

The Role of Moderate-To-Vigorous Physical Activity, Needs Satisfaction, and Psychological Motivation in the Teaching Performance of Health Optimizing Physical Education Teachers

Samboy G. Nabor

San Juan, Calamba City, Laguna 4027

ABSTRACT: This study was conducted in response to increasing concerns regarding the well-being and performance of Physical Education (PE) teachers. Recognizing the physically and psychologically demanding nature of PE instruction, the study aimed to investigate how engagement in moderate-to-vigorous physical activity (MVPA), satisfaction of basic psychological needs, and psychological motivation influence teaching performance. It also examined differences based on teachers' demographic profiles. The study employed a quantitative descriptive-correlational design involving PE teachers from diverse school affiliations, varying in age, sex, and years of teaching experience. Findings revealed that PE teachers were moderately engaged in MVPA and reported generally high levels of need satisfaction and intrinsic motivation. Teaching performance was consistently rated as high. Significant differences were observed in motivation and need satisfaction based on years of teaching experience and school affiliation. Furthermore, significant positive correlations were found between MVPA, psychological need satisfaction, motivation, and teaching performance. The study concludes that greater engagement in physical activity and the fulfillment of psychological needs are associated with enhanced motivation and improved teaching performance. It recommends institutional initiatives that promote physical wellness and psychological support. This research contributes a novel integrative framework by linking physical activity, motivation, and performance in the context of PE teaching within the Philippine educational landscape.

KEYWORDS: Physical Education, moderate-to-vigorous physical activity, needs satisfaction, psychological well-being motivation, mixed sequential explanatory design

I. INTRODUCTION

The role of Physical Education (PE) teachers in promoting health and fitness is recognized worldwide as a crucial factor in addressing the growing concern over declining physical activity levels and increasing sedentary behaviors. According to the World Health Organization (WHO), over 80% of adolescents globally fail to meet the recommended levels of physical activity, a trend that has significant implications for public health. Physical inactivity is linked to a higher risk of chronic diseases such as obesity, diabetes, and cardiovascular issues, as well as mental health challenges. In response, educational institutions across the globe have adopted innovative strategies to encourage lifelong fitness habits, with PE teachers playing a central role in shaping students' attitudes toward physical activity.

Approaches like the Self-Determined Exercise in Teaching for Fitness (SELF-FIT) have emerged as effective tools to address these issues. SELF-FIT incorporates principles of Self-Determination Theory (SDT) and heutagogy to promote student engagement and improve the professional well-being of educators. By prioritizing autonomy, competence, and relatedness, this framework empowers both students and teachers to foster intrinsic motivation and create environments conducive to sustained physical activity (Schneider et al., 2020).

In the Philippines, the status and performance of PE teachers reflect a complex interplay of opportunities and challenges. Physical education in the country has a rich history, with its roots tracing back to the American colonial period when sports like basketball and baseball were introduced into the school system. Over the years, the significance of PE has been institutionalized through legislative measures such as the Enhanced Basic Education Act of 2013, which emphasized the holistic development of students. Despite these advancements, the delivery of quality physical education is uneven, often hindered by limited resources, inadequate facilities, and disparities in teacher training across regions. The COVID-19 pandemic further exposed these challenges,

The Role of Moderate-To-Vigorous Physical Activity, Needs Satisfaction, and Psychological Motivation in the Teaching Performance of Health Optimizing Physical Education Teachers

as many PE teachers faced difficulties transitioning to remote teaching without proper preparation or access to technology. This shift not only reduced student engagement but also affected teachers' physical activity levels and overall well-being, as they struggled to maintain their health while navigating the demands of online instruction (Aguinaldo, 2021; Dizon & Tolentino, 2022; Tagare, 2023).

Recognizing these challenges, the study aims to address key issues in physical education by focusing on the health and performance of PE teachers. The primary goal of the study is to determine the level of moderate-to-vigorous physical activity (MVPA) among PE teachers, evaluate their psychological need satisfaction (autonomy, competence, and relatedness), and explore how these factors influence their motivation and teaching performance. Through self-determined exercise interventions, the study seeks to provide insights into the relationship between the physical health and professional efficacy of PE teachers, while also identifying strategies to enhance student engagement in physical activities.

By implementing the SELF-FIT framework, this research aims to introduce a transformative approach to physical education in senior high schools. The study emphasizes equipping PE teachers with the tools and knowledge to create autonomy-supportive learning environments, fostering healthier lifestyles among both educators and students. In doing so, it seeks to address global health concerns while adapting to the specific needs and challenges faced by Filipino educators. Ultimately, this research aspires to contribute to a more engaging and effective physical education curriculum, where both teachers and students thrive in an environment that prioritizes lifelong health and fitness.

Research Question

The study aims to determine the level of moderate-to-vigorous physical activities, need satisfaction and motivation of Physical Education Teachers through self-determined exercise and its relationship to their teaching performance.

Specifically, it will seek to answer the following questions:

1. What is the demographic profile of the respondents in terms of:
 - 1.1 age;
 - 1.2 sex; and
 - 1.3 years of experience as a Physical Education teacher; and
 - 1.4 School Affiliation
2. What is the assessment of the level of engagement of Physical Education Teachers to moderate-to-vigorous physical activities in terms of their:
 - 2.1 work;
 - 2.2 travel;
 - 2.3 recreation; and
 - 2.4 sedentary behavior?
3. What is the assessment of the level of need satisfaction of Physical Education Teachers in terms of:
 - 3.1 autonomy;
 - 3.2 relatedness; and
 - 3.3 competence?
4. What is the assessment of the level of psychological motivation of Physical Education teachers in terms of:
 - 4.1 intrinsic motivation;
 - 4.2 identified regulation;
 - 4.3 introjected regulation;
 - 4.4 external regulation; and
 - 4.5 amotivation?
5. Is there a significant difference on the level of engagement in moderate-to vigorous physical activities, need satisfaction, and psychological well-being of Physical education teachers when grouped according to profile?
6. What is the level of teaching performance of the Physical Education Teachers?
7. Is there a significant relationship between the teaching performance of the Physical Education Teachers and their:
 - 7.1 engagement in moderate-to vigorous physical activities;
 - 7.2 need satisfaction; and
 - 7.3 psychological well-being
8. Based on the results, what SELF-Fit intervention or support programs can be proposed for Physical Education Teachers?

The Role of Moderate-To-Vigorous Physical Activity, Needs Satisfaction, and Psychological Motivation in the Teaching Performance of Health Optimizing Physical Education Teachers

Scope and Limitation of The Study

The scope of this study centers on investigating the relationship between self-determined exercise, need satisfaction, motivation, and teaching performance among Senior High School Physical Education (PE) teachers. It focuses on the level of moderate-to-vigorous physical activities (MVPA) engagement, psychological needs satisfaction, and self-reported motivation of PE teachers, examining how these factors collectively influence their teaching performance. The study adopts a comprehensive approach to assess various aspects of PE teachers' professional and personal well-being, including their autonomy, relatedness, and competence, as well as their motivational dimensions such as intrinsic motivation, identified regulation, introjected regulation, external regulation, and amotivation.

The study is specifically limited to Senior High School PE teachers working in public and private integrated schools within Calamba City. This geographic focus allows for a more targeted analysis of the educational and contextual factors influencing PE teachers in this locality. The decision to include both public and private integrated schools provides a broader perspective, capturing variations in teaching environments and resources that may impact the respondents' engagement, motivation, and performance.

Key limitations of the study include its concentration on PE teachers rather than other subject teachers, as the research seeks to explore the unique physical, psychological, and professional challenges faced in this discipline. Additionally, while the study examines the teaching performance of PE teachers, it does not extend to analyzing the direct impact of their performance on student outcomes or physical education programs. Instead, the focus remains on the teachers' self-determined exercise behaviors, motivational factors, and perceived teaching effectiveness.

By narrowing its scope to Senior High School PE teachers in Calamba City, the study aims to generate findings that are context-specific, addressing the unique challenges and opportunities within the local education system. These results can serve as a foundation for developing tailored interventions, such as the proposed SELF-FIT program, that support the well-being and performance of PE teachers in similar educational settings.

Framework

The conceptual framework of this study is designed to explore the relationship between the self-determined behaviors of Physical Education (PE) teachers and their overall teaching performance, with the ultimate goal of developing a targeted intervention program, the SELF-Fit Program. At its core, the framework is anchored in key psychological and behavioral constructs that are believed to influence professional effectiveness. The study begins by considering the demographic profile of the respondents, which includes age, gender, years of experience as a PE teacher, and school affiliation (public or private). These variables serve as contextual factors that may shape how teachers experience physical activity, motivation, and professional fulfillment.

The first main variable in the framework is the level of engagement in moderate-to-vigorous physical activities (MVPA). This variable is subdivided into four specific contexts in which physical activity occurs: (1) work-related activities, which refer to physical movements embedded in teaching tasks like demonstrating exercises or participating in games; (2) travel-related activities, including walking or cycling as a mode of commuting; (3) recreational activities, which involve structured or unstructured fitness and sports participation during leisure time; and (4) sedentary behavior, representing periods of prolonged inactivity, such as sitting or screen time, which can counteract the benefits of physical exertion.

The second major variable is need satisfaction, grounded in Self-Determination Theory (SDT), which posits that the fulfillment of three basic psychological needs is critical to human motivation and well-being. These are: (1) autonomy, or the extent to which teachers feel they can make independent instructional decisions and express themselves freely in their teaching; (2) relatedness, which refers to their sense of connection and belonging within their school community; and (3) competence, defined as the perception of effectiveness and capability in fulfilling their professional roles. When these needs are adequately met, individuals are more likely to experience intrinsic motivation and sustained engagement in their work.

The Role of Moderate-To-Vigorous Physical Activity, Needs Satisfaction, and Psychological Motivation in the Teaching Performance of Health Optimizing Physical Education Teachers

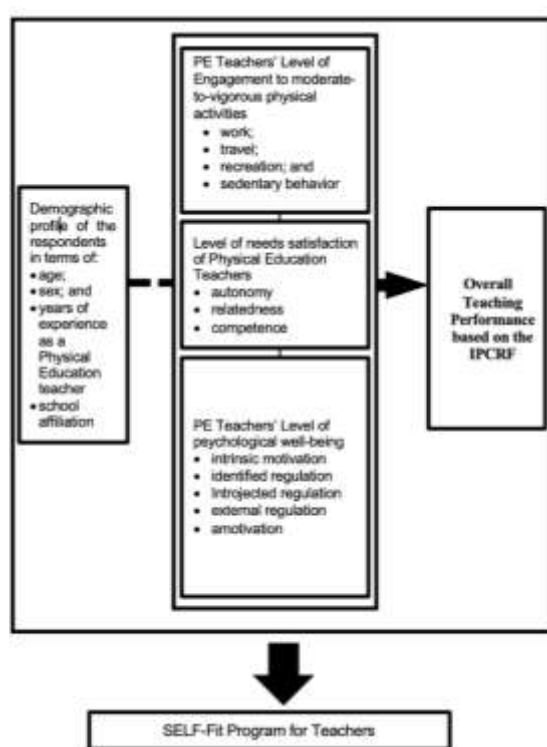


Figure 1. Conceptual Framework of the Study

The third and equally significant variable is psychological motivation, also structured according to SDT's continuum of self-determined behavior. This includes five subtypes: (1) intrinsic motivation, where teachers teach because they genuinely enjoy it and find the work meaningful; (2) identified regulation, which involves recognizing the value and importance of teaching PE for personal and professional growth; (3) introjected regulation, driven by internal pressures such as guilt or the desire for approval; (4) external regulation, where motivation stems from external rewards or obligations; and (5) amotivation, characterized by a lack of intent or clear purpose in teaching. These motivational forms range from highly autonomous to entirely controlled, offering a nuanced picture of what drives teachers in their practice.

All three main variables, MVPA, need satisfaction, and psychological motivation, are hypothesized to significantly influence the overall teaching performance of PE teachers. This performance is measured using the Individual Performance Commitment and Review Form (IPCRF), a standardized tool used in Philippine schools to evaluate teacher effectiveness based on observable outputs and professional standards. The framework suggests that higher levels of physical engagement, fulfilled psychological needs, and autonomous motivation contribute to better teaching performance outcomes.

The final component of the framework is the development of the SELF-Fit Program for Teachers, a proposed intervention arising from the study's findings. This program will be tailored to address identified gaps, particularly those sub-variables with lower mean scores, and will aim to support teachers in enhancing their physical activity engagement, fulfilling psychological needs, and nurturing motivation. The goal of the SELF-Fit Program is to promote holistic teacher well-being, which in turn is expected to positively impact teaching effectiveness and student outcomes. Overall, the framework provides a comprehensive guide for examining the dynamic interplay between personal health behaviors, psychological states, and professional performance in the context of Physical Education.

II. METHODOLOGY

This section presents the research design, the respondents of the study, the research instrument and technique, the data gathering procedure and the statistical treatment of the data and data analysis.

Research Design

This study employed a descriptive comparative correlational research design to examine the relationships among engagement in moderate-to-vigorous physical activity (MVPA), need satisfaction, psychological motivation, and teaching performance among Senior High School Physical Education (PE) teachers in Calamba City. A descriptive comparative correlational design is appropriate

The Role of Moderate-To-Vigorous Physical Activity, Needs Satisfaction, and Psychological Motivation in the Teaching Performance of Health Optimizing Physical Education Teachers

when the objective is to describe existing conditions and investigate the statistical associations between variables without manipulating them. It is particularly useful in educational and health-related research where naturally occurring variables are measured to determine trends and correlations.

The descriptive component of the design was used to outline the demographic characteristics of the respondents, including age, gender, years of experience, and school affiliation, as well as to measure their MVPA across four domains: work, travel, recreation, and sedentary behavior. It also assessed levels of psychological need satisfaction—specifically autonomy, relatedness, and competence—and psychological motivation, which included intrinsic motivation, identified regulation, introjected regulation, external regulation, and amotivation. Teaching performance was evaluated based on the respondents' Individual Performance Commitment and Review Form (IPCRF) ratings.

The correlational component examined whether statistically significant relationships existed among the variables of MVPA, need satisfaction, psychological motivation, and teaching performance. It also explored differences in these variables based on demographic profiles. Data were gathered using validated survey tools, and statistical analyses such as frequency distribution, mean, ANOVA, Pearson correlation, and multiple regression were employed.

This design allowed for a comprehensive understanding of how self-determined exercise behaviors and psychological needs influence professional outcomes among PE teachers. It also informed the development of the SELF-FIT intervention program, designed to support teacher wellness and instructional effectiveness.

Respondents of the Study

The study involved a total of 98 Senior High School Physical Education (PE) teachers from 33 schools in Calamba City. These respondents were drawn from both public and private schools, with 56 teachers representing 13 public schools and 42 teachers from 20 private schools. This sample was selected from a total population of 66 PE teachers across 35 schools (23 from 14 public schools and 43 from 21 private schools), ensuring comprehensive representation across school types. Public school respondents accounted for 57.14% of the sample, while private school respondents made up 42.86%.

Research Instrument

The study employed both quantitative and qualitative instruments to comprehensively examine the engagement in moderate-to-vigorous physical activities, need satisfaction, motivation, and teaching performance of senior high school Physical Education (PE) teachers in public and private schools in Calamba City. The research instruments were carefully designed and subjected to validation and reliability testing to ensure that they accurately measured the intended variables and aligned with the study's objectives.

For the quantitative component, the survey instrument consisted of five sections. The first section captured the demographic profile of respondents, including their age, gender, and years of teaching experience, which served as foundational variables for analyzing differences in engagement, need satisfaction, and motivation. The second section assessed the level of engagement in moderate-to-vigorous physical activities across four domains: work, travel, recreation, and sedentary behavior. Adapted from the Global Physical Activity Questionnaire, this section evaluated both the frequency and duration of activities. The third section focused on the need satisfaction of PE teachers, covering three key dimensions—autonomy, relatedness, and competence. Adapted from Cheon et al. (2018), it utilized a four-point Likert scale ranging from 1 (strongly disagree) to 4 (strongly agree) and included ten indicators for each dimension. The fourth section measured psychological motivation, addressing intrinsic motivation, identified regulation, introjected regulation, external regulation, and amotivation. Based on the work of Kohake and Heemsoth (2021), this section also employed a four-point Likert scale to evaluate the various factors driving the respondents' teaching practices and engagement in physical activities. Finally, the Individual Performance Commitment and Review Form (IPCRF) was used to measure teaching performance. The IPCRF was a standardized tool utilized by the Department of Education (DepEd) to evaluate teachers' performance based on specific indicators, providing a reliable and objective assessment of their effectiveness in the classroom.

Data Gathering

The data-gathering procedure for this study involved a systematic and ethical approach to collecting relevant data from Senior High School (SHS) Physical Education (PE) teachers in public and private integrated schools in Calamba City. The process was designed to ensure accuracy, reliability, and the acquisition of meaningful insights aligned with the study's objectives. The researcher began by obtaining the necessary permissions from school administrators and division officials in Calamba City. Formal requests for participation and approval letters were sent to ensure institutional support for data collection. Once approval was secured, the researcher identified the respondents, comprising 75 PE teachers for the quantitative component and 15

The Role of Moderate-To-Vigorous Physical Activity, Needs Satisfaction, and Psychological Motivation in the Teaching Performance of Health Optimizing Physical Education Teachers

randomly selected participants for the qualitative component. The participants were chosen based on specific inclusion criteria, such as being an SHS PE teacher actively engaged in teaching health-optimizing physical education (HOPE) within the specified locale.

For the quantitative component, the researcher distributed structured survey questionnaires to the 98 identified respondents. These questionnaires consisted of sections measuring demographic profiles, engagement in moderate-to-vigorous physical activities, need satisfaction, psychological motivation, and teaching performance. The Individual Performance Commitment and Review Form (IPCRF), a standardized performance assessment tool used by the Department of Education, was also collected to evaluate teaching performance. The survey utilized Likert scale items to assess engagement levels, need satisfaction, and motivation across various domains, as outlined in the study's framework. To facilitate the distribution, the researcher used both in-person and online methods, depending on the respondents' schedules and preferences. Instructions on how to answer the questionnaires were clearly explained to ensure accurate and honest responses.

For the qualitative component, the researcher conducted semi-structured interviews with 15 randomly selected PE teachers from the participating schools. These interviews provided deeper insights into how the respondents' engagement in physical activities, need satisfaction, and motivation influenced their teaching performance. Open-ended questions were used to explore their experiences, challenges, and recommendations. The interviews were conducted face-to-face or via virtual platforms, ensuring flexibility and convenience for the participants.

To ensure the reliability and validity of the data, the survey questionnaire underwent expert validation and pilot testing. Internal consistency was evaluated using Cronbach's alpha, ensuring that all sections exceeded the acceptable threshold for reliability. Pre-testing was also conducted with a small group of non-participating PE teachers to refine the instrument and address any ambiguities or issues in the questionnaire design.

Throughout the data-gathering process, the researcher upheld strict ethical standards. Respondents were informed of the study's objectives, their voluntary participation, and the confidentiality of their responses. Consent forms were distributed and signed to document their agreement to participate. Anonymity was maintained by assigning codes to each respondent to protect their identities. The collected data was securely stored and used solely for research purposes.

Finally, the quantitative and qualitative data were compiled and prepared for analysis. The survey responses were processed using statistical methods, such as descriptive and inferential analyses, to examine patterns and relationships among the variables. The interview transcripts were analyzed thematically to identify recurring themes and insights. This comprehensive data-gathering procedure aimed to generate a robust understanding of the engagement, need satisfaction, motivation, and teaching performance of PE teachers in Calamba City, addressing the research objectives and gaps in the existing literature.

Statistical Treatment

The data analysis procedure for this study is carefully designed to address each research question presented in the statement of the problem. Statistical treatments at 0.05 level of significance using Microsoft Excel Spreadsheet and Jamovi software were utilized to provide meaningful insights and conclusions.

1. To describe the demographic profile of the Physical Education (PE) teachers, the study utilized descriptive statistics. Frequency counts and percentages were used to summarize the respondents' age, gender, years of teaching experience, and school affiliation.
2. To assess the level of engagement of PE teachers in MVPA, the study computed the mean and standard deviation for each of the four activity domains: work, travel, recreation, and sedentary behavior. Responses were measured using a Likert-type scale and interpreted based on predetermined verbal descriptors (Highly engaged, engaged, somewhat engaged, not engaged). These statistical tools helped determine the frequency and intensity of physical activities performed by teachers in their daily routines, both within and outside their professional responsibilities.
3. The level of need satisfaction among PE teachers was analyzed using descriptive statistics, specifically means and standard deviations, for the three psychological needs: autonomy, relatedness, and competence. The scores were interpreted to determine whether teachers experienced very high, high, moderate, or low satisfaction in each domain. This analysis helped identify which psychological needs were being met and which required more support in the professional environment of PE teachers.
4. To evaluate the level of psychological motivation among PE teachers, descriptive analysis was performed for each of the five motivation subtypes: intrinsic motivation, identified regulation, introjected regulation, external regulation, and amotivation. The mean and standard deviation for each sub-variable were calculated and interpreted based on a four-point scale (highly motivated, motivated, somewhat motivated, not motivated). This enabled the researcher to

The Role of Moderate-To-Vigorous Physical Activity, Needs Satisfaction, and Psychological Motivation in the Teaching Performance of Health Optimizing Physical Education Teachers

understand the different types and levels of motivation driving PE teachers' professional behavior, whether internal (self-driven) or external (compliance-driven).

5. To examine whether significant differences existed in MVPA, need satisfaction, and psychological motivation based on respondents' age, gender, and teaching experience and school affiliation, inferential statistical tests were conducted. One-way Analysis of Variance (ANOVA) was used for age and years of experience, while independent samples t-tests were used for sex and school affiliation. These analyses allowed the researcher to determine whether the observed differences in the main variables across different demographic groups were statistically significant.
6. The teaching performance of PE teachers was evaluated using their ratings from the Individual Performance Commitment and Review Form (IPCRF). Descriptive statistics, such as frequencies and percentages, were employed to classify the performance ratings into categories (Outstanding, Very Satisfactory, Satisfactory, Unsatisfactory, Poor).
7. To explore the relationship between teaching performance and the key variables; MVPA, need satisfaction, and psychological motivation. the Pearson Product-Moment Correlation Coefficient was used. This analysis determined the strength and direction of the association between each independent variable and the teachers' performance outcomes. A significance level of 0.05 was used to assess the statistical relevance of the correlations.

Research Ethics

The study was conducted in full compliance with ethical research standards to protect the rights, privacy, and well-being of all participants. Prior to data collection, the researcher secured the necessary approvals from the appropriate authorities, including written permission from the Division Office of the Department of Education and consent from school heads in both public and private senior high schools. These steps ensured that the study proceeded with institutional support and transparency.

Informed consent was obtained digitally through the Google Form used for the quantitative data collection. At the beginning of the form, a detailed informed consent statement was provided, clearly outlining the study's purpose, procedures, voluntary nature, and the assurance that there would be no negative consequences for non-participation or withdrawal. Respondents indicated their willingness to participate by selecting the appropriate option before they could proceed with answering the questions, thus ensuring ethical compliance in a virtual environment.

To uphold confidentiality and anonymity, no personal identifiers were collected. Participants' names, contact details, or any data that could trace responses back to individuals or specific schools were deliberately excluded. Furthermore, to protect institutional identity, the names of schools were anonymized in the report and analysis.

During data gathering, the researcher made sure that participants had full control over their involvement. For the qualitative component, selected interviewees were also given the option to withhold responses to any question they were uncomfortable with, and data were transcribed without identifiers. All data, both digital and physical, were stored securely, Google Form data were kept in a password-protected account accessible only to the researcher.

All gathered information was used solely for academic and policy-relevant purposes. The study's findings were reported truthfully and without distortion, and all ethical precautions were taken to avoid any form of harm or exploitation. By embedding ethical safeguards at every stage from consent to reporting, the study ensured respect for the dignity, privacy, and voluntary participation of every Physical Education teacher involved.

III. RESULTS

This section presents the answers to the questions raised in the study and compares the results to the literature used. This part of the research work contains the significant contribution of the researcher to the wealth of knowledge through presentation of tables, data analysis and interpretation.

Demographic Profile of the Physical Education Teachers

Table 1 presents the demographic profile of the 98 Physical Education (PE) teachers who participated in the study. The data includes their age group, gender, and years of service as PE teachers.

The Role of Moderate-To-Vigorous Physical Activity, Needs Satisfaction, and Psychological Motivation in the Teaching Performance of Health Optimizing Physical Education Teachers

Table 1. Demographic Profile of the Respondents

Demographic Profile	f	%
Age		
22-28 years old	54	13.1%
29-44 years old	34	65.4%
45-60 years old	10	21.5%
Gender		
Male	44	44.9%
Female	53	54.1%
Other	1	1.0%
Year of Service as a PE Teacher		
Less than 2 years	37	37.8%
2-3 years	16	16.3%
4-9 years	26	26.5%
10 years and above	19	19.4%
Total	98	

In terms of age, the majority (65.4%) are between 29–44 years old, indicating that most participants are in the mid-career stage of teaching. This stage is often characterized by increasing professional maturity and openness to instructional innovation. Meanwhile, 13.1% are relatively young (22–28 years old), and 21.5% fall within the older age bracket of 45–60 years, representing a mix of novice and experienced educators. This age distribution suggests a dynamic and evolving workforce that combines the energy of early-career teachers with the expertise of more seasoned professionals.

Sex distribution shows a slightly higher number of female respondents (54.1%) compared to male (44.9%). This aligns with recent reports of near gender parity in the PE teaching profession (CareerExplorer, 2025). Such balance is essential for fostering inclusive physical education programs that address diverse student needs. However, literature highlights that male and female teachers may experience the profession differently: men may be more exposed to physical strain and injury, while women may encounter greater psychological stress and communication-related challenges (TotsFamily, 2024).

In terms of years of service, 37.8% of teachers have less than two years of experience, indicating a significant proportion of newly hired or early-career educators. Teachers with 4–9 years of experience comprise 26.5%, while 19.4% have over a decade of teaching service. This mixed profile suggests opportunities for mentoring, capacity building, and differentiated professional development programs.

Lastly, 57.1% of respondents come from public schools and 42.9% from private institutions, indicating a fairly balanced representation of educational settings. This diversity enhances the generalizability of the findings, as it captures the varied conditions under which PE is taught in Calamba City. It also reflects the different systemic demands and resources available across sectors, which could influence levels of physical activity, motivation, and job performance.

The demographic data, when interpreted through the lens of recent literature, reinforce the significance of addressing both the developmental stage and unique needs of PE teachers. As Zippia (2025) emphasize, teacher health, motivation, and satisfaction are strongly influenced by age, gender, and experience. Moreover, support programs that cater to both early-career and veteran teachers can foster better health behaviors and professional efficacy, ultimately enhancing student outcomes and sustaining the impact of physical education programs in schools.

Level of Engagement of Physical Education Teachers in moderate-to-vigorous physical activities

Table 2 presents the overall level of engagement of Physical Education (PE) teachers in moderate-to-vigorous physical activities (MVPA) across four domains: work-related activities, travel-related activities, recreational physical activities, and sedentary behavior.

Table 2. Overall Level of Engagement of Physical Education Teachers in moderate-to-vigorous physical activities

Indicators	Mean	SD	Description	Interpretation	Rank
Work-related activities	3.16	.337	3-4 days a week	Engaged	4
Travel-related activities	2.98	.382	3-4 days a week	Engaged	2
Recreational activities	2.99	.380	3-4 days a week	Engaged	3
Sedentary behavior	2.91	.449	3-4 days a week	Engaged	1
Grand	3.01	.227	3-4 days a week	Engaged	

Legend:
3.51 - 4.00 Highly engaged (5-7 days per week);
1.51 - 2.50 Somewhat engaged (1-2 days per week);
2.51 - 3.50 Engaged (3-4 days per week);
1.00 - 1.50 Not engaged (0 days per week)

The Role of Moderate-To-Vigorous Physical Activity, Needs Satisfaction, and Psychological Motivation in the Teaching Performance of Health Optimizing Physical Education Teachers

Among the four domains, work-related activities scored the highest mean at 3.16. This suggests that the physical activity teachers experience is most strongly rooted in their occupational responsibilities such as demonstrating exercises, moving during class management, or organizing PE materials. These tasks naturally integrate movement into their daily routines, as reinforced by earlier results from statement 4 in Table 2: “I intentionally incorporate physical movements (e.g., stretching, walking) during work hours to stay active.” This aligns with how PE teachers embed physicality within their professional roles, albeit within a structured setting.

In contrast, the lowest scoring domain was sedentary behavior, with a mean of 2.91. Although still interpreted as “Engaged,” this lower mean highlights a potential area of concern. High engagement in sedentary behavior means teachers still spend substantial time in passive activities such as sitting, reclining, or using digital devices. This is reflected in statement 6 and 8 from Table 5, such as “I often choose passive leisure activities (e.g., browsing social media, online shopping) instead of physically engaging ones.” These findings show that despite being physically active during work hours, teachers are also frequently sedentary outside those periods—posing a health risk if left unaddressed.

All domains work, travel, recreation, and sedentary behavior received “Engaged” as their verbal interpretation. This uniform rating across the board suggests that PE teachers demonstrate a consistent pattern of physical activity across their professional and personal lives, albeit with variation in frequency and intensity. While work-related tasks offer built-in movement, other domains, especially recreational and travel-related activities, reflect more personal commitment and lifestyle choices. For instance, the means for recreational activities (2.99) and travel-related activities (2.98) were slightly lower, which may suggest time constraints or lack of motivation for voluntary physical activity beyond work duties.

Interview responses support this interpretation. One teacher shared, “I get most of my exercise from teaching itself setting up drills, demonstrating movements but after work, I’m usually drained and just rest.” This mirrors the higher engagement in occupational physical activity and lower scores in travel and recreational forms. Another noted, “I try to walk to work or do errands on foot when possible, but traffic and time often make me choose to ride instead.” Such insights explain the modest rating in the travel-related domain. Meanwhile, those who were more proactive in engaging in physical activity described their participation in weekend sports, jogging routines, or family biking as intentional efforts: “I schedule weekend games with friends or join fitness programs in school so I don’t just rely on teaching for movement.”

These lived experiences reflect the findings of Lobo et al. (2024), who emphasized that teacher engagement in MVPA is influenced by both institutional structures and personal motivations. Teachers who are provided autonomy and supportive environments are more likely to carry physical activity into their personal lives. Moreover, Dizon and Tolentino (2022) suggest that performance in PE is strongly linked to overall teacher engagement, which includes both physical and psychological aspects. However, structural limitations—such as long work hours and lack of recreation infrastructure—can discourage active behavior beyond work, as pointed out by Tagare (2025) and Cubillo (2024).

In sum, while PE teachers in Calamba City show moderate engagement in moderate-to-vigorous physical activity across all domains, the results suggest that such engagement is largely driven by occupational requirements. The slightly lower engagement in personal (travel and recreational) activities, coupled with a concerning engagement in sedentary behavior, highlights areas where intervention and wellness programs may be valuable. These findings point to the importance of promoting not just professional but holistic physical wellness practices among PE teachers through school-supported recreational activities, active commuting programs, and reduced sedentary demands in their workload.

Level of Needs Satisfaction of Physical Education Teachers

Table 3 summarizes the overall level of needs satisfaction of Physical Education (PE) teachers by combining the three core dimensions of Self-Determination Theory (SDT): autonomy, relatedness, and competence. These psychological needs are fundamental in sustaining motivation, well-being, and performance, particularly within educational contexts. The composite results provide insight into how well PE teachers perceive their professional environment as supportive of their intrinsic motivation and role fulfillment.

The Role of Moderate-To-Vigorous Physical Activity, Needs Satisfaction, and Psychological Motivation in the Teaching Performance of Health Optimizing Physical Education Teachers

Table 3. Overall Level of Needs Satisfaction of Physical Education Teachers

Indicators	Mean	SD	Description	Interpretation	Rank
Autonomy	3.39	.525	Strongly Agree	Highly Satisfied	1
Relatedness	3.59	.434	Strongly Agree	Highly Satisfied	2
Competence	3.63	.415	Strongly Agree	Highly Satisfied	3
Grand	3.53	.394	Strongly Agree	Highly Satisfied	

Legend:

3.51 - 4.00 Strongly Agree (Highly Satisfied)	2.51 - 3.50 Agree (Satisfied)
1.51 - 2.50 Disagree (Somewhat Satisfied)	1.00 - 1.50 Strongly Disagree (Not satisfied)

As shown in Table 3, the composite mean score of 3.53 (SD = .394) reflects a consistent level of strong agreement across all three basic psychological needs, aligning with the “Highly Satisfied” interpretation. Among the three indicators, competence yielded the highest mean at 3.63 (SD = .415), while autonomy had the lowest at 3.39 (SD = .525), suggesting a relatively weaker yet still high perception of independence in instructional decision-making compared to feelings of capability or connection with colleagues.

This pattern of responses illustrates a significant insight: while PE teachers feel effective and supported in their professional functions, they may still perceive some constraints in exercising full autonomy within institutional systems. The highest satisfaction in competence suggests that PE teachers are confident in their skills and ability to deliver lessons effectively, aligning with indicators like “I have opportunities to utilize my talent in teaching Physical Education” (Indicator 5) and “I have opportunities to apply my abilities in teaching Physical Education” (Indicator 2). Conversely, the relatively lower mean in autonomy points to institutional limitations, despite positive responses to statements like “The school clearly communicates the goals and expectations of the Physical Education curriculum” (Autonomy Indicator 1).

The verbal responses across all domains reinforce this narrative of empowered yet bounded professionals. Teachers repeatedly indicated high levels of satisfaction across indicators, showing consistency in their experience of workplace support, peer collaboration, and instructional confidence. The interpretation “Highly Satisfied” across autonomy, relatedness, and competence reflects a workplace climate that supports their psychological needs, but the differences in mean scores suggest areas for institutional improvement—particularly in allowing more teacher voice in policy and curriculum development.

Interview data powerfully echoes these findings. One teacher from a private school shared, “I feel most competent when I’m allowed to demonstrate exercises, but sometimes I wish I could revise parts of the curriculum to better fit our students’ realities.” Another PE teacher from a public institution stated, “Our principal is supportive, and I feel we’re a team—that makes all the difference when you’re teaching something as interactive as PE.” These narratives affirm that while interpersonal support is strong, autonomy at the systemic level remains an area needing attention.

The findings are strongly aligned with Self-Determination Theory (SDT), which posits that satisfaction of the needs for autonomy, competence, and relatedness leads to greater intrinsic motivation and psychological wellness (Vasconcellos et al., 2020). The relative underperformance of autonomy, despite still being in the “Highly Satisfied” range, reflects what White et al. (2020) and Su et al. (2022) have argued: institutional environments often prioritize performance and control at the expense of personal agency, especially in highly standardized educational settings. Heutagogy further underlines this tension, advocating for a more self-determined, learner-directed model of professional growth something the current system appears to only partially support.

While PE teachers in Calamba City feel highly satisfied overall, institutions should not be complacent. The high scores in competence and relatedness are encouraging, but the slightly lower rating in autonomy highlights a crucial area for professional development and structural reform. Without greater support for teacher agency, satisfaction may plateau and with it, innovation and long-term engagement. Institutions must do more than just affirm competence; they must entrust educators with genuine autonomy to shape the future of Physical Education.

Level of Psychological Motivation of Physical Education Teachers

Table 4 presents the overall level of psychological motivation of Physical Education (PE) teachers, measured across five motivational dimensions: Intrinsic Motivation, Identified Regulation, Introjected Regulation, External Regulation, and Amotivation.

The Role of Moderate-To-Vigorous Physical Activity, Needs Satisfaction, and Psychological Motivation in the Teaching Performance of Health Optimizing Physical Education Teachers

Table 4. Overall Level of Psychological Motivation of Physical Education Teachers

Indicators	Mean	SD	Description	Interpretation
Intrinsic Motivation	3.25	.235	Agree	Motivated
Identified Regulation	3.28	.241	Agree	Motivated
Introjected Regulation	3.21	.280	Agree	Motivated
External Regulation	3.07	.343	Agree	Motivated
Amotivation	2.97	.396	Agree	Motivated
Grand	3.15	.155	Agree	Motivated

Legend:
3.51 - 4.00 Strongly Agree (Highly Motivated)
1.51 - 2.50 Disagree (Somewhat Motivated)

2.51 - 3.50 Agree (Motivated)
1.00 - 1.50 Strongly Disagree (Not Motivated)

Among the five dimensions, Identified Regulation had the highest mean at 3.28, indicating that many teachers are motivated because they recognize the value of teaching PE for students' development and health. This aligns with responses "I teach Physical Education because I believe it is important for students to excel in physical activities and enhance their overall fitness." This form of motivation is significant because it reflects a conscious internalization of the importance of PE, which often sustains teaching effectiveness even in the absence of external rewards.

On the other end of the spectrum, Amotivation scored the lowest with a mean of 2.97, based on responses "I feel indifferent toward the impact of PE on students' development" registered the highest mean under amotivation, suggesting that while most teachers remain engaged, some feel emotionally detached or question their relevance. Although still within the "Motivated" range, this indicator hints at underlying dissatisfaction or burnout.

Verbal interpretations across all sub-variables fall into the "Motivated" category, indicating a moderate yet consistent level of psychological engagement among teachers. This overall pattern suggests that while teachers remain committed to their roles, many are driven more by identified and introjected forms of motivation than pure intrinsic interest. The presence of External Regulation (M = 3.07) and Introjected Regulation (M = 3.21) also reveals that some teachers are influenced by external pressures or internal guilt rather than autonomous drive.

Interview narratives corroborate these findings. One teacher explained, "I stay because I see how PE shapes confidence and discipline, but there are days when I feel like a robot just following routines." Another remarked, "I push myself to be effective, but sometimes it's because I don't want to let my students or supervisor down." These responses align with the mixed sources of motivation reported, ranging from deep personal identification with the profession to feelings of obligation or fear of judgment.

From a theoretical standpoint, these results support the propositions of Self-Determination Theory (SDT), which posits that motivation exists on a continuum from amotivation to intrinsic regulation. The predominance of identified regulation suggests that teachers have partially internalized the value of PE, but may not always feel fully autonomous or intrinsically driven. Su et al. (2022) and Tolentino et al. (2023) emphasize that Filipino PE teachers who feel competent, supported, and connected tend to display more intrinsic motivation, yet this study's results show that not all teachers reach this level of self-determination.

The SELF-FIT framework reinforces this interpretation, highlighting that when teachers are only moderately motivated, their capacity to inspire students and maintain personal wellness may be compromised (Tenório et al., 2020). The relatively lower scores in intrinsic motivation (M = 3.25) and the presence of amotivation underscore the need for targeted interventions. Professional development, leadership support, and opportunities for meaningful engagement could help convert external or introjected motivations into more self-determined forms.

PE teachers demonstrate a stable but complex motivational profile, balancing personal values with institutional demands and occasional emotional fatigue. Addressing these layers of motivation—particularly by reducing amotivation and fostering intrinsic engagement—can elevate both teaching quality and professional satisfaction. As one participant shared, "When students grow because of PE, it reminds me why I started. I just need more moments like that to keep going."

Level of individual performance of the Physical Education Teachers

Table 5 presents the distribution of Physical Education (PE) teachers based on their individual performance ratings, categorized into five levels: Outstanding, Very Satisfactory, Satisfactory, Unsatisfactory, and Poor.

The Role of Moderate-To-Vigorous Physical Activity, Needs Satisfaction, and Psychological Motivation in the Teaching Performance of Health Optimizing Physical Education Teachers

Table 5. Individual performance of Physical Education Teachers

Level of Performance	f	%
Outstanding (4.50-5.00)	26	26.5%
Very Satisfactory (3.50-4.499)	61	62.2%
Satisfactory (2.50 – 3.499)	10	10.2%
Unsatisfactory (1.50 – 2.499)	1	1.0%
Poor (below 1.499)	0	0%

The data reveals that the majority of PE teachers fall under the "Very Satisfactory" category, with 61 teachers or 62.2% of the total. This is followed by 26 teachers or 26.5% who received an "Outstanding" rating. A smaller portion—10.2% or 10 teachers—were rated as "Satisfactory," while only 1 teacher (1.0%) was marked as "Unsatisfactory." No teacher was evaluated as "Poor."

Comparative Analysis

Table 6 presents the statistical results of the test of significant differences in the level of engagement in moderate-to-vigorous physical activities (MVPA) among Physical Education (PE) teachers based on their demographic profiles—age, gender, and years of experience.

Table 6.1 Test of significant difference between the level of engagement in moderate-to-vigorous physical activities of Physical Education Teachers when they are grouped according to profile

		Mean	Statistic	df	p
Age			11.73**	2	.003
	22-28 y/o	3.15			
	29-44 y/o	2.79			
	45-60 y/o	2.75			
Gender			2.57	2	.277
	Male	2.91			
	Female	3.06			
	Other	2.67			
Years of Experience as a PE Teacher			10.23*	3	.017
	Less Than 2-years	3.21			
	2-3 years	2.98			
	4-9 years	2.73			
	10 years and above	2.91			

*The test is significant ($p < .05$).

**The test is significant ($p < .01$).

Test of Accuracy and Validity

The data based on the simulation conducted in checking test materials. Procedure A – the test was reviewed and analyzed by a teacher while Procedure B – the test was reviewed and analyzed using a software application.

The results indicate a statistically significant difference in MVPA engagement based on age ($F=11.73, df=2, p=.003$) and years of experience as a PE teacher ($F=10.23, df=3, p=.017$). Both p-values fall below the significance thresholds suggesting that age and teaching experience are influential factors. On the other hand, no significant difference was observed in MVPA engagement based on gender ($F=2.57, p=.277$), indicating that male, female, and other gender identities exhibit relatively similar levels of physical activity engagement.

Among the age groups, PE teachers aged 22–28 years old reported the highest mean engagement in MVPA ($M=3.15$), while those aged 45–60 years old had the lowest ($M=2.75$). This finding may reflect the natural decline in physical capacity or increased workload and responsibilities with age, which potentially limits time and energy for MVPA. In terms of teaching experience, those with less than two years in the profession had the highest engagement ($M=3.21$), followed by those with 2–3 years ($M=2.98$), while mid-career teachers with 4–9 years had the lowest ($M=2.73$). Interestingly, engagement increased again among teachers with 10 years and above of experience ($M=2.91$), possibly indicating renewed professional commitment or adaptation of active teaching strategies.

Table 6.2 presents the test results examining whether significant differences exist in the level of needs satisfaction among Physical Education (PE) teachers when grouped according to age, gender, and years of teaching experience.

The Role of Moderate-To-Vigorous Physical Activity, Needs Satisfaction, and Psychological Motivation in the Teaching Performance of Health Optimizing Physical Education Teachers

Table 6.2 Test of significant difference between the level of needs satisfaction of Physical Education Teachers when they are grouped according to profile

		Mean	Statistic	df	p
Age			4.23	2	.120
	22-28 y/o	3.59			
	29-44 y/o	3.43			
	45-60 y/o	3.55			
Gender			2.12	2	.346
	Male	3.47			
	Female	3.58			
	Other	3.80			
Years of Experience as a PE Teacher			5.29	3	.152
	Less Than 2-years	3.63			
	2-3 years	3.43			
	4-9 years	3.43			
	10 years and above	3.56			

*The test is significant ($p < .05$).

**The test is significant ($p < .01$).

The table shows that the conventional procedure in checking and analyzing test accumulated fifty-eight (58) minutes while in The results show that no statistically significant differences were found across all three demographic variables. For age, the analysis yielded a statistic of 4.23 with a p-value of .120, indicating no significant difference at the 0.05 level. Similarly, gender ($p = .346$) and years of experience ($p = .152$) also did not show any significant differences in the level of needs satisfaction, as all p-values exceeded the threshold of significance ($p > .05$).

Despite the absence of statistical significance, variations in the mean scores offer valuable insights. The group with the highest reported level of needs satisfaction by gender was those who identified as "Other" ($M = 3.80$), followed by females ($M = 3.58$), and males ($M = 3.47$). In terms of age, PE teachers aged 22–28 years old had the highest mean ($M = 3.59$), while those in the 29–44 years group reported the lowest ($M = 3.43$). Regarding experience, those teaching for less than 2 years had the highest mean ($M = 3.63$), whereas those with 2–9 years reported a lower but equal mean ($M = 3.43$). These patterns suggest that early-career educators may feel more psychologically fulfilled in their roles—possibly due to enthusiasm, mentorship, or fewer institutional demands—while mid-career teachers may be navigating professional plateaus or external pressures affecting their motivation and fulfillment.

Table 6.3 shows the results of the Kruskal-Wallis test used to determine whether there are significant differences in the psychological motivation of Physical Education (PE) teachers when grouped according to age, gender, and years of experience.

Table 6.3 Test of significant difference between the level of psychological motivation of Physical Education Teachers when they are grouped according to profile

		Mean	Statistic	df	p
Age			1.96	2	.376
	22-28 y/o	3.43			
	29-44 y/o	3.31			
	45-60 y/o	3.47			
Gender			0.97	2	.616
	Male	3.35			
	Female	3.43			
	Other	3.27			
Years of Experience as a PE Teacher			0.98	3	.578
	Less Than 2-years	3.45			
	2-3 years	3.47			
	4-9 years	3.27			
	10 years and above	3.40			

*The test is significant ($p < .05$).

**The test is significant ($p < .01$).

The results indicate that there are no statistically significant differences across any of the profile variables. Specifically, age ($H = 1.96$, $p = .376$), gender ($H = 0.97$, $p = .616$), and years of experience ($H = 0.98$, $p = .578$) all yielded p-values greater than the significance threshold of .05, suggesting that psychological motivation levels do not differ significantly based on these demographic factors.

While the results are not statistically significant, it is worth noting that slight variations in the mean ranks still offer meaningful descriptive insights. Among age groups, PE teachers aged 45–60 years reported the highest level of psychological motivation (M

The Role of Moderate-To-Vigorous Physical Activity, Needs Satisfaction, and Psychological Motivation in the Teaching Performance of Health Optimizing Physical Education Teachers

= 3.47), followed by those aged 22–28 years ($M = 3.43$), and the 29–44 years group ($M = 3.31$). Regarding gender, female teachers reported a slightly higher mean ($M = 3.43$) than males ($M = 3.35$) and those identifying as other ($M = 3.27$). Teachers with 2–3 years of experience had the highest psychological motivation ($M = 3.47$), while those with 4–9 years reported the lowest ($M = 3.27$), potentially indicating a dip in motivation during mid-career stages.

Significant relationship between the level of engagement in moderate-to-vigorous physical activities, needs satisfaction, and psychological well-being of Physical Education Teachers and their teaching performance

Table 7 presents the results of the Spearman rho correlation analysis examining the relationship between various dimensions of moderate-to-vigorous physical activity (MVPA), needs satisfaction, and psychological well-being with the teaching performance of Physical Education (PE) teachers.

The findings indicate several significant relationships, albeit with varying degrees of correlation strength. Overall, work-related physical activity showed a low but significant positive correlation with teaching performance ($\rho = .403$, $p < .001$), suggesting that PE teachers who are more physically active in work-related tasks tend to perform better in their teaching roles. Similarly, recreational physical activity was also found to have a low but significant correlation ($\rho = .307$, $p = .002$), indicating that leisure physical activities may contribute to greater teaching efficacy. General MVPA also had a negligible yet significant relationship with teaching performance ($\rho = .241$, $p = .017$). In contrast, sedentary activity and travel-related activity did not significantly correlate with teaching performance, as indicated by p-values of .630 and .089 respectively.

Table 7. Test of significant relationship between the level of engagement in moderate-to-vigorous physical activities, needs satisfaction, and psychological well-being to the teaching performance Physical Education Teachers

		rho value	p-value	Degree of Correlation	Decision	Remarks
Teaching Performance	Moderate-to-vigorous Activities	.241*	.017	Negligible	Reject Ho	Significant
	Work-Related	.403*	<.001	Low	Reject Ho	Significant
	Travel-Related	.173	.089	Negligible	Failed to Reject Ho	Not Significant
	Recreational Physical Activities	.307*	.002	Low	Reject Ho	Significant
	Sedentary	.049	.630	Negligible	Failed to Reject Ho	Not Significant
	Needs Satisfaction	.267*	.008	Negligible	Reject Ho	Significant
	Autonomy	.253*	.012	Negligible	Reject Ho	Significant
	Relatedness	.180	.076	Negligible	Failed to Reject Ho	Not Significant
	Competence	.312*	.002	Low	Reject Ho	Significant
	Psychological Well-being	.310*	.002	Low	Reject Ho	Significant
	Intrinsic Motivation	.234*	.020	Negligible	Reject Ho	Significant
	Identified Regulation	.250*	.013	Negligible	Reject Ho	Significant
	Introjected Regulation	.342**	<.001	Low	Reject Ho	Significant
	External Regulation	.142	.163	Negligible	Failed to Reject Ho	Not Significant

5% Level of Significance

Legend: .90-1.00 Very High Correlation, .70-.90 High Correlation, .50-.70 Moderate Correlation, .30-.50 Low Correlation, .00-.30 Negligible

The Role of Moderate-To-Vigorous Physical Activity, Needs Satisfaction, and Psychological Motivation in the Teaching Performance of Health Optimizing Physical Education Teachers

IV. DISCUSSION

The chapter discussed on the efficiency of using the software in assessment base on different With regard to needs satisfaction, the results reveal that autonomy ($p = .253$, $p = .012$), competence ($p = .312$, $p = .002$), and overall needs satisfaction ($p = .267$, $p = .008$) all showed significant relationships, though primarily in the negligible to low range. Notably, relatedness did not significantly correlate with teaching performance ($p = .076$), implying that while building connections is important, it may not be as directly linked to performance outcomes in this sample.

In terms of psychological well-being and motivation, significant correlations were found between teaching performance and psychological well-being ($p = .310$, $p = .002$), intrinsic motivation ($p = .234$, $p = .020$), identified regulation ($p = .250$, $p = .013$), and introjected regulation ($p = .342$, $p < .001$). These results highlight that internal motivational factors are positively associated with teaching performance, whereas external regulation did not yield a significant correlation ($p = .163$), emphasizing the limited role of externally driven motivators in enhancing teaching effectiveness.

The impact of moderate-to-vigorous physical activities, needs satisfaction, and psychological motivation of Physical Education Teachers in their teaching performance

Table 8 presents the results of a multiple regression analysis examining the combined and individual effects of moderate-to-vigorous physical activity (MVPA), needs satisfaction, and psychological well-being on the teaching performance of Physical Education (PE) teachers.

Table 8. Regression Analysis on the Impact of moderate-to-vigorous physical activities, need satisfaction, and Psychological Motivation on the teaching performance of Physical Education Teachers

Model	Beta	t-value	p-value	
Intercept	0.8253	1.326	0.188	
Moderate-to-vigorous activities	0.086	0.616	0.539	
Needs Satisfaction	0.285	1.666	0.099	
Psychological well-being	0.310	1.855	0.067	
F-value	Adjusted R ²	Overall model p-value	Decision	Remarks
5.10	0.113	0.003	Reject Ho	Significant

The overall model was found to be statistically significant ($F = 5.10$, $p = .003$), with an adjusted R^2 of 0.113, indicating that approximately 11.3% of the variance in teaching performance can be explained by the three predictor variables.

Despite the model's significance, the individual predictors showed no statistically significant contributions at the $p < .05$ level. Moderate-to-vigorous activities had the lowest impact ($\beta = 0.086$, $p = .539$), suggesting that although physical activity is important for well-being, it may not directly translate to higher teaching performance when analyzed in isolation. Needs satisfaction ($\beta = 0.285$, $p = .099$) and psychological well-being ($\beta = 0.310$, $p = .067$) approached significance, implying that these factors may be more influential predictors, though they did not meet the conventional alpha level of 0.05. Among the three, psychological well-being exerted the strongest influence on teaching performance.

The proposed SELF-Fit intervention or support programs can be for Physical Education Teachers

The proposed SELF-FIT Intervention and Support Program is a comprehensive response to the lowest-rated areas identified in the study on PE teachers' moderate-to-vigorous physical activity (MVPA), need satisfaction, and psychological motivation. The interventions are anchored on the principles of Self-Determination Theory and Heutagogy, focusing on autonomy, competence, relatedness, and intrinsic motivation. Seven targeted programs have been designed to address specific gaps and support teachers in sustaining their physical, emotional, and professional well-being.

The "Lakad PE Teacher" Active Commute Program addresses the lowest MVPA score in the area of travel (mean: 2.62) by encouraging PE teachers to walk or cycle within the school premises or to school. Through step-tracking and weekly incentives, the program promotes movement as a routine part of commuting. To combat sedentary behavior, the "Faculty Flex Hour" Movement Integration Program introduces daily 15-minute activity breaks embedded within teachers' schedules to reduce physical fatigue and inactivity from prolonged sitting.

On the psychological front, autonomy emerged as the lowest domain in need satisfaction (mean: 3.39). In response, the "Voice and Choice" Teaching Autonomy Workshops provide avenues for teachers to co-design lesson plans, instructional materials, and

The Role of Moderate-To-Vigorous Physical Activity, Needs Satisfaction, and Psychological Motivation in the Teaching Performance of Health Optimizing Physical Education Teachers

interdisciplinary projects—empowering them with creative control over their teaching practices. To support relatedness (mean: 3.45), the “Connected Classrooms” Peer Mentoring Circles foster community by organizing bi-weekly peer discussion groups where teachers can exchange ideas and provide social-emotional support.

The “EmpowerEd PE” Mastery Bootcamps aim to improve perceived competence (mean: 3.54) by offering high-impact training on adaptive PE, inclusive sports, and new instructional technologies. These sessions are led by certified experts to boost teaching capabilities and reinforce confidence. In terms of motivation, the lowest psychological subscale was amotivation (mean: 2.13). To address this, the “Intrinsic Drive” Journaling and Reflection Program facilitates weekly guided journaling to help teachers reconnect with their purpose and track meaningful teaching moments, thus enhancing intrinsic motivation.

Lastly, the “Move & Mentor” Accountability Partnership System pairs teachers with wellness buddies to co-monitor fitness and teaching goals. This not only supports psychological well-being but also strengthens professional collaboration and personal accountability. Collectively, these programs aim to create a supportive, active, and engaging work environment that prioritizes both the personal health and instructional performance of PE teachers.

REFERENCES

- 1) Aguinaldo, J. (2021). Challenges encountered by physical education teachers in online learning. *2021 De La Salle University Research Congress Proceedings*.
- 2) CareerExplorer. (2025). *Physical education teacher demographics in the United States*. Retrieved from <https://www.careerexplorer.com/careers/physical-education-teacher/demographics/>
- 3) Cubillo, C. A. (2024). *Barriers to inclusive PE instruction: Challenges faced by teachers of students with special needs*. *Journal of Philippine Education Research*, 9(1), 45–60.
- 4) Dizon, S. G., & Tolentino, J. C. G. (2022). Internal assessment of a physical education teacher education program in the Philippines using the engagement theory of program quality (ETPQ). *Multidisciplinary Journal for Education, Social and Technological Sciences*, 9(2), 46–80. <https://doi.org/10.4995/muse.2022.16959>
- 5) Lobo, M. P., Ramos, A. S., & Dela Cruz, E. J. (2024). *Autonomy-supportive teaching and student engagement in PE classes*. *Philippine Journal of Sports and Physical Education*, 8(1), 33–49.
- 6) Schneider, J., Polet, J., Hassandra, M., et al. (2020). Testing a physical education-delivered autonomy-supportive intervention to promote leisure-time physical activity in lower secondary school students: The PETALS trial. *BMC Public Health*, 20, 1438. <https://doi.org/10.1186/s12889-020-09518-3>
- 7) Su, S., Yang, H., & Li, Y. (2022). *Enhancing intrinsic motivation in PE through self-evaluation frameworks*. *International Journal of Sport and Exercise Psychology*, 20(4), 345–359.
- 8) Tagare, R. L., Jr. (2023). Back to in-person classes in the Philippine basic education: threading the opportunities and limitations in the teaching of Physical Education. *Retos: Nuevas Tendencias En Educación Física, Deporte y Recreación*. <https://doi.org/10.47197/retos.v47.95921>
- 9) Tenório, M., da Costa, J., & Diniz, J. (2020). Improving motivational teaching in PE: Effects of an SDT-based training intervention on teacher and student outcomes. *Physical Education and Sport Pedagogy*, 25(4), 421–438. <https://doi.org/10.1080/17408989.2019.1702981>
- 10) TotsFamily. (2024). *Common health problems experienced by teachers*. Retrieved from <https://totsfamily.com/common-health-problems-experienced-by-teachers/>
- 11) White, R. L., Babic, M. J., Parker, P. D., Lubans, D. R., & Lonsdale, C. (2020). Autonomy-supportive teaching and student physical activity: A meta-analysis of school-based physical education interventions. *Health Psychology Review*, 14(2), 195–213. <https://doi.org/10.1080/17437199.2019.1629180>
- 12) Zippia. (2025). *Physical education teacher demographics and statistics in the U.S*. Retrieved from <https://www.zippia.com/physical-education-teacher-jobs/demographics/>



There is an Open Access article, distributed under the term of the Creative Commons Attribution – Non Commercial 4.0 International (CC BY-NC 4.0) (<https://creativecommons.org/licenses/by-nc/4.0/>), which permits remixing, adapting and building upon the work for non-commercial use, provided the original work is properly cited.