



INTERNATIONAL RESEARCH JOURNAL OF HUMANITIES AND INTERDISCIPLINARY STUDIES

(Peer-reviewed, Refereed, Indexed & Open Access Journal)

DOI : 03.2021-11278686

ISSN : 2582-8568

IMPACT FACTOR : 8.428 (SJIF 2026)

RELATIONSHIP BETWEEN PHYSICAL FITNESS AND ACADEMIC ACHIEVEMENT AMONG COLLEGE STUDENTS

SUNIL H. NARAYANI

College Director of Physical Education,
Government First Grade College,
Kerur (Karnataka, India)

E-mail: sunilnarayani90@gmail.com

DOI No. **03.2021-11278686** DOI Link :: <https://doi-ds.org/doi/10.2026-56494937/IRJHIS2609005>

Abstract:

In addition to being crucial for general health and wellbeing, physical fitness may have an impact on students' academic achievement. Frequent exercise and physical fitness can enhance focus, memory, cognitive performance, emotional health, and involvement in class. The current study investigates the connection between college students' academic success and physical health. The study is based on secondary data about physical fitness, physical activity, cognition, and academic performance that was gathered from published research articles, books, systematic reviews, and reports. Research suggests that adolescents who maintain higher levels of physical fitness and engage in regular physical activity may benefit academically and cognitively. Engaging in physical activity can enhance blood flow. Learning can be indirectly supported by executive functioning, attentiveness, and psychological well-being. However, a number of factors, such as socioeconomic background, study habits, motivation, sleep, diet, and learning environment, affect academic accomplishment. As a result, one of the many elements influencing academic achievement is physical health. Physical education, sports participation, fitness programs, yoga, leisure activities, and active lifestyles are all ways that colleges can encourage physical fitness. The study comes to the conclusion that including fitness and physical activity programs into college education may benefit students' academic and psychological growth in addition to their physical health.

Keywords: Physical Activity, Cognitive Function, Academic Performance, College Students, Physical Education, and Student Performance

1. INTRODUCTION:

Education attempts to support students' physical, emotional, and social development in addition to their academic growth. An essential component of this all-encompassing development is physical fitness. In general, a physically fit person is better equipped to carry out everyday tasks effectively, handle physical stress, and preserve general health. Cardiovascular endurance, muscular strength; muscular endurance, flexibility, and body composition are some of the elements that make up physical

fitness. Regular exercise, sports engagement, and physical activity can all help to improve these elements. The term "academic achievement" describes a student's degree of academic success, which is typically determined by exam scores, grades, grade point average, or other academic markers. There is growing interest in the potential connection between academic success and physical health. Learning may be impacted by physical activity in a number of ways. Exercise can improve mood, lower stress levels, and raise physiological arousal and blood flow. Additionally, it might enhance executive abilities like working memory, concentration, and cognitive flexibility.

2. STATEMENT OF THE PROBLEM:

The current study's difficulty is expressed as follows:

"A Study on the Relationship Between Physical Fitness and Academic Achievement among College Students."

3. OBJECTIVES OF THE STUDY:

The following three goals guided the conduct of the current study:

1. To investigate the connection between college students' academic success and physical fitness.
2. To examine how regular exercise and physical fitness can enhance college students' cognitive abilities and learning.
3. To investigate the role that health and physical education programs play in helping college students succeed academically.

4. REVIEW OF LITERATURE:

Trott, M., Kentzer, N., Horne, J., Langdown, B., & Smith, L. (2024). The study primarily looked at the connection between university-level students' academic achievement and physical activity. Major scholarly databases such as SPORTDISCUS, ERIC, Scopus, Embase, Web of Science, and PubMed were searched by the researchers, and publications published up until September 2023 were included. The meta-analysis contained six papers, but the systematic review contained 36 studies in total.

Nalbant, S., & Kaya, D. (2025). The study's goal was to assess randomized controlled trials in order to methodically investigate how physical activity affects academic ability. The researchers used the terms "physical activity" and "academic achievement" to search PubMed, ERIC, SportDiscus/EBSCO, Ulakbim, and Google Scholar. Eight randomized controlled studies published between 2010 and 2020 were ultimately included in the review out of the original 991 data. The PRISMA methodology for methodical literature selection and analysis was adhered to in this evaluation.

4. RESEARCH METHODOLOGY:

4.1 Research Design:

A descriptive research design based on secondary data was used in this study.

College students were not the direct source of any primary data. The research paper is based on data that has already been published.

4.2 Sources of Data:

Secondary data were collected from:

- Research articles
- Peer-reviewed journals
- Systematic reviews
- Meta-analyses
- Books on physical education and exercise science
- Reports from recognized health and educational organizations
- Academic databases
- Published studies concerning physical fitness and academic achievement

4.3 Data Analysis:

Descriptive and narrative analysis were used to examine the data gathered from secondary sources. The results were arranged according to key themes, including academic achievement, psychological well-being, cognitive functioning, physical fitness, and the importance of physical education.

No additional statistical tests were performed on individual pupils because this study is based on secondary data.

5. LIMITATIONS OF THE STUDY:

The following are the limitations of the study:

1. There are no primary measurements of academic achievement or physical fitness in the study; instead, it is based on secondary data.
2. Physical fitness may have been measured differently in several research.
3. Results from various age groups and educational environments might not be directly comparable.

6. CONCEPT OF PHYSICAL FITNESS:

The capacity to carry out daily tasks efficiently without becoming overly exhausted and with enough energy for leisure and unforeseen demands is referred to as physical fitness.

The following are the main elements of physical fitness:

6.1 Cardiovascular Endurance:

The capacity of the circulatory system, heart, and lungs to provide oxygen during extended physical exercise.

6.2 Muscular Strength:

Muscles' capacity to provide force against resistance.

6.3 Muscular Endurance:

Muscles' capacity to contract repeatedly or to maintain a contraction for an extended amount of time.

6.4 Flexibility:

Joints' capacity to move within a suitable range of motion.

6.5 Body Composition:

The body's relative amounts of bone, muscle, fat, and other tissues.

Maintaining these elements through consistent exercise can enhance functional ability and physical health.

7. CONCEPT OF ACADEMIC ACHIEVEMENT:

Academic success is the degree of learning that a student has accomplished. You can get to it by:

- Examination marks
- Semester grades
- Grade Point Average (GPA)
- Internal assessment
- Assignment performance
- Classroom achievement
- Standardized academic tests

Numerous factors affect academic achievement. Academic success may be influenced by a number of factors, including intelligence, motivation, study habits, attendance, family history, socioeconomic circumstances, sleep, nutrition, emotional health, and the learning environment. Therefore, rather than being the only factor that determines academic performance, physical fitness should be seen as one possible influence.

8. RELATIONSHIP BETWEEN PHYSICAL FITNESS AND ACADEMIC ACHIEVEMENT:

The connection between academic success and physical health can be explained in a number of ways...

8.1 Improved Concentration:

Frequent exercise may improve focus and alertness. It may be simpler for students to focus throughout academic tasks if they engage in physical activity.

8.2 Cognitive Function:

Exercise has been linked to executive function, memory, and attention, among other elements of cognitive performance. These skills are critical to learning and academic success.

8.3 Stress Reduction:

Academic and personal stress are common among college students. Engaging in physical activity can be a useful strategy for stress management and mood enhancement. Studying may be more

conducive when stress levels are lower.

8.4 Improved Sleep:

Healthy sleep patterns may be supported by regular exercise. Memory consolidation, focus, and academic performance all depend on getting enough sleep.

8.5 Self-Discipline:

Time management, discipline, goal-setting, and perseverance can all be fostered by engaging in organized exercise and sports. These attributes could be helpful in academic endeavors as well.

8.6 Social Development:

Engaging in team sports and leisure pursuits offers chances for leadership, collaboration, and communication. These social skills could help students grow as a whole.

9. POSSIBLE MECHANISMS LINKING FITNESS AND LEARNING:

Through physiological and psychological factors, academic achievement may be impacted by physical fitness.

9.1 Increased Cerebral Blood Flow:

Exercise boosts circulatory activity and may help the brain receive more oxygen and blood.

9.2 Neuroplasticity:

Frequent exercise may support the neurobiological mechanisms underlying memory and learning.

9.3 Improved Executive Function:

Planning, inhibition, working memory, and attention are examples of executive functions that exercise may enhance.

9.4 Psychological Well-being:

Exercise may elevate mood and lessen stress and anxiety, improving the psychological environment for learning.

9.5 Energy and Alertness:

Students who engage in physical activity may feel less tired and have more energy, which can encourage them to participate in academic activities.

10. ROLE OF PHYSICAL EDUCATION IN ACADEMIC DEVELOPMENT:

College students' entire development is significantly impacted by physical education. It shouldn't be limited to recreational or athletic training.

Students can learn about fitness, health, exercise, and healthy living choices through a well-designed physical education program.

Academic progress can be aided by physical education by:

1. Increasing physical health.
2. Promoting consistent exercise.

3. Improving time management and discipline.
4. Lowering stress related to school.
5. Encouraging social contact.
6. Promoting mental health.
7. Building teamwork and leadership abilities.
8. Promoting a healthy way of living.

Fitness programs, intramural sports, yoga, athletics, recreational games, walking programs, and fitness awareness campaigns can all be organized by colleges.

11. FINDINGS OF THE STUDY:

The following conclusions were drawn from the secondary literature review:

Finding

1: There may be a positive correlation between academic achievement and physical fitness.

The majority of research suggests that fitness and physical activity can be positively correlated with scholastic and cognitive outcomes. However, a number of other factors may have an impact on the relationship.

Finding 2: Physical Activity Can Support Cognitive Function

Frequent exercise may improve memory, executive function, attention, and other learning-related cognitive functions.

Finding 3: Psychological Well-being May Provide an Indirect Link

Engaging in physical activity can enhance mood and lower stress. Academic success may be indirectly supported by improved psychological well-being.

Finding 4: Physical Education Can Support Holistic Development

College physical education programs can support social growth, discipline, physical fitness, and healthy lifestyle choices.

Finding 5: Academic Achievement Has Multiple Determinants

Physical fitness is not a sufficient explanation for academic performance. Additionally crucial are study habits, motivation, IQ, sleep, diet, socioeconomic circumstances, and the educational setting.

12. RECOMMENDATIONS:

The following suggestions are offered in light of the findings:

1. Regular chances for physical activity and sports engagement should be offered by colleges.
2. The entire curriculum should incorporate physical education.
3. Students should be encouraged to engage in sports, recreational activities, strength training, and aerobic exercise.
4. College's ought to set up wellness and fitness initiatives.
5. The connection between learning, mental health, and physical activity should be taught to

students.

6. There should be sufficient sports facilities and qualified physical education teachers.

13. CONCLUSION:

A key element of college students' overall growth is their level of physical fitness. According to a review of the evidence, regular exercise and physical fitness may be linked to better academic performance; psychological well-being, and cognitive functioning. Through enhanced attention, memory, executive functioning, stress management, and sleep, exercise may have an impact on academic success. Playing sports can also help build leadership, teamwork, discipline, and time management abilities. Therefore, more emphasis should be placed on physical education and active lifestyles in college settings, and academic progress and physical fitness should be seen as complimentary elements of high-quality higher education.

REFERENCES:

1. Trott, M., Kentzer, N., Horne, J., Langdown, B., & Smith, L. (2024). Associations between total physical activity levels and academic performance in adults: A systematic review and meta-analysis. *Journal of Education and Health Promotion*, 13, 273. https://doi.org/10.4103/jehp.jehp_1618_23.
2. Wunsch, K., Fiedler, J., Bachert, P., et al. (2021). The tridirectional relationship among Physical activity, stress, and academic performance in university students: A systematic review and meta-analysis. *International Journal of Environmental Research and Public Health*, 18(2), 739.
3. Nalbant, S., & Kaya, D. (2025). *The effect of physical activity on academic achievement: A Systematic review*. *Journal of Physical Education and Sports Studies*, 17(1), 71–87. <https://doi.org/10.55929/besad.1588870>.

