



A correlation of physical activity, satisfaction with life and academic performance in college students

Mandade Sejal Ashok, Dr. Yogesh Kadam

Department of Physiotherapy, RJS College of Physiotherapy, Kopargaon, Maharashtra, India

DOI: <https://doi.org/10.66856/ijpees.2026.8.3.8058>

Abstract

Background: Physical activity is an important determinant of physical and psychological health and may be associated with life satisfaction and academic performance among college students.

Aim: To determine the correlation between physical activity, satisfaction with life, and academic performance among college students.

Methods: A cross-sectional correlational study was conducted among 109 college students aged 18–25 years using convenience sampling. Physical activity was assessed using the International Physical Activity Questionnaire–Short Form (IPAQ-SF), satisfaction with life using the Satisfaction with Life Scale (SWLS), and academic performance using academic performance percentage.

Pearson's correlation coefficient was calculated from the master dataset.

Results: In the 109-participant dataset, physical activity showed a small negative, non-significant correlation with satisfaction with life ($r = -0.132$, $p = 0.172$), a negligible negative, non-significant correlation with academic performance ($r = -0.032$, $p = 0.742$), and satisfaction with life showed a negligible positive, non-significant correlation with academic performance ($r = 0.031$, $p = 0.749$).

Conclusion: The correlations calculated from the master dataset were not statistically significant. Further studies with larger and more diverse samples are recommended

Keywords: Physical activity, Satisfaction with life, Academic performance, College students, IPAQ, SWLS

Introduction

College life represents a significant developmental stage during which young adults experience physical, psychological, social, and academic changes. Students adapt to increased academic demands, develop independent lifestyles, manage interpersonal relationships, and prepare for future careers. These changes can influence health-related behaviours, physical activity, mental well-being, and academic functioning.

Regular physical activity provides physiological, psychological, and cognitive benefits. Exercise contributes to positive emotions, improved self-esteem, social interaction, stress management, and mood regulation. It also supports cardiovascular fitness, muscular strength, flexibility, bone health, metabolic function, and healthy body composition.

Physical activity has also been associated with cognitive functions such as attention, concentration, memory, executive functioning, and classroom engagement. Proposed mechanisms include improved cerebral blood flow, neuroplasticity, neurotransmitter activity, and brain-derived neurotrophic factor, which may support learning and memory.

Academic performance reflects a student's achievement of educational goals and may be assessed using examination scores, grade point averages, or academic records. It is influenced by several factors including motivation, learning strategies, socioeconomic status, nutrition, sleep, mental health, and physical activity.

Satisfaction with life is an individual's overall cognitive evaluation of the quality of life according to personal standards and expectations. Among college students, it may

be influenced by academic experiences, social relationships, financial conditions, health, psychological well-being, and lifestyle behaviours. Participation in physical activity may support life satisfaction through improved mood, stress management, social connection, competence, and self-esteem.

Previous research has reported associations between physical activity, life satisfaction, psychological well-being, and academic outcomes, although findings concerning academic performance have not always been consistent. The present study therefore examined the relationship among physical activity, satisfaction with life, and academic performance in college students.

Materials and Methods

Study design and setting: A cross-sectional correlational study was conducted at RJS College of Physiotherapy, Kopargaon. The study population consisted of college students aged 18–25 years.

Sample and sampling: A total of 109 participants were included using convenience sampling. Participants were required to provide informed consent and be sufficiently healthy to participate. Students above 26 years and those with neurological problems were listed as exclusion criteria in the source dissertation.

Outcome measures: Physical activity was assessed using the International Physical Activity Questionnaire–Short Form (IPAQ-SF). Satisfaction with life was assessed using the Satisfaction With Life Scale (SWLS). Academic performance was assessed using academic performance percentage.

Procedure: Ethical committee permission was obtained. Participants were screened according to the stated criteria and completed the relevant assessment tools. Data were entered into the master sheet and analysed using descriptive statistics and Pearson's correlation coefficient.

Statistical analysis: Pearson's correlation coefficient was used to examine relationships among physical activity score, satisfaction with life score, and academic performance

percentage. A p-value <0.05 was considered statistically significant.

Results

The sample consisted of 109 participants: 65 males (59.6%) and 44 females (40.4%). Participants were distributed across first year (n=25), second year (n=24), third year (n=38), and final year (n=22).

Variables	Pearson r	p-value	Interpretation
Physical activity vs. satisfaction with life	-0.132	0.172	Not significant
Physical activity vs. academic performance	-0.032	0.742	Not significant
Satisfaction with life vs. academic performance	0.031	0.749	Not significant

Gender-wise comparisons reported in the source showed no statistically significant differences in physical activity, satisfaction with life, or academic performance. Year-wise one-way ANOVA results also showed no statistically significant differences across academic years for these three measures.

Conclusion

Based on the master dataset contained in the submitted dissertation, the correlations between physical activity, satisfaction with life, and academic performance were small and not statistically significant. The findings do not support a statistically significant association among the three variables in this sample. Larger studies using more diverse populations and robust measurement and sampling approaches are recommended.

References

- Kljajević V, Stanković M, Đorđević D, *et al.* Physical Activity and Physical Fitness among University Students—A Systematic Review. *Int J Environ Res Public Health*,2021;19(1):158. doi:10.3390/ijerph19010158.
- Warburton DER, Bredin SSD. Health benefits of physical activity: a systematic review of current systematic reviews. *Curr Opin Cardiol*,2017;32(5):541–556. doi:10.1097/HCO.0000000000000433.
- Hillman CH, Erickson KI, Kramer AF. Be smart, exercise your heart: exercise effects on brain and cognition. *Nat Rev Neurosci*,2008;9(1):58–65. doi:10.1038/nrn2298.
- Erickson KI, Hillman C, Stillman CM, *et al.* Physical activity, cognition, and brain outcomes: a review and recommendations. *Med Sci Sports Exerc*,2019;51(6):1242–1251. doi:10.1249/MSS.0000000000001936.
- Buecker S, Simacek T, Ingwersen B, Terwiel S, Simonsmeier BA. Physical activity and subjective well-being in healthy individuals: a meta-analysis. *Health Psychol Rev*,2021;15(4):574–592. doi:10.1080/17437199.2020.1760728.
- York TT, Gibson C, Rankin S. Defining and measuring academic success. *Pract Assess Res Eval*,2015;20(5):1–20.
- Credé M, Kuncel NR. Study habits, skills, and attitudes: the third pillar supporting collegiate academic performance. *Perspect Psychol Sci*,2008;3(6):425–453.
- Richardson M, Abraham C, Bond R. Psychological correlates of university students' academic performance: a systematic review and meta-analysis. *Psychol Bull*,2012;138(2):353–387. doi:10.1037/a0026838.
- Donnelly JE, Hillman CH, Castelli D, *et al.* Physical activity, fitness, cognitive function, and academic achievement in children: a systematic review. *Med Sci Sports Exerc*,2016;48(6):1197–1222. doi:10.1249/MSS.0000000000000901.
- Singh A, Uijtdewilligen L, Twisk JWR, van Mechelen W, Chinapaw MJM. Physical activity and performance at school: a systematic review of the literature including a methodological quality assessment. *Arch Pediatr Adolesc Med*,2012;166(1):49–55. doi:10.1001/archpediatrics.2011.71.
- Maher JP, Doerksen SE, Elavsky S, *et al.* A daily analysis of physical activity and satisfaction with life in emerging adults. *Health Psychol*,2013;32(6):647–656. doi:10.1037/a0030129.
- Maher JP, Pincus AL, Ram N, Conroy DE. Daily physical activity and life satisfaction across adulthood. *Dev Psychol*,2015;51(10):1407–1419. doi:10.1037/dev0000035.
- Teixeira PJ, Carraça EV, Markland D, Silva MN, Ryan RM. Exercise, physical activity, and self-determination theory: a systematic review. *Int J Behav Nutr Phys Act*,2012;9:78. doi:10.1186/1479-5868-9-78.
- Mikkelsen K, Stojanovska L, Polenakovic M, Bosevski M, Apostolopoulos V. Exercise and mental health. *Maturitas*,2017;106:48–56. doi:10.1016/j.maturitas.2017.09.003.
- Babaeer L, Stylianou M, Leveritt M, Gomersall SR. Physical activity, sedentary behaviour and academic performance among university students: a systematic review. *J Am Coll Health*, 2022.
- The WHOQOL Group. The World Health Organization Quality of Life assessment (WHOQOL): position paper from the World Health Organization. *Soc Sci Med*,1995;41(10):1403–1409. doi:10.1016/0277-9536(95)00112-K.
- Abrantes LCS, de Moraes NSS, Gonçalves VSS, *et al.* Physical activity and quality of life among college students without comorbidities for cardiometabolic diseases: a systematic review and meta-analysis. *Qual Life Res*,2022;31(7):1933–1962. doi:10.1007/s11136-021-03035-5.
- Huang C, Wang J, Chang Z, Tang J. Relationship between physical activity and college students' life satisfaction: the chain mediating effect of psychological resilience and negative emotions. *Front Psychol*,2025;15:1502222. doi:10.3389/fpsyg.2024.1502222.

19. Pengpid S, Peltzer K. Sedentary behaviour, physical activity and life satisfaction, happiness and perceived health status in university students from 24 countries. *Int J Environ Res Public Health*,2019;16(12):2084. doi:10.3390/ijerph16122084.
20. Keating XD, Guan J, Piñero JC, Bridges DM. A meta-analysis of college students' physical activity behaviors. *J Am Coll Health*. 2005;54(2):116–126. doi:10.3200/JACH.54.2.116-126.