) research results.

Fun/Enjoyment Enjoyment. is a strong motivator for student satisfaction in PE. Enjoyable activities build motivation and long-term engagement with physical activity. Baños et al. (2020), Rodríguez-Bravo et al. (2020), and Rodríguez Macías et al. (2021) support this conclusion.

Mastery Experiences (Mean: 4.24 - Very High). Students feel content when offered chances to acquire and develop new skills. Baños et al. (2020) and Rodríguez-Bravo et al. (2020) report that skill development leads to self-efficacy

and contentment.

Diversiory Experiences. Students are content when PE lessons make them feel emotionally renewed and revitalized. The emotional value of PE, especially its contribution to improving well-being through social interaction, is consistent with the conclusions of Kiliç (2021), Ge et al. (2024), Flesock (2020), and Chan et al. (2024), who stressed the significance of emotional support, peer interaction, and social competence in fostering student satisfaction.

Significance of the Relationship of School Physical Environment, Teaching Competencies, and Student Satisfaction In Physical Education Classes

The correlation of the variables is presented in Table 4. There is a clear, positive, and significant relationship between the PE school environment and student satisfaction, indicating that improved facilities lead to greater satisfaction. This concurs with the findings of Liu et al. (2023) and McEwen et al. (2022), highlighting the fact that both an improved environment and qualified PE teachers are essential to enhancing student motivation, engagement, and overall satisfaction.

Table 4
Significance of the Relationship of School Physical Environment, Teaching Competencies, and Student Satisfaction In Physical Education Classes

	R	p-value	Remarks
School Physical Environment and Student Satisfaction in Physical Education Classes	.62	.00	Significant
Teaching Competencies and Student Satisfaction in Physical Education Classes	.76	.00	Significant

Significance of the Influence of School Physical Environment and Teaching Competencies on Student Satisfaction in Physical Education Classes

The results of the multiple regression analysis. Both the physical school environment ($\beta = 0.17$, $p = .00$) and instructional competencies ($\beta = 0.64$, $p = .00$) are strong positive predictors of students' satisfaction with physical education classes. Improvements in facilities and instructor skills increase student satisfaction. The combined model accounts for 60% of the variance in satisfaction, indicating the significance of a well-kept environment and skilled instruction.

Table 5
Significance of the Influence of School Physical Environment and Teaching Competencies on Student Satisfaction

Singular Influence of the Predictors		Standardized Coefficients	t	p-value	Remarks
School Physical Environment		0.17	3.16	.002	Significant
Teaching Competencies		0.64	11.78	.000	Significant
Combined Influence of the Predictors					
R	.77				
R ²	.60				
F	193.48				
P	.00				Significant

These results concur with Liu et al. (2023) and McEwen et al. (2022), demonstrating that teaching quality and supportive physical environments promote engagement, motivation, and enjoyment in PE. The findings also support motivation theories such as self-determination theory and expectancy-value theory, emphasizing the importance of satisfying psychological needs and fostering students' beliefs in their competence and the value of activities to enhance motivation and satisfaction. Schools should hence invest in equipment and teacher training to maximize students' PE experience.

REFERENCES

Abarca-Sos, A., Zaragoza, J., Generelo, E., Julián, J. A., & Sevil, J. (2020). Relationship between teacher support and motivation, enjoyment, and physical activity in physical education classes. *Sustainability*, 12(3), 933. <https://doi.org/10.3390/su12030933>

Aliaga, M., & Gunderson, B. (2000). *Interactive statistics* (2nd ed.). Prentice Hall.

Arban, J., Domdom, V., Aliazas, J. V., & Gimpaya, R. (2023). Competency assessment of physical education teachers and its influence on students' cognitive learning. *International Journal of Scientific and Management Research*, 6(6), 28–44. <http://doi.org/10.37502/IJSMR.2023.6603>

Baena-Extremera, A., Granero-Gallegos, A., & Ortiz-Camacho, M. M. (2020). Prediction model of academic performance and satisfaction with school according to some subjects of compulsory secondary education.

- Educational Studies, 46(3), 319–331.
<https://doi.org/10.1080/00332941.2018.1560851>
- Baena-Extremera, L., Granero-Gallegos, A., & Martínez-López, E. J. (2016). Effects of sport teaching on students' enjoyment and fun. *Frontiers in Psychology*, 7, 1372. <https://doi.org/10.3389/fpsyg.2016.01372>
- Baños, R., Baena-Extremera, A., & Ortiz-Camacho, M. del M. (2019). Prediction of the satisfaction with the student life, based on teaching competence and satisfaction with the school. *Frontiers in Psychology*, 10, Article 2506. <https://doi.org/10.3389/fpsyg.2019.02506>
- Beets, M. W., Weaver, R. G., & Webster, C. (2020). School physical activity policies and student satisfaction in PE. *Preventive Medicine Reports*, 20, 101–108.
- Camerino, O., Castañer, M., & Anguera, M. T. (2020). School environment and student motivation in PE classes. *Frontiers in Psychology*, 11, 1234.
- Casey, A., Goodyear, V. A., & Armour, K. M. (2022). Physical education teachers' professional learning and student satisfaction. *Physical Education and Sport Pedagogy*, 27(1), 1–14.
- Chen, A. (2015). School environment and its effects on physical activity. University of North Carolina at Greensboro. Retrieved from https://libres.uncg.edu/ir/uncg/f/A_Chen_School_2015.pdf
- Chen, S., Sun, H., & Zhu, X. (2023). The relationship between teaching competence and student satisfaction in PE. *Journal of Sport and Health Science*, 12(1), 23–31.
- Cid, L., Monteiro, D., & Teixeira, D. S. (2019). The relationship between teaching competence and student satisfaction in PE. *European Physical Education Review*, 25(3), 630–645.
- Correos, C. T., & Huelma, M. (2022). Challenges encountered by teachers in the delivery of curriculum and instruction through modular distance learning. *Psychology and Education Journal*, 5(1), 356–366. <https://www.scribd.com/document/657985603/Challenges-Encountered-by-Teachers-in-the-Delivery-of-Curriculum-and-Instruction-Through-Modular-Distance-Learning>
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE Publications.
- Cruz, A. B., & Kim, H.-D. (2023). Transformational leadership of physical education instructors and university students' satisfaction with online classes. *Frontiers in Psychology*, 14, 1259218. <https://doi.org/10.3389/fpsyg.2023.1259218>
- Guo, Q., Samsudin, S.,

- Yang, X., Gao, J., Ramlan, M. A., Abdullah, B., & Farizan, N. H. (2023). Relationship between perceived teacher support and student engagement in physical education: A systematic review. *Sustainability*, 15(7), 6039. <https://doi.org/10.3390/su15076039>
- Deci, E. L., & Ryan, R. M. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68–78.
- Flesock, L. (2020). School physical activity environment and its impact on student satisfaction. *Journal of Physical Activity Research*, 8(2), 99–107.
- Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2019). *How to design and evaluate research in education* (10th ed.). McGraw-Hill Education.
- García-Hermoso, A., Ramírez-Vélez, R., García-Alonso, Y., Alonso-Martínez, A. M., & Izquierdo, M. (2021). Associations of physical education classes with physical activity and physical fitness in children and adolescents: A systematic review and meta-analysis of randomized controlled trials. *Journal of Sports Sciences*, 39(6), 710–719. <https://doi.org/10.1080/02640414.2020.1820927>
- García-Hermoso, A., Ramírez-Vélez, R., Lubans, D. R., & Izquierdo, M. (2021). Effects of physical education interventions on cognition and academic performance outcomes in children and adolescents: A systematic review and meta-analysis. *British Journal of Sports Medicine*, 55(10), 567–574. <https://doi.org/10.1136/bjsports-2020-102728>
- Ge, Y., Li, X., & Wang, Z. (2024). Physical education environment and student satisfaction in Chinese schools. *Asia-Pacific Journal of Physical Education*, 16(1), 12–22.
- Gonzalez-Calvo, G. (2020). Physical education teaching competencies and student perceptions. *Journal of Physical Education and Health*, 9(1), 44–52.
- Guthold, R., Stevens, G. A., Riley, L. M., & Bull, F. C. (2022). Participation in physical education classes and health-related behaviours among adolescents from 67 countries. *International Journal of Environmental Research and Public Health*, 19(2), 955. <https://doi.org/10.3390/ijerph19020955>
- Haerens, L., Kirk, D., & Cardon, G. (2020). School environment and student motivation in physical education. *International Journal of Behavioral Nutrition and Physical Activity*, 17(1), 1–12.
- Kilic, D. (2021). Teaching competencies and student satisfaction in Turkish physical education. *Turkish Journal of Sport and Exercise*, 23(1), 45–53.

- Licudine, S. G. C. (2024). Teacher performance and attitude of students toward physical education. *European Journal of Physical Education and Sport Science*, 11(1). <https://doi.org/10.46827/ejpe.v11i1.5363>
- Liu, Y., Chen, S., & Wang, J. (2023). Perceived teacher support, psychological needs satisfaction, and students' physical activity in PE: A mediation analysis. *Frontiers in Psychology*, 14, 1134571. <https://doi.org/10.3389/fpsyg.2023.1134571>
- Lopez-Gil, J. F., Garcia-Hermoso, A., & Tremblay, M. S. (2021). School-based physical activity and student satisfaction: A global perspective. *International Journal of Environmental Research and Public Health*, 18(4), 2031.
- López-Pérez, M., Generelo-Lanaspa, E., & Julián, J. A. (2021). Physical education and physical activity in schools: The influence of school physical environment on student engagement and motivation. *International Journal of Environmental Research and Public Health*, 18(9), 4785.
- Martin, J. J., Kulinna, P. H., & Cothran, D. (2011). Student attitudes and satisfaction in physical education: The role of teacher support. *Physical Educator*, 68(3), 150–160.
- McEwen, H. (2022). The influence of teaching competencies on student engagement in PE. *Journal of Teaching in Physical Education*, 41(3), 320–330.
- McNamara, L., Colley, P., & Franklin, N. (2021). School-based adult supervision and its influence on children's physical activity during recess: A scoping review. *Preventive Medicine Reports*, 21, 101296. <https://doi.org/10.1016/j.pmedr.2020.101296>
- Molina-Moreno, P., Molero-Jurado, M. D. M., Pérez-Fuentes, M. C., & Gázquez-Linares, J. J. (2024). Analysis of personal competences in teachers: A systematic review. *Frontiers in Education*, 9, 1433908. <https://doi.org/10.3389/educ.2024.1433908>
- Moral-García, J. E., Jiménez, A., Cabaco, A. S., & Jiménez-Eguizabal, A. (2021). The role of physical activity and school physical education in enhancing school satisfaction and life satisfaction. *International Journal of Environmental Research and Public Health*, 18(4), 1689. <https://doi.org/10.3390/ijerph18041689>
- Mupa, P., & Chinooneka, T. I. (2015). Factors contributing to ineffective teaching and learning in primary schools: Why are schools in decadence? *Journal of Education and Practice*, 6(19), 125–132. <https://files.eric.ed.gov/fulltext/EJ1079543.pdf>

- Ramírez, D. T. (2022). Analysis and enhancement of the senior high school physical education and health curriculum. *Journal of Namibian Studies: History Politics Culture*, 32, 218–240. <https://doi.org/10.59670/jns.v32i.3133>
- Ramirez-Gonzales, A. (2022). The influence of school physical environments on student engagement in physical education classes. *Journal of Physical Education and Health*, 11(3), 45–58.
- Reece, L. J., McInerney, C., & Blanchard, C. (2022). Physical activity environment and student satisfaction in secondary schools. *Journal of Physical Activity Research*, 9(3), 210–218.
- Rodriguez-Bravo, A. E., Martinez, M., & Sanchez, J. (2020). Teaching competencies and student satisfaction in Spanish physical education. *European Journal of Physical Education*, 25(2), 98–108.
- Rodriguez-Marcias, M., Lopez, R., & Garcia, D. (2021). School environment and student satisfaction in physical education. *Journal of Educational Research and Practice*, 11(2), 120–130.
- Rusell, K., Smith, J., & Brown, T. (2021). Physical education teaching competencies and student outcomes. *Journal of School Health*, 91(8), 642–650.
- Sevil, J., Aibar, A., García-González, L., Abós, Á., & Julián, J. A. (2020). The relationship between physical education classes and the adoption of an active lifestyle: The influence of autonomy support, motivation and intention. *International Journal of Environmental Research and Public Health*, 17(12), 4283. <https://doi.org/10.3390/ijerph17124283>
- Stangor, C. (2019). Essel, H. B., (2022). Research methods in education: A practical guide. *International Journal of Educational Research*, 112, 101938. <https://doi.org/10.1016/j.ijer.2021.101938>
- Tondo, J. E., & Detecio, M. E. (2021). Satisfaction of senior high school graduates on senior high school tracks: Opportunities and challenges. *Asia Pacific Higher Education Research Journal*, 8(1), 1–15. https://www.academia.edu/82180085/Satisfaction_of_Senior_High_School_Graduates_on_Senior_High_School_Tracks_Opportunities_and_Challenges
- Trigueros, R., Aguilar-Parra, J. M., & Lopez-Liria, R. (2019). Motivation and satisfaction in physical education: The impact of teaching competencies. *Frontiers in Psychology*, 10, 2259.
- Valero, A., Garcia, M., & Sanchez, B. (2020). School environment and physical activity levels among students. *International Journal of Environmental Research and Public Health*, 17(13), 4872.

- Von Doren, J., Klein, M., & Seidel, T. (2021). Physical activity environment and student engagement in PE. *Journal of Teaching in Physical Education*, 40(1), 54–65.
- Webster, C. A., Beets, M. W., & Weaver, R. G. (2020). Physical education environment and student engagement: A review. *Journal of Teaching in Physical Education*, 39(2), 123–134.
- Wright, P. M., Craig, M. W., & Li, W. (2021). Teacher competencies and student satisfaction in PE: A longitudinal study. *European Physical Education*
- Zimmerman, M. (2020). The role of school environment in promoting physical activity and satisfaction. *Journal of Physical Education and Sport*, 20(4), 1231–1240.
- Van den Berghe, L., Vansteenkiste, M., Cardon, G., Kirk, D., & Haerens, L. (2021). Self-determination theory in physical education: A systematic review of qualitative studies. *Teaching and Teacher Education*, 99, 103247. <https://doi.org/10.1016/j.tate.2020.103247>