

Health Status and Academic Performance Among Hostelite and Day-Scholar Medical and Allied Health Sciences Students at Green International University, Lahore: A Comparative Study.

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Abstract

Background: Medical and allied health learners face heavy academic and clinical workloads that can compromise their health and learning outcomes. Living arrangements may influence daily routines including sleep patterns, eating habits, mental health, and availability of social support. This research compared health conditions and academic achievement between hostel-resident and day students at Green International University, Lahore.

Methods: This cross-sectional comparative quantitative study recruited 206 participants (103 hostelites and 103-day scholars) through convenience sampling. Data were gathered with a self-designed questionnaire covering demographic characteristics, 18 health-related statements and 15 items measuring academic progress. Descriptive statistics (frequencies and percentages) summarized participant responses. Pearson's chi-square was applied to test links between residential type and survey responses; Cramer's V quantified the magnitude of associations. The significance threshold was fixed at $p < 0.05$.

Results: Hostel students reported higher prevalence of urinary complaints, gastrointestinal discomfort, skipped meals, unsupervised medication or substance use, self-harm ideation and frequent tearfulness. Day students demonstrated better sleep, higher attendance, stronger examination performance and improved retention of lecture content. Still, this group showed greater rates of unhealthy dietary intake and in-class drowsiness. Nine health indicators and four academic variables yielded statistically significant relationships. The most prominent difference related to unsupervised medication and substance use $\chi^2 (2) = 14.19$, $p < .001$, Cramer's $V = .262$, though all observed effect sizes remained small.

Conclusion: Hostel and day students encounter distinct health and academic obstacles, with no single living environment delivering universal benefits. Universities should design student support services tailored to each residential group, covering nutrition, mental health counselling, safe medication guidance, sleep optimization and academic assistance. Future multicenter longitudinal research should adopt validated assessment tools and official academic records to confirm these findings.

Keywords: Academic progress; Allied health sciences students; Day scholars; Health status; Hostelites; Medical students; Residential status; Student well-being.

Introduction

Student health serves as a core foundation for academic success, which is especially true for medical and health sciences learners. These students face rigorous coursework, long daily study hours, continuous clinical duties, hands-on practical training, and frequent assessments throughout their academic journey. In higher health education contexts, student health encompasses far more than the absence of illness, covering overall physical fitness, mental stability, social adaptation, and positive behavioral habits (Gautam, Jain et al. 2024). Unhealthy daily patterns including poor dietary choices, insufficient sleep, sedentary lifestyles, and chronic academic stress greatly weaken students' focus, energy levels, learning motivation, and classroom efficiency (Mahfouz, Alhazmi et al. 2024, Khajuria, Yadav et al. 2025). Practical medical education research confirms that physically healthy students typically achieve better academic results, yet many high-performing learners still struggle with suboptimal mental health and daily vitality (Rodríguez-Romo, Acebes-Sánchez et al. 2022). Local studies on Pakistani medical students further verify that irregular eating habits, sleep deprivation, and lack of physical activity correlate with poor health conditions and unsatisfactory academic performance (Ali, Fatima et al. 2024). Such evidence highlights the necessity of integrating health status analysis into academic performance research for health sciences students.

The interplay between health and academic achievement is particularly prominent in professional health science programs (Kesin and İşsever 2026). Students majoring in medicine, nursing, physiotherapy, pharmacy, and other related disciplines are required to master massive theoretical knowledge while cultivating professional clinical and practical skills (Wynne, Mwangi et al. 2024). This dual learning burden creates intense academic pressure, which inevitably impacts their physical and psychological well-being. High academic stress and unregulated study routines are prevalent among health sciences students, with those in specialized professional tracks reporting notably higher stress levels (Shetty, Kamath et al. 2021). Sleep quality also acts as a key indicator of mental health. For medical students, poor sleep is strongly linked to heightened psychological stress, though its direct impact on grade outcomes remains inconsistent across existing studies (Virani, Thobani et al. 2023). Similar research on dental students recorded moderate stress and poor sleep conditions among participants, and confirmed a connection between students' living arrangements and grade point averages (Jowkar, Masoumi et al. 2020). Overall, the correlation between health status and academic performance is multifaceted, shaped by students' social environments, learning conditions, and daily living patterns.

Residential status stands out as a critical factor shaping students' daily health and learning experiences. (Khozaei, Ayub et al. 2010). These two living modes completely reshape daily schedules, dietary selections, sleep cycles, exercise habits, stress levels, social support networks, and access to learning resources (Abe and Abe 2019). Hostel accommodation offers obvious advantages including proximity to teaching buildings, libraries, and laboratories, eliminating long commutes, and enabling convenient group study and peer communication. However, hostel life also brings inherent challenges: homesickness, family separation, limited personal privacy, noisy living environments, unstable catering quality, and inadequate basic living facilities. Homesickness and persistent academic stress have been proven to impair the mental health and academic performance of female hostel students (Malik, Shahid et al. 2025). Substandard sanitation, unstable water, electricity, and internet supply further disrupt daily study routines and physical health.

In contrast, day scholars benefit from stable family care, familiar living environments, home-cooked meals, and timely emotional and practical support from family members during stressful or unhealthy

periods. Even so, long daily commutes, traffic fatigue, household chores, and limited access to on-campus learning resources reduce their available study time and hinder active academic participation. Neither living arrangement delivers absolute advantages, as its effectiveness depends heavily on living environment quality, campus facility conditions, family support levels, personal economic status, and individual study habits.

Existing research on residential status, health, and academic performance yields conflicting conclusions. A Lahore-based study on allied health sciences students found hostelites achieved better academic results, while day scholars maintained superior physical health (Altaf, Rehman et al. 2019). Conversely, another local study reported higher academic performance among day scholars, attributing their success to supportive home environments (Johnson, Perrigo et al. 2021). Global studies present similarly mixed outcomes, with some research favoring hostel students for their structured learning environments and full access to campus resources, and others highlighting commuter students' better academic gains (Moosa and Aslam 2025). Several studies also argue residential status has no independent significant impact on student outcomes, with its effects varying by institutional and individual characteristics (Turley and Wodtke 2010).

These inconsistent research findings highlight the need for targeted, institution-specific research. There remains a notable research gap in simultaneous comparisons of health status and academic performance between hostelites and day scholars in Pakistani medical and allied health institutions. This study aims to address this gap by analyzing student populations at Green International University, Lahore. The findings will identify practical differences between the two residential groups and provide evidence for developing targeted health promotion programs, psychological counseling services, accommodation improvements, and academic support strategies for local health sciences students.

Methodology

Research Design

This study used a quantitative, cross-sectional comparative design to examine differences in health status and academic progress between hostelite and day-scholar medical and allied health sciences students. The quantitative approach enabled the collection of standardized numerical data through a structured questionnaire and its analysis using statistical methods. Data were collected at a single point in time, providing an overview of participants' health, lifestyle behaviors, and academic functioning. The comparative design allowed direct comparison between the two residential groups. No experimental manipulation was involved, as participants were studied within their existing academic and residential environments.

Research Setting

The study was conducted at Green International University, Lahore, Pakistan. Participants were recruited from undergraduate medical and allied health sciences programmes, including Bachelor of Medicine and Bachelor of Surgery (MBBS), Doctor of Physical Therapy (DPT), Doctor of Dietetics and Nutritional Sciences (DDNS), Medical Laboratory Sciences (MLS), Optometry, and Anesthesia Technology. These programmes involve intensive coursework, practical training, clinical rotations, regular assessments, and extended study hours. The presence of both hostelites and day scholars made the university an appropriate setting for comparing health status and academic progress according to residential arrangements.

Study Population

The study population comprised undergraduate students enrolled in medical and allied health sciences programmes at Green International University. Participants were categorized into two groups based

on residential status. Hostelites were students living in university-managed accommodation, whereas day scholars were students living at home and commuting to the university for classes, practical sessions, and clinical placements. Although both groups studied within the same institutional environment, they differed in their daily routines, dietary arrangements, family support, commuting requirements, living conditions, and access to university resources. Residential status was therefore considered the main grouping variable.

Sample Size

The final sample consisted of 206 students, including 103 hostelites and 103-day scholars. Equal allocation ensured balanced representation of the two groups and facilitated direct statistical comparison. Students from different age groups, academic programmes, and years of study were included to reflect the diversity of the university's medical and allied health sciences student population.

Sampling Technique

A non-probability convenience sampling technique was used to recruit participants. Eligible students who were available on campus during the data-collection period and willing to participate were approached. Recruitment continued until the required sample of 103 hostelites and 103-day scholars was achieved. This method was practical within the available time and institutional resources. However, because participants were not selected randomly, the findings may have limited generalizability beyond the study institution.

Eligibility Criteria

Students were included if they were currently enrolled in an undergraduate medical or allied health sciences programme at Green International University, were classified as either hostelites or day scholars, were available during data collection, and voluntarily provided informed consent. Students were excluded if they declined participation, did not provide informed consent, were absent during data collection, or submitted questionnaires with substantial missing information. Students who participated in the pilot study were also excluded from the main study to prevent duplicate participation and possible response bias.

Research Instrument

Data were collected using a structured, researcher-developed questionnaire based on the study objectives. The questionnaire consisted of three parts.

Part I collected demographic information, including gender, academic programme, marital status, age group, current year of study, and residential status.

Part II consisted of 18 items assessing students' health status and lifestyle experiences. The items covered urinary tract infection symptoms, gastrointestinal problems, eye strain, sleep, environmental disturbance, body pain, use of medicines or substances without medical advice, meal skipping, depression, loneliness, exercise, unhealthy food consumption, unintentional weight loss, thoughts of self-harm, excessive mobile-phone use, excessive earphone use, feelings of crying, and hospitalization after joining the academic programme.

Part III contained 15 items assessing academic progress and related behaviors during the current semester. These included class attendance, academic scores, sleepiness during classes, participation in extracurricular activities, availability of study materials, concentration, time for self-study, interaction with teachers, social-media and television use, punctuality, missing classroom information, library use, assignment submission, and punctuality during clinical placements.

The response options for Parts II and III were coded as **1 = Often, 2 = Sometimes, and 3 = Never**. Because the questionnaire included both positive and negative statements, responses were primarily analyzed at the item level.

Validity, Reliability and Pilot Testing

The questionnaire was reviewed by relevant academic, clinical, and research experts to establish content validity. Experts assessed the clarity, relevance, appropriateness, and alignment of each item with the study objectives. Unclear or repetitive items were revised according to their recommendations.

A pilot study was conducted among students with characteristics like the main study participants. These students were excluded from the final sample. The pilot study assessed the questionnaire's clarity, feasibility, completion time, and respondent understanding. Cronbach's alpha was calculated separately for the health-status and academic-progress sections. A value of 0.70 or higher was considered evidence of acceptable internal consistency.

Data-Collection Procedure

Following institutional and ethical approval, eligible students were approached on campus. The researcher explained the study's purpose, procedures, confidentiality protections, and voluntary nature. Students were informed that they could refuse participation or withdraw without academic consequences. Participants who agreed to take part provided written informed consent before completing the questionnaire in a suitable private environment. Each questionnaire was assigned a unique identification code, and no names or registration numbers were recorded. Completed questionnaires were checked for completeness before coding and data entry.

Data Analysis

Data were coded, organized, and entered Microsoft Excel. The dataset was checked for duplicate records, missing responses, invalid codes, and data-entry errors before being imported into IBM SPSS Statistics. Frequencies and percentages were calculated to summarize participants' demographic characteristics and responses to the health-status and academic-progress items. Results were presented separately for hostelites and day scholars. The chi-square test of independence was used to examine associations between residential status and categorical responses. Fisher's exact test was applied when expected cell frequencies did not meet the assumptions of the chi-square test. Statistical significance was set at a p-value of less than 0.05.

Ethical Considerations

Ethical approval and administrative permission were obtained from the relevant institutional authorities before data collection. Written informed consent was obtained from all participants. Participation was voluntary, and students could withdraw without academic consequences. Anonymity was maintained by using identification codes instead of personal information. Data were securely stored and used only for research purposes, while findings were reported in aggregate form. Because the questionnaire included an item concerning thoughts of self-harm, a referral procedure was established to direct participants requiring assistance to appropriate university counselling, mental-health, or healthcare services.

Results

Demographic Characteristics of the Participants

A total of 206 medical and allied health sciences students participated in the study. The sample was equally divided between 103 hostelites and 103-day scholars. Most participants were female (59.2%),

single (96.1%), and aged 25 years or younger (68.0%). Students enrolled in the Doctor of Dietetics and Nutritional Sciences programme constituted the largest academic group (21.8%), followed by MBBS (21.4%) and DPT students (19.9%). Approximately one-third of the participants were studying in their third year (32.5%).

Table 1. Demographic characteristics of the participants (N = 206)

Characteristic	Category	n	%
Gender	Male	84	40.8
	Female	122	59.2
Academic programme	MBBS	44	21.4
	DPT	41	19.9
	DDNS	45	21.8
	Medical Laboratory Sciences	19	9.2
	Optometry	24	11.7
	Anesthesia Technology	33	16.0
Marital status	Single	198	96.1
	Married	8	3.9
Age group	≤25 years	140	68.0
	26–30 years	40	19.4
	31–35 years	10	4.9
	36–40 years	10	4.9
	≥41 years	6	2.9
Current year of study	First year	51	24.8
	Second year	46	22.3
	Third year	67	32.5
	More than third year	42	20.4
Residential status	Hostelite	103	50.0
	Day scholar	103	50.0

Note. MBBS = Bachelor of Medicine and Bachelor of Surgery; DPT = Doctor of Physical Therapy; DDNS = Doctor of Dietetics and Nutritional Sciences.

Health Status of Hostelites and Day Scholars

Table 2 compares the health-status responses of hostelites and day scholars. At the conventional significance level of $p < .05$, residential status was significantly associated with urinary tract infection symptoms, gastrointestinal problems, sleeping peacefully for at least eight hours, use of medicines or substances without medical advice, meal skipping, unhealthy food consumption, thoughts of self-harm, prolonged earphone use, and feelings of crying.

Hostelites reported urinary tract infection symptoms more frequently than day scholars. Approximately 22.3% of hostelites experienced these symptoms often, compared with 7.8% of day scholars. The association was statistically significant, $\chi^2(2) = 8.65$, $p = .013$. Cramer's $V = .205$. Gastrointestinal problems were also more common among hostelites.

Almost one-third of hostelites (29.1%) reported experiencing gastrointestinal problems often, compared with 13.6% of day scholars, $\chi^2(2) = 10.56$, $p = .005$, $V = .226$. Day scholars reported more favorable sleeping patterns. More than half of the day scholars (55.3%) reported often sleeping peacefully for at least eight hours, compared with 36.9% of hostelites. This difference was statistically significant, $\chi^2(2) = 8.85$, $p = .012$, $V = .207$. The strongest health-related association was found for the use of medicines or other substances without medical advice. This behavior was reported often by 19.4% of hostelites but only 2.9% of day scholars, $\chi^2(2) = 14.19$, $p < .001$, $V = .262$. Although this represented the largest observed association, its effect size remained relatively small. Meal skipping was more frequently reported by hostelites. Among hostelites, 41.7% often skipped regular meals, compared with 23.3% of day scholars, $\chi^2(2) = 8.08$, $p = .018$, $V = .198$. Conversely, unhealthy, or fast-food consumption was reported often by 47.6% of day scholars and 30.1% of hostelites, $\chi^2(2) = 8.27$, $p = .016$, $V = .200$. Thoughts of self-harm were reported often by 28.2% of hostelites compared with 10.7% of day scholars. This association was statistically significant, $\chi^2(2) = 11.16$, $p = .004$, $V = .233$. Feelings of crying also differed significantly between the groups, $\chi^2(2) = 6.69$, $p = .035$, $V = .180$. These findings indicate that hostelites may experience a greater emotional burden than day scholars. No statistically significant associations were observed for eye strain, study or sleep disturbance caused by the living environment, body pain, depression, loneliness, exercise, unintentional weight loss, or mobile-phone use exceeding eight hours per day.

Table 2. Comparison of health-status responses between hostelites and day scholars

Health-status item	Hostelite, n (%) O/S/N	Day scholar, n (%) O/S/N	χ^2	p	Cramer's V
HS1: UTI symptoms	23 (22.3)/15 (14.6)/65 (63.1)	8 (7.8)/16 (15.5)/79 (76.7)	8.65	.013	.205
HS2: Gastrointestinal problems	30 (29.1)/54 (52.4)/19 (18.4)	14 (13.6)/54 (52.4)/35 (34.0)	10.56	.005	.226
HS3: Eye strain	32 (31.1)/33 (32.0)/38 (36.9)	21 (20.4)/37 (35.9)/45 (43.7)	3.10	.212	.123
HS4: Peaceful eight-hour sleep	38 (36.9)/40 (38.8)/25 (24.3)	57 (55.3)/34 (33.0)/12 (11.7)	8.85	.012	.207
HS5: Study or sleep disturbance	36 (35.0)/51 (49.5)/16 (15.5)	31 (30.1)/44 (42.7)/28 (27.2)	4.16	.125	.142
HS6: Body pain	33 (32.0)/50 (48.5)/20 (19.4)	31 (30.1)/54 (52.4)/18 (17.5)	0.32	.852	.040
HS7: Medicines/substances without advice	20 (19.4)/16 (15.5)/67 (65.0)	3 (2.9)/18 (17.5)/82 (79.6)	14.19	<.001	.262
HS8: Skipping regular meals	43 (41.7)/44 (42.7)/16 (15.5)	24 (23.3)/56 (54.4)/23 (22.3)	8.08	.018	.198
HS9: Feeling depressed	28 (27.2)/51 (49.5)/24 (23.3)	22 (21.4)/54 (52.4)/27 (26.2)	0.98	.612	.069
HS10: Feeling lonely	31 (30.1)/42 (40.8)/30 (29.1)	23 (22.3)/45 (43.7)/35 (34.0)	1.67	.433	.090

Health-status item	Hostelite, n (%) O/S/N	Day scholar, n (%) O/S/N	χ^2	p	Cramer's V
HS11: Exercise or walking	19 (18.4)/46 (44.7)/38 (36.9)	13 (12.6)/52 (50.5)/38 (36.9)	1.49	.474	.085
HS12: Unhealthy or fast-food consumption	31 (30.1)/53 (51.5)/19 (18.4)	49 (47.6)/45 (43.7)/9 (8.7)	8.27	.016	.200
HS13: Unintentional weight loss	28 (27.2)/32 (31.1)/43 (41.7)	18 (17.5)/32 (31.1)/53 (51.5)	3.22	.200	.125
HS14: Thoughts of self-harm	29 (28.2)/24 (23.3)/50 (48.5)	11 (10.7)/23 (22.3)/69 (67.0)	11.16	.004	.233
HS15: Mobile-phone use over eight hours	36 (35.0)/34 (33.0)/33 (32.0)	38 (36.9)/34 (33.0)/31 (30.1)	0.12	.943	.024
HS16: Earphone use over five hours	26 (25.2)/35 (34.0)/42 (40.8)	24 (23.3)/52 (50.5)/27 (26.2)	6.66	.036	.180
HS17: Feeling like crying	26 (25.2)/48 (46.6)/29 (28.2)	15 (14.6)/43 (41.7)/45 (43.7)	6.69	.035	.180
HS18: Hospitalization since joining programme	12 (11.7)/24 (23.3)/67 (65.0)	8 (7.8)/20 (19.4)/75 (72.8)	—	—	—

Note. O = Often; S = Sometimes; N = Never. Responses are presented in O/S/N order. All reported Pearson chi-square tests had $df=2$.

4.3 Academic Progress of Hostelites and Day Scholars

Table 3 compares academic-progress responses between hostelites and day scholars. Residential status was significantly associated with maintaining attendance above 70%, scoring above 65%, sleepiness during classes, and missing important information discussed during classes.

Day scholars reported more favorable attendance than hostelites. Approximately 79.6% of day scholars often maintained attendance above 70%, compared with 60.2% of hostelites. The association was statistically significant, $\chi^2(2) = 9.37$, $p = .009$, $V = .213$. Academic scores also differed significantly between the groups. Almost three-quarters of day scholars (72.8%) often scored above 65%, compared with 50.5% of hostelites, $\chi^2(2) = 10.94$, $p = .004$, $V = .230$.

Despite having more favorable attendance and academic-score responses, day scholars reported greater sleepiness during classes. Approximately 41.7% of day scholars often felt sleepy during classes, compared with 25.2% of hostelites. This association was statistically significant, $\chi^2(2) = 8.20$, $p = .017$, $V = .200$. Hostelites were more likely to report missing important classroom information. Among hostelites, 23.3% selected often, compared with 9.7% of day scholars. Conversely, 50.5% of day scholars reported never missing important classroom information, compared with 34.0% of hostelites. The association was statistically significant, $\chi^2(2) = 9.19$, $p = .010$, $V = .211$.

No statistically significant associations were found for avoiding classes, extracurricular participation, difficulty obtaining study materials, classroom concentration, insufficient self-study time, interaction with teachers, social-media, or television use, arriving late for classes, library use, submitting assignments on time, or punctuality during clinical placements.

Table 3. Comparison of academic-progress responses between hostelites and day scholars

Academic-progress item	Hostelite, n (%) O/S/N	Day scholar, n (%) O/S/N	χ^2	p	Cramer's V
AP1: Avoiding classes	17 (16.5)/38 (36.9)/48 (46.6)	21 (20.4)/34 (33.0)/48 (46.6)	0.64	.725	.056
AP2: Attendance above 70%	62 (60.2)/33 (32.0)/8 (7.8)	82 (79.6)/16 (15.5)/5 (4.9)	9.37	.009	.213
AP3: Scores above 65%	52 (50.5)/38 (36.9)/13 (12.6)	75 (72.8)/20 (19.4)/8 (7.8)	10.94	.004	.230
AP4: Sleepiness during classes	26 (25.2)/55 (53.4)/22 (21.4)	43 (41.7)/49 (47.6)/11 (10.7)	8.20	.017	.200
AP5: Extracurricular participation	25 (24.3)/45 (43.7)/33 (32.0)	20 (19.4)/40 (38.8)/43 (41.7)	2.17	.339	.103
AP6: Difficulty obtaining study materials	23 (22.3)/50 (48.5)/30 (29.1)	15 (14.6)/57 (55.3)/31 (30.1)	2.16	.340	.102
AP7: Classroom concentration	40 (38.8)/52 (50.5)/11 (10.7)	40 (38.8)/51 (49.5)/12 (11.7)	0.05	.974	.016
AP8: Insufficient self-study time	27 (26.2)/55 (53.4)/21 (20.4)	25 (24.3)/53 (51.5)/25 (24.3)	0.46	.794	.047
AP9: Interaction with teachers	54 (52.4)/36 (35.0)/13 (12.6)	55 (53.4)/42 (40.8)/6 (5.8)	3.05	.218	.122
AP10: More social media/TV than studying	33 (32.0)/51 (49.5)/19 (18.4)	37 (35.9)/43 (41.7)/23 (22.3)	1.29	.525	.079
AP11: Arriving late for classes	19 (18.4)/48 (46.6)/36 (35.0)	23 (22.3)/37 (35.9)/43 (41.7)	2.43	.298	.108
AP12: Missing important classroom information	24 (23.3)/44 (42.7)/35 (34.0)	10 (9.7)/41 (39.8)/52 (50.5)	9.19	.010	.211
AP13: Using library facilities	33 (32.0)/46 (44.7)/24 (23.3)	31 (30.1)/38 (36.9)/34 (33.0)	2.55	.280	.111
AP14: Submitting assignments on time	66 (64.1)/24 (23.3)/13 (12.6)	70 (68.0)/18 (17.5)/15 (14.6)	1.12	.572	.074
AP15: Punctuality during clinical placements	60 (58.3)/30 (29.1)/13 (12.6)	54 (52.4)/36 (35.0)/13 (12.6)	0.86	.650	.065

Note. O = Often; S = Sometimes; N = Never. Responses are presented in O/S/N order. All Pearson chi-square tests had df=2df=2.

Discussion

This study compared health status and academic performance between 103 hostel-residing and 103 day-student learners enrolled in medical and allied health science programmes at Green International University, Lahore. The results confirmed that student residential background correlates with distinct health behaviors, physical discomforts, emotional states, and academic outcomes. Statistical analysis revealed significant associations ($p<.05$) across nine health-related indicators and four academic progress metrics. However, all identified differences yielded small effect sizes (Cramer's $V = 0.180$ –

0.262), indicating residential status acts as a minor contextual factor rather than a decisive determinant of students' health and academic development.

Overall, hostel students exhibited more adverse outcomes in urinary and gastrointestinal symptoms, irregular meal intake, unsupervised medication or substance use, self-harm ideation and frequent emotional crying. In contrast, day students presented better sleep quality, higher class attendance, superior academic scores, and more effective in-class knowledge retention. Nonetheless, day students reported more frequent unhealthy fast-food consumption and daytime classroom drowsiness. These mixed outcomes verify that neither residential mode offers universal advantages for health and academic performance.

Residential Status and Physical Health

Hostel residents reported notably higher rates of urinary tract symptoms, with 22.3% experiencing regular discomfort compared to only 7.8% of day students. Gastrointestinal issues were also prevalent among hostel students, affecting 29.1% of respondents versus 13.6% of day scholars. These disparities may stem from substandard hostel sanitation, shared washroom facilities, inconsistent drinking water quality, irregular dietary routines, inadequate hydration, and delayed access to medical care for minor ailments (Priyadarshini and Gundimeda 2025). It should be noted that these explanations remain speculative, as the study did not directly assess hostel environmental conditions or healthcare accessibility.

The physical health gap between the two groups aligns with a local Lahore-based study on allied health science students, which found 53.9% of day students maintained good physical health, compared to just 36.5% of hostel students. The present research further supplements existing evidence by specifying the concrete physical symptoms driving overall health disparities. Importantly, all health data relied on self-reported perceptions rather than clinical diagnosis, so findings cannot be interpreted as confirmed medical conditions (Gorber and Tremblay 2016). No significant group differences were found for eye strain or bodily pain, as these issues are primarily linked to intensive academic workload, prolonged screen exposure and prolonged sitting during clinical practice, affecting all health science students equally regardless of residence.

Sleep and Daily Lifestyle

Day students achieved more stable and longer sleep duration, with over half regularly sleeping eight hours or more peacefully, while only one-third of hostel students met this standard. This gap is largely attributable to hostel-specific environmental disturbances, including shared bedrooms, noise interference, limited privacy, and fixed institutional schedules. Consistent with these results, a prior Pakistani medical student study confirmed that hostel living conditions, academic stress and environmental disruptions are key contributors to poor sleep quality among residential students (Ijaz, Zahid Chaudhry et al. 2024).

A counterintuitive finding was higher classroom sleepiness among day students, despite their longer nightly sleep duration. This inconsistency can be explained by external unmeasured factors, such as early morning commutes, traffic-induced fatigue, irregular sleep timing and weekday-weekend sleep pattern discrepancies. Extended sleep duration does not equate to high-quality restorative sleep, and daytime drowsiness among day students is likely tied to travel exhaustion rather than insufficient sleep (Gorber and Tremblay 2016). Future research should adopt validated tools such as the Pittsburgh Sleep Quality Index and record daily commuting duration to clarify sleep quality differences (Carpi 2025). Mobile phone overuse was similar across both groups, indicating excessive digital device engagement is a universal student behavior rather than a residence-specific issue.

Dietary Behaviors

Meal skipping was a prominent issue for hostel students, with 41.7% reporting frequent irregular meals, nearly double the 23.3% recorded for day students. Hostel students' erratic eating habits stem from inflexible institutional meal timetables, dissatisfaction with hostel catering, limited self-catering facilities and heavy academic workloads. This observation is supported by a large-scale undergraduate student study, which identified residential accommodation as a key predictor of breakfast skipping, with time scarcity and poor appetite as primary contributing factors.

Irregular eating negatively impacts academic performance by triggering persistent fatigue and reduced in-class attention, a link well-documented in medical student research (Jaimes Crispín and Sigales Ruiz 2025). Accordingly, hostel students' higher meal-skipping rate partially explains their lower attendance and weaker knowledge retention (Lee and Shim 2025). Conversely, day students reported more frequent unhealthy fast-food intake, overturning the assumption that home residence guarantees healthy dietary habits. Their high fast-food consumption is likely caused by convenient roadside food access during daily commutes and time constraints between home and university. This confirms that both student groups face unique nutritional challenges, requiring targeted rather than universal dietary intervention strategies.

Emotional and Psychological Health

Self-harm thoughts were considerably more common among hostel students (28.2%) than day students (10.7%), who also reported fewer frequent crying episodes. Though the effect sizes were small, these psychological indicators hold critical clinical significance, as recurring self-harm ideation requires timely psychological assessment and intervention (Quinlivan, Westhead et al. 2025). These findings align with national research showing higher anxiety, depression and emotional distress among students living away from home.

Unsupervised Medicine and Substance Use

A key limitation is the questionnaire's combined measurement of medicines and unspecified substances, which cannot distinguish between legitimate self-medication, unprescribed drugs and recreational substance use. Additionally, the survey did not record usage frequency, purpose, or legality of consumed items. Subsequent research should separate prescription drug misuse, over-the-counter self-medication, and recreational substance use to clarify residence-related behavioral risks (Beyene, Sheridan et al. 2014).

Day students demonstrated superior academic performance, with 79.6% maintaining over 70% class attendance and 72.8% scoring above 65% in assessments, compared to 60.2% and 50.5% of hostel students respectively. Day students also reported fewer instances of missing key classroom information. These results corroborate an Indian study of medical undergraduates, where day students outperformed residential peers in both theoretical and practical examinations (Priyanka, Kumaresan et al. 2023). The academic advantages of day students derive from stable home routines, parental supervision, consistent emotional support, and readily available home study resources.

Practical Implications

For day students, support measures should target commute-related fatigue, classroom drowsiness and unhealthy eating habits. Universities can provide affordable on-campus healthy dining options, dedicated student rest areas and flexible access to academic resources outside class hours. Since both student groups face distinct health and academic challenges, institutional support systems must remain inclusive, avoiding stereotyped assumptions about student risks based solely on residential status.

A key strength of this study is its balanced sample size of hostel and day students, enabling direct

and unbiased group comparison. The research also integrated physical health, lifestyle behavior, emotional wellbeing, and academic performance into a single analytical framework, providing a comprehensive overview of student outcomes.

Conclusion

This study shows residential status correlates with selected health and academic outcomes among medical and allied health sciences students, yet the overall effect sizes remain modest. Hostelites experienced higher rates of physical ailments, skipped meals, unsupervised medication or substance use, and emotional distress. Day scholars achieved better class attendance and academic results, but they more often consumed unhealthy food and felt sleepy during lectures. No single living arrangement confers universal benefits; hostelites and day scholars face separate sets of health and academic difficulties. The results call for tailored university support systems to meet group-specific demands. Interventions should cover nutritious meal provision, health literacy training, confidential counselling, safe medication guidance, sleep optimization and academic aid. Further multicenter longitudinal research adopting validated scales and official academic records is necessary to validate these associations and trace the long-term impacts of residential environments on student wellbeing and learning performance.

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