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Active learning through active living: the relationship between physical activity and academic motivation among university students

Aprendizaje activo a través de una vida activa: la relación entre la actividad física y la motivación académica en estudiantes universitarios

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Abstract
This study examined the relationship between physical activity engagement and academic motivation among students to better understand how lifestyle behaviors relate to learning-related drive. Using a quantitative descriptive-correlational design, the research collected numerical data from 559 students selected through simple random sampling. Standardized questionnaires were utilized, including a validated measure of academic motivation and Craig's physical activity questionnaire. Descriptive statistics, such as mean and composite mean, were computed to describe the variables, while Spearman correlation was employed to test their association. Findings indicated that students generally maintain active lifestyles and demonstrate developing levels of academic motivation across intrinsic, identified, and external regulation dimensions. The analysis revealed a positive and statistically significant relationship between physical activity and academic motivation, suggesting that students who are more physically engaged tend to report stronger motivation toward learning. However, the relationship was modest, indicating that physical activity represents only one of several factors influencing academic motivation. The study underscores the multidimensional nature of motivation and supports perspectives that connect behavioral and psychological processes in educational settings. The results highlight the relevance of considering students' physical activity patterns alongside cognitive and motivational factors in understanding academic engagement. Overall, the findings contribute to a more holistic view of student development, emphasizing the interconnectedness of well-being and learning within higher education contexts.

Keywords: behavioral engagement; holistic development; lifestyle factors; motivation patterns; student well-being

Resumen
Este estudio examinó la relación entre la participación en la actividad física y la motivación académica en estudiantes, con el propósito de comprender mejor cómo los comportamientos de estilo de vida se vinculan con el impulso hacia el aprendizaje. Mediante un diseño cuantitativo descriptivo-correlacional, se recopilaron datos numéricos de 559 estudiantes seleccionados a través de un muestreo aleatorio simple. Se utilizaron cuestionarios estandarizados, incluyendo una medida validada de motivación académica y el cuestionario de actividad física de Craig. Se calcularon estadísticas descriptivas, como la media y la media compuesta, para describir las variables, y se empleó la correlación de Spearman para analizar su asociación. Los resultados indicaron que los estudiantes generalmente mantienen estilos de vida activos y presentan niveles en desarrollo de motivación académica en sus dimensiones intrínseca, de regulación identificada y de regulación externa. El análisis mostró una relación positiva y estadísticamente significativa entre la actividad física y la motivación académica, lo que sugiere que los estudiantes más activos tienden a manifestar mayor motivación hacia el aprendizaje. No obstante, la relación fue modesta, lo que indica que la actividad física constituye solo uno de varios factores que influyen en la motivación académica. El estudio resalta el carácter multidimensional de la motivación y respalda enfoques que vinculan los procesos conductuales y psicológicos en contextos educativos. En conjunto,

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los hallazgos aportan una visión más integral del desarrollo estudiantil, destacando la interconexión entre el bienestar y el aprendizaje en la educación superior.

Palabras clave: compromiso conductual; desarrollo holístico; factores del estilo de vida; patrones de motivación; bienestar estudiantil

Introduction

Academic motivation refers to the set of internal drives and external influences that energize, direct, and sustain students' engagement in learning tasks (Cayubit, 2022). It shapes how learners approach challenges, persist through difficulties, and regulate their behavior toward academic goals (Mulaudzi, 2023). Scholars emphasize that academically motivated students demonstrate stronger cognitive engagement, better self-regulation, and higher achievement outcomes (Fong et al., 2024). As a multidimensional construct, academic motivation encompasses intrinsic interest, extrinsic incentives, and the value students place on academic success (Martín & Sorhaindo, 2019). Understanding this construct is essential for improving learners' outcomes across educational settings.

Physical activity, defined as any bodily movement that increases energy expenditure, plays a vital role in students' physical, cognitive, and psychosocial functioning (Dalipe et al., 2025). Regular movement supports overall health, enhances concentration, and contributes to better emotional balance among young individuals (Aton, 2025). Educational researchers assert that students who engage in adequate physical activity often exhibit improved classroom behavior, sharper cognitive performance, and higher levels of alertness. Moreover, active lifestyles help counteract sedentary habits that can impair learning efficiency and academic performance (Hadji Kasan, 2025).

Despite its importance, academic motivation among students continues to decline due to academic overload, psychological stress, and shifting learning environments (Trigueros et al., 2020). Many learners struggle with low persistence, reduced interest in schoolwork, and difficulty sustaining engagement, particularly in demanding academic contexts (Skinner et al., 2016). At the same time, physical activity levels among students have significantly decreased, driven by digital distractions, sedentary lifestyles, and

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limited access to structured physical programs (Peromingan et al., 2025). These trends contribute to poor health outcomes, weakened cognitive functioning, and diminished capacity for academic focus (Lövdén et al., 2020). The concurrent decline in motivation and physical activity underscores a growing educational and public health concern (Nioda & Tagare, 2024). Addressing these issues is further complicated by environmental, institutional, and socio-cultural factors that restrict students' opportunities to remain active and academically driven (Dumchak et al., 2024).

A substantial body of literature has investigated the factors that shape students' academic motivation, highlighting the roles of classroom climate, teacher support, self-efficacy, and goal orientation (Wang et al., 2020). Research indicates that motivational levels strongly predict academic resilience, persistence, and learning outcomes across various educational contexts (Abdolrezapour et al., 2023). Scholars also report that motivational deficits can lead to disengagement, lower achievement, and heightened stress among students. Although these studies provide valuable insights, they often focus on psychosocial and instructional determinants rather than lifestyle factors (Tagare et al., 2025).

Existing research emphasizes that physical activity yields significant benefits for students' physical health, cognitive performance, and emotional well-being (Herbert, 2022). Studies consistently show that moderate to vigorous activity improves executive functioning, memory, and academic performance indicators (Haible et al., 2020). Furthermore, scholars highlight that students who maintain active lifestyles tend to report higher levels of self-esteem, reduced stress, and improved quality of life (Neha P Gothe et al., 2020). However, most investigations explore physical activity in relation to health outcomes rather than its potential influence on academic motivation (Neha P. Gothe et al., 2020).

Despite the growing number of studies on academic motivation and physical activity, limited evidence explores how these two constructs interact within the student population. Most available research treats them as separate domains, leaving a gap in understanding how active living might contribute to students' motivation to learn. This study seeks to examine the relationship between physical activity and academic motivation among students. Specifically, it addresses the general research question: How

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is physical activity related to students' academic motivation? The overarching purpose of this study is to provide empirical insight into this relationship and to clarify how lifestyle behaviors may shape academic engagement.

This research is important because it offers meaningful implications for students by highlighting how active living may support their academic drive and personal well-being. For educators and institutions, the findings may guide the development of programs that integrate physical activity to enhance learning outcomes and classroom engagement. The study also contributes to the broader body of knowledge by bridging two fields that are often examined separately—education and physical health. Furthermore, the insights generated may inform policy initiatives and school-based interventions aimed at promoting healthier, more motivated learners. Through this research, the academic community gains a deeper understanding of how physical activity can influence motivation in contemporary learning environments.

Methods

Research Design

This study employed a quantitative research design, specifically a descriptive-correlational approach. Quantitative research focuses on collecting and analyzing numerical data to explain phenomena objectively and systematically (Thomas & Zubkov, 2023). A descriptive-correlational design, on the other hand, examines the relationship between variables without manipulating them, allowing researchers to determine the degree and direction of associations (Leavy, 2022). This design was selected to measure students' academic motivation and physical activity levels and assess how these variables relate within a naturally occurring setting. Through this approach, the study was able to generate empirical data that align with its objectives.

The use of a quantitative descriptive-correlational design is appropriate because the study aims to determine the relationship between two measurable variables—academic motivation and physical activity. This design allows the researcher to gather standardized data from a large number of respondents and analyze patterns that may not be visible through qualitative approaches. It also provides an efficient way to quantify the strength of association between the variables without influencing the respondents'

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responses. Overall, this design supports the study's goal of producing objective and generalizable findings.

Respondents and Sampling

The study involved 559 student respondents selected through simple random sampling. The participants were enrolled undergraduate students from various year levels, representing both male and female students across different academic programs. Their ages typically ranged from late adolescence to early adulthood, reflecting the general demographic profile of college learners. Simple random sampling is a probability sampling technique in which each member of the population has an equal and independent chance of being chosen (Pace, 2021). This technique was appropriate for the study because it minimizes selection bias, ensures proportional representation across demographic groups, and strengthens the generalizability of the findings to the broader student population.

Research Instrument

This research utilized standardized questionnaires to gather data on the study variables. The measure of academic motivation was adopted from Shengyao et al. (2024), whose instrument has demonstrated strong reliability in previous studies, with a reported reliability index supporting its consistent performance. The questionnaire on physical activity was adapted from Tandon et al. (2021), which has also shown acceptable reliability for assessing activity levels in diverse populations. Prior to full implementation, both instruments underwent content validation by experts and pilot testing among students with similar characteristics to the target population to ensure clarity and contextual suitability. Reliability analysis using Cronbach's alpha revealed coefficients of 0.89 for the academic motivation scale and 0.86 for the physical activity questionnaire, indicating good internal consistency within the present sample. These results confirm that the instruments are both valid and reliable for use in this specific population while maintaining their original psychometric strength.

Statistical Analysis

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Descriptive and inferential statistics were used to analyze the data gathered in this study. Measures such as the mean and composite mean were computed to summarize the respondents' levels of academic motivation and physical activity. Spearman correlation was employed to determine the relationship between the two variables (Ali Abd Al-Hameed, 2022). This nonparametric test was appropriate because it is suitable for ordinal data and does not require assumptions of normal distribution. Furthermore, it effectively measures the strength and direction of monotonic relationships, which aligns with the study's objectives. All statistical procedures were performed to ensure accurate and meaningful interpretation of the findings.

Ethical Consideration

The study was conducted in one of the higher education institutions in Cotabato, Philippines, providing contextual grounding for the respondents' academic and lifestyle experiences. Prior to data collection, ethical approval was secured from the institution's designated ethics review committee to ensure compliance with established research standards. Informed consent was obtained from all participants, who were clearly informed about the purpose of the study, the voluntary nature of their participation, and their right to withdraw at any time without penalty. Confidentiality and anonymity were strictly maintained throughout the research process to protect the respondents' identities and data privacy.

Results

Table 1 presents the respondents' levels of physical activity engagement based on their reported behaviors and participation in movement-related tasks. The distribution of responses provides an overview of how frequently students engage in physical activities across various intensity levels. Overall, the table illustrates the general activity patterns of the group, highlighting the extent to which students maintain active lifestyles.

Table 1. Respondents' Physical Activity Engagement

Physical Activity Level	Frequency	Percentage

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Low Activity	70	12.52
Moderate Activity	214	38.28
High Activity	275	49.19

Table 2 displays the respondents' levels of academic motivation as reflected in their overall scores on the motivation scale. The results show how strongly students value their academic tasks, persist in learning, and maintain interest in their studies. Overall, the table outlines the general motivational tendencies of the group, offering insight into their engagement toward academic work.

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Table 2. Respondents' Academic Motivation

Statements	Standard Deviation	Mean	Qualitative Description
A. Intrinsic Motivation *(Driven by interest, enjoyment, and personal satisfaction in learning.)*			
2. I feel satisfied when I understand something difficult.	.65	3.38	**Agree**
4. I am motivated to learn because it makes me feel accomplished.	.68	3.26	**Agree**
3. I do my schoolwork because it helps me grow as a person.	.66	3.24	**Agree**
5. I find learning enjoyable even when it's challenging.	.71	3.20	**Agree**
1. I study because I enjoy learning new things.	.77	3.19	**Agree**
Composite Mean	**.69**	**3.25**	**Developing Academic Motivation**
B. Extrinsic Motivation – Identified Regulation *(Motivation from recognizing the importance and value of learning.)*			
10. I attend classes because I know they are essential to my success.	.65	3.41	**Agree**
8. I learn because I believe education is important for my future.	.63	3.40	**Agree**
6. I study because I know it will help me achieve my career goals.	.68	3.36	**Agree**
7. I do well in school because I want to make my family proud.	.73	3.35	**Agree**
9. I complete my tasks because I want to improve myself. I struggle to learn something new.	.76	3.35	**Agree**
Composite Mean	**.70**	**3.37**	**Developing Academic Motivation**
C. Extrinsic Motivation – External Regulation *(Motivation driven by external rewards or avoidance of punishment.)*			
14. I work hard mainly to avoid failing.	.66	3.30	**Agree**
11. I study to get good grades or rewards.	.71	3.28	**Agree**
12. I do my assignments so that my teacher or parents won't get mad.	.78	3.23	**Agree**
15. I participate in school activities to maintain a good reputation.	.73	3.13	**Agree**
13. I try to perform well because I want to be recognized by others.	.71	3.03	**Agree**
Composite Mean	**.72**	**3.19**	**Developing Academic Motivation**
Grand Mean	**.76**	**3.27**	**Developing Academic Motivation**

Legend:

4.00 – 3.50	**Strongly Agree**	Strong Academic Motivation
3.49 – 2.50	**Agree**	Developing Academic Motivation
2.49 – 1.50	**Disagree**	Low Academic Motivation
1.49 – 1.00	**Strongly Disagree**	Very Low Academic Motivation

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Table 3 presents the results of the analysis examining the relationship between the respondents' physical activity engagement and their academic motivation. The findings indicate the strength and direction of the association between the two variables based on the computed correlation coefficient. Overall, the table summarizes whether higher levels of physical activity correspond with variations in students' motivation toward their academic tasks.

Table 3. Test of Relationship between the Respondents' Physical Activity Engagement and Academic Motivation

Variables	R^2	Correlation Coefficient	p-value	Interpretation
Physical Activity Engagement and Academic Motivation	.038	.194**	.001	Statistically Significant

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

Discussion

Respondents' Physical Activity Engagement

The distribution of physical activity levels among respondents shows that nearly half of the students (49.19%) engage in high activity, while 38.28% fall into the moderate category, and only 12.52% report low activity. This indicates that most students maintain an active lifestyle, participating in regular movement or exercise. The results suggest that physical activity is a prevalent behavior in this population, reflecting engagement in activities that may range from structured exercise to general daily movement. Such a distribution highlights the presence of varying activity patterns, with a substantial proportion of students demonstrating commitment to higher-intensity or frequent physical engagement.

These findings imply that most students are likely to experience the physical, cognitive, and emotional benefits associated with regular activity. High engagement levels may contribute to better energy regulation, improved focus, and greater resilience against stressors encountered in academic settings. The moderate engagement group indicates a significant portion of students maintain some consistency in movement, though potentially with less intensity or frequency than the high-activity group. Conversely, the low-activity group may reflect the challenges of balancing lifestyle habits

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with academic demands. Overall, these patterns underscore the variability in physical activity behaviors among students and its potential influence on their overall well-being.

The observed trends align with previous research demonstrating that college and university students often engage in moderate to high levels of physical activity, particularly when opportunities for structured exercise or recreational movement are accessible (Champawat, 2025). Studies have reported that most young adults tend to favor active lifestyles due to increased awareness of health and fitness benefits (Zheng et al., 2022). Furthermore, evidence suggests that higher engagement in physical activity is commonly linked to enhanced cognitive functioning and psychological well-being, which supports the current study's findings (Marsigliante et al., 2023a). These corroborating studies reinforce the notion that student populations are generally inclined toward maintaining active behaviors.

Respondents' Academic Motivation

The respondents' intrinsic motivation, which reflects engagement driven by interest, enjoyment, and personal satisfaction in learning, shows a composite mean of 3.25, indicating a developing level of motivation. The highest-rated item, "I feel satisfied when I understand something difficult," scored a mean of 3.38, suggesting that students gain a sense of fulfillment from overcoming academic challenges. Conversely, the lowest-rated item, "I study because I enjoy learning new things," scored 3.19, which still reflects agreement but at a comparatively lower level. These results indicate that while students are motivated by accomplishment and comprehension, their enjoyment of learning for its own sake is somewhat less pronounced.

This finding means that students are more likely to be driven by achieving understanding and mastery rather than purely by personal enjoyment of learning. It implies that their engagement is influenced by the satisfaction of overcoming challenges and accomplishing tasks, which can enhance perseverance in academic pursuits. The relatively lower enjoyment-based motivation suggests that while interest in learning exists, it may not be the primary driver of academic effort for many students. Consequently, intrinsic motivation is emerging but not yet fully internalized as a consistent source of engagement.

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These results are consistent with previous research indicating that students often demonstrate higher motivation when experiencing achievement-related satisfaction compared to pure enjoyment of learning (Weber & Harzer, 2022). Studies have also shown that intrinsic motivation develops over time as students encounter increasingly challenging tasks that foster a sense of competence (Chaudhuri, 2020). Additionally, evidence suggests that intrinsic motivation is multifaceted, with students exhibiting varying levels of interest, personal satisfaction, and engagement depending on the learning context. These findings corroborate the current study's observation of developing intrinsic motivation among students.

The respondents' extrinsic motivation under identified regulation, which reflects recognition of the importance and value of learning, shows a composite mean of 3.37, indicating a developing level of motivation. The highest-rated item, "I attend classes because I know they are essential to my success," scored a mean of 3.41, suggesting that students acknowledge the relevance of attending classes for achieving academic goals. The lowest-rated item, "I complete my tasks because I want to improve myself. I struggle to learn something new," scored 3.35, still indicating agreement but slightly lower emphasis on personal improvement. These results demonstrate that students are motivated by understanding the value of academic tasks and the significance of learning for their success.

This finding means that students' engagement is influenced more by the perceived utility and importance of learning activities rather than solely by internal satisfaction or enjoyment. It implies that their effort is often guided by awareness of how academic achievements contribute to personal or career goals. The relatively narrow gap between the highest and lowest scores indicates a consistent recognition of learning's value across different tasks, even if the internal drive for self-improvement is somewhat less pronounced. Consequently, students exhibit a developing sense of responsibility and appreciation for the role of learning in achieving meaningful outcomes.

These results align with previous studies showing that identified regulation motivates students when they perceive a clear connection between academic activities and their personal or professional objectives (Stamov Roßnagel et al., 2021). Research also indicates that students tend to engage more consistently in learning when they

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understand the relevance and benefits of tasks, even if intrinsic enjoyment is not the primary factor (Malone & Lepper, 2021). Furthermore, studies have found that extrinsic motivation under identified regulation often coexists with developing intrinsic motivation, contributing to sustained academic engagement. These findings corroborate the current observation of developing extrinsic motivation among the respondents.

The respondents' extrinsic motivation under external regulation, which reflects engagement driven by external rewards or avoidance of punishment, shows a composite mean of 3.19, indicating a developing level of motivation. The highest-rated item, "I work hard mainly to avoid failing," scored a mean of 3.30, suggesting that students are strongly motivated by the need to prevent negative academic outcomes. Conversely, the lowest-rated item, "I try to perform well because I want to be recognized by others," scored 3.03, reflecting weaker motivation from social recognition. These results indicate that students' efforts are influenced more by avoiding failure than by seeking external acknowledgment. Overall, external regulation contributes to their developing academic motivation, though it is less dominant compared to intrinsic or identified regulation factors.

This finding means that students' academic engagement is partially shaped by external pressures and the desire to meet minimum expectations rather than by internal satisfaction or personal growth. It implies that while students may comply with academic demands, their motivation may not be fully internalized or self-sustaining. The relatively lower emphasis on recognition suggests that social validation is not a primary driver of performance for many respondents. Consequently, external regulation appears to play a supporting, rather than leading, role in shaping overall academic motivation.

These findings are consistent with previous research showing that students often exhibit higher effort to avoid failure than to gain rewards or recognition (Siedentop & Van der Mars, 2022). Studies also report that external regulation is generally a weaker form of motivation compared to intrinsic and identified regulation but still contributes to maintaining engagement (Baena-Morales et al., 2021). Additionally, research indicates that students' reliance on external pressures can coexist with other motivational types, forming a multidimensional pattern of academic engagement (Mwaanga & Chifita, 2025). These studies corroborate the current observation that external regulation plays a developing but secondary role in students' academic motivation.

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Relationship of Physical Activity Engagement and Academic Motivation

The analysis of the relationship between physical activity engagement and academic motivation shows a correlation coefficient of 0.194 with a p-value of 0.001, indicating a statistically significant positive relationship. This suggests that as students' levels of physical activity increase, their academic motivation tends to improve, albeit with a weak to moderate strength of association. The significance of the correlation indicates that this relationship is unlikely due to chance and reflects a meaningful connection between lifestyle behaviors and academic engagement. Overall, the data reveal that students who maintain higher activity levels are more likely to demonstrate stronger motivation toward learning.

This finding indicates that physical activity is positively associated with students' academic motivation; however, the strength of the relationship is modest. With a correlation coefficient of $r = .194$ and an effect size of $R^2 = .038$, physical activity accounts for only a small proportion of the variance in academic motivation, suggesting that its influence is limited rather than determinative. While active students may experience improved concentration, alertness, and psychological readiness for academic tasks, these outcomes likely operate alongside other influential factors. Variables such as self-efficacy, teacher support, learning environment, academic stress, and personal goal orientation may also substantially contribute to students' motivation levels. Therefore, physical activity should be understood as one contributing factor within a broader network of psychological, social, and contextual influences shaping academic motivation.

These results are consistent with previous research showing that regular physical activity is positively associated with academic motivation and cognitive engagement. Studies also indicate that active students often report improved focus, mood, and resilience, which can enhance their drive to learn (Moore et al., 2021). Furthermore, evidence suggests that lifestyle behaviors, including exercise and movement, contribute to the psychological and motivational processes underlying academic achievement. These findings corroborate the current study's observation of a positive link between physical activity and students' academic motivation.

The findings of this study have important theoretical implications, particularly for understanding the interaction between lifestyle behaviors and motivation in educational

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contexts. The observed positive relationship between physical activity and academic motivation supports theoretical frameworks that link behavioral engagement with cognitive and affective outcomes, such as Self-Determination Theory and the Health Behavior Model (Ryan & Vansteenkiste, 2023). This evidence reinforces the idea that motivation is not only influenced by psychological and instructional factors but also by students' physical activity levels, suggesting a multidimensional approach to explaining academic engagement. By integrating physical activity into motivational theories, researchers can better conceptualize how behavioral and lifestyle factors interact to shape learning outcomes.

From a practical perspective, the study highlights the relevance of considering students' activity patterns in educational planning and student development programs. Educators and administrators can recognize that students who are physically active may also exhibit higher levels of motivation, focus, and persistence, which can enhance classroom engagement and learning efficiency (Suchon & Richards, 2025). The findings underscore the interconnectedness of physical and academic domains, emphasizing the value of supporting holistic student development. By understanding these links, educational institutions can better appreciate the broader context of student performance and motivation, thereby fostering environments that acknowledge both cognitive and behavioral contributors to learning (Merdiaty & Sulistiasih, 2024).

The findings suggest that educators and administrators may consider recognizing physical activity as one supportive component of students' overall academic engagement. Schools can strengthen institutional efforts by sustaining structured physical education programs, encouraging active breaks during academic schedules, and promoting campus initiatives that foster regular movement. Administrators may also integrate wellness-oriented policies that acknowledge the connection between students' lifestyle behaviors and learning readiness. By situating physical activity within broader student development frameworks, institutions can support a balanced educational environment that nurtures both academic and physical well-being.

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Conclusion

The findings indicate that the respondents generally maintain active lifestyles, reflecting varying degrees of engagement in physical activity within their daily routines. While this pattern highlights the presence of movement-oriented behaviors among students, the results should be interpreted cautiously given the modest magnitude of the relationship observed in the study. Physical activity appears to function as one component of students' holistic development rather than a dominant determinant of academic outcomes. Thus, its role should be understood within a broader constellation of behavioral and contextual influences.

In terms of academic motivation, students demonstrated developing levels across intrinsic and extrinsic dimensions, suggesting that their engagement in learning is shaped by a combination of personal satisfaction, perceived value of education, and external expectations. Motivation emerged as a multifaceted construct influenced by internal drives and environmental conditions. However, given the limited variance explained in the analysis, academic motivation is likely affected more strongly by other psychological and educational variables not examined in this study. Factors such as self-efficacy, instructional quality, peer influence, academic workload, and socio-emotional support may play a more substantial role in shaping students' motivational orientations.

Although a statistically significant relationship between physical activity and academic motivation was identified, the effect size indicates that physical activity explains only a small portion of motivational differences among students. This suggests that while active living is positively associated with academic engagement, it should not be viewed as a primary predictor of motivation. For educational practice, institutions may consider maintaining structured physical education programs, promoting active campus environments, and integrating movement-friendly policies within academic schedules as part of broader student development initiatives. Future research should employ longitudinal or experimental designs to clarify causal pathways, include additional psychological and contextual variables to examine mediating or moderating effects, and replicate the study across different institutions and age groups to enhance generalizability. By situating physical activity within a comprehensive framework of academic and

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psychosocial influences, future investigations can provide a more nuanced understanding of its role in student motivation.

Limitations

This study has several limitations that should be considered when interpreting the findings. First, the reliance on self-reported data may have introduced response bias, social desirability effects, or inaccuracies in recall, particularly in reporting physical activity behaviors and motivational tendencies. Future research may address this limitation by incorporating objective measures of physical activity, such as wearable fitness trackers, and triangulating motivational data through interviews or teacher assessments. Second, the cross-sectional design prevents the establishment of causal relationships between physical activity and academic motivation, limiting conclusions to associations rather than directional effects. Longitudinal or experimental studies are recommended to better determine causal pathways and examine how changes in physical activity over time influence motivational outcomes.

Additionally, the study was conducted within a specific higher education institution, which may restrict the generalizability of the findings to other regions, educational levels, or cultural contexts. Replicating the study across multiple institutions, geographic locations, and diverse student populations would strengthen external validity. Furthermore, while validated instruments were utilized, the study did not extensively examine contextual, socio-economic, psychological, or instructional variables that may interact with physical activity and academic motivation. Future research should incorporate mediating and moderating variables, such as self-efficacy, academic stress, teacher support, and socio-demographic factors, to provide a more comprehensive understanding of the dynamics underlying students' academic engagement.

References

Abdolrezapour, P., Jahanbakhsh Ganjeh, S., & Ghanbari, N. (2023). Self-efficacy and resilience as predictors of students' academic motivation in online education. *Plos One*, *18*(5), e0285984. https://doi.org/10.1371/journal.pone.0285984

Ali Abd Al-Hameed, K. (2022). Spearman's correlation coefficient in statistical analysis. *International Journal of Nonlinear Analysis and Applications*, *13*(1), 3249–3255.

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Aton, A. G. (2025). Driven by willpower: exploring the relationship between physical activity engagement and self-control motivation in students. *Sportis: Scientific Technical Journal of School Sport, Physical Education and Psychomotricity*, *11*(3). https://doi.org/10.17979/sportis.2025.11.3.11674

Baena-Morales, S., Jerez-Mayorga, D., Delgado-Floody, P., & Martínez-Martínez, J. (2021). Sustainable development goals and physical education. A proposal for practice-based models. *International Journal of Environmental Research and Public Health*, *18*(4), 2129. https://doi.org/10.3390/ijerph18042129

Cayubit, R. F. O. (2022). Why learning environment matters? An analysis on how the learning environment influences the academic motivation, learning strategies and engagement of college students. *Learning Environments Research*, *25*(2), 581–599. https://doi.org/10.1007/s10984-021-09382-x

Champawat, B. S. (2025). Physical Fitness Among College Students: Trends, Challenges, and Opportunities. *Int J Contemp Res Multidiscip*, *4*(2), 254–260.

Chaudhuri, J. D. (2020). Stimulating intrinsic motivation in millennial students: A new generation, a new approach. *Anatomical Sciences Education*, *13*(2), 250–271. https://doi.org/10.1002/ase.1884

Dalipe, M. A. R., Rosario, M. A. B., Reyes, M. D. L., Poblador, S. A. C., Chee Kee, J., Dumagalagan, N. Lou, Dacanay, R. A., San Pedro, M. E., Villarta, C. W. S., Mangubat, C. M. T., Java, V. P., Elumaring, J. B., & Tagare, R. L. (2025). Active lives, fulfilled needs: physical activity and the triad of autonomy, competence, and relatedness among Filipino university students. *Sportis: Scientific Technical Journal of School Sport, Physical Education and Psychomotricity*, *11*(3). https://doi.org/10.17979/sportis.2025.11.3.11655

Dumchak, I., Kachmar, O., Mochalova, N., Oleksandrenko, K., & Sidorova, I. (2024). Socio-cultural factors influencing students' learning experience: a cross-cultural study. *Revista Eduweb*, *18*(3), 264–275. https://doi.org/10.46502/issn.1856-7576/2024.18.03.20

Fong, C. J., Altan, S., Gonzales, C., Kirmizi, M., Adelugba, S. F., & Kim, Y. (2024). Stay motivated and carry on: A meta-analytic investigation of motivational regulation strategies and academic achievement, motivation, and self-regulation correlates.

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Journal of Educational Psychology, *116*(6), 997. https://doi.org/10.1037/edu0000886

Gothe, Neha P, Ehlers, D. K., Salerno, E. A., Fanning, J., Kramer, A. F., & McAuley, E. (2020). Physical activity, sleep and quality of life in older adults: influence of physical, mental and social well-being. *Behavioral Sleep Medicine*, *18*(6), 797–808. https://doi.org/10.1080/15402002.2019.1690493

Hadji Kasan, Y. T. (2025). Fit to cope: Physical Activity and its influence on the resilience of university students. *Sportis: Scientific Technical Journal of School Sport, Physical Education and Psychomotricity*, *11*(4). https://doi.org/10.17979/sportis.2025.11.4.12278

Haible, S., Volk, C., Demetriou, Y., Höner, O., Thiel, A., & Sudeck, G. (2020). Physical activity-related health competence, physical activity, and physical fitness: analysis of control competence for the self-directed exercise of adolescents. *International Journal of Environmental Research and Public Health*, *17*(1), 39. https://doi.org/10.3390/ijerph17010039

Herbert, C. (2022). Enhancing mental health, well-being and active lifestyles of university students by means of physical activity and exercise research programs. *Frontiers in Public Health*, *10*, 849093. https://doi.org/10.3389/fpubh.2022.849093

Leavy, P. (2022). *Research design: Quantitative, qualitative, mixed methods, arts-based, and community-based participatory research approaches*. Guilford publications.

Lövdén, M., Fratiglioni, L., Glymour, M. M., Lindenberger, U., & Tucker-Drob, E. M. (2020). Education and cognitive functioning across the life span. *Psychological Science in the Public Interest*, *21*(1), 6–41. https://doi.org/10.1177/1529100620920576

Malone, T. W., & Lepper, M. R. (2021). Making learning fun: A taxonomy of intrinsic motivations for learning. In *Aptitude, learning, and instruction* (pp. 223–254). Routledge.

Marsigliante, S., Gómez-López, M., & Muscella, A. (2023). Effects on children's physical and mental well-being of a physical-activity-based school intervention program: a randomized study. *International Journal of Environmental Research and Public Health*, *20*(3), 1927. https://doi.org/10.3390/ijerph20031927

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Martín, H., & Sorhaindo, C. (2019). A comparison of intrinsic and extrinsic motivational factors as predictors of civil engineering students' academic success. *International Journal of Engineering Education*, *35*(2), 458–472.

Merdiaty, N., & Sulistiasih, S. (2024). Empowering Learning: The Mediating Role of Teachers in Enhancing Students' Intrinsic Motivation. *Al-Ishlah: Jurnal Pendidikan*, *16*(4), 5163–5172. https://doi.org/10.35445/alishlah.v16i4.6430

Moore, M. F., Montgomery, L., & Cobbs, T. (2021). Increasing student success through in-class resilience education. *Nurse Education in Practice*, *50*, 102948. https://doi.org/10.1016/j.nepr.2020.102948

Mulaudzi, I. C. (2023). Factors affecting students' academic performance: a case study of the university context. *Journal of Social Science for Policy Implications*, *11*(1), 18–26. https://doi.org/10.15640/jsspi.v11n1a3

Mwaanga, O., & Chifita, T. (2025). A Critical Justification for Physically Active Education: Towards 'the Africa We Want.' In *Sport, Development and Peace: Critical Global Challenges* (pp. 133–155). Springer. https://doi.org/10.1007/978-3-031-86930-3_7

Nioda, A. J. B., & Tagare, R. L. (2024). The Experiences of Non-Physical Education Generalist Teachers in Implementing PE in the Primary Grades: Implications for Capability Development Initiatives. *International Electronic Journal of Elementary Education*, *16*(3), 325–335. https://doi.org/10.26822/iejee.2024.334

Pace, D. S. (2021). Probability and non-probability sampling-an entry point for undergraduate researchers. *International Journal of Quantitative and Qualitative Research Methods*, *9*(2), 1–15.

Peromingan, R., Andajao, M. F. J. M., Paringit, S. C., Paclibar, D. T., Misil, E. S., & Salazar, M. A. A. (2025). In motion against distress: the role of physical activity in alleviating psychological strain. *Sportis: Scientific Technical Journal of School Sport, Physical Education and Psychomotricity*, *11*(4). https://doi.org/10.17979/sportis.2025.11.4.11986

Ryan, R. M., & Vansteenkiste, M. (2023). Self-determination theory. In *The Oxford Handbook of Self-Determination Theory* (pp. 3–30). Oxford University Press. https://doi.org/https://doi.org/10.1093/oxfordhb/9780197600047.002.0006

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Shengyao, Y., Salarzadeh Jenatabadi, H., Mengshi, Y., Minqin, C., Xuefen, L., & Mustafa, Z. (2024). Academic resilience, self-efficacy, and motivation: The role of parenting style. *Scientific Reports*, *14*(1), 5571. https://doi.org/10.1038/s41598-024-55530-7

Siedentop, D., & Van der Mars, H. (2022). *Introduction to physical education, fitness, and sport*. Human kinetics. https://doi.org/https://doi.org/10.1111/josh.13030

Skinner, E. A., Pitzer, J. R., & Steele, J. S. (2016). Can student engagement serve as a motivational resource for academic coping, persistence, and learning during late elementary and early middle school? *Developmental Psychology*, *52*(12), 2099. https://doi.org/10.1037/dev0000232

Stamov Roßnagel, C., Fitzallen, N., & Lo Baido, K. (2021). Constructive alignment and the learning experience: relationships with student motivation and perceived learning demands. *Higher Education Research & Development*, *40*(4), 838–851. https://doi.org/10.1080/07294360.2020.1787956

Suchon, N. S., & Richards, K. A. (2025). A Socialization-Informed Framework for Integrating Social and Emotional Learning in Physical Education Teacher Education. *Kinesiology Review*, *1*(aop), 1–9. https://doi.org/10.1123/kr.2024-0025

Tagare, R. L., Vergara, L. A., Porto, J. A., Hernani, M. R. A., & Gazali, N. (2025). Students' engagement in Philippine tertiary PE program: a path for enhancing experience and curriculum development. *International Journal of Evaluation and Research in Education (IJERE)*, *14*(4), 3249–3259. https://doi.org/10.11591/ijere.v14i4.33207

Tandon, P. S., Kroshus, E., Olsen, K., Garrett, K., Qu, P., & McCleery, J. (2021). Socioeconomic inequities in youth participation in physical activity and sports. *International Journal of Environmental Research and Public Health*, *18*(13), 6946. https://doi.org/10.3390/ijerph18136946

Thomas, D., & Zubkov, P. (2023). Quantitative research designs. *Quantitative Research for Practical Theology*, 103–114.

Trigueros, R., Padilla, A., Aguilar-Parra, J. M., Lirola, M. J., García-Luengo, A. V, Rocamora-Pérez, P., & López-Liria, R. (2020). The influence of teachers on motivation and academic stress and their effect on the learning strategies of

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university students. *International Journal of Environmental Research and Public Health*, *17*(23), 9089. https://doi.org/10.3390/ijerph17239089

Wang, Q., Lee, K. C. S., & Hoque, K. E. (2020). The effect of classroom climate on academic motivation mediated by academic self-efficacy in a higher education institute in China. *International Journal of Learning, Teaching and Educational Research*, *19*(8), 194–213. https://doi.org/10.26803/ijlter.19.8.11

Weber, M., & Harzer, C. (2022). Relations between character strengths, school satisfaction, enjoyment of learning, academic self-efficacy, and school achievement: An examination of various aspects of positive schooling. *Frontiers in Psychology*, *13*, 826960. https://doi.org/10.3389/fpsyg.2022.826960

Zheng, Y., Li, H., Gao, K., & Gallo, P. M. (2022). Developing a Home-Based Body Weight Physical Activity/Exercise Program. *ACSM'S Health & Fitness Journal*, *26*(2), 20–28. https://doi.org/10.1249/FIT.0000000000000746