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

Aprendizaje activo a través de la vida activa: La relación entre la actividad física y la motivación académica

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Abstract

This study examined the relationship between students' physical activity engagement and academic motivation to better understand how active living influences learning-oriented behaviors in educational settings. Employing a quantitative research design with a descriptive-correlational approach, the study involved 442 student respondents selected through simple random sampling. Data were gathered using two validated instruments: the International Physical Activity Questionnaire (IPAQ) to measure physical activity engagement and an Academic Motivation Questionnaire to assess students' motivational orientations. Descriptive and inferential statistical techniques were utilized, including measures of central tendency to describe the variables and Pearson correlation analysis to examine the relationship between physical activity engagement and academic motivation. The findings indicated that students generally demonstrated moderate to high levels of physical activity engagement and a developing level of academic motivation across both intrinsic and extrinsic dimensions. The results further revealed a statistically significant positive relationship between physical activity engagement and academic motivation, suggesting that physically active students tend to exhibit stronger motivation toward academic pursuits. These findings highlight the interconnected nature of physical and psychological aspects of student development. The study concludes that engagement in physical activity contributes meaningfully to students' academic motivation, emphasizing the importance of holistic educational perspectives that integrate physical well-being with academic growth. Furthermore, the findings enrich the growing body of literature linking health-related behaviors to educational outcomes and provide valuable insights for educators, institutions, and policymakers seeking to promote balanced student development through active living and active learning.

Keywords: academic engagement; educational psychology; intrinsic and extrinsic motivation; student well-being; youth physical activity

Resumen

Este estudio examinó la relación entre la participación de los estudiantes en actividades físicas y su motivación académica con el fin de comprender mejor cómo un estilo de vida activo influye en los comportamientos orientados al aprendizaje en contextos educativos. Empleando un diseño de investigación cuantitativo con un enfoque descriptivo-correlacional, el estudio contó con la participación de 442 estudiantes seleccionados mediante muestreo aleatorio simple. Los datos se recopilaron utilizando dos instrumentos validados: el Cuestionario Internacional de Actividad Física (IPAQ) para medir la participación en actividades físicas y un Cuestionario de Motivación Académica para evaluar las orientaciones motivacionales de los estudiantes. Se utilizaron técnicas estadísticas descriptivas e inferenciales, incluidas medidas de tendencia central para describir las variables y el análisis de correlación de Pearson para examinar la relación entre la participación en actividades físicas y la motivación académica. Los hallazgos indicaron que los estudiantes, en general, mostraron niveles moderados a altos de participación en actividades físicas y un nivel de motivación académica en desarrollo tanto en sus dimensiones intrínsecas como extrínsecas. Los resultados también revelaron una relación positiva y estadísticamente significativa entre la participación en actividades físicas y la motivación académica, lo que sugiere que los estudiantes físicamente activos tienden a exhibir una motivación más fuerte hacia las actividades académicas. Estos

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hallazgos destacan la naturaleza interconectada de los aspectos físicos y psicológicos del desarrollo estudiantil. El estudio concluye que la participación en actividades físicas se asocia de manera significativa con la motivación académica de los estudiantes, enfatizando la importancia de perspectivas educativas holísticas que integren el bienestar físico con el desarrollo académico. Además, los hallazgos enriquecen el creciente cuerpo de literatura que vincula los comportamientos relacionados con la salud con los resultados educativos y proporcionan información valiosa para educadores, instituciones y responsables de la formulación de políticas que buscan promover un desarrollo estudiantil equilibrado mediante una vida y un aprendizaje activo.
Palabras clave: compromiso académico; psicología educativa; motivación intrínseca y extrínseca; bienestar estudiantil; actividad física juvenil

Introduction

Academic motivation refers to the internal and external factors that drive students to engage, persist, and achieve in their educational endeavors (Haible et al., 2020). It encompasses both intrinsic motivation, which arises from personal interest and enjoyment, and extrinsic motivation, which is influenced by external rewards or pressures (Gothe et al., 2020). High levels of academic motivation are associated with better learning strategies, enhanced self-regulation, and higher academic performance (Skinner, 2023). Conversely, low motivation can lead to disengagement, procrastination, and diminished academic outcomes, highlighting its central role in student success (Fong et al., 2024).

Physical activity (PA) is any bodily movement produced by skeletal muscles that requires energy expenditure and can include sports, exercise, or everyday movement (Azarhazin et al., 2024). For students, regular PA is essential not only for physical health, including cardiovascular and musculoskeletal fitness, but also for cognitive, emotional, and social well-being (Martins et al., 2021). Engaging in PA enhances energy levels, improves concentration, and reduces stress, all of which contribute to more effective learning (Battalio et al., 2020). Furthermore, PA fosters healthy lifestyle habits that can persist into adulthood, underscoring its long-term benefits (Nie et al., 2025). Schools play a vital role in providing opportunities and environments that encourage students to participate in PA consistently (Dishman et al., 2021).

Despite the recognized benefits of academic motivation and PA, students face several pressing challenges in both domains (Tus, 2020). Many learners experience declining motivation due to increased academic pressures, lack of interest in the

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curriculum, and limited self-efficacy (Shengyao et al., 2024). Similarly, students often engage in insufficient PA because of sedentary lifestyles, limited access to facilities, or competing academic demands (Korpershoek et al., 2020). These challenges may negatively affect both their academic performance and overall health, creating a dual concern for educators and policymakers (Yang & Wang, 2022).

Numerous studies have examined the factors influencing academic motivation. Research indicates that intrinsic motivation positively correlates with higher engagement and persistence in learning tasks (Atik & Çelik, 2021). External factors, such as teacher support, parental involvement, and school environment, also play significant roles in shaping motivation (Widlund, 2021). Additionally, interventions targeting self-regulation and goal-setting have been shown to enhance academic motivation (Theobald, 2021).

Similarly, research on physical activity has highlighted its cognitive, emotional, and academic benefits among students (Guo et al., 2021). Regular PA has been linked to improved attention, memory, and executive functioning, which can enhance learning outcomes (Whalen et al., 2021). Participation in structured sports or exercise programs has also been associated with better mental health, reduced stress, and increased classroom engagement (Shi et al., 2021). Moreover, PA interventions in schools can foster social skills, teamwork, and self-discipline, demonstrating its broader developmental impact (Vasilopoulos & Ellefson, 2021). These findings illustrate that PA is not merely a physical endeavor but a vital component of holistic education (Cao et al., 2022).

Although previous studies have established that physical activity is associated with a range of positive cognitive, psychological, and educational outcomes, important gaps remain in understanding how physical activity relates specifically to academic motivation among students. Existing research has often focused on academic achievement, mental health, or general well-being, while comparatively less attention has been devoted to examining the relationship between physical activity engagement and academic motivation within educational contexts. Furthermore, Self-Determination Theory suggests that participation in physical activity can foster autonomy, competence, and relatedness, which are fundamental psychological needs that influence motivational processes. However, the extent to which students' engagement in physical activity

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corresponds with their academic motivation warrants further investigation. Thus, this study seeks to answer the research question: What is the relationship between physical activity engagement and academic motivation among students? and aims to contribute to a more comprehensive understanding of the interaction between these constructs.

Understanding this relationship is important because academic motivation remains a critical determinant of students' engagement, persistence, and success in educational settings. Examining how physical activity relates to motivation may provide valuable insights into the factors that contribute to students' overall development and learning experiences. For educators and institutions, the findings may broaden perspectives on the interconnected nature of physical well-being and academic functioning. The study also contributes to the growing body of research at the intersection of educational psychology and health sciences by extending current knowledge on factors associated with student motivation. Ultimately, the research highlights the importance of considering students' physical and psychological experiences as interconnected elements of holistic educational development.

Methods

Research Design

This study employed a quantitative research design, specifically a descriptive correlational approach, to examine the relationship between students' physical activity and their academic motivation. Quantitative research involves the systematic empirical investigation of observable phenomena via statistical, mathematical, or computational techniques to test hypotheses or answer research questions (Thomas & Zubkov, 2023). Within this paradigm, descriptive correlational research focuses on identifying and quantifying the degree and direction of relationships between two or more variables without manipulating them (Mohajan, 2020). This design allows researchers to collect numerical data and analyze the patterns of association between constructs. In the context of this study, such an approach is suited to revealing the extent to which variations in physical activity align with variations in academic motivation among students.

Using a quantitative descriptive correlational design is particularly appropriate for this research because the goal is to assess the nature and strength of the relationship

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between two naturally occurring variables—physical activity and academic motivation—rather than to establish causality. This design enables the collection of structured data from a large sample, facilitating generalizability and statistical rigor. Furthermore, the correlational approach aligns with the study's objective to explore associations rather than intervention effects, making it an efficient and robust framework for addressing the research question.

Respondents and Sampling

The study involved 442 student respondents enrolled at one of the leading state University in Mindanao during the academic year in which the study was conducted. A simple random sampling technique was employed to select participants from the official enrollment list obtained from the concerned academic offices, which served as the sampling frame. Simple random sampling is a probability sampling method in which every member of the population has an equal and independent chance of being selected for participation (Pace, 2021). To implement this procedure, each eligible student in the sampling frame was assigned a unique number, and respondents were selected using a computer-generated randomization process. This approach minimized the likelihood of systematic selection bias and ensured that all eligible students had an equal opportunity to participate in the study. Consequently, the sampling procedure enhanced the representativeness of the sample and strengthened the validity of inferences drawn regarding the relationship between physical activity engagement and academic motivation among the target student population.

Research Instrument

To measure the variables of interest, this study utilized two established instruments. Physical activity engagement was assessed using the short-form International Physical Activity Questionnaire (IPAQ) developed by Craig et al. (2003), which consists of items measuring the frequency and duration of walking, moderate-intensity activities, vigorous-intensity activities, and sedentary behavior performed during the previous seven days. Academic motivation was measured using the Academic Motivation Questionnaire adapted from the Academic Motivation Scale (AMS), which contains items assessing intrinsic motivation and extrinsic motivation dimensions using a four-point Likert-type scale ranging from strongly disagree to strongly agree.

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Prior to administration, the instruments underwent content validation by a panel of experts with backgrounds in educational psychology, physical education, and research methodology to ensure relevance, clarity, and contextual appropriateness. Minor linguistic modifications were introduced to improve comprehensibility while preserving the conceptual meaning of the original items. A pilot test was subsequently conducted among students who were not included in the final sample to evaluate the instruments' applicability and reliability within the local context. The pilot results demonstrated satisfactory internal consistency, with Cronbach's alpha coefficients exceeding the recommended threshold of .70, indicating acceptable reliability for research purposes. These procedures helped establish the suitability of the instruments for measuring physical activity engagement and academic motivation among the target respondents.

Data Collection Procedure:

Prior to data collection, the researcher secured the necessary permissions from the concerned institutional authorities and informed the participants about the purpose of the study, their rights as respondents, and the voluntary nature of participation. The questionnaires were administered during scheduled data collection sessions, and respondents were provided with standardized instructions to ensure consistency in administration. Adequate time was allotted for questionnaire completion, and the researcher was available to clarify procedural questions without influencing responses.

A total of 442 questionnaires were distributed and successfully retrieved, yielding a complete response rate for the selected sample. Upon retrieval, the questionnaires were carefully screened for completeness and consistency. Responses with substantial missing information were excluded from the dataset; however, all retrieved questionnaires met the inclusion criteria and were deemed suitable for analysis. The data were subsequently encoded, verified, and checked for accuracy prior to statistical treatment to ensure the reliability and integrity of the dataset.

Statistical Analysis

Data were analyzed using both descriptive and inferential statistical techniques to address the study’s objectives. Descriptive statistics, including mean and composite mean scores, were computed to summarize the central tendencies and overall patterns of physical activity and academic motivation among respondents. These measures provided

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a clear picture of how students scored on each variable, facilitating the interpretation of general trends. Prior to conducting inferential analyses, the normality of the data distribution was assessed using skewness and kurtosis statistics. The results indicated that the values fell within the acceptable range for normal distribution, confirming that the assumptions for parametric testing were satisfied. Consequently, Pearson product-moment correlation was employed to examine the relationship between physical activity engagement and academic motivation. Pearson correlation is appropriate for this study because it measures the strength and direction of the linear association between two continuous variables, allowing for an accurate assessment of the extent to which variations in physical activity engagement correspond with variations in academic motivation.

Results

Table 1 presents the respondents' levels of physical activity engagement across different intensity categories. It summarizes how frequently students participate in walking, moderate, and vigorous activities during a typical week. The table provides an overview of the distribution and patterns of physical activity among the study participants.

Table 1. Respondents' Physical Activity Engagement

Physical Activity Level	Frequency	Percentage
Low Activity	153	34.62
Moderate Activity	114	25.79
High Activity	175	39.59

Table 2 illustrates the respondents' levels of academic motivation across its various dimensions, including intrinsic and extrinsic factors. It summarizes how students perceive their engagement, interest, and drive in academic activities. The table provides an overview of the overall patterns and tendencies in academic motivation among the participants.

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Table 2. Respondents' Academic Motivation

Statements	Mean	Qualitative Description
A. Intrinsic Motivation *(Driven by interest, enjoyment, and personal satisfaction in learning.)*		
2. I feel satisfied when I understand something difficult.	3.38	**Agree**
4. I am motivated to learn because it makes me feel accomplished.	3.26	**Agree**
3. I do my schoolwork because it helps me grow as a person.	3.24	**Agree**
5. I find learning enjoyable even when it's challenging.	3.20	**Agree**
1. I study because I enjoy learning new things.	3.19	**Agree**
Composite Mean	**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.	3.41	**Agree**
8. I learn because I believe education is important for my future.	3.40	**Agree**
6. I study because I know it will help me achieve my career goals.	3.36	**Agree**
7. I do well in school because I want to make my family proud.	3.35	**Agree**
9. I complete my tasks because I want to improve myself. I struggle to learn something new.	3.35	**Agree**
Composite Mean	**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.	3.30	**Agree**
11. I study to get good grades or rewards.	3.28	**Agree**
12. I do my assignments so that my teacher or parents won't get mad.	3.23	**Agree**
15. I participate in school activities to maintain a good reputation.	3.13	**Agree**
13. I try to perform well because I want to be recognized by others.	3.03	**Agree**
Composite Mean	3.19	**Developing** Academic Motivation
Grand Mean	**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 shows the results of the test examining the relationship between respondents' physical activity engagement and their academic motivation. It presents the strength and direction of the association between the two variables using Pearson correlation. The table highlights whether higher levels of physical activity are related to higher or lower levels of academic motivation among the participants.

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

Variables	Correlation Coefficient	p-value	Interpretation α=0.05
Physical Activity Engagement and Academic Motivation	.194**	<.001	Statistically Significant

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

Respondents' Physical Activity Engagement

Table 1 presents the distribution of students' physical activity engagement across three levels. The findings indicate that nearly half of the respondents were classified as having high physical activity engagement (175; 39.59%), followed by those with moderate activity levels (114; 25.79%). A smaller proportion of students fell under the low physical activity category (153; 34.59%). Overall, the results suggest that a substantial majority of students engage in at least moderate levels of physical activity, reflecting generally favorable activity patterns within the sample.

The observed pattern of physical activity engagement implies that many students maintain lifestyles that support not only physical health but also functional daily performance. Higher engagement in physical activity is often associated with improved energy regulation, emotional balance, and cognitive readiness, which are essential for sustained academic participation. The presence of a smaller group with low activity engagement, however, highlights disparities in movement behaviors that may influence broader aspects of student well-being. Collectively, these patterns underscore the role of physical activity as an integral component of students' overall developmental experiences.

The predominance of moderate to high physical activity engagement aligns with previous research emphasizing the increasing awareness of health-promoting behaviors among students (Zhu et al., 2021). Studies have shown that students who regularly engage

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in physical activity demonstrate better physiological regulation and psychosocial functioning, which supports active participation in academic and non-academic tasks (Monacis et al., 2022). Similarly, regular movement has been linked to enhanced attentional capacity and emotional resilience, reinforcing the value of active lifestyles in educational settings (Klussman et al., 2021).

Consistent patterns have also been reported in studies examining physical activity trends among adolescents and young adults, where moderate-to-high activity levels are commonly observed in structured educational environments. Research suggests that participation in physical activity contributes to improved self-discipline, social interaction, and mental well-being, which are critical for sustaining academic engagement (Guerrero et al., 2025). Moreover, physically active students tend to exhibit healthier behavioral routines that positively influence their daily academic functioning (Günal, 2023).

Respondents' Academic Motivation

Table 2 presents the respondents' level of academic motivation. In terms of intrinsic motivation, the highest mean score was obtained by the item "I feel satisfied when I understand something difficult" (M = 3.38), which was interpreted as Agree, indicating that cognitive mastery and understanding serve as strong motivational drivers among students. In contrast, the lowest mean score was observed for the item "I study because I enjoy learning new things" (M = 3.19), although it was likewise interpreted as Agree. The overall composite mean of 3.25 corresponds to a Developing Academic Motivation level, suggesting that while intrinsic motivation is present, it is not yet fully internalized across all motivational dimensions.

The pattern of intrinsic motivation observed in this study implies that students are more strongly motivated by feelings of competence and achievement than by inherent enjoyment of learning itself. This suggests that academic engagement is largely driven by the satisfaction derived from overcoming challenges and achieving understanding, rather than by curiosity or interest alone. Such a motivational orientation reflects a performance-anchored form of intrinsic motivation, where mastery experiences play a central role in sustaining engagement. Consequently, students' motivation appears to be contingent on

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academic success experiences, which may influence how they approach learning tasks and persist in challenging academic situations.

These findings are consistent with prior research indicating that students often derive intrinsic motivation from mastery and competence rather than from pure enjoyment of learning (Mohamoud, 2024). Studies have shown that perceived competence and successful task completion are key contributors to intrinsic motivation, particularly in academic contexts that emphasize achievement and evaluation (Guetzoian, 2021). Moreover, students who associate learning with personal accomplishment tend to demonstrate greater persistence and cognitive engagement, even when intrinsic enjoyment is moderate (Chitrakar & Nisanth, 2023).

Similar patterns have been documented in studies examining intrinsic motivation among secondary and tertiary students, where mastery-oriented motivation outweighs curiosity-driven learning (Nieto Carracedo et al., 2024). Research suggests that academic environments emphasizing performance outcomes may inadvertently shape students' intrinsic motivation toward achievement satisfaction rather than exploratory learning (Bembenutty, 2022). Additionally, developing levels of intrinsic motivation have been associated with transitional academic stages, where students are still forming stable motivational orientations toward learning (Trigueros et al., 2020).

In terms of extrinsic motivation under identified regulation, the highest mean score was recorded for the item "I attend classes because I know they are essential to my success" (M = 3.41), which was interpreted as Agree, indicating that students recognize the personal importance of academic participation. The lowest mean score was observed for "I complete my tasks because I want to improve myself. I struggle to learn something new" (M = 3.35), which also fell under the Agree category. The composite mean of 3.37 corresponds to a Developing Academic Motivation level, suggesting that students generally internalize academic responsibilities but may not yet exhibit fully autonomous motivation.

The observed pattern implies that students' academic engagement is strongly guided by an understanding of the instrumental value of education for personal success. Identified regulation reflects a form of motivation where behaviors are consciously endorsed and aligned with individual goals, even if they are not inherently enjoyable. This

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indicates that students view academic tasks as meaningful and purposeful, which can sustain engagement over time. However, the developing level suggests that while students accept academic demands as important, the internalization of these values may still be in progress.

These findings are consistent with self-determination theory, which posits that identified regulation represents a relatively autonomous form of extrinsic motivation associated with persistence and goal commitment (Skinner et al., 2016). Research has shown that students who recognize the personal relevance of academic tasks demonstrate higher levels of effort and engagement than those driven purely by external rewards or pressures (Namaziandost et al., 2025). Additionally, identified regulation has been linked to adaptive learning behaviors, particularly in structured academic environments where long-term goals are emphasized (Claver et al., 2020).

Comparable results have been reported in studies examining extrinsic motivation among students, where identified regulation often emerges as a dominant motivational orientation (Sharafi, 2024). Prior research indicates that students who associate academic participation with future success are more likely to remain engaged despite challenges (Sarami & Hojjati, 2023). Furthermore, developing levels of identified regulation have been observed among learners who are still transitioning toward more autonomous motivational profiles (Abdolrezapour et al., 2023).

In terms of extrinsic motivation under external regulation, which refers to motivation driven by external rewards or the avoidance of negative consequences, the highest mean score was obtained by the item “I work hard mainly to avoid failing” (M = 3.30), interpreted as Agree, indicating that fear of failure is a salient motivational factor for many students. In contrast, the lowest mean score was recorded for “I try to perform well because I want to be recognized by others” (M = 3.03), which also fell under the Agree category. The composite mean of 3.19 corresponds to a Developing Academic Motivation level, suggesting that externally regulated motives are present but not dominant among the respondents.

This pattern implies that students’ academic efforts are more strongly influenced by the desire to avoid negative outcomes than by the pursuit of social recognition. Such motivation reflects a compliance-oriented engagement, where academic behavior is

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shaped by external demands rather than personal endorsement. While this form of motivation can sustain short-term academic effort, it may be less stable and more context-dependent. The developing level further suggests that external pressures coexist with other motivational orientations, contributing to a mixed motivational profile among students.

These findings are consistent with theoretical perspectives indicating that externally regulated motivation is associated with controlled forms of engagement (Kunicina et al., 2023). Research grounded in self-determination theory suggests that motivation driven by fear of failure or external consequences often results in surface-level learning and heightened academic pressure. Additionally, students who rely heavily on external regulation may experience fluctuating motivation depending on contextual demands and evaluative structures (Middya, 2023).

Similar trends have been reported in empirical studies examining academic motivation, where avoidance-based motives are more prevalent than recognition-seeking motives (Wang et al., 2020). Previous research has shown that fear of failure is a common driver of student effort in academically demanding environments (Sarwar et al., 2025). Moreover, externally regulated motivation has been linked to transitional stages of motivation development, where students are still negotiating autonomy and external expectations (Chen et al., 2023).

The grand mean score of 3.27 indicates that the respondents exhibit a developing level of academic motivation, reflecting a moderate presence of motivational drive across intrinsic and extrinsic dimensions. This level suggests that students are generally engaged in their academic tasks but may not yet demonstrate consistently strong or fully autonomous motivation. Developing academic motivation is often characterized by fluctuating effort, conditional persistence, and reliance on situational factors to sustain engagement (İnce, 2023). Such a profile indicates that motivation is present but still undergoing consolidation as students negotiate personal goals and academic demands (Mamat et al., 2023).

This overall motivational pattern implies that students' academic behaviors are shaped by a blend of internal interests, perceived competence, and external expectations. Research suggests that developing motivation reflects a transitional phase in which

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learners are gradually internalizing academic values while still responding to performance pressures and evaluative contexts (Wu et al., 2022). Students at this level may engage adequately with learning tasks but remain vulnerable to stress, disengagement, or motivational decline under increased academic challenges (Zhang et al., 2024). Consequently, the grand mean highlights academic motivation as a dynamic construct influenced by both individual dispositions and the broader learning environment.

Respondents' Physical Activity Engagement and Academic Motivation

Table 3 presents the results of the test of relationship between respondents' physical activity engagement and academic motivation. The analysis revealed a positive and statistically significant correlation between the two variables ($r = .194$, $p = .001$), indicating that higher levels of physical activity engagement are associated with higher levels of academic motivation. Although the magnitude of the correlation is small, its statistical significance suggests a meaningful association within the context of the large sample size. This finding confirms that physical activity engagement and academic motivation are related constructs among the respondents. The result supports the premise that movement-related behaviors are linked to students' motivational orientations toward learning.

This means that students who engage more frequently in physical activity tend to demonstrate higher academic motivation. This implies that physical activity may function as a supportive factor in sustaining students' academic engagement, energy, and willingness to participate in learning tasks. The association reflects the interconnectedness of physical and psychological processes in student development. While the relationship is modest, it underscores the relevance of physical activity as part of students' broader academic experience.

The present findings are consistent with previous studies that have identified positive associations between physical activity and motivational or engagement-related academic outcomes (Cayubit, 2022). Research has shown that students who maintain active lifestyles often exhibit greater academic engagement, persistence, and task orientation, which are key components of motivation (Feraco et al., 2023). Other studies have reported that physical activity contributes to improved mood, self-regulation, and cognitive readiness, which indirectly support academic motivation (Affuso et al., 2023).

Original article. Active learning through active living: the relationship between physical activity and academic motivation. Vol. 12, n. º 4; p. 1-25, August 2026. https://doi.org/10.55040/dj3mrj42

Similar relationships have been documented in studies examining physical activity in relation to academic and psychosocial variables. Evidence suggests that participation in regular physical activity is associated with higher levels of self-determined motivation and academic involvement among students (Ferreira Silva et al., 2022). Additionally, physically active students have been found to demonstrate stronger commitment to academic tasks and greater perseverance in learning activities (Westerbeek & Eime, 2021).

The results carry important implications for educational policy, as they highlight the interconnected role of physical activity and academic motivation in student development. Recognizing physical activity as a factor associated with motivational outcomes supports broader educational goals that emphasize holistic student growth (Wilson et al., 2021). Policies that acknowledge the academic relevance of physical activity may contribute to more balanced educational frameworks that integrate physical well-being with cognitive and motivational development (Adel et al., 2025).

From a practice standpoint, the findings underscore the value of considering students' physical activity engagement when examining academic motivation and learning behaviors. Educational practices that view physical activity as part of the learning ecosystem may better address students' motivational needs and academic engagement (Marsigliante et al., 2023). Understanding this relationship can also inform institutional approaches to student development that prioritize overall well-being alongside academic achievement (Zheng et al., 2022).

Conclusion

This study concludes that physical activity engagement and academic motivation are significantly associated among students, highlighting the interconnected nature of health-related behaviors and educational experiences. The findings suggest that students who report greater engagement in physical activity also tend to exhibit stronger academic motivation, although the correlational nature of the study does not permit conclusions regarding causality. This relationship may reflect broader psychological and environmental processes, including self-regulation, social support, perceived competence, and opportunities for engagement, which collectively shape students'

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academic and personal development. Viewed through the lens of Self-Determination Theory, the findings support the notion that experiences that foster feelings of competence, autonomy, and relatedness may be linked to more positive motivational outcomes. Consequently, academic motivation should be understood as a multidimensional construct that develops within a broader context of behavioral, psychological, and social experiences.

Furthermore, the study extends existing knowledge by providing empirical evidence of a positive association between physical activity engagement and academic motivation within the sampled student population. While the relationship observed was statistically significant, its magnitude suggests that academic motivation is likely influenced by multiple interacting factors beyond physical activity alone. This underscores the importance of interpreting the findings within the broader educational context, where individual characteristics, learning environments, and social influences may also play meaningful roles. For researchers and educators, the results reinforce the value of examining student development through interdisciplinary perspectives that integrate educational psychology, health sciences, and behavioral research. Overall, the study contributes to a more comprehensive understanding of the factors associated with academic motivation and highlights the relevance of considering students' physical and academic experiences as interconnected aspects of holistic development.

Limitations:

This study has several limitations that should be considered when interpreting the findings. The use of a cross-sectional and correlational design limits the ability to infer causal relationships between physical activity engagement and academic motivation. Additionally, the reliance on self-reported questionnaires may have introduced response bias, as participants' answers could be influenced by social desirability or recall inaccuracies. The study was also confined to a specific student population, which may limit the generalizability of the results to other educational contexts or demographic groups.

Original article. Active learning through active living: the relationship between physical activity and academic motivation. Vol. 12, n. º 4; p. 1-25, August 2026. https://doi.org/10.55040/dj3mrj42

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

Adel, B., Mohamed, S., Wahib, B., sidi Mohamed, K., & Othman, B. (2025). Enhancing Professional Health of School Teachers: A Physical Activity-Based Intervention to Bridge Theory and Practice in Physical Education. *Bridging Theory and Practice in Physical Education Researches–Curriculum–Teacher Training*, 209.

Affuso, G., Zannone, A., Esposito, C., Pannone, M., Miranda, M. C., De Angelis, G., Aquilar, S., Dragone, M., & Bacchini, D. (2023). The effects of teacher support, parental monitoring, motivation and self-efficacy on academic performance over time. *European Journal of Psychology of Education*, *38*(1), 1–23. https://doi.org/10.1007/s10212-021-00594-6

Atik, S., & Çelik, O. T. (2021). Analysis of the relationships between academic motivation, engagement, burnout and academic achievement with structural equation modelling. *International Journal of Contemporary Educational Research*, *8*(2), 118–130. https://doi.org/10.33200/ijcer.826088

Azarhazin, H. A., Dehghanizade, J., & Ahmadi, M. (2024). The Relationship between physical education teachers' perceived physical literacy and students' physical literacy and enjoyment of physical activity: The mediating role of teachers' self-efficacy. *Sport Sciences and Health Research*, *16*(1), 129–142.

Battalio, S. L., Huffman, S. E., & Jensen, M. P. (2020). Longitudinal associations between physical activity, anxiety, and depression in adults with long-term physical disabilities. *Health Psychology*, *39*(6), 529. https://doi.org/10.1037/hea0000848

Bembenutty, H. (2022). Sustaining motivation and academic delay of gratification: Analysis and applications. *Theory Into Practice*, *61*(1), 75–88. https://doi.org/10.1080/00405841.2021.1955555

Cao, Y., Yang, Z., Yu, Y., & Huang, X. (2022). Physical activity, sleep quality and life satisfaction in adolescents: A cross-sectional survey study. *Frontiers in Public Health*, *10*, 1010194. https://doi.org/10.3389/fpubh.2022.1010194

Original article. Active learning through active living: the relationship between physical activity and academic motivation. Vol. 12, n. º 4; p. 1-25, August 2026. https://doi.org/10.55040/dj3mrj42

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

Chen, C., Bian, F., & Zhu, Y. (2023). The relationship between social support and academic engagement among university students: the chain mediating effects of life satisfaction and academic motivation. *BMC Public Health*, *23*(1), 2368. https://doi.org/10.1186/s12889-023-17301-3

Chitrakar, N., & Nisanth, P. M. (2023). Frustration and its influences on Student Motivation and Academic Performance. *International Journal of Scientific Research in Modern Science and Technology*, *2*(11), 1–9. https://doi.org/10.59828/ijsrmst.v2i11.158

Claver, F., Martínez-Aranda, L. M., Conejero, M., & Gil-Arias, A. (2020). Motivation, discipline, and academic performance in physical education: A holistic approach from achievement goal and self-determination theories. *Frontiers in Psychology*, *11*, 1808. https://doi.org/https://doi.org/10.3389/fpsyg.2020.01808

Dishman, R. K., Heath, G. W., Schmidt, M. D., & Lee, I.-M. (2021). *Physical activity epidemiology*. Human Kinetics. https://doi.org/https://doi.org/10.5040/9781718243811

Feraco, T., Resnati, D., Fregonese, D., Spoto, A., & Meneghetti, C. (2023). An integrated model of school students' academic achievement and life satisfaction. Linking soft skills, extracurricular activities, self-regulated learning, motivation, and emotions. *European Journal of Psychology of Education*, *38*(1), 109–130. https://doi.org/10.1007/s10212-022-00601-4

Ferreira Silva, R. M., Mendonca, C. R., Azevedo, V. D., Raoof Memon, A., Noll, P. R. E. S., & Noll, M. (2022). Barriers to high school and university students' physical activity: A systematic review. *PloS One*, *17*(4), e0265913. https://doi.org/10.1371/journal.pone.0265913

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.

Original article. Active learning through active living: the relationship between physical activity and academic motivation. Vol. 12, n. º 4; p. 1-25, August 2026. https://doi.org/10.55040/dj3mrj42

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

Gothe, N. 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

Guerrero, A. S. T., Ison, C. P., & Ramos, R. A. T. (2025). The emotional power of physical activity: examining its role in enhancing students' self-efficacy. *Sportis: Scientific Technical Journal of School Sport, Physical Education and Psychomotricity*, *11*(4). https://doi.org/10.17979/sportis.2025.11.4.11996

Guetzoian, E. (2021). *Academic Motivation and Self-Discipline Strategies for Online Learners* (pp. 111–128). https://doi.org/10.4018/978-1-7998-8275-6.ch007

Günal, A. M. (2023). Sleep, activity, and diet in harmony: unveiling the relationships of chronotype, sleep quality, physical activity, and dietary intake. *Frontiers in Nutrition*, *10*, 1301818. https://doi.org/10.3389/fnut.2023.1301818

Guo, Y., Liao, M., Cai, W., Yu, X., Li, S., Ke, X., Tan, S., Luo, Z., Cui, Y., & Wang, Q. (2021). Physical activity, screen exposure and sleep among students during the pandemic of COVID-19. *Scientific Reports*, *11*(1), 8529. https://doi.org/https://doi.org/10.1038/s41598-021-88071-4

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

İnce, M. (2023). Examining the role of motivation, attitude, and self-efficacy beliefs in shaping secondary school students' academic achievement in science course. *Sustainability*, *15*(15), 11612. https://doi.org/10.3390/su151511612

Klussman, K., Langer, J., & Nichols, A. L. (2021). The relationship between physical activity, health, and well-being. *European Journal of Health Psychology*. https://doi.org/https://doi.org/10.1027/2512-8442/a000070

Original article. Active learning through active living: the relationship between physical activity and academic motivation. Vol. 12, n. º 4; p. 1-25, August 2026. https://doi.org/10.55040/dj3mrj42

Korpershoek, H., Canrinus, E. T., Fokkens-Bruinsma, M., & De Boer, H. (2020). The relationships between school belonging and students' motivational, social-emotional, behavioural, and academic outcomes in secondary education: A meta-analytic review. *Research Papers in Education*, *35*(6), 641–680. https://doi.org/10.1080/02671522.2019.1615116

Kunicina, N., Caiko, J., & Grants, R. (2023). Enhancing Student Motivation and Academic Success. Effective Strategies for Promoting Study Programs in Education. *2023 IEEE 64th International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON)*, 1–6. https://doi.org/10.1109/RTUCON60080.2023.10412931

Mamat, S. S., Othman, Z. S., Safiai, S., Azahariah, N., Mohamad, A., & Rahmat, N. H. (2023). Exploring the impact of causes of burnout on motivational elements in learning mathematics. *The International Journal of Academic Research in Business & Social Sciences*, *13*(8), 1578–1595. https://doi.org/10.6007/IJARBSS/v13-i8/17730

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

Martins, J., Costa, J., Sarmento, H., Marques, A., Farias, C., Onofre, M., & Valeiro, M. G. (2021). Adolescents' perspectives on the barriers and facilitators of physical activity: an updated systematic review of qualitative studies. *International Journal of Environmental Research and Public Health*, *18*(9), 4954. https://doi.org/https://doi.org/10.3390/ijerph18094954

Middya, A. (2023). Study on Impact of Mental Health, Academic Stress, Motivation and Self-Concept on Academic Achievement of Higher Secondary Students. *JOURNAL OF EDUCATION IN TWENTY FIRST CENTURY*, *24*.

Mohajan, H. K. (2020). Quantitative research: A successful investigation in natural and social sciences. *Journal of Economic Development, Environment and People*, *9*(4), 50–79. https://doi.org/10.26458/jedep.v9i4.679

Original article. Active learning through active living: the relationship between physical activity and academic motivation. Vol. 12, n. º 4; p. 1-25, August 2026. https://doi.org/10.55040/dj3mrj42

Mohamoud, A. M. (2024). The impact of growth mindset interventions on students' motivation, resilience, and academic achievement. *Multidisciplinary Journal of Horseed International University (MJHIU)*, *2*(1), 102–125. https://doi.org/10.59336/7adj0850

Monacis, D., Trecroci, A., Invernizzi, P. L., & Colella, D. (2022). Can Enjoyment and Physical Self-Perception Mediate the Relationship between BMI and Levels of Physical Activity? Preliminary Results from the Regional Observatory of Motor Development in Italy. *International Journal of Environmental Research and Public Health*, *19*(19), 12567. https://doi.org/10.3390/ijerph191912567

Namaziandost, E., Rezai, A., Kargar Behbahani, H., & Heydarnejad, T. (2025). Role of Academic Emotion Regulation and Self-Compassion in EFL Learners' Academic Motivation, Growth Mindset, and Psychological Wellness: Insights from Self-Determination Theory. *Psychological Studies*, 1–18. https://doi.org/10.1007/s12646-024-00817-y

Nie, Y., Wang, T., Guo, M., Zhou, F., Ma, W., Qiu, W., Gao, J., & Liu, C. (2025). The relationship between physical activity, life satisfaction, emotional regulation, and physical self esteem among college students. *Scientific Reports*, *15*(1), 15899. https://doi.org/10.1038/s41598-025-00651-w

Nieto Carracedo, A., Gómez-Iñiguez, C., Tamayo, L. A., & Igartua Perosanz, J. J. (2024). Emotional intelligence and academic achievement relationship: emotional well-being, motivation, and learning strategies as mediating factors. *Psicología Educativa*, *30*(2), 67–74. https://doi.org/10.5093/psed2024a7

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.

Sarami, P., & Hojjati, M. (2023). Enhancing Intrinsic Motivation in Academic Settings: The Role of Self-Regulation Skills Interventions. *KMAN Counseling & Psychology Nexus*, *1*(2), 65–71. https://doi.org/https://doi.org/10.61838/kman.psynexus.1.2.11

Sarwar, S., Tara, A. N., Abid, M. N., & Dukhaykh, S. (2025). Teachers' academic motivation and student procrastination behaviour: mediating effects of emotion

Original article. Active learning through active living: the relationship between physical activity and academic motivation. Vol. 12, n. º 4; p. 1-25, August 2026. https://doi.org/10.55040/dj3mrj42

regulation and study habits. *BMC Psychology*, *13*(1), 52. https://doi.org/10.1186/s40359-025-02352-5

Sharafi, M. (2024). An Exploration into the Interrelation between EFL Learners' Self-Regulated Learning, Self-Determined Motivation, and Academic Persistence. *FOSTER: Journal of English Language Teaching*, *5*(1), 28–39. https://doi.org/10.24256/foster-jelt.v5i1.157

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

Shi, M., Zhai, X., Li, S., Shi, Y., & Fan, X. (2021). The relationship between physical activity, mobile phone addiction, and irrational procrastination in Chinese college students. *International Journal of Environmental Research and Public Health*, *18*(10), 5325. https://doi.org/https://doi.org/10.3390/ijerph18105325

Skinner, E. A. (2023). Four guideposts toward an integrated model of academic motivation: Motivational resilience, academic identity, complex social ecologies, and development. *Educational Psychology Review*, *35*(3), 80. https://doi.org/10.1007/s10648-023-09790-w

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

Theobald, M. (2021). Self-regulated learning training programs enhance university students' academic performance, self-regulated learning strategies, and motivation: A meta-analysis. *Contemporary Educational Psychology*, *66*, 101976. https://doi.org/10.1016/j.cedpsych.2021.101976

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

Trigueros, R., Padilla, A., Aguilar-Parra, J. M., Mercader, I., López-Liria, R., & Rocamora, P. (2020). The influence of transformational teacher leadership on academic motivation and resilience, burnout and academic performance.

Original article. Active learning through active living: the relationship between physical activity and academic motivation. Vol. 12, n. º 4; p. 1-25, August 2026. https://doi.org/10.55040/dj3mrj42

International Journal of Environmental Research and Public Health, *17*(20), 7687. https://doi.org/10.3390/ijerph17207687

Tus, J. (2020). Academic stress, academic motivation, and its relationship on the academic performance of the senior high school students. *Asian Journal of Multidisciplinary Studies*, *8*(11), 29–37.

Vasilopoulos, F., & Ellefson, M. R. (2021). Investigation of the associations between physical activity, self-regulation and educational outcomes in childhood. *PloS One*, *16*(5), e0250984. https://doi.org/https://doi.org/10.1371/journal.pone.0250984

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

Westerbeek, H., & Eime, R. (2021). The physical activity and sport participation framework—a policy model toward being physically active across the lifespan. *Frontiers in Sports and Active Living*, *3*, 608593. https://doi.org/10.3389/fspor.2021.608593

Whalen, L., Barcelona, J., Centeio, E., & McCaughtry, N. (2021). # HealthyKidsQuarantined: Supporting schools and families with virtual physical activity, physical education, and nutrition education during the coronavirus pandemic. *Journal of Teaching in Physical Education*, *40*(3), 503–507. https://doi.org/10.1123/jtpe.2020-0299

Widlund, A. (2021). *Development of academic well-being during secondary education: Relations to performance, motivational beliefs, and aspirations*.

Wilson, O. W. A., Panza, M. J., Evans, M. B., & Bopp, M. (2021). A scoping review on college student physical activity: how do researchers measure activity and examine inequities? *Journal of Physical Activity and Health*, *18*(6), 728–736. https://doi.org/10.1123/jpah.2020-0370

Wu, F., Jiang, Y., Liu, D., Konorova, E., & Yang, X. (2022). The role of perceived teacher and peer relationships in adolescent students' academic motivation and

Original article. Active learning through active living: the relationship between physical activity and academic motivation. Vol. 12, n. º 4; p. 1-25, August 2026. https://doi.org/10.55040/dj3mrj42

educational outcomes. *Educational Psychology*, *42*(4), 439–458. https://doi.org/10.1080/01443410.2022.2042488

Yang, S., & Wang, W. (2022). The role of academic resilience, motivational intensity and their relationship in EFL learners' academic achievement. *Frontiers in Psychology*, *12*, 823537. https://doi.org/10.3389/fpsyg.2021.823537

Zhang, S., Rehman, S., Zhao, Y., Rehman, E., & Yaqoob, B. (2024). Exploring the interplay of academic stress, motivation, emotional intelligence, and mindfulness in higher education: a longitudinal cross-lagged panel model approach. *BMC Psychology*, *12*(1), 732. https://doi.org/10.1186/s40359-024-02284-6

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

Zhu, X., Haegele, J. A., Liu, H., & Yu, F. (2021). Academic stress, physical activity, sleep, and mental health among Chinese adolescents. *International Journal of Environmental Research and Public Health*, *18*(14), 7257. https://doi.org/10.3390/ijerph18147257