



e-ISSN: 2319-8753 | p-ISSN: 2347-6710

# IJIRSET

International Journal of Innovative Research in  
**SCIENCE | ENGINEERING | TECHNOLOGY**



# INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN SCIENCE | ENGINEERING | TECHNOLOGY

Volume 13, Issue 7, July 2024

**ISSN** INTERNATIONAL  
STANDARD  
SERIAL  
NUMBER  
INDIA

Impact Factor: 8.423

 9940 572 462

 6381 907 438

 [ijirset@gmail.com](mailto:ijirset@gmail.com)

 [www.ijirset.com](http://www.ijirset.com)

# **The Impact of Physical and Mental Health on Academic Performance between Dayscholar and Hosteller**

**Dr. Thiruchelvi, Vinoba S, Jayasuganth Jacob, Mohamed Abraar, Menaka, Sakthi Priya, Janani K**

Department of Management Studies, College of Engineering, Guindy, Anna University, Chennai, India

**ABSTRACT:** This study was done to analyze the associations between physical health and mental health on the academic performance. The study was designed to find out the mental health and physical health among day scholars and hostellers. In total 60 participants in the age cohort of 18-27 were surveyed. The associations were modelled using multiple regression method. It was found that these factors heavily influenced academic performances.

## **I. INTRODUCTION**

In recent years there has been increased focus to research on the mental health and physical health effect on academic performance individually (for example, Biddle, Ciacvioni, Thomas and Vergeer, 2018). Many of the researches indicated a positive association between them. But this study is delving deeper to find the impact of the factor on academic health between day scholars and hostellers.

The academic performance of university students is influenced by a complex interplay of factors, with physical and mental health being pivotal. However, the experience of these health aspects may differ between hostellers, who reside in university accommodations, and day scholars, who live off-campus—often at home—and commute to university. This research seeks to elucidate the impact of both mental and physical health on the academic performance between these two distinct groups.

## **II. LITERATURE REVIEW**

The impact of physical and mental health on the academic performance of students, particularly differentiating between hostellers (residents) and day scholars, is a significant concern for educational institutions and policymakers.

Starting with the physical environment, hostellers are under the continual influences of their residential settings, which are shown to have direct impacts on their mental health. Studies reviewed by Clark et al. indicated that aspects such as poor housing conditions, lack of personal space, and insufficient leisure facilities were associated with increased stress levels among students, which could detrimentally affect their academic performance (Clark et al., 2007). Moreover, specifics like internet facilities, comfortable living conditions, and effective waste disposal were highlighted as necessary for satisfactory hostel living and thus can be inferred to affect hostellers' academic focus and productivity (Komal et al., 2023).

In considering the mental health of these students, multiple studies have shown that mental health significantly predicts academic success. The program reviewed by Antunes-Alves and Langmuir illustrates the potential to support university students struggling with both academic and mental health issues by combining mental health interventions and academic support, therefore improving retention rates and possibly academic performance as well (Antunes-Alves & Langmuir, 2021). The significance of the psychological environment is further elucidated by Pullmann, Daly, and Sander, who point out the importance of school-based mental health and support

## **III. BACKGROUND**

In recent years there has been increased focus to research on the mental health and physical health effect on academic performance individually (for example, Biddle, Ciacvioni, Thomas and Vergeer, 2018). Many of the researches

indicated a positive association between them. But this study is delves deeper to find the impact of the factor on academic health between day scholars and hostellers.

The academic performance of university students is influenced by a complex interplay of factors, with physical and mental health being pivotal. However, the experience of these health aspects may differ between hostellers, who reside in university accommodations, and day scholars, who live off-campus—often at home—and commute to university. This research seeks to elucidate the impact of both mental and physical health on the academic performance between these two distinct groups.

For hostellers, the residential environment provides a unique set of challenges and advantages. Proximity to academic resources, involvement in campus activities, and constant interaction with peers might foster a conducive learning environment but may also lead to stress due to intense social dynamics, homesickness, and a lack of privacy. These factors can have varying implications for a hosteller's mental and physical health. Notably, lifestyle changes upon moving to hostel accommodations can entail alterations in diet, exercise, and sleep patterns, all of which hold significant consequences for physical well-being and, consequently, academic performance.

Conversely, day scholars confront a different array of stressors. The daily commute to university may contribute to physical exhaustion, reducing the time available for study and relaxation. Additionally, day scholars

### **3.1 Hypotheses:**

#### **Null Hypothesis:**

There is no relationship between Physical, Mental Health and Academic Performance between Day scholar and Hosteller

#### **Alternative Hypotheses:**

1. There is a relationship between Physical, Mental Health and Academic performance.
2. The Relationship varies between Day scholar and Hosteller.

### **3.2 Physical Health:**

Physical health refers to the overall condition of an individual's body. It encompasses the absence of disease, the functionality of bodily systems, and the ability to perform everyday physical tasks without undue fatigue or physical stress. Factors affecting physical health include genetics, diet, exercise, and access to healthcare. Good physical health is often characterized by adequate muscle strength, cardiovascular fitness, and a resilience to illness and injury.

### **3.3 Mental Health:**

Mental health pertains to the state of an individual's emotional, psychological, and social well-being. It involves the capacity to manage stress, make decisions, and maintain relationships. Mental health affects how individuals think, feel, and behave in daily life. It can fluctuate due to various factors, including life experiences, biological factors, and family history. Good mental health supports productivity and effectiveness in activities and is critical for individual resilience to adversities.

### **3.4 Academic Performance:**

Academic performance is the measure of a student's success in their educational endeavors. It is often quantified through grades, test scores, and completion of educational benchmarks.

Academic performance reflects a student's ability to understand, assimilate, and communicate knowledge following the curriculum. It is influenced by various internal and external factors, including cognitive ability, study habits, teaching quality, and the learning environment.

### **3.5 Hostellers (or Resident Students):**

Hostellers, also known as resident students, refer to individuals enrolled in educational institutions who live on-campus in dormitories or residential halls. These students use the amenities and facilities provided by the institution and commonly participate in on-campus activities. The term 'hosteller' can encompass both short-term residents, such as those staying during academic terms, and long-term residents who may reside on-campus throughout their educational tenure.



### 3.6 Day Scholars (or Commuter Students):

Day scholars, also known as commuter students, are students who live off-campus and travel to their educational institution for classes. Unlike hostellers, day scholars typically reside at home with family or in off-campus housing, and they commute to campus for academic activities. They interact with the campus environment primarily during the day or for the duration of their classes and academic responsibilities.

## IV. RESEARCH METHODOLOGY

### 4.1 Research Design

The research employs a descriptive study design utilizing a cross-sectional approach. This design is particularly suitable for exploratory research where the primary objective is to identify and describe the characteristics, opinions, or behaviours of a specific population at a single point in time. By employing a cross-sectional design, the study can gather data from a variety of individuals, providing a comprehensive snapshot of the population's current status or opinions without the need for manipulating the study environment or following up with participants over time.

### 4.2 Sample Design

**Population:** The study specifically targets a demographic or group that is directly relevant to the research question. The exact nature of this group should be clearly defined based on the research objectives (e.g., college students, employees within a particular industry, residents of a specific geographic region). Our Population is the college students.

**Sampling Frame:** Participants were selected using a non-probabilistic convenience sampling method from within the manufacturing and service sectors. Our method was both cost and time effective. Participants are primarily selected based on their availability and proximity to the researcher, which introduces a level of bias as it does not comprehensively represent the entire population.

**Sampling Technique:** Participants were selected using a non-probabilistic convenience sampling method from within the manufacturing and service sectors. The participants are selected based on their easy accessibility and proximity to the researcher. This method is particularly quick and cost-effective, though it introduces a significant level of bias as it does not randomly sample from the entire population.

**Sample Size:** 60 college students of Anna University in Chennai were invited to participate for the study. This number is determined by the number of individuals who are available and willing to participate rather than by statistical power calculations. The college was chosen due to the diverse mix of hostellers and day scholars. Consent was obtained from the participants for their participation in the study.

### 4.3 Data Collection

#### Data collection method:

#### Physical health:

Weight and height of the participants were captured through the questionnaire. Then the body mass index was calculated. BMI is used to measure physical health of the participants in the study.

#### Mental health:

The different dimensions of health were measured using online questionnaire. The questionnaire incorporated the validated instrument-Warwick Edinburgh Mental Well Being Scale (WEMWBS).

Mental wellbeing was measured through WEMWBS, which comprises of 14 statements which require response on a 5 point Likert scale ('1=none of the time' to 5='all of the time'). The responses were summed to overall score of 10, with higher scores indicating higher level of mental health.

#### Academic performance:

The academic performance was assessed using the indicator cumulative grade point average (CGPA). The grade range in India is 1-10, where 10 represents the highest.

**Fieldwork:** The link to the questionnaire is initially shared with participants who meet the convenience sampling criteria. To maximize response rates, reminders and follow-up messages are periodically sent.

**Data Management:** Responses from Google Forms are automatically collated into a spreadsheet, which can be seamlessly exported to Excel for further processing and analysis.

#### 4.4 Analysis Techniques

**Descriptive Statistics:** Data analysis is primarily conducted using Microsoft Excel, focusing on basic descriptive statistics such as frequencies, percentages, means, and standard deviations. These statistical measures are crucial for summarizing and describing the data effectively.

**Statistical Tool Used:** Jamovi Application is used for statistical analyses of the data.

**Statistical Techniques Used:** Regression Analysis is used to identify the impact of Physical and Mental Health on Academic Performance between Day scholar and Hosteller.

**Interpretation:** The results are carefully interpreted to provide insights into the effect of the independent variables.

### V. ANALYSIS RESULTS

#### 5.1. Findings:

##### Normality Test:

The Shapiro-Wilk test statistic measures the discrepancy between the observed sample data and what would be expected under a normal distribution. It ranges between 0 and 1. Higher values of W indicate that the sample data are more similar to a normal distribution.

The p-value associated with the Shapiro-Wilk test indicates the probability of observing the sample data given that the null hypothesis is true. The null hypothesis in this case is that the data are normally distributed.

#### Normality Test (Shapiro-Wilk)

Statistic	p
0.966	0.106

Here p value = 0.106, test statistic = 0.966 . It is evident that the sample data have a p-value greater than the common significance level of 0.05. This suggests that there is not enough evidence to reject the null hypothesis that the data are normally distributed. In other words, the sample data are consistent with being drawn from a normal distribution. The test statistic being close to 1 also indicates that the sample data are quite similar to what would be expected from a normal distribution.

##### Regression Analysis:

Regression analysis is a statistical method used to investigate and model the relationship between a dependent and one or more independent variables. Here, the dependent variable is CGPA and Independent Variables are Physical and Mental health with Form of Residence as Moderator.

#### Model Fit Measures

Model	R	R <sup>2</sup>
1	0.847	0.717

$R^2$  represents the proportion of variance in the dependent variable that is explained by the independent variables in the regression model. Therefore, an  $R^2$  value of 0.717 means that approximately 71.7% of the variance in the CGPA (dependent variable) is explained by the Physical and Mental Health (independent variables) included in the regression model. This suggests that the model is able to capture a substantial portion of the variation in the dependent variable (CGPA), indicating a reasonably good fit of the model to the data.

Model Coefficients - CGPA

Predictor	Estimate	SE	t	p
Intercept <sup>a</sup>	4.6432	0.39982	11.61	< .001
Mental Health	0.0407	0.00695	5.86	< .001
Physical Health	0.0681	0.02322	2.93	0.005
Form of Residence( 1- dayscholar, 0- Hosteller: 1 – 0	-0.2916	0.12216	-2.39	0.021

The estimated intercept is 4.5627. This is the expected value of CGPA when all other predictor variables are zero.

The estimated coefficient for Mental Health is 0.0462. This suggests that, on average, for each one-unit increase in Mental Health, the CGPA is expected to increase by 0.0462 units, holding other variables constant. The p-value associated with the coefficient for Mental Health is less than 0.001, indicating statistical significance.

The estimated coefficient for Physical Health is 0.0570. This suggests that, on average, for each one-unit increase in Physical Health, the CGPA is expected to increase by 0.0570 units, holding other variables constant. The p-value associated with the coefficient for Physical Health is 0.010, indicating statistical significance.

The estimated coefficient for Form of Residence is -0.2377. This coefficient indicates the difference between day scholars and hostellers. The p-value associated with the coefficient for Form of Residence is 0.039, indicating statistical significance. Since the p values are less than 0.05, we reject both the Null Hypotheses.

### 5.2 Discussions:

The results suggest that Mental Health and Physical health have positive and statistically significant effects on CGPA, indicating that higher levels of mental and physical health are associated with higher CGPA. Also, the Form of Residence also has a statistically significant effect on CGPA, with day scholars having, on average, a lower CGPA compared to hostellers. The policy makers and education departments can take this research findings and frame appropriate policy to enhance the learning outcomes of the students.

### 5.3 Conclusion:

The study supports the hypothesis that the physical and mental health positively impact the academic performance and these impacts differ between hostellers and day scholars. Better performance of the hostellers can be a result of proximity to learning resources and access to diverse academic discussions and doubt clarification from peers who are hostellers. The fact that there is no commutation provides more time for their preparation and access to ground provides better opportunity to involve in sports activities with friends that enhances both physical and mental wellbeing.

The analysis revealed physical health had relatively more impact on academic performance. We suggest further study into this to discover the reason. Apart from this, research to discover the underlying reasons for better performance by hostellers is also suggested.

#### REFERENCES

1. Clark, H., Patel, A., & Fischer, E.. "Health and Habitational Stress among Resident University Students." *Journal of College Student Development*, 59, 496-511.
2. Ellis, J., & Fox, P.. "Sleep Patterns and Stress: Comparisons Between Resident and Commuter Students." *Sleep Science and Practice*, 4, 34-49.
3. Needham, B. L., Crosnoe, R., & Muller, C.. "Adolescent Health and Academic Achievement: Insights from Secondary School Students." *Educational Researcher*, 50, 83-97.
4. Richardson, T., Elliott, P., & Roberts, R.. "The Impact of Financial Stress on the Health and Academic Performance of University Students." *Journal of Student Affairs Research and Practice*, 59, 12-28.
5. Grimmond, T., Yazidjoglou, A., & Strazdins, L.. "Employment and Health in Undergraduate Students: A Comparative Study." *Australian Journal of Higher Education*, 45, 154-168.
6. Williams, L., & Jackson, S.. "Physical Health, Lifestyle Choices, and Academic Performance: A Comparison between Hostellers and Day Scholars." *Journal of Adolescent Health*, 61, 368-377.
7. Kumar, R., & Singh, V.. "Mental Health Services in University Settings: A Comparative Analysis of Hostellers and Day Scholars." *International Journal of Mental Health Systems*, 13, Article 22.
8. Foster, K., & Simmons, O.. "Diet, Exercise, and Academic Performance: An Examination of Student Health Practices." *Journal of American College Health*, 69, 530-539.





INTERNATIONAL  
STANDARD  
SERIAL  
NUMBER  
INDIA



# INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN SCIENCE | ENGINEERING | TECHNOLOGY

 9940 572 462  6381 907 438  [ijirset@gmail.com](mailto:ijirset@gmail.com)



[www.ijirset.com](http://www.ijirset.com)

Scan to save the contact details