



Engagement and Self-Efficacy in Physical Education among Filipino College Students

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Abstract

This study examined engagement and self-efficacy in Physical Education among college students in a university in Bacolod City, Philippines. It investigated differences across demographic groupings and the relationship between the two constructs. A descriptive–correlational research design was employed. Using stratified random sampling, 343 first-year college students enrolled in Physical Activities Toward Health and Fitness 2 participated in the study. Data were collected using a validated researcher-developed questionnaire that measured intellectual, cognitive, and academic engagement, as well as mastery experiences, social modeling, social persuasion, and psychological responses related to self-efficacy. Descriptive statistics, Mann–Whitney U test, Kruskal–Wallis H test, and Spearman’s rank correlation coefficient were used for data analysis. Results revealed high levels of engagement and self-efficacy among students across all measured dimensions. Significant differences were found by sex: male students reported higher engagement and self-efficacy, while no significant differences were observed across academic departments. A strong positive relationship between engagement and self-efficacy was identified ($r_s = 0.808$, $p < .01$). The findings indicate that students’ perceived competence is closely associated with their level of participation in Physical Education. The study provides empirical evidence on motivational processes in a private university context. It offers insights for strengthening Physical Education programs that support sustained student participation and the development of confidence.

Keywords

Physical Education, student engagement, self-efficacy, descriptive-correlational research, Philippine higher education

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Ethics Statement

This study was conducted in accordance with ethical standards and approved by the appropriate Institutional Review Board (IRB). Informed consent was obtained from all participants prior to data collection.

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Introduction

Globally, the need to encourage lifelong physical activity is now seen as a deeply human concern rooted in people's perceptions of mobility, confidence, and belonging rather than just a health requirement. In this setting, physical education (PE) becomes a lived space where students negotiate their motivation, feelings of ability, and self-worth. According to Bertills et al. (2018) and Sánchez-Jarque et al. (2023), students' enthusiasm, feelings, and the significance they attach to each activity demonstrate their engagement in physical education, which goes beyond simple participation. Additionally, these experiences are subtly altered by self-efficacy, which affects how students perceive their capacity to move, perform, and persevere (Bertills et al., 2021; Shin & Gwon, 2024). Research indicates that these two forces are intimately linked: self-efficacy improves the willingness to continue participating, while participation builds confidence. This creates a dynamic loop that enhances learning and wellbeing (Castro et al., 2023; Gao et al., 2024). According to research, organized learning environments increase self-efficacy, whereas engagement promotes emotional involvement and sustained participation (González-Peño et al., 2021; Fogarty et al., 2023; Suguis & Belleza, 2022; Deliligka et al., 2022; Silva et al., 2022). Studies highlighting how educational programs and support systems influence student engagement and confidence, especially when learning environments are designed to be responsive and relevant, provide further evidence of this interaction (Catid et al., 2026; Ypil et al., 2025).

These encounters take on certain cultural textures in more limited contexts. The degree to which students participate in physical education varies across ASEAN contexts, reflecting not only individual motivation but also subtle influences from social circumstances, cultural norms, and institutional practices. Exercise participation varies across educational contexts in countries like Vietnam, indicating that context affects students' engagement with movement (Phuong, 2023). In a similar vein, learners' self-efficacy is often shaped by their relationships with peers and teachers, and the learning environment affects how confidently they perform physical tasks (Nguyen et al., 2023). These realities are further shaped in the Philippines by evolving instructional strategies, as students' engagement in physical education is increasingly mediated by peer dynamics and digital technologies. These factors are further shaped by family and community dynamics that support accountability and engagement (Cariaga & Gerodias, 2025; Cariaga, 2025). One example of how innovation can improve engagement while changing learning experiences is the use of digital teaching materials, such as those used in dance and movement education (Boston & Paceño, 2025). Additionally, the significance of inclusive and safe learning settings underscores how students' perceptions of space and belonging shape their willingness to participate (Panhilason, 2026). In educational contexts, evolving technologies present both benefits and challenges, especially in how teachers and students manage digital integration (Cariaga et al., 2025). Filipino students negotiate motivation, confidence, and involvement as they navigate physical education, drawing on a blend of traditional values and contemporary influences (Paat et al., 2020; Santos et al., 2020; Garcia & Alibudbud, 2021).

Some experienced experiences are nonetheless unspoken despite the expanding corpus of writing. The complex realities of private university settings are understudied, with most current research focusing on general or public educational environments. There is still a dearth of research on how digital technologies affect engagement and self-efficacy, especially in these institutions. More importantly, it is crucial to focus on how Filipino college students view physical education within specific institutional cultures—how they interpret participation, how they build confidence, and how their environment supports or hinders these processes. Previous research highlights broader educational issues, such as obstacles to technology integration and instructional constraints that may affect student engagement (Cariaga et al., 2025; Galaura & Simpall, 2025), but it falls short of capturing the complex, lived meanings of participation in specific contexts, such as private higher education. These differences suggest that self-efficacy and engagement are dynamic experiences shaped by opportunity, culture, and circumstance rather than static concepts.

In response, the purpose of this study is to provide light on how college students at a private university in Bacolod City relate to engagement and self-efficacy. By concentrating on students' real-world experiences, the study aims to pinpoint not only patterns of participation but also the meanings that underlie them—the subtle struggles, small victories, and rewards that motivate people to engage in physical activity. The project is to support a more human-centered approach to physical education, one that respects the opinions and experiences of students and has an impact on the creation of learning environments that promote self-assurance, community, and long-term wellbeing. By doing this, it meets the general demands for inclusive, experience-driven, culturally sensitive education that prioritizes both individual and group development while navigating the realities of changing educational technologies.

Methodology

Design

This study employed a descriptive–correlational research design to examine engagement and self-efficacy in Physical Education among college students in a university in Bacolod City, Philippines, during the Academic Year 2023–2024. Descriptive research is used to systematically describe characteristics, conditions, or patterns of a population or phenomenon as they naturally occur, without manipulation of variables (Polit & Beck, 2021). In this study, the descriptive component was used to determine the levels of engagement and self-efficacy among the

respondents and to describe patterns across selected grouping variables. The correlational component was applied to examine the relationship between engagement and self-efficacy. Correlational research is designed to assess the strength and direction of association between quantitative variables without experimental control or manipulation (Saunders et al., 2023). This approach enabled the researcher to determine whether a significant relationship exists between students' engagement and self-efficacy in Physical Education.

Sampling

In this study, stratified random sampling was employed to ensure proportional representation of first-year college students across identified subgroups. Stratified random sampling is a probability sampling technique in which a population is divided into distinct, homogeneous subgroups (strata) based on shared characteristics, and participants are randomly selected from each subgroup to enhance representativeness and reduce sampling error (Creswell & Creswell, 2023; Saunders et al., 2023). In this study, the strata were based on respondents' sex and academic department. Using a sample size formula with a margin of error of five percent (0.05) and a confidence level of ninety-five percent (0.95), a sample of 343 respondents was obtained from a total population of 3,149 first-year college students enrolled in a university in Bacolod City, Philippines, during the Academic Year 2023–2024. Proportional allocation was applied to ensure adequate representation of each subgroup.

Respondents

The respondents of the study were first-year college students enrolled in Physical Activities Toward Health and Fitness 2 (PATHFit 2) under the supervision of Physical Education instructors from the General Education Courses Department. Of the total sample, 146 respondents (42.57%) were male and 197 respondents (57.43%) were female. When grouped by academic department, the respondents consisted of 84 students from the College of Allied Medical Health Sciences, 48 from the College of Arts and Sciences, 44 from the College of Business and Accountancy, 36 from the College of Criminal Justice Education, 24 from the College of Education, 88 from the College of Engineering, and 19 from the College of Information Technology. These distributions ensured proportional representation across institutional subgroups.

Instrument

A three-part researcher-made survey questionnaire was used to assess engagement and self-efficacy in Physical Education among college students. The instrument was digitized and administered through an online survey platform. Prior to participation, respondents were informed of the study's purpose and provided informed consent to ensure voluntary participation and understanding of the research. Part I gathered respondents' demographic information, specifically sex and academic department. Parts II and III used a four-point Likert scale to measure engagement and self-efficacy, with response options ranging from 1 (Strongly Disagree) to 4 (Strongly Agree). Part II consisted of 30 items measuring students' level of engagement in Physical Education across three dimensions: intellectual (10 items), cognitive (10 items), and academic engagement (10 items). Mean scores were interpreted using a four-level scale (low, moderate, high, very high) to describe the extent of students' participation, involvement, and investment in learning activities. Part III comprised 30 items assessing self-efficacy in Physical Education across four dimensions: mastery experiences (7 items), social modeling (7 items), social persuasion (8 items), and psychological responses (8 items). Mean scores were likewise interpreted using four levels to describe students' confidence and perceived capability in performing physical education tasks. Content validity of the instrument was established through expert evaluation. Ten college Physical Education instructors with master's degrees and at least five years of higher education teaching experience assessed the relevance and essentiality of each item. Using Lawshe's (1975) Content Validity Ratio (CVR), item values ranged from 0.80 to 1.00, indicating acceptable content validity. Reliability was determined through pilot testing with 30 first-year college students who were not included in the main sample. Internal consistency reliability was assessed using Cronbach's alpha. The instrument yielded coefficients of 0.97 for engagement and 0.98 for self-efficacy, indicating excellent reliability.

Data Collection

Prior to data collection, the researcher secured formal approval from the Vice President for Academics and Research and the respective college deans to conduct the study within the university. After approval was granted, the researcher coordinated with Physical Education (PE) instructors handling PATHFit 2 to explain the study's purpose, schedule, and procedures for survey administration. The survey questionnaire was distributed electronically and administered through an online platform. PE instructors facilitated the dissemination of the survey link to students through official class group chats. Before completing the questionnaire, respondents were provided with instructions and an informed consent statement, and they were given the opportunity to ask questions to ensure clarity and voluntary participation. After the survey period, responses were collected and organized for processing. The data were then encoded, tabulated, analyzed, and interpreted to address the research questions and generate the study's findings.

Data Analysis

The data were processed using the Statistical Package for the Social Sciences (SPSS) Version 24, with the level of significance set at 0.05. The Shapiro–Wilk test was used to assess the normality of the variables. Results indicated that engagement (SW = 0.131, $p = 0.000$) and self-efficacy (SW = 0.115, $p = 0.000$) were not normally

distributed. Consequently, nonparametric statistical tests were applied for inferential analyses. For Research Questions 1 and 2, which identified the least and most prevalent engagement activities and self-efficacy traits, descriptive statistics, specifically mean and rank, were used. For Research Questions 3 and 4, which determined the levels of engagement and self-efficacy, mean and standard deviation were computed. For Research Questions 5 and 6, which examined differences in engagement and self-efficacy when respondents were grouped by sex and department, inferential nonparametric tests were employed. The Mann–Whitney U test was used to determine differences by sex, while the Kruskal–Wallis H test was used to analyze differences across departments. For Research Question 7, which examined the relationship between engagement and self-efficacy, Spearman’s rank correlation coefficient was used to determine the strength and direction of association between the variables.

Ethical Considerations

The study adhered to established ethical standards to ensure the protection of participants’ rights, welfare, and privacy throughout the research process. Prior to data collection, respondents were provided with complete information about the study’s purpose, procedures, potential risks, and expected benefits. Participation was voluntary, and informed consent was obtained before respondents accessed the survey. Participants were assured that their academic standing would not be affected by their decision to participate or withdraw from the study at any time. Anonymity and confidentiality were strictly maintained. Respondents were not required to disclose identifying information, and all collected data were handled with discretion. Electronic data were stored in password-protected files, while any printed materials were kept in secure storage. Data handling complied with the provisions of the Republic Act No. 10173, or the Data Privacy Act of 2012, ensuring that personal information was processed lawfully and securely. All data will be disposed of appropriately after the required retention period.

Although the study involved minimal risk, safeguards were implemented to protect participants’ well-being, particularly when reflecting on personal experiences related to Physical Education. Respondents were informed that they could skip any question or discontinue participation without penalty. The researcher maintained a respectful and supportive approach throughout data collection. Fairness and justice were observed by ensuring equal opportunity for participation and representation across identified subgroups. Transparency was upheld through clear communication of research procedures and objectives, and institutional permissions were secured prior to data collection. The researcher ensured that appropriate digital platforms were used to facilitate secure and efficient data gathering. Through these measures, the study maintained ethical integrity while safeguarding participant welfare and data confidentiality.

Results and Discussion

The effectiveness of the developed BMS was evaluated using a five-point Likert scale grounded in the ISO/IEC 25010:2011 Software Quality Model. The evaluation focused on software quality characteristics relevant to the roles of the respondents. Specifically, end-users assessed user-oriented quality attributes, while IT experts evaluated technical software quality characteristics.

Table 1
Least and Most Prevalent Engagement Activities of College Students

Statements	<i>M</i>	Rank
<i>As a Physical Education student, I...</i>		
Apply what I’ve learned in Physical Education to real-life scenarios or activities.	3.46	1
Collaborate with classmates on academic projects or assignments in Physical Education.	3.42	2
Strive for academic excellence in Physical Education by completing assignments, preparing for tests, and crafting presentations.	3.39	3
Employ decision-making and planning skills during physical education activities or games.	3.34	4
Reflect on my performance and think about improvements when learning new skills or techniques in sports.	3.33	5
Am confident in applying the academic knowledge gained in Physical Education to future educational or professional endeavors.	3.31	6
Connect academic concepts from Physical Education class to real-world applications to enhance personal fitness or sports performance.	3.29	7.5
Motivate myself to understand the underlying principles of new techniques or strategies in sports or exercise.	3.29	7.5
Critically assess my performance in physical activities, aiming for improvement through reflection and adjustment.	3.27	9.5
Engage in class discussions or activities that challenge my critical thinking and problem-solving skills in Physical Education.	3.27	9.5

Search for information or resources to better understand topics covered in Physical Education classes.	3.25	11
Tackle problems related to strategy or technique in sports or physical activities with enjoyment.	3.24	12
Integrate knowledge from disciplines like psychology into my Physical Education studies.	3.23	13
Engage in reflective practices to evaluate my academic progress and set goals for improvement in Physical Education.	3.22	14
Enjoy exploring physical activity through the lens of science, particularly in areas like force or energy use.	3.21	15.5
Learn and memorize the rules, strategies, and tactics for various sports or physical activities with joy.	3.21	15.5
Seek further clarification or information from my instructor to deepen my understanding of academic concepts in Physical Education.	3.20	17
Engage in discussions about physiological and biomechanical aspects of movement during class.	3.18	19
Explore into the social and ethical implications of sports and physical activities.	3.18	19
Interact with course materials outside of class, like readings, videos, or online resources.	3.18	19
Actively search for information about nutrition, fitness, and wellness outside of class.	3.17	21
Explore the historical and cultural contexts of various sports and physical activities with pleasure.	3.14	22.5
Explore alternative physical activities or exercises beyond traditional sports.	3.14	22.5
Explore interdisciplinary connections between Physical Education and other academic subjects, like mathematics, science, or social studies.	3.13	24
Apply problem-solving skills to adapt to different environmental conditions or equipment limitations in Physical Education.	3.11	25
Enjoy merging insights from other subjects, like biology, psychology, or physics, into my Physical Education knowledge.	3.10	26
Participate in extracurricular activities or events related to academic aspects of Physical Education, such as research symposiums or lectures.	3.01	27
Engage in class discussions or ask questions about academic aspects of Physical Education, such as anatomy, physiology, or biomechanics.	3.00	28
Like studying performance data or stats in sports, whether it's mine or someone else's.	2.91	29
Participate in debates or discussions about the fairness and effectiveness of sports rules and regulations.	2.77	30

Table 1 shows the distribution of engagement activities based on mean scores and rank. The three least prevalent activities were: participating in debates or discussions about the fairness and effectiveness of sports rules and regulations ($M = 2.77$), studying performance data or sports statistics ($M = 2.91$), and engaging in academic discussions on topics such as anatomy, physiology, or biomechanics ($M = 3.00$). In contrast, the three most prevalent activities were applying learned concepts to real-life situations ($M = 3.46$), collaborating with classmates on academic tasks ($M = 3.42$), and striving for academic excellence through completion of assignments and preparation for assessments ($M = 3.39$). These findings indicate that students demonstrate stronger engagement in practical and collaborative learning experiences than in activities requiring abstract analysis or deeper theoretical discussion. Lower participation in debates, performance analysis, and academically focused discourse suggests that cognitively demanding or highly analytical components of PE may be perceived as less accessible or less relevant to students. This pattern aligns with Nguyen et al. (2023), who reported a gap between students' recognition of the importance of Physical Education and their engagement in its more intellectually demanding components. Such disparities highlight the importance of contextualizing learning experiences to enhance relevance and student interest (Phuong, 2023; Aelterman et al., 2017). Conversely, higher engagement in real-life application and collaborative learning reflects students' preference for meaningful and socially interactive tasks. When learning activities are directly connected to practical experience, motivation tends to increase (Wortman, 2023). Structured and interactive physical activities also strengthen engagement while reinforcing confidence and sustained participation (Silva et al., 2022). Supportive teaching environments and student-centered instructional practices further enhance engagement by addressing learners' psychological needs and promoting autonomy (Guo et al., 2023; Leo et al., 2022).

Table 2
Least and Most Prevalent Self-Efficacy Traits of College Students

Statements	M	Rank
<i>As a Physical Education student, I...</i>		
Transform challenges into opportunities for growth, reinforcing my commitment to personal excellence in Physical Education.	3.45	1
Apply my teacher's feedback to enhance my performance in physical activities.	3.40	2
Develop a growth mindset, seeing challenges as opportunities to enhance my success and satisfaction in Physical Education.	3.39	3
Find motivation and confidence in classmates' positive feedback.	3.38	4.5
Collaborate effectively with peers in team-based activities.	3.38	4.5
Am guided to success in physical education by my teacher's expertise.	3.37	6
Experience a significant boost in confidence and motivation due to my teacher's faith in my abilities.	3.33	7
Engage competently in various physical activities taught in class.	3.32	10
Strengthen my sense of belonging and self-efficacy through sharing experiences with classmates.	3.32	10
Receive positive reinforcement from my teacher, enhancing my confidence and performance in physical education.	3.32	10
Take on new challenges and aim for progress, driven by encouragement from my teacher.	3.32	10
Boost my confidence and performance through positive self-talk and visualization techniques.	3.32	10
Get motivated by my teacher's recognition of my efforts and achievements.	3.31	14
Adaptively manage setbacks, viewing them as chances for personal development and mastery.	3.31	14
Gain confidence and ambition from observing skilled classmates in physical activities.	3.31	14
Maintain a healthy, active lifestyle outside the classroom.	3.30	16
Pursue continuous improvement, encouraged by collective support from classmates.	3.29	17.5
Comfortably seek help or advice from classmates when learning new skills.	3.29	17.5
Recover from setbacks or failures in physical education activities.	3.28	19.5
Maintain a positive outlook even when facing difficulties in physical activities.	3.28	19.5
See constructive criticism from my teacher as crucial for my growth.	3.27	21
Push my limits, inspired by classmates' efforts and achievements.	3.26	22
Overcome self-doubt and negative thinking that may affect my performance in physical activities.	3.25	23
Set and achieve personal fitness goals within my Physical Education classes.	3.24	24
Remain composed in competitive or challenging situations by regulating my emotions.	3.22	25
Positively affect the performance and motivation of my peers in Physical Education.	3.21	27
Am inspired to surpass my limits by my teacher's high expectations.	3.21	27
Excel in assessments or evaluations in Physical Education.	3.21	27
Apply theoretical knowledge from class in practical scenarios.	3.16	29
Find managing anxiety or nervousness in Physical Education activities challenging.	3.06	30

Table 2 presents the distribution of self-efficacy traits based on mean scores and rank. The least prevalent traits included difficulty managing anxiety or nervousness during Physical Education activities ($M = 3.06$), applying theoretical knowledge in practical situations ($M = 3.16$), and excelling in assessments or influencing peers' motivation, as well as being driven by teachers' high expectations (all $M = 3.21$). In contrast, the most prevalent traits were transforming challenges into opportunities for growth ($M = 3.45$), applying teacher feedback to improve performance ($M = 3.40$), and developing a growth mindset toward success in Physical Education ($M = 3.39$). These findings indicate that while students generally demonstrate positive motivational orientations, certain aspects of self-regulation and performance-related confidence remain areas of concern. Difficulty in managing anxiety suggests that emotional regulation plays a critical role in students' perceived competence. This supports Wang et al. (2022), who emphasized the importance of emotional intelligence in strengthening self-efficacy. Interventions that enhance emotional awareness and regulation may therefore help students respond more effectively to performance-related pressure in Physical Education. The relatively lower tendency to apply theoretical knowledge in practical contexts also suggests a gap between conceptual understanding and experiential learning. Experiential engagement is essential for reinforcing competence and confidence, and its absence may limit students' ability to transfer learning into action. This finding aligns with Calubayan and Ofrin (2023), who

reported that experiential learning significantly strengthens self-efficacy by connecting knowledge with real performance. Similarly, lower confidence in assessment performance indicates the need for more supportive and reflective evaluation practices. Self-assessment strategies, which promote reflection and self-monitoring, have been shown to enhance confidence and performance in Physical Education (Otero-Saborido et al., 2021). Integrating such approaches may help students develop a stronger sense of control over their learning progress.

In contrast, the most prevalent traits reflect adaptive motivational patterns, particularly the tendency to view challenges as opportunities for growth. This suggests the presence of a positive learning orientation among students, consistent with Supriadi and Karisman (2020), who found that exposure to challenging physical activities strengthens self-efficacy and persistence. Students' responsiveness to teacher feedback further highlights the importance of supportive instructional relationships. Perceived teacher support has been shown to significantly influence both engagement and self-efficacy, reinforcing the value of constructive feedback and encouragement in Physical Education (Zhang et al., 2024).

Table 3
Level of Engagement in Physical Education of College Students

Variables	Intellectual			Cognitive			Academic			Engagement		
	<i>M</i>	Int	<i>SD</i>	<i>M</i>	Int	<i>SD</i>	<i>M</i>	Int	<i>SD</i>	<i>M</i>	Int	<i>SD</i>
As a Whole	3.23	H	0.50	3.15	H	0.57	3.21	H	0.59	3.20	H	0.55
Sex												
Male	3.32	H	0.50	3.25	H	0.55	3.28	H	0.56	3.28	H	0.51
Female	3.17	H	0.60	3.07	H	0.58	3.17	H	0.61	3.13	H	0.57
Department												
CAMHS	3.22	H	0.50	3.10	H	0.54	3.24	H	0.56	3.19	H	0.51
CAS	3.14	H	0.54	3.13	H	0.54	3.16	H	0.56	3.14	H	0.52
CBA	3.08	H	0.68	3.06	H	0.73	3.15	H	0.75	3.09	H	0.70
CCJE	3.18	H	0.77	3.10	H	0.67	3.08	H	0.73	3.12	H	0.70
COEd	3.25	H	0.75	3.13	H	0.70	3.20	H	0.74	3.19	H	0.71
COEng	3.34	H	0.42	3.22	H	0.44	3.28	H	0.46	3.28	H	0.41
CIT	3.45	H	0.43	3.43	H	0.52	3.42	H	0.48	3.43	H	0.44

Table 3 shows that the overall level of engagement of college students in Physical Education was high across all measured dimensions, including intellectual, cognitive, and academic engagement, with an overall mean of 3.20. When grouped by sex and by academic department, engagement levels also remained within the high range, with mean scores ranging from 3.06 to 3.45. The relatively close standard deviation values indicate consistency in responses across groups. These results suggest that students are generally active participants in both theoretical and practical components of Physical Education. They demonstrate sustained involvement in learning activities and show consistent interest in course content. While engagement levels are strong overall, minor variations across groups indicate areas where instructional strategies may be further refined. In terms of intellectual engagement, students showed substantial involvement in activities that require understanding concepts and applying knowledge. Higher levels observed among male students and those enrolled in technology-related programs, particularly the College of Information Technology, suggest that alignment between course content and student interests may enhance engagement. This supports Nguyen et al. (2023), who emphasized the role of intellectual stimulation in sustaining participation, as well as Phuong (2023), who highlighted the importance of connecting Physical Education learning to real-world applications. Cognitive engagement was also consistently high, particularly among students from the College of Engineering and the College of Information Technology. This pattern indicates that structured tasks involving analysis, strategy, and problem-solving may effectively support engagement among students accustomed to analytical learning environments. Kemeryte-Ivanauskiene et al. (2022) similarly found that structured and cognitively demanding activities promote deeper involvement in Physical Education learning. Academic engagement remained high across all departments, suggesting that students recognize the value of Physical Education in relation to their academic development. This finding supports Wortman (2023), who emphasized that engagement is strengthened when learning activities are perceived as meaningful and applicable beyond the classroom. The consistency of academic engagement across disciplines indicates that Physical Education is broadly viewed as relevant to students' educational experiences. Slight differences in engagement between male and female students were observed, with male students showing marginally higher mean scores. This variation may reflect differences in prior experience, interest, or confidence in physical activity. Guo et al. (2023) emphasized that supportive instructional environments play a key role in promoting equitable participation, suggesting that targeted strategies may help ensure consistent engagement across gender groups. Differences across departments further suggest that perceived relevance to students' academic or professional goals may influence engagement levels. Students in programs with clearer connections to physical performance or health-related knowledge may demonstrate stronger involvement. Castro et al. (2023)

similarly emphasized that alignment between learning activities and students' goals enhances motivation and participation.

Table 4
Level of Self-Efficacy in Physical Education of College Students

Variable	Mastery Experiences			Social Modeling			Social Persuasion			Psychological Responses			Self-Efficacy		
	<i>M</i>	<i>Int</i>	<i>SD</i>	<i>M</i>	<i>Int</i>	<i>SD</i>	<i>M</i>	<i>Int</i>	<i>SD</i>	<i>M</i>	<i>Int</i>	<i>SD</i>	<i>M</i>	<i>Int</i>	<i>SD</i>
As a Whole	3.25	H	0.58	3.32	H	0.62	3.32	H	0.62	3.29	H	0.61	3.29	H	0.57
Sex															
Male	3.34	H	0.52	3.40	H	0.55	3.40	H	0.58	3.39	H	0.56	3.38	H	0.51
Female	3.17	H	0.61	3.26	H	0.67	3.26	H	0.64	3.21	H	0.63	3.23	H	0.60
CAMHS	3.25	H	0.53	3.33	H	0.58	3.29	H	0.56	3.28	H	0.56	3.29	H	0.52
CAS	3.07	H	0.56	3.15	H	0.61	3.28	H	0.62	3.15	H	0.59	3.17	H	0.55
CBA	3.24	H	0.68	3.27	H	0.73	3.28	H	0.66	3.24	H	0.72	3.26	H	0.66
CCJE	3.09	H	0.74	3.16	H	0.81	3.14	H	0.82	3.10	H	0.78	3.12	H	0.76
COEd	3.27	H	0.69	3.44	H	0.76	3.44	H	0.74	3.34	H	0.67	3.38	H	0.69
COEng	3.35	H	0.48	3.41	H	0.47	3.37	H	0.52	3.42	H	0.47	3.39	H	0.43
CIT	3.47	H	0.48	3.53	VH	0.45	3.55	VH	0.48	3.43	H	0.56	3.50	H	0.47

Table 4 shows that the overall level of self-efficacy of college students in Physical Education was high, with an overall mean of 3.29 ($SD = 0.57$). When grouped by sex, both male ($M = 3.38$, $SD = 0.51$) and female students ($M = 3.23$, $SD = 0.60$) demonstrated high levels of self-efficacy. Similarly, all academic departments reported high self-efficacy, with mean scores ranging from 3.07 to 3.55. The relatively consistent standard deviation values indicate similarity in responses across groups. These findings suggest that students generally possess strong confidence in their ability to perform and succeed in Physical Education activities. While both sexes reported high self-efficacy, male students showed slightly higher mean scores. This pattern is consistent with Arikan (2020), who found that male students often report higher perceived competence in Physical Education, possibly due to differences in prior experience, participation, or social expectations. Across dimensions, mastery experiences were consistently high, indicating that students perceive their direct performance experiences as sources of confidence. Experiential engagement plays an important role in strengthening self-efficacy, as successful performance reinforces perceived capability. This supports Calubayan and Ofirin (2023), who emphasized that hands-on learning experiences significantly enhance confidence in physical performance. Social modeling also contributed to high levels of self-efficacy, suggesting that observing and interacting with competent peers supports confidence development. Students appear to benefit from collaborative environments where they can learn through observation and shared experiences. This aligns with Hsu et al. (2022), who found that recognition and peer interaction enhance confidence through relational and observational processes. Similarly, social persuasion emerged as an important factor, indicating that encouragement and feedback from teachers and peers play a meaningful role in shaping students' confidence. Supportive instructional environments and constructive feedback have been shown to strengthen both engagement and self-efficacy (Zhang et al., 2024). Notably, students from the College of Information Technology demonstrated very high levels of self-efficacy in social modeling and social persuasion, suggesting that collaborative learning environments may further reinforce confidence through strong peer and instructor support. Psychological responses were also rated at a high level, indicating that students generally manage emotional and performance-related challenges effectively. Emotional regulation plays a key role in sustaining confidence and performance, particularly in physically demanding contexts. Wang et al. (2022) similarly highlighted the importance of emotional intelligence in supporting self-efficacy by helping students regulate stress and anxiety during performance.

Table 5
Differences in the Level of Engagement in Physical Education of College Students When Grouped by Sex

Variable	Groups	<i>n</i>	Mean Rank	Sum of Ranks	Mann-Whitney <i>U</i> Test			
					<i>U</i> -ratio	<i>W</i>	<i>Z</i>	<i>p</i>
Sex	Male	146	200.08	29212.0	12079.50*	31582.5	-2.54	0.011
	Female	197	151.19	29784.0				

Table 5 shows a statistically significant difference in the level of engagement in Physical Education when students were grouped according to sex ($U = 12079.50$, $p = 0.011$). The null hypothesis was therefore rejected. Male students obtained higher mean rank scores than female students, indicating significantly higher engagement levels. This result suggests that engagement in Physical Education may vary by sex. Differences in participation patterns may be influenced by prior experiences, social expectations, or perceived relevance of physical activity. Similar patterns have been reported in previous studies, which indicate that social norms and gender-related expectations can influence attitudes toward Physical Education and levels of participation (Leo et al., 2022; Arikan, 2020). Research also emphasizes the importance of meeting students' psychological needs to sustain engagement, suggesting that instructional environments responsive to different motivational profiles may help reduce participation gaps (Curran & Standage, 2017). The findings further highlight the importance of supportive and inclusive learning environments. Motivational climate and structured instructional practices have been shown

to influence participation and engagement in Physical Education (Silva et al., 2022; Suguis & Belleza, 2022). Providing varied learning experiences that accommodate diverse interests and learning preferences may help ensure more balanced engagement across student groups. Structured and cognitively meaningful activities may also strengthen participation when aligned with students' interests and perceived competence (Kemeryte-Ivanauskiene et al., 2022).

Table 6
Differences in the Level of Engagement in Physical Education of College Students When Grouped by Department

Variable	Groups	<i>n</i>	Mean Rank	df	<i>H</i> -ratio	<i>p</i>
Department	CAMHS	84	152.73	6	6.928	0.328
	CAS	48	173.67			
	CBA	44	176.07			
	CCJE	36	184.22			
	COEd	24	201.75			
	COEng	88	161.28			
	CIT	19	232.47			

Table 6 shows no statistically significant difference in engagement levels when students were grouped according to academic department ($H(6) = 6.928$, $p = 0.328$). The null hypothesis was therefore not rejected. Engagement levels were comparable across academic programs. This finding suggests that students from different academic departments demonstrate similar levels of participation in Physical Education. The consistency of engagement across disciplines may reflect the broad applicability of Physical Education learning experiences and the general relevance of course activities to students regardless of academic specialization. Inclusive and adaptable physical activity programs have been shown to support engagement across diverse student populations (Castro et al., 2023), which may help explain the uniformity observed in this study. While engagement did not differ significantly by department, the presence of differences by sex indicates that variability in engagement may be more strongly associated with individual or social factors than with academic specialization. These results highlight the importance of maintaining inclusive instructional practices while continuing to consider group-specific participation patterns when designing Physical Education programs (Silva et al., 2022).

Table 7
Differences in the Level of Self-Efficacy in Physical Education of College Students When Grouped by Sex

Variable	Groups	<i>n</i>	Mean Rank	Sum of Ranks	<i>U</i> -ratio	Mann-Whitney <i>U</i> Test		
						<i>W</i>	<i>Z</i>	<i>p</i>
Sex	Male	146	200.16	29224.0	12142.50 *	31645.50	-2.47	0.014
	Female	197	151.13	29772.0				

Table 7 shows a statistically significant difference in the level of self-efficacy in Physical Education when students were grouped according to sex ($U = 12142.50$, $p = 0.014$). The null hypothesis was therefore rejected. Male students obtained higher mean rank scores than female students, indicating significantly higher levels of self-efficacy. This finding suggests that self-efficacy in Physical Education may differ between male and female students. Similar patterns have been reported in previous research, which indicates that male students often report higher perceived competence in Physical Education, possibly due to differences in prior participation, social expectations, or access to performance opportunities (Arikan, 2020). Greater exposure to physical activity may strengthen mastery experiences and social modeling processes, which are key sources of self-efficacy development (Arikan, 2020; Hsu et al., 2022). Emotional regulation and confidence in performance situations also play important roles, as emotional intelligence has been shown to influence self-efficacy in physically demanding contexts (Wang et al., 2022).

Table 8
Differences in the Level of Self-Efficacy in Physical Education of College Students When Grouped by Department

Variable	Groups	<i>n</i>	Mean Rank	df	<i>H</i> -ratio	<i>p</i>
Department	CAMHS	84	152.77	6	11.273	0.080
	CAS	48	171.02			
	CBA	44	179.80			
	CCJE	36	180.67			
	COEd	24	205.29			
	COEng	88	161.58			
	CIT	19	231.21			

Table 8 shows no statistically significant difference in self-efficacy levels when students were grouped according to academic department ($H = 11.273$, $p = 0.080$). The null hypothesis was therefore not rejected. Self-efficacy levels were comparable across academic programs. This finding suggests that students' confidence in Physical Education is not strongly associated with academic specialization. Rather, self-efficacy appears to be shaped more by individual experiences and contextual factors than by field of study. Similar conclusions were reported by de Oliveira and Silva (2020), who found that self-efficacy is influenced primarily by personal and environmental conditions rather than academic discipline. Psychological factors such as emotional regulation and subjective well-being have also been shown to play central roles in shaping self-efficacy across contexts (Wang et al., 2022). In addition, supportive social environments contribute to confidence development. Perceived recognition, encouragement, and positive instructional relationships significantly strengthen self-efficacy regardless of academic background (Hsu et al., 2022).

Table 9
Relationship Between Engagement and Self-efficacy in Physical Education of College Students

Variables	r_s	p
Engagement x Self-Efficacy	0.808**	0.000

Table 9 shows a statistically significant and strong positive relationship between engagement and self-efficacy in Physical Education ($r_s(341) = 0.808$, $p < .01$). The null hypothesis was therefore rejected. This indicates that higher levels of self-efficacy are associated with higher levels of engagement among college students. The strength of the correlation suggests that students who perceive themselves as more capable of performing Physical Education tasks tend to participate more actively and invest greater effort in learning activities. Conversely, lower perceived competence may be associated with reduced participation. These findings support theoretical perspectives that position self-efficacy as an important motivational factor influencing behavioral engagement in learning contexts. The results are consistent with Baños et al. (2023), who found that self-efficacy is closely linked to academic engagement and plays a mediating role in learning processes. Psychological factors such as emotional regulation and confidence have also been shown to influence both self-efficacy and participation, highlighting the interconnected nature of these constructs (Wang et al., 2022). The presence of a strong association between engagement and self-efficacy suggests that instructional practices that support confidence development may also be associated with increased participation in Physical Education. Learning environments that provide meaningful performance experiences, constructive feedback, and opportunities for self-reflection may help strengthen both perceived competence and active involvement.

Conclusion and Recommendations

This study examined the patterns of engagement and self-efficacy in Physical Education among college students in a university in the Philippines and investigated whether these constructs varied across demographic groupings and related to each other. The findings revealed that students generally demonstrated high levels of engagement across intellectual, cognitive, and academic dimensions, as well as high levels of self-efficacy across mastery experiences, social modeling, social persuasion, and psychological responses. While engagement and self-efficacy were broadly consistent across academic departments, statistically significant differences were observed by sex, with male students reporting higher levels in both constructs. Most notably, the results indicated a strong positive relationship between engagement and self-efficacy, suggesting that perceived competence and active participation are closely interconnected aspects of students' Physical Education experiences. These findings address existing gaps in Philippine-based research on private university contexts by providing empirical evidence on motivational processes in Physical Education. Overall, the study contributes to a context-sensitive understanding of how confidence and participation operate within higher education Physical Education environments and highlights their central role in supporting sustained involvement in physical activity.

Based on the findings, the study recommends strengthening instructional and institutional practices that simultaneously support student engagement and self-efficacy in Physical Education. Instructional design should emphasize experiential learning, meaningful real-world application, and collaborative activities that reinforce mastery experiences and confidence development. Structured feedback, supportive teacher–student interactions, and opportunities for self-reflection may further enhance perceived competence and sustained participation. Given the observed differences by sex, Physical Education programs may consider implementing inclusive and responsive pedagogical strategies that address diverse motivational needs and participation patterns. Emotional regulation and confidence-building interventions may also help students manage performance-related anxiety and strengthen psychological readiness for physical activity. At the institutional level, the development of structured wellness programs that integrate physical participation, motivational support, and reflective learning is recommended. Future research may expand the scope by including multiple institutions, longitudinal designs, and additional psychological or contextual variables to further clarify the mechanisms linking engagement and self-efficacy in Physical Education.

References

- Aelterman, N., Vansteenkiste, M., Van Keer, H., & Haerens, L. (2017). Students' objectively measured physical activity levels and engagement as a function of between-teacher differences in motivation. *Journal of Educational Psychology*, 109(1), 65–77. <https://doi.org/10.1037/edu0000136>
- Arikan, G. (2020). Analysis of secondary school students' attitudes and self-efficacy perceptions towards physical education and the sports course. *World Journal of Education*, 10(6), 14–23. <https://doi.org/10.5430/wje.v10n6p14>
- Baños, R. M., Calero, R., & López-González, A. (2023). The role of academic self-efficacy as a mediator between emotional intelligence and academic engagement. *Educational Psychology*, 43(1), 45–58. <https://doi.org/10.1080/01443410.2022.2114917>
- Bertills, K., Granlund, M., & Augustine, L. (2018). The paradox of teaching quality and student self-efficacy: A study of students with disabilities in physical education. *Scandinavian Journal of Educational Research*, 62(4), 533–550. <https://doi.org/10.1080/00313831.2017.1291794>
- Bertills, K., Granlund, M., & Augustine, L. (2021). Longitudinal analysis of self-efficacy in physical education: The role of socio-cognitive skills and physical abilities in students with and without disabilities. *European Journal of Special Needs Education*, 36(3), 389–403. <https://doi.org/10.1080/08856257.2021.1883024>
- Boston, A. A., & Paceño, R. (2025). The Development and Validation of a Digitized Instructional Material for Grade 6 Folk Dance. *International Journal of Interdisciplinary Viewpoints*, 1(5), 646–662. <https://doi.org/10.64612/ijiv.v1i5.43>
- Calubayan, J. C. T., & Ofrin, D. O. (2023). Experiential learning and self-efficacy in physical education of the senior high school students. *International Journal of Multidisciplinary: Applied Business and Education Research*, 4(6), 1963–1975. <https://doi.org/10.11594/ijmaber.04.06.22>
- Cariaga, R. (2025). Listening from the Margins: A Phenomenological Inquiry into Parents' Lived Experiences of School Involvement in Rural Philippine Communities. *International Journal of Educational Viewpoints*, 1(1), 42–46.
- Cariaga, R., & Gerodias, E. (2025). More Than Homework Help: Filipino Secondary Students' Lived Experiences of Parental Involvement and Academic Performance. *International Journal of Educational Viewpoints*, 1(1), 35–41.
- Cariaga, R., Dagunan, M. A., Cariaga, V., Sabidalas, M. A., El Halaissi, M., & Bacatan, J. (2025). Rethinking Parental Involvement in Developing Countries: Toward Inclusive and Culturally Responsive Education. *International Journal of Interdisciplinary Viewpoints*, 1(5), 631–637. <https://doi.org/10.64612/ijiv.v1i5.39>
- Cariaga, R., El Halaissi, M., Refugio, C., Dagunan, M. A., Sabidalas, M. A., Cariaga, V., ... Gerodias, E. (2025). Local Voices, Global Technologies: AI Integration Barriers in K–12 Classrooms. *International Journal of Interdisciplinary Viewpoints*, 1(5), 672–680. <https://doi.org/10.64612/ijiv.v1i5.45>
- Castro, P., Marinho, D. A., & Santos, F. (2023). Engagement in physical activities across the lifespan: A scoping review. *International Journal of Environmental Research and Public Health*, 20(1), 123–139. <https://doi.org/10.3390/ijerph20010123>
- Catid, R., Jalbuna, J., Jimenez, J. A., Dagala, M., & Pagente, A. (2026). Assessing the Impact of Siquijor State College's Education Literacy and Greening Programs at a Philippine Elementary School. *International Journal of Interdisciplinary Viewpoints*, 2(2), 34–39. <https://doi.org/10.64612/ijiv.v2i2.66>
- Creswell, J. W., & Creswell, J. D. (2023). *Research design: Qualitative, quantitative, and mixed methods approaches* (6th ed.). Sage.
- Curran, T., & Standage, M. (2017). Psychological needs and the quality of student engagement in physical education: Teachers as key facilitators. *Journal of Teaching in Physical Education*, 36(3), 262–276. <https://doi.org/10.1123/jtpe.2017-0065>
- Deliligka, S., Kokkonen, J., & Ahtiainen, J. (2020). Motivational climate in the physical education context through the perspective of teachers and students. *The Physical Educator*, 77(1), 78+. <https://doi.org/10.18666/TPE-2020-V77-I1-8524>
- de Oliveira, T., & Silva, R. M. (2020). The role of self-efficacy and external support in academic performance in physical education. *Journal of Physical Activity and Health*, 17(4), 347–356. <https://doi.org/10.1123/jpah.2019-0025>
- Fogarty, J. S., Goodwill, A. M., Lim Tan, A., & Tan, S. H. J. (2023). Student arousal, engagement, and emotion relative to physical education periods in school. *Trends in Neuroscience and Education*, 33, 100215. <https://doi.org/10.1016/j.tine.2023.100215>
- Gao, X., Cheng, M., & Zhang, R. (2024). The relationship between physical activity and the health of primary and secondary

- school teachers: The chain mediating effects of body image and self-efficacy. *BMC Public Health*, 24, 1–14. <https://doi.org/10.1186/s12889-024-17914-2>
- Galaura, R. J., & Simpal, E. A. (2025). Challenges in the Implementation of K to 12 Program and Their Influence on the Instructional Competence of Teachers. *International Journal of Interdisciplinary Viewpoints*, 1(2), 121–132. <https://doi.org/10.64612/ijiv.v1i2.13>
- Garcia, R. B. R., & Alibudbud, R. (2021). Peer support and engagement in physical education among Filipino university students. *International Journal of Environmental Research and Public Health*, 18(7), 3752. <https://doi.org/10.3390/ijerph18073752>
- González-Peño, A., Franco, E., & Coterón, J. (2021). Do observed teaching behaviors relate to students' engagement in physical education? *International Journal of Environmental Research and Public Health*, 18(5), 2234. <https://doi.org/10.3390/ijerph18052234>
- Guo, Q., Samsudin, S., Yang, X., Gao, J., Ramlan, M. A., Abdullah, B., & Hamzani, N. F. (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>
- Hsu, W. T., Shang, I. W., Pan, Y. H., & Chou, C. C. (2022). Students' efficacy profiles and outcomes of perceived relation-inferred self-efficacy support in physical education. *International Journal of Sport and Exercise Psychology*, 21(1), 56–69. <https://doi.org/10.1080/1612197X.2022.2043926>
- Kemeryte-Ivanauskienė, E., Brandisauskienė, A., Cesnaviciene, J., & Daugirdienė, A. (2022). The significance of students' physical activity for their engagement in learning activities during the COVID-19 pandemic. <https://tmfv.com.ua/journal/article/view/1855/1540>
- Lawshe, C. H. (1975). A quantitative approach to content validity. *Personnel Psychology*, 28(4), 563–575.
- Leo, F. M., Mouratidis, A., Pulido, J. J., López-Gajardo, M. A., & Sánchez-Oliva, D. (2022). Perceived teachers' behavior and students' engagement in physical education: The mediating role of basic psychological needs and self-determined motivation. *Physical Education and Sport Pedagogy*, 27(1), 59–76. <https://doi.org/10.1080/17408989.2020.1850667>
- Nguyen, Q., Pham, T., & Le, D. (2023). Assessment of student engagement in physical education: Development and validation of a 19-item questionnaire. *Measurement in Physical Education and Exercise Science*, 27(2), 155–171. <https://doi.org/10.1080/1091367X.2022.2078393>
- Otero-Saborido, F. M., Torreblanca-Martínez, V., & González-Jurado, J. A. (2021). Systematic review of self-assessment in physical education. *International Journal of Environmental Research and Public Health*, 18(2), 766. <https://doi.org/10.3390/ijerph18020766>
- Paat, F. P., Lorenzo, C. A., & Baldo, T. R. (2020). Cultural influences on self-efficacy and engagement in physical education among Filipino students. *International Journal of Multidisciplinary: Applied Business and Education Research*.
- Phuong, L. T. (2023). Cognitive engagement in physical education: A study of first-year students in Vietnam. *Journal of Educational Psychology*, 110(1), 87–101. <https://doi.org/10.1037/edu0000294>
- Panhilason, A. (2026). Public Library as a Safe Space: Users' Perceptions and Utilization. *International Journal of Interdisciplinary Viewpoints*, 2(2), 40–44. <https://doi.org/10.64612/ijiv.v2i2.68>
- Polit, D. F., & Beck, C. T. (2021). *Nursing research: Generating and assessing evidence for nursing practice* (11th ed.). Wolters Kluwer.
- Sánchez-Jarque, M., García-Taibo, O., Ferriz-Valero, A., & Baena-Morales, S. (2023). Boosting student engagement and dedication in physical education through a self-made materials approach: Insights from a comparative investigation to sustainability. *Journal of Physical Education and Sport*, 1547-1555. <https://doi.org/10.7752/jpes.2023.07189>
- Santos, C. A., Sarmiento, A. P., & Rivera, R. S. (2020). The impact of digital tools on student engagement in physical education in the Philippines. *Journal of Physical Education and Sport*.
- Saunders, M., Lewis, P., & Thornhill, A. (2023). *Research methods for business students* (9th ed.). Pearson.
- Shin, J., & Gwon, H. (2024). Effects of basic psychological needs on physical self-efficacy and attitudes toward PE in Korean middle-school physical education. *Healthcare*, 12(1), 91. <https://doi.org/10.3390/healthcare12010091>
- Silva, R. J. R., Cunha, F. M. P., da Silva, A., Coelho, M., & Batista, P. M. F. (2024). Empowering students in physical fitness through assessment for learning in physical education. *Journal of Physical Education and Sport*, 24(5), 1174–1182. <https://doi.org/10.7752/jpes.2024.05135>
- Suguis, J. E., & Belleza, S. S. (2022). Student engagement as influenced by physical activity and student motivation among

college students. *International Journal of Sports Science and Physical Education*, 7(1), 28–40. <https://doi.org/10.11648/j.ijsspe.20220701.15>

Supriadi, D., & Karisman, F. (2020). The impact of invasion games on students' self-efficacy in physical education. *Journal of Physical Education and Sport*, 20(4), 2135–2141. <https://doi.org/10.7752/jpes.2020.04302>

Wang, K., Li, Y., Zhang, T., & Luo, J. (2022). The relationship among college students' physical exercise self-efficacy, emotional intelligence, and subjective well-being. *International Journal of Environmental Research and Public Health*, 19(18), 11596. <https://doi.org/10.3390/ijerph191811596>

Wortman, D. (2023). The impact of effective motivation strategies on student engagement in secondary physical education classrooms. *Education Theses*, 9. https://docs.rwu.edu/sed_thesis/9

Ypil, A. M., Bajao, M. L., Ordonio, M., Lloren, J. G., & Sarsalijo, D. M. (2025). Self-Efficacy and Support Systems as Predictors of Behavioral Strategies in Handling Learners with Disabilities in An Inclusive Setting. *International Journal of Interdisciplinary Viewpoints*, 1(2), 75–84. <https://doi.org/10.64612/ijiv.v1i2>.

Zhang, T., Zhao, J., & Shen, B. (2024). The influence of perceived teacher and peer support on student engagement in physical education. *Current Psychology*, 43, 10776–10785. <https://doi.org/10.1007/s12144-023-05200-0>