THE INFLUENCE OF PHYSICAL FITNESS TO THE ACADEMIC RESPONSIVENESS OF HEALTH SCIENCES STUDENTS AT LORMA COLLEGES

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Abstract

Using a descriptive-correlational quantitative design, the relationship between physical fitness and academic responsiveness was investigated among 238 health sciences students at LORMA Colleges. Physical fitness was assessed by cardiovascular endurance, muscular strength, flexibility, and body composition, while academic responsiveness covered academic performance, study habits, workload management, and attention span via questionnaire. Results showed students had Good cardiovascular endurance and flexibility, Poor muscular strength, and Very Good body composition. Academic performance and study habits were rated as Good. Correlation analysis indicated that flexibility and body composition were significantly linked to multiple aspects of academic responsiveness, including performance, workload management, and attention span. Flexibility also showed a significant relationship with study habits. Muscular strength was significantly associated only with attention span, while cardiovascular endurance did not show significant correlations with any academic responsiveness components. These findings suggest that flexibility and body composition, among other fitness components, are notably linked to various aspects of academic responsiveness in health sciences students. The study informs recommendations for targeted programs to improve physical fitness and academic outcomes.

Keywords: Academic Performance, Academic Responsiveness, Attention Span, Body Composition, Cardiovascular Endurance, Flexibility, Health Sciences Students, LORMA Colleges, Muscular Strength, Physical Activity, Physical Fitness, Study Habits, Workload Management

Introduction

Physical fitness significantly affects the academic responsiveness and overall well-being of students, particularly among health sciences students. Academic responsiveness, which includes academic performance, study habits, academic workload management, and attention span, can be influenced by the physical fitness of the students, all while managing academic demands (Koch, n.d.). Despite growing recognition of this connection, many students still struggled with stress, sedentary lifestyles, and limited physical activity, negatively impacting their academic success.

Physical fitness consists of cardiovascular endurance, muscular strength, flexibility, and body composition, which contributes to the capacity of students to handle academic pressures. Studies showed that flexibility and body composition were significantly associated with academic performance, workload management, and attention span, while muscular strength and cardiovascular endurance contributed to focus and resilience (Tamboli, 2023; Redondo-Florez et al., 2022; Kljajevic et al., 2022).

Global studies demonstrated that physical activity improves cognitive functions, including memory, concentration, and stress management (Teuber, 2024; Suguis & Belleza, 2022; Espino et al., 2020). National studies also confirmed the positive correlation between physical activity and academic achievement (Cipriano et al., 2024). However, other factors such as study habits, time management, and course difficulty may have also influenced academic success (Chung, 2021). Additionally, in La Union, where LORMA Colleges is situated, students have access to various physical activities. However, the extent of participation and its impact on academic responsiveness among health sciences students remain underexplored (Caddev, 2020). Previous studies mostly focused on physical activity and academic engagement, but few examined how physical fitness specifically influenced academic responsiveness in health sciences programs.

Thus, this study aimed to determine the level of physical fitness of health sciences students at LORMA Colleges in terms of their cardiovascular endurance, muscular strength, flexibility, and body composition; to evaluate their academic responsiveness regarding academic performance, study habits, academic workload management, and attention span. It also aimed to determine the relationship between physical fitness and academic responsiveness; and to recommend measures to improve both physical fitness and academic responsiveness of health sciences students at LORMA Colleges.

General Concepts

This study is designed to explore the intricate connection between the physical well-being of students and their academic engagement and success. The research systematically investigates several key areas to provide a comprehensive understanding of this relationship, grounding its conceptual framework in existing literature. It encompasses four vital concepts: the level of physical fitness, the level of academic responsiveness, the significant relationship between physical fitness and academic responsiveness, and recommended measures to improve both. By addressing these themes, the study aims to contribute to a more holistic understanding of student development, especially within demanding academic fields like health sciences.

Level of Physical Fitness

This segment conceptually focuses on evaluating the various facets of physical health among health sciences students at LORMA Colleges. Physical fitness is understood as comprising different parts, all considered essential for maintaining good health and energy to handle daily tasks without excessive fatigue (Monika T. et al., 2024). The study aims to profile the students' physical condition across these dimensions: cardiovascular endurance, defined as the ability to perform physical activities for prolonged periods without tiring, which is crucial for students needing sustained energy for their studies and other activities. Muscular strength refers to the force muscles can exert, assisting students with daily tasks and potentially improving physical health and academic focus. Flexibility denotes the ease of movement in muscles and joints, helping to prevent injuries and facilitate comfort during long study sessions. Lastly, body composition concerns the balance of fat, muscle, and other elements in the body, with a healthy composition supporting overall health, memory, and focus (Katey D., 2022). The importance of these components for students' overall well-being and sustained academic pursuits is consistently underscored

by existing literature, which highlights growing concerns about insufficient physical activity among college students due to busy schedules and sedentary lifestyles (Monika T. et al., 2024).

Level of Academic Responsiveness

This section of the study is designed to investigate how effectively health sciences students at LORMA Colleges engage with their academic responsibilities. Academic responsiveness is a multifaceted concept, encompassing various components that ensure new skills and content align with students' abilities and goals (Meehan, et al., 2021). These components include academic performance, conceptualized as the measurement of student achievement across various academic subjects, including grades and the application of concepts. Study habits refer to the regular and habitual actions students perform to accomplish learning tasks, such as reading, note-taking, and participating in study groups, and can be categorized as effective or ineffective based on their utility to students (Betts M, 2025). Academic workload management is defined as a student's ability to handle their major, coursework, and future academic or career plans without feeling overwhelmed (Koch, n.d.). Finally, attention span is understood as the duration an individual can stay focused on a specific task, thought, or conversation without distraction. The background of the study emphasizes the critical role of these interconnected components in a student's educational journey and their capacity to respond effectively to academic demands.

Significant Relationship Between Physical Fitness and Academic Responsiveness

A core conceptual objective of this study is to determine if a statistically significant connection exists between the physical fitness levels and academic responsiveness of health sciences students. Existing literature strongly suggests that physical fitness plays a vital role in academic success. Physically fit students tend to exhibit improved focus, memory, and energy, which can directly enhance academic performance (James J. et al., 2023). Studies demonstrate that regular physical activity benefits brain function by promoting blood flow, stimulating neurotrophic factors, and increasing neuroplasticity, all of which are necessary for learning and memory (James J. et al., 2023). Furthermore, physical activity has been linked to improved mood and lower levels of stress, directly impacting a student's ability to concentrate and excel academically (Teuber, 2024). International studies, such as those by Tamboli (2023) and Redondo-Florez et al. (2022), affirm that higher physical fitness levels, including cardiovascular indicators and sleep patterns, are associated with enhanced cognitive abilities like decision-making, focus, and memory, correlating with better academic outcomes. National studies in the Philippines also found a positive correlation between physical activity and academic achievement (Delito, 2023; Espino et al., 2020), highlighting its role in student engagement even during periods of limited movement (Suguis & Belleza, 2022) and specific academic improvements like in mathematics (Cipriano et al., 2024). While some research, such as Chung (2021), suggests that the direct effect on academic success may vary depending on the specific student group and other intervening factors, a general positive correlation is widely observed, emphasizing the need for targeted investigation within the context of health sciences students.

Recommended Measures to Improve Physical Fitness and Academic Responsiveness

Finally, this study conceptually aims to formulate practical recommendations to enhance both the physical fitness and academic responsiveness of health sciences students at LORMA Colleges. This includes developing an "Action Plan" to address any identified gaps and leverage the insights gained from the research. The intent is to propose concrete measures that could be implemented collaboratively by students, faculty, staff, and administrators to support a holistic approach to student development. Such measures might include encouraging regular physical activity, fostering healthy nutritional habits, and integrating cognitive and academic skill-building into the curriculum. The study aims to provide actionable insights for promoting overall well-being that contributes positively to academic excellence within the health sciences program. This aligns with findings suggesting that colleges should integrate more fitness programs to help students improve their health and studies, especially given the decrease in physical activity often experienced when students start college (Kljajevic et al., 2022). By understanding the specific needs and opportunities at LORMA Colleges, including the unique access to outdoor activities in La Union (Caddev, 2020) and existing institutional efforts like intramurals and Pathfit courses, the study can offer tailored and impactful recommendations.

In conclusion, this study comprehensively investigates the critical link between physical fitness and academic responsiveness among health sciences students at LORMA Colleges, grounding its inquiry in a robust body of existing literature. By defining and examining the specific components of physical fitness and academic responsiveness, this research seeks to clarify their intricate relationship. Ultimately, the findings will inform practical recommendations, aiming to develop an actionable plan that promotes students' holistic well-being and fosters enhanced academic excellence within this demanding field of study.

Conclusion

The conclusion provides a summary of the results, key findings, and conclusions derived from the responses of 238 Health Sciences students at LORMA Colleges who took part in the study. It also includes the corresponding recommendations based on the data collected.

The study assessed students’ physical fitness and academic responsiveness, revealing that participants generally demonstrated good cardiovascular endurance, flexibility, and body composition, though muscular strength was notably poor and required targeted improvement. Academically, students showed good performance, study habits, workload management, and attention span, though balancing academic responsibilities remains a moderate challenge.

The physical fitness level of the respondents was evaluated in terms of cardiovascular endurance, muscular strength, flexibility, and body composition. Table 1 presents the results of the different assessments done for the students. The cardiovascular endurance, measured through 1-Minute Jumping Jacks and 3-Minute Jog in Place, yielded a weighted mean of 4.05, which was interpreted as Good. Muscular strength, assessed through the Push-Up Test and Plank Test, showed a weighted mean of 2.08, which was interpreted as Poor. Flexibility, measured using the Trunk Rotation Test and Apley Scratch Test, had a weighted mean of 3.88, interpreted as Good. Body composition, assessed using BMI and Waist-to-Hip Ratio, showed a weighted mean of 4.33, interpreted as Very Good.

Table 1.

Physical Fitness Mean

Components	Mean	Remarks
Cardiovascular Endurance	4.05	Good
Muscular Strength	2.08	Poor
Flexibility	3.88	Good
Body Composition	4.33	Very Good
WEIGHTED MEAN:	3.59	Good

Legend: 4.2-5 = Very Good, 3.4-4.19= Good, 2.6-3.39= Average, 1.8-2.59= Poor, 1-1.79= Very Poor

The academic responsiveness of the students was evaluated based on academic performance, study habits, academic workload management, and attention span. Table 2 presents the mean from the data gathered through the 4-point Likert scale used by the researchers.

Table 9.

Academic Responsiveness Mean

Components	Mean	Remarks
Academic Performance	2.98	Good
Study Habits	2.69	Good
Academic Workload Management	2.93	Good
Attention Span	2.96	Good
WEIGHTED MEAN:	2.98	Good

Legend: 3.25-4 = Very Good, 2.5-3.24= Good,, 1.75-2.49= Poor, 1-1.74= Very Poor

The results revealed that academic performance, study habits, and attention span were generally rated as Good, while academic workload management was rated as Poor.

The study identified small but meaningful correlations between physical fitness and academic responsiveness. The relationship between physical fitness and academic responsiveness was analyzed using Pearson r. The analysis indicated that flexibility and body composition had significant positive relationships with academic performance, study habits, academic workload management, and attention span. Muscular strength showed a significant relationship with attention span, while cardiovascular endurance had no significant correlation with academic responsiveness.

Flexibility was notably linked to better attention and engagement, while healthy body composition correlated with stronger academic performance and workload management. Muscular strength was also related to improved attention, suggesting cognitive benefits from physical training. However, cardiovascular endurance did not show a significant link to academic metrics in this population.

Based on these insights, the researchers recommended integrating regular aerobic and strength training exercises, promoting flexibility through activities like yoga, and conducting wellness campaigns to maintain healthy body composition. To enhance academic responsiveness, workshops on study strategies, time management, and mindfulness were advised. The study also encouraged incorporating brief physical activity breaks during lectures and organizing wellness-focused events to cultivate a healthy, engaged academic community at LORMA Colleges.

Overall Relationship Between Physical Fitness and Academic Responsiveness

The overall relationship between physical fitness and academic responsiveness, showing a statistically significant positive correlation (r = 0.25) and a special t-test score of 3.92, is verified at the 0.05 significance level. This finding is consistent with recent empirical studies from 2020 to 2025, which consistently report small but meaningful positive associations between physical fitness and academic outcomes.

Rodriguez et al. (2020) found that over 80% of studies reviewed reported strong links between physical fitness—especially cardiorespiratory capacity—and academic achievement in adolescents. Similarly, Başkurt et al. (2020) reported correlations ranging from r = 0.20 to r = 0.24 between physical fitness metrics and academic performance in medical students.

Supporting evidence from Zurc et al. (2022) showed that Slovenian students with higher physical fitness scored better in academic competence and problem-solving. Boufrida (2025) also found that Algerian girls who participated in school sports programs significantly improved their academic performance. Likewise, Khramtsov et al. (2025) reported that students with higher fitness levels consistently achieved better academic outcomes.

Table 3.

Relationship of Physical Fitness to Academic Responsiveness

Indicators	r - value	Degree of Relationship	Remarks	Decision
Relationship Between Physical Fitness and Academic Responsiveness	0.25	Small Correlation	Significant	Reject the Null Hypothesis

**significant @ 0.05∞*

Overall, these studies confirm the reliability and direction of the correlation found in Table . Cardiorespiratory fitness frequently stands out as the most influential factor. The evidence suggests that physical fitness enhances students' academic responsiveness by supporting cognitive readiness, engagement, and adaptability. These findings advocate for integrating structured physical activities in educational settings to promote academic success.

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