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PERCEPTION OF QUALITY OF PHYSICAL EDUCATION AND STUDENT ENGAGEMENT IN PHYSICAL ACTIVITY AMONG PAHF STUDENTS

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Abstract:
Global inactivity is a vital health concern, a large segment of adults and adolescents is not meeting the recommended physical activity (PA) level (WHO, 2018). This quantitative research studied the relationship between students' perceptions of quality physical education (QPE) and student engagement in physical activity (SEPA) among 330 PATHFit students in a non-sectarian institution in Davao City, Philippines. Spearman-rho correlation analysis indicated a strong positive relationship between students' perceptions of PE as important for skill development and health awareness and their actual participation in different physical activities. The students perceived high-quality physical education, especially for skill development and facilities. Overall, engagement in PA by students was also high and with high authentic engagement. However, habitual activity outside structured classes and behavioral engagement, such as volunteering for school sports, were rated lower. These findings support the Self-Determination Theory of Ryan and Deci. The study highlights the significance of quality PE in promoting student engagement following an ill-timed realization of the lagging gap between positive perception and actual physical activity engagement habits. This implies that while quality PE could enhance student engagement, interventions promoting lifelong physical activity to address the barriers to consistent participation are necessary. Educators should consider strategies promoting self-reflection on exercise benefits and developing programs that integrate in-school and out-of-school opportunities.

SDG: #3 Good Health and Well-being; #4 Quality Education

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1. Introduction

Student engagement in physical activity often declines during the academic year due to psychological and practical barriers such as stress, low self-efficacy, and lack of motivation. This trend is attributed to decreased participation in organized and vigorous activities (Thomas *et al.*, 2019; Sierra- Díaz *et al.*, 2019; Bruner *et al.*, 2009). The WHO (2024) mentions that many adults and adolescents fail to engage in the recommended amount of physical activity. Other factors include increasing workloads, low energy to participate, and lack of transport/facility access to places of activity that do not help (Olanescu, 2021; Harvey *et al.*, 2018; Jones & Barrie, 2011). In addition, Batistis *et al.* (2024) also mention that barriers like skills mismatch, absence of support, and low interest commonly contribute to inactivity.

The Global Action Plan on Physical Activity 2018-2030 (GAPPA), the global initiative of the World Health Organization, aims to reduce the prevalence of physical inactivity globally by 15% by 2030. However, there are barriers such as limited access, low motivation, perception that physical education is irrelevant, and discouragement of participation (Liu, 2024; Bracco *et al.*, 2019). Studies estimate that most adolescents do not achieve the recommended activity levels, and the most significant factor contributing to this is increased screen time (McMaster, 2020; Piores *et al.*, 2023). Furthermore, students generally face specific challenges such as time distraction from social and family commitments, making it much harder to be regularly physically active (Anuar *et al.*, 2021). Financial issues and distance from campus also contribute to declining volunteerism among university students (Normah & Lukman, 2020). Some students justify non-participation through utilitarian attitudes, disappointment with the organization, or general inactivity (Pevnaya *et al.*, 2023). Despite the explicit benefits of physical exercise for fitness, mental health, and socialization (Kemeryte-Ivanauskiene *et al.*, 2022; Suyato *et al.*, 2024), participation of tertiary-level students remains at low levels due to academic pressures and career demands of university education (Podstawski *et al.*, 2021; Daniels *et al.*, 2021; Burner, 2019). This is challenged in the Philippines by limited resources, inequality among institutions, and poorly equipped facilities obstructing the effective implementation of PE programs. The preceding personal motivation, interests, and teaching approaches that stimulate students are also imperative factors influencing students' engagement in physical education (Lobo & Dimalanta, 2024; Otundo & Garn, 2019; Sierra-Díaz *et al.*, 2019).

The theoretical frameworks that illuminate this complexity are Haworth and Conrad's (1996) engagement theory of program quality (ETPQ), which states that program success relies on collaborative settings where interaction creates value: students, teachers, and administrators working together. This principle corresponds to Quality Teaching of Physical Education (QTPE) and Facilities and Norms in Physical Education

(FNPE). By contrast, Ryan and Deci's (2020) self-determination theory (SDT) points to autonomy, competence, and relatedness as the key elements in fostering engagement, which in turn, account for authentic engagement (self-motivated participation) and social engagement (peer collaboration) in this study. These two theories unite program design and behavior outcomes, creating a two-faceted framework to analyze why PE enjoys intellectual value with a behavioral disengagement on the part of students.

Figure 1 shows a conceptual framework that associates the quality of physical education (QPE) with student engagement in physical activity (SEPA). The framework proposes that quality of physical education is the independent variable, that is, a key variable in providing meaningful experiences within physical education programs (Heidorn, 2022). The key indicators for QPE include skill development and bodily awareness (SDBA), facilities and norms in physical education (FNPE), quality teaching of physical education (QTPE), cognitive skill development (CSD), and habituated behavior in physical activity (HBPA). Although some studies have shown that the QPE can improve the exercise experience and feelings of competence in university students (Ahmed & Al Salim, 2024), it is argued that those criteria, by working jointly, create an engagement-promoting environment for students.

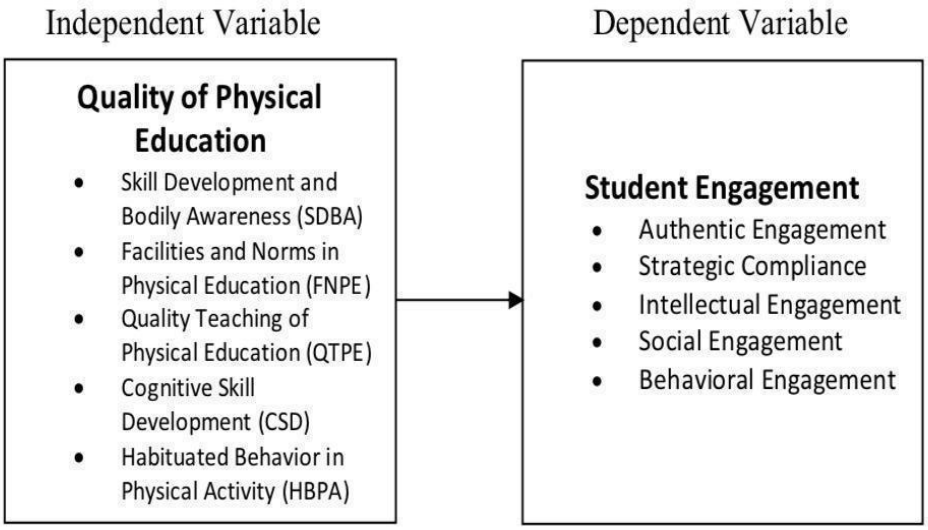

Figure 1: The Conceptual Framework of the Study

Student engagement in physical activity (SEPA) is the dependent variable critical in improving students' physical condition, health, psychological well-being, and social relationships (Yakovenko *et al.*, 2024). Student engagement in physical activity is measured with indicators like authentic engagement, strategic compliance, intellectual engagement, social engagement, and behavioral engagement. This framework proposes a quality of physical education and student engagement in physical activity relationship, whereby a better quality of learning in physical education, defined by its quality indicators, will lead to greater student engagement in physical activity. This relationship refers to the broader objective of empowering physical education to build engaged

students, bridging the gap between physical activity objectives worldwide (WHO, 2018) and constraints to participation (Liu, 2024; Bracco *et al.*, 2019).

Although abundant evidence exists at secondary levels, very little research has been done on tertiary PE considerations, especially in Southeast Asia. Most studies look into compulsory K-12 PE, leaving the tertiary context where student autonomy and institutional norms vary tremendously (Daniels *et al.*, 2021; Podstawski *et al.*, 2021). This gap suppresses changes following the SDGs. UNESCO (2022) holds PE is central to SDG 4 - Quality Education, specifically target 4.7, and SDG 3 - Good Health and Well-being, specifically target 3.4 – Reduce mortality from non-communicable diseases and promote mental health. Philippine institutions face dilemmas regarding how to put these into practice in the face of competing priorities (Maghanoy, 2022).

This study investigates the correlation between the quality of physical education and student engagement in physical activity. Specifically, the study seeks to answer the following objectives: to assess the level of the quality of physical education in terms of cognitive skill development, skill development, and bodily awareness, quality teaching of physical education, habituated behavior in physical activity, and facilities and norms in physical education; to determine the level of student engagement in physical activity in terms of authentic engagement, strategic engagement, intellectual engagement, social engagement, and behavioral engagement; and to know the significant relationship between quality of physical education and student engagement in physical activity. Testing the hypothesis that there is no significant relationship between these two variables. Ultimately, this study seeks to contribute to developing sustainable development goal-compliant physical education frameworks for tertiary institutions, inform policy directions to bridge motivation-structural gaps, and provide localized evidence to support evolving Philippine education paradigms in response to global inactivity trends.

2. Method

This section describes the systematic plan and procedures used to conduct the study. It provides a comprehensive description of how the data were gathered, including the instruments or techniques utilized, and the methods applied for subsequent analysis.

2.1 Research Respondents

There were 2,341 enrolled in Physical Activity for Health and Fitness (PATHFit) courses in one of the higher institutions in Davao City. Using the RAOSOFT sample size calculator, a total of 330 students were chosen from the three colleges, levels one to four, from the College of Health and Sciences Education (CHSE), the College of Hospitality Education (CHE), and the College of Accounting Education (CAE). For a student to be a respondent, they should be at least 18 years of age and have been selected based on their direct involvement in Physical Education (PE) programs. This criterion ensured that

students possessed relevant experiences and insights to contribute to the study's exploration of interaction levels and personal experiences within the said courses.

Nevertheless, students not enrolled in any PATHFit course at the time of data collection will not be permitted to take part in the study. Also, students with PATHFit courses coming from other colleges were prohibited from joining. In addition, students who refrain from engaging in PE classes for the sake of their chosen courses or any other reason will also be excluded to maintain a relevant sample. Respondents who believe that their engagement may adversely affect their studies or well-being will be permitted to withdraw. It is understood that this will not be absolute; however, a cut-off date for withdrawal will be given to improve the level of participants' awareness. This also provides a plausible justification for ethical concerns in addition to understanding. To ensure unbiased and representative data, the study will use simple random sampling, a probability sampling strategy in which everyone in the community has an equal chance of being chosen (Thomas, 2023).

2.2 Research Instruments

This study utilized an adapted survey questionnaire from Ahmed and Al Salim (2024) and Calubayan and Ofrin (2023) for independent and dependent variables, respectively. The independent variable of the study is quality of physical education with five indicators: cognitive skill development has five items, skill development and bodily awareness has seven items, quality teaching of physical education has six items, habituated behavior in physical activity has six items and facilities and norms in physical education has 13 items. The dependent variable, student engagement in physical activity, has five indicators: behavioral engagement, social engagement, authentic engagement, intellectual engagement, and strategic compliance. Each indicator has five items.

A five-point Likert scale was utilized in this study to assess the descriptive level and statement for each indicator. The scale options will be as follows: 5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, and 1 - Strongly Disagree. Additionally, the mean scores were interpreted as follows: 4.20-5.00 (Very High), indicating that quality of physical education and student engagement in physical activity are consistently manifested; 3.50-4.19 (High), suggesting that quality of physical education and student engagement in physical activity are frequently manifested; 2.60-3.49 (Neutral), indicating that quality of physical education and student engagement in physical activity are occasionally manifested; 1.80-2.59 (Low), indicating that quality of physical education and student engagement in physical activity are rarely manifested; and 1.00-1.79 (Very Low), indicating that quality of physical education and student engagement in physical activity are never manifested.

The instrument underwent contextualization and was submitted to a panel of experts for validation, which received a mean value of 4.71. The validity and reliability were tested through pilot testing, where the Cronbach alpha of 0.909 for quality of physical education and 0.910 for student engagement in physical activity was determined. The result means that the instruments demonstrate excellent reliability. This

process ensured that the questionnaire was suitable and dependable for measuring the intended variables.

2.3 Research Design/Procedures

This study utilized a descriptive-correlational method in examining the relationship between PAHF students' Quality of Physical Education and Student Engagement in Physical Activity. In the conduct of the study, the researchers sent a formal letter to the dean of the College of Teacher Education and the program head of the Bachelor of Physical Education Program to secure the required approval. After obtaining the necessary permission, the researchers seek assistance from PATHFit teachers handling the course in the distribution of the survey questionnaire to the respondents.

Students were given a thorough explanation of the goal and rationale behind the study before handing out the questionnaire. They were guaranteed that the information they contributed would remain confidential. It was then collected, tabulated, and submitted to the statistician for statistical treatment and analysis using the mean and standard deviation for the level of quality of physical education and student engagement in physical activity. For the correlation, the Spearman-rho was used; it is deemed suitable for the correlation test due to the non-normal distribution of the data detected in a normality test. The conclusions, suggestions, and findings of the study were derived from the statistical results of data analysis.

3. Results and Discussion

This study examines the connection between PAHF students' level of physical activity engagement and their perception of the quality of physical education. The results presented here provide insights into how students perceived the quality of physical education and how this relates to their participation in different physical activities.

3.1 Quality of Physical Education

Presented in Table 1 is the level of quality of physical education among PAHF students. The quality of physical education is evaluated using five indicators: cognitive skill development, skill development and bodily awareness, quality teaching of physical education, habituated behavior in physical activity, and facilities and norms in physical education. The table reveals that students in the PATHFit courses perceived the overall quality of physical education as very high, with a mean of 4.37 and a standard deviation of .32. The result indicates that students consistently manifested the quality of physical education. The students strongly agreed that it enhances students' knowledge of different activities, teaches students how important activity is to the process of growth, and it is also the most effective means of equipping children with the skills, attitudes, and values for lifelong physical activity and sport participation. Furthermore, providing a safe, suitable environment and equipment for PE offers opportunities to learn actively.

Table 1: Level of Quality of Physical Education

Indicators	$\bar{x}$	***SD***
Skill Development and Bodily Awareness	4.47	.16
Facilities and Norms in Physical Education	4.47	.40
Quality Teaching of Physical Education	4.45	.47
Cognitive Skill Development	4.25	.58
Habituated Behavior in Physical Activity	4.21	.59
Overall	4.37	.32

This positive view of various dimensions of quality of physical education is further illustrated by higher mean levels in skill development and bodily awareness, and facilities and norms in physical education, both at 4.47. Students feel that they are developing some physical skills and appreciate the quality of facilities provided for PE lessons. Whereas, a rather big gap was noted in habituated behavior in physical activity, yielding a lower mean of 4.21 among indicators, which is still at a very high level.

These results are consistent with previous studies showing mixed student perceptions about physical education, with many students rating their experience low (Beasley, 2020). However, students who enjoy PE and feel competent are more likely to engage in physical activities (Murfay *et al.*, 2022). Good teaching and effective instructional strategies are vital for bringing about these perceptions (Zhang & Chang, 2024). By providing active yet cooperative learning environments, this could foster positive attitudes toward regular physical activity, something that is necessary in the face of global youth inactivity (Winarni, 2011; McMaster, 2020). Nevertheless, university students face distinct challenges, primarily that of time; thus, they might require adaptive support to sustain their activity (Anuar *et al.*, 2021).

2.4 Student Engagement in Physical Activity

Table 2 shows the level of student engagement in physical activity, which was carefully assessed in terms of authentic engagement, strategic engagement, intellectual engagement, social engagement, and behavioral engagement. The table revealed that the student engagement in physical activity obtained a very high level, with an overall mean score of 4.24 and a standard deviation of 0.49. The results indicate that students consistently manifested positive experiences in physical education.

Table 2: Level of Student Engagement in Physical Activity

Indicators	$\bar{x}$	***SD***
Authentic engagement	4.36	.54
Strategic compliance	3.96	.68
Intellectual engagement	4.30	.55
Social engagement	4.23	.54
Behavioral engagement	3.84	.92
Overall	4.24	.49

The students strongly agree and see PE as a source of satisfaction and enjoyment when they perform well, viewing their performance as a challenge that promotes personal growth and development. Furthermore, socializing during physical activity heightens the enjoyment and motivation.

The indicator with the highest mean value, 4.36 (SD = .54), is authentic engagement. Hence, the respondents always find fulfillment in such activities, where students are very happy and satisfied when they have perfectly executed their PE performance. In contrast, behavioral engagement is reflective of being actively engaged and punctual, and had the lowest mean score of 3.84. This indicates students do not volunteer or participate in any variety of activities and do not attend various school events, especially those that benefit their wellness. The lack of volunteering and attendance at wellness activities implies that the positive experience within PE might not be fully internalized or extended beyond the classroom setting to influence broader health behaviors.

These findings are in line with research that emphasizes situational interest and needs-supportive teaching as major factors in student engagement (Otundo & Garn, 2019), and the relationship with intrinsic motivation and psychological need satisfaction in exercise (Sierra-Díaz *et al.*, 2019). The lack of interest, mismatched skills, and time constraints, as well as inadequate support, are common barriers to participation (Batistis *et al.*, 2024). Financial problems and distance from campus further bring about dwindling volunteerism among university students (Normah & Lukman, 2020). Some students, on their part, justify the lack of participation based on utilitarian attitudes, dissatisfaction with the organization, or general inactivity (Pevnaya *et al.*, 2023). The argument thus presents a significant need for specific incentive strategies and barrier reduction to improve engagement in physical education effectively.

2.5 Correlation between Quality of Physical Education and Student Engagement in Physical Activity

Presented in Table 3 is the correlation between the quality of physical education and student engagement in physical activity. Since data for both quality of physical education and student engagement in physical activity are not normally distributed, Kolmogorov-Smirnov and Shapiro-Wilk followed the Spearman-rho test between the two variables. The analysis showed a strong positive significant correlation ($r = 0.638$, $p < 0.001$) between the quality of physical education and student engagement in physical activity, thereby rejecting the null hypothesis since there is a strong positive significant correlation between the two variables. This implies that the higher perceived quality of physical education relates to greater student engagement in physical activity.

Table 3: Correlation between Quality of Physical Education and Student Engagement in Physical Activity

	Student Engagement					
QPE	**Authentic**	**Strategic**	**Intellectual**	**Social**	**Behavioral**	**Overall**
SDBA	0.096	.223**	.124*	.091	.199**	.219**
FNPE	.403**	.286**	.392**	.332**	.266**	.427**
QTPE	.414**	.298**	.438**	.340**	.289**	.457**
CSD	.395**	.346**	.382**	.276**	.337**	.453**
HBPA	.516**	.438**	.421**	.360**	.481**	.587**
Overall	.550**	.466**	.520**	.420**	.478**	.638**

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Research highlights the strong positive relationship between the quality of physical education and student engagement in physical activities, owing largely to the influence of perceived teacher support, which is designed to initiate behavioral and emotional engagement through autonomous motivation and need satisfaction (Guo *et al.*, 2023). The following factors are still predictive of higher engagement: customized instruction, transformational teaching, and a supportive environment (Ahmed & Al Salim, 2024; Castillo, 2020; Leo, 2020). In line with this evidence, Olănescu (2021) identifies time limitations and lack of motivation as the most important barriers to university students' participation in sports, pointing to the need for flexible and motivating programs in physical education. Further, enjoyable, social, and varied examples of practice benefit attracting younger pupils, as noted by Harvey *et al.* (2018). These studies show that quality, need-supportive, enjoyable, and flexible physical education environments are important for creating and enhancing sustained engagement in physical activity for students.

3. Conclusions and Recommendations

The study found that students generally have a very high level of quality of physical education, especially regarding skill development and the facilities and norms in physical education. Relatedly, student engagement in physical activity was very high, mainly in authentic and intellectual engagement. Significantly, the analysis showed a strong positive relationship between the quality of physical education and student engagement in physical activities, underlining the importance of effective teaching strategies and supportive environments in fostering participation.

This supports the Engagement Theory of Program Quality (ETPQ) developed by Haworth and Conrad in 1996, which contends that meaningful experiences and opportunities for active participation are key components of high-quality programs that promote engagement. Ryan and Deci's seminal contributions to the question of personality development are equally relevant to the interpretation of our findings. Strong levels of perceived quality of PE, together with strong student engagement in physical

activity, evidence that students' basic psychological needs have been met concerning PE programs. This is evidenced by their enjoyment and satisfaction regarding their performance, and the sense of feeling competent. There is, however, a significant gap in actual habitual physical activity outside organized PE classes compared to what students perceived the quality of physical education to be, with students showing even less behavioral engagement. This contradicts the framework of SDT, which proposes that while students see their PE experiences as engaging and motivating, they come against discouragement that obstructs the actual behavioral engagement.

Acknowledging that a strong link exists between the quality of physical education and student engagement in physical activity, high-quality PE must therefore engage students. Therefore, physical education should concentrate on making students lifelong physical activities and ensure that barriers to steady participation are addressed, thus supporting autonomy, competence, and relatedness beyond the PE framework, with opportunities to experience meaningful engagement as per the engagement theory of program quality. Therefore, this strategy of including self-reflection activities would help bridge the divide between perceived quality and habitual engagement.

Governments and colleges are also urged to prioritize quality physical education by sourcing resources, qualified instructors, and innovative enrichment for fostering holistic development and a lifetime of physical activity. Focusing on authentic engagement and intrinsic motivation through student-centred approaches and proactive mitigation of barriers to behavioral engagement will create a safe and secure environment. Underpinning such change with evidence-based strategies, continuous teacher training, and collaborative stakeholder action will ensure that ensuing engagement is sustainable and will add to the plethora of global health and education goals.

Based on the findings of the study, the researchers recommend that the institution should continue implementing the program structure and content as it is to sustain the positive outcome. The instructional methods and strategies used by the physical education instructors meet the students' needs, as shown by the high perception of teaching quality and student engagement; therefore, it must be maintained and reviewed to ensure ongoing relevance and effectiveness. Furthermore, the institution should maintain current facilities and promote an environment that engages students in their activities. However, even with the favorable results at present, most assessments should be done periodically concerning students' perceptions and engagement in order to find emerging needs or areas for improvement.

For future researchers, it is recommended to conduct longitudinal research to track the distant effects of the quality of physical education on students' physical activity habits and well-being beyond the school gate. Other studies need to bring in behavioral engagement aligned with physical education to explore more specific factors of engagement that either hinder or promote value in consistent volunteerism. The mode of the interview for qualitative data collection, a mixed-method approach, along with student focus groups, could help provide more insights into the interdependence of

quality of physical education, motivation, and engagement. Future studies could also consider a more focused investigation of specific pedagogical intervention strategies that aim to increase intrinsic motivation for, and interest in, lifelong physical activity across diverse student groups.

Conflict of Interest Statement
The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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