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Research Article

Academic Performance Among Students

A Comparative Study On the Academic Performance of Day Scholar and Hostel Medical Undergraduate Students

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Abstract: Examinations are the greater source of anxiety in medical education, and they can be greatly affected by the residential status of medical students**.** The study compares the academic performance between the day scholar students and the hostelers pursuing the first year of MBBS. This study was conducted at Saveetha Medical College, Chennai, India. Assessment of the marks obtained by both groups of students was done. Two exams, one theory and one practical exam, including viva voce, were taken for analysis. All 149 students attended both exams. Students in both categories were divided into 4 groups according to the marks obtained. Students who obtained < 50% marks were categorized as Group A, 50 to 69 % as Group B, 70% to 89% as Group C, and> 90% as Group D. In this study, 149 students participated. Among these, 82 students (55.03%) were day scholars, and 67 (44.96%) were hostelers. In the theory exam, 59.8% of day scholars belonged to Group B compared to 55.2% of hostelers. Only 6.09% of day scholar students were in group A as opposed to 19.4% of Hostelers in the same group. In Practical exams, amongst day scholars, 52.4% were in group B compared to 46.2% of hostelers in the same group. Only 4.9% of day scholars were in Group A as opposed to 19.4% of hostelers in the same group. There was a significant difference academically between the two groups of students involved in this study. The day scholars performed better than Hostelers in academics.

Keywords: Student performance, day scholar, hostelers, theory exam, practical exam

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1. INTRODUCTION

The boarding system of education was well known in the Indian subcontinent as old as 5000BC in the form of gurukula, where shishya (students) lived near or with the guru (teacher) in the same house or nearby houses, away from the city and their parents for 9 yrs to 12 yrs. All the students were considered equals here despite their various socioeconomic backgrounds. Students were taught without getting any fees. Only gurudakshana was practiced. This type of education served as South Asia's primary education system before the arrival of British rule here. Apart from Hinduism, Jainism and Buddhism followed such a type of education system. The historic purpose of boarding schools was to assimilate indigenous peoples into the dominant society in which they lived. Around the 20th century, only the modern boarding system of schools was started. Roman Catholic and Anglican started it to spread their missions[1,2]. The boarding school system became more formalized under the Grants' Peace Policy of 1869-1870, which turned over the administration of Indian reservations to the Christian denominations. In 1879, the first off-reservation boarding school, Carlisle, was founded by Richard Pratt. He proposed a system where children would be taken far from their homes at an early age and returned to their homes when they were young adults. By 1909, there were over 25 off-reservation boarding schools, 157 on-reservation boarding schools, and 307-day schools in operation[3].Often a stated rationale for boarding schools was that they provided a means for indigenous peoples to achieve status in the dominant society [4]. The boarding system had some advantages. Students were able to have access to their teachers whenever they wanted. These students enjoy freedom, and they develop self-decision-taking capabilities. They mature as they make appropriate decisions to recognize their aptitude and talents[5]. There are disadvantages of the boarding method of education, like expenses involved[6] and poor food[7]. Availability of space is another issue in a crowded boarding system. On the other hand, day scholars have certain disadvantages, like they need help to study properly due to many disturbances at home. The distance they have to commute daily to college is a tiresome endower. But Day scholars enjoy the comfort of home food and don't have to go through hostel ragging. Our study was conducted to highlight this unresolved issue of which education system is better for students, either studying from hostels or as day scholars. From this study, it might be possible to understand the weakness of either group of students and to concentrate on these issues so that their performance could be improved. This study could guide the students on which form of education will help them perform well academically.

2. MATERIALS AND METHODS

2.1 Study design

The cross-sectional study was conducted in the first year of a medical student. The study has been designed to collect data about medical students' characteristics and academic performance in hostelers and day scholars.

2.2 Setting

The study was conducted at Saveetha Medical College and Hospital, Thandalam, Chennai, India. The study was carried out during the academic year 2019-20 at Saveetha Medical College after obtaining ethical approval from the board of the institute SMC/IEC/2021/06/149. Informed consent of the participants was obtained. The medical study entails anatomy, Physiology, and biochemistry in the first year as pre-clinical, Microbiology, Pharmacology, and Pathology as Para-clinical and three years of clinical education. The first-year curriculum includes early clinical exposure, vertical integration, and Horizontal integration as part of a competency-based curriculum.

2.3 *Participants and procedure*:

The period of study was between Jan 2020 to March 2020. The study was conducted among 149 participants of first-year MBBS students participated. All students enrolled in first-year MBBS at Saveetha Medical College were invited to take part in the study. Ethical clearance was obtained from the institutional ethical committee. Participants were asked to answer a questionnaire, and absolute confidentiality was maintained.

2.4 Socio-demographic data

The questionnaire used for data collection consisted of variables postulated to be important for academic performance. The variables included: gender and place of residence.

2.5 Assessment of academic performance

The academic performance of the study participants was assessed with the internal assessment result at the MBBS examination. The results were obtained from the records maintained by the Examination Unit of the respective Dean's Office of medical students. The research team did not have access to raw marks due to confidentiality issues. The participants were categorized into 4 results groups: <50%, 50 – 69%, 70 – 80 %, and >80%.

2.6 *Records in the dean's office*

The medical school's dean's office stored information about the student's academic marks in internal assessment, theory, practical, OSPE, OSCE, practical discussion, Case discussion, CONCEPT PG training scores, and AETCOM Scores. The assessment scores for theory and practical were obtained from this database.

2.7 Data collection

Out of this, 82 were day scholars, and 67 were hostelers. All the students were unmarried and between 18 to 20 years of age group. The internal assessment exam was conducted in the subject of Anatomy, which consisted of a Theory exam for 100 marks and a Practical exam with viva voce. Marks obtained in both tests were taken for analysis. A list of hostelers and day scholars was obtained from the college office and cross-checked with the individual participants. According to the marks obtained, these students were categorized into Group A: < 50% Group B: 50% to 69% Group C: marks. 70% to 80% marks. Group D:> 80% marks. Data for theory and practical exam marks were described using mean, standard deviation (SD), median, interquartile range (IQR), frequency, and percentages.

2.8 Self-administered Questionnaire

Sex: Male Female

Year of MBBS

Residential status

- Hostellers
- Day scholars

Internal assessment marks

Theory Marks (in percentage)
Practical Marks (in percentage)

Lifestyle, Study habits & exam habits

1. Entertaining on television and music
a. <2 hours/day
b. >2 hours/day
2. Time spent on WhatsApp, Instagram, and Facebook:
a. <2 hours/day
b. >2 hours/day
3. Study and exam habits:
a. Group study preference
b. Study alone
4. Studying hours during exams:
a. <2 hours/day
b. >2 hours/day
5. Factors influencing Studies: (Choose one or more factors)
a. Distraction
b. General stress
c. Health issues
d. Laziness
e. Peer pressure
f. Sleep pattern

3. STATISTICAL ANALYSIS

Chi-square analysis was used to see any significant difference among mark categories. *P*<0.05 was considered statistically significant**.**

4. RESULTS

Of 149 students, 67 (44.9%) were hostelers, and 82 (55.03%) attended the college as day scholars. The sociodemographic details of the subjects are given in Table 1. On analyzing the Theory marks obtained by Hostelers, 14 (20.9%) belonged to Group A, 36 (53.7%) to Group B, 12(17.9%) to Group C, and 5 (7.5%) to Group D. Practical marks showed 13 (19.4%) of hostelers were in group A, 31(46.3%) in group B, 17 (25.4%) in group C and 6 (9%) in group D. When day scholar's performance in Theory exam was analyzed, 6 (7.3%) students were in Group A, 48 (58.5%) in group B, 24 (29.3%) in group C,4 (4.9%) belonged to group D. (Table 2&3). Factors potentially influencing the academic performance of hostellers were dependent on the ecosystem. (Table 4,5 & 6).

Table 1: Socio-demographic details

Gender	
Female	78 (60.2%)
Male	71 (39.8%)
Residence	
Day scholars	82 (55.03%)
Hostellers	67 (44.9%)

Gender-wise distribution of the study participants shows that the majority of the participants were females (60.2%), and the remaining were males (39.8%)

Table 2: Statistical values of theory and practical marks between hostellers and day scholars				
		Residential status		P - value
		Hostelers	Day scholars	
% Theory	Mean	60.63	64.45	
	SD	12.964	11.303	
	Median	60	66	**0.056**
	Q1	52	57	
	Q3	70	72.25	
%Practical	Mean	63.06	67.67	
	SD	13.073	11.450	
	Median	64	68	**0.025***
	Q1	51	61.75	
	Q3	74	75	
Overall total	Mean	61.84	66.06	
	SD	12.32	10.56	
	Median	62	67	**0.028***
	Q1	51.5	60.5	
	Q3	71	71.38	

Independent sample 't-test at p<0.05 is considered statistically significant*Statistically significant using independent sample 't-test.

Observations indicate that the residential status also influences the students' performance in theory and practical examinations. Day scholar students showed better performance in theory (64.45%) and 66.06% in the practical exams in contrast to their counterpart's performance which is 60.63% and 61.84%, respectively, as shown in Table – 2.

Table 3: Distribution of hostellers and day scholars by their academic performance								
		Residential status						
		Hostelers		Day scholars		Total		P-value
	marks	n	%	n	%	N	%	
Theory	<50%	14	20.9	6	7.3	20	13.4	
	50-69%	36	53.7	48	58.5	84	56.4	
	70-80%	12	17.9	24	29.3	36	24.2	**0.053**
	>80%	5	7.5	4	4.9	9	6	
	Total	67	100	82	100	149	100	
Practical	<50%	13	19.4	4	4.9	17	11.4	
	50-69%	31	46.3	43	52.4	74	49.7	
	70-80%	17	25.4	24	29.3	41	27.5	**0.047***
	>80%	6	9	11	13.4	17	11.4	
	Total	67	100	82	100	149	100	

***Pearson's Chi-square test at p<0.05 is considered statistically significant.* *Statistically significant using Pearson's Chi-square test**

Table 3 shows the distribution of hostel and day scholar students according to their academic performance. Study observations indicate that day scholar students performed better
in theory and practical examinations than the hostel students.

Table 4: Lifestyle and social factors				
Social and lifestyle characteristics	**Hostelers**	**Day scholars**	**Total**	**OR (95% CI)**
Entertaining on television, Music				
<2 Hours/day	21	31	52	2.10 (1.80 – 2.15)
>2 Hours/day	46	51	97	1.90 (1.70 – 2.05)
Time spent on WhatsApp, Instagram, and Facebook				
<2 Hours/day	25	40	65	1.45 (1.10 – 1.60)
>2 Hours/day	42	42	84	1.21 (0.95 – 1.30)

Day scholar students spent more time for entertainment than the hostellers, as shown in Table 4.

Table 5: Study Habits and exam habits				
Habits	**Hostelers**	**Day scholars**	**Total**	**OR (95% CI)**
Group study preference				
Alone	21	62	83	1.90 (1.60 – 2.10)
With classmates	46	20	66	1.40 (1.32 - 1.65)

Studying hours/day during exams				
< 2 Hours	25	12	37	2.05 (1.80 – 2.27)
>2 Hours	42	60	102	2.45 (1.90 - 1.60)

The duration of study during the examination was more in the case of day scholar students than that of the hostel students (table – 5)

Table 6: Factors influencing studies

Factors	Hostelers n(%)	Day scholars n(%)
Distraction	22 (33%)	18 (21%)
General Stress	35 (51%)	30 (39%)
Health issues	30 (48%)	25 (30%)
Laziness	45 (54%)	10 (20%)
Peer Pressure	47 (59%)	5 (15%)
Sleep Pattern	30 (48%)	25 (30%)

Among the various factors influencing the student's performance, peer pressure was the most influencing factor for hostel students. In contrast, day scholar students were affected mostly by general stress and peer pressure influenced very few day scholar students. Health issues and sleep patterns were the second influencing factor for day scholar students, while laziness and general stress were the second actors for hostel students. Most hostel students were affected by almost all the factors influencing their academic performance to a higher level, as shown in Table – 6.

5. DISCUSSION

The causal factors for the poor academic performance of students have been reported by many researchers in the recent past. Even though the students' performance was influenced by many factors like the academic environment and cultural setting of the students, most of the studies mainly focussed on three major factors, namely family, academic, and personal causal factors.[8] Research has proved that students' performance may be mainly influenced by their interactions with their faculty and their attributes. [9] After analyzing our study, we found no significant difference in the performance in the theory exam between the day scholar group and the hostelers group. The p-value was insignificant when the theory exam's marks alone were compared. But analysis of the practical exam results showed a statistically significant difference between day scholars and hostellers, and day scholars performed better than hostellers. The academic performance of the students depends on many factors like the age of the student, gender, parents' educational and economic background, faculty who teach them, the distance they commute daily to college, the time they spend for studies daily, and whether they are day scholar or hostelers[10,11]. The way the faculty members taught a topic also motivated the students to attend the classes even if they were not interested in doing so.[12]It is often said that if the individual student is good, he will be able to perform well in academics despite the place from where he is getting educated. More specifically, the study habits of the students played a vital role in their academic performance. [13]Duration of sleep and duration of study also influences the performance of the students as identified by previous researches.[14, 15] But, few reports indicate that the duration of study had no direct impact on the academic performance in contrast to the strategic learning during exam time which resulted in improved results.[16, 17]Quality of performance was highly influenced by peer pressure and their interactions. [18] The educational background of parents and their socio-economic status was seen to have a significant effect on the student's academic performance. [19] The students received better assistance and support from parents who were educated when compared to their counterparts[20, 21] which may improve the student's performance and their results as well.[22]The socio-economic status of the students had a direct influence on their performance as the learning facilities and the parent's guidance are interconnected to this factor.[23]There are various studies that support in favor of day scholars being a better position to conquer academic excellence than hostelers. And equally supporting evidence in several types of research in favor of hostelers. Studies all over the world have shown similar results. An example of this is the study conducted by Khurshid et al[24]. A study in India and another by Dambudzu concluded that non-boarders were performing better academically when compared to nonboarders[25,26]. A study in Kenya found the lack of parental contribution and support to be a major factor in the poor performance of boarders as compared to non-boarders[27-29]. So being a hosteler or day scholar cannot be the only determining factor for any student to perform better academically. Thus, it was observed that the student's performance mainly depends upon proper learning facilities, better teaching approaches, and the study environment. Proper guidance, motivation from faculty and parents, and study habits might help the student to improve their performance in their examinations.[30]

6. LIMITATION

Sample size and single-institution data are some of the limitations of this study.

7. CONCLUSION

The study findings show that several factors, like the effective teaching ability of the faculty members, proper study habits, and motivation, play a significant positive role in performance. This, in turn, would be affected by distraction actors, socioeconomic status, and other personal causal factors. The results indicate that day scholars performed better than hostellers in academic performance. There was a significant difference in academic performance between day scholars and hostellers.

8. IMPLICATIONS

Identifying factors that positively or negatively affect student performance is very much required. We also hope the current research will trigger our university to have more mentor-mentee contact sessions to find the potential factors

affecting the environment of hostel students. This strategy will allow the students to reduce distractions and focus more on academics. The study could have been extended more with other professions like dental, physiotherapy, and nursing.

9. AUTHORS CONTRIBUTION STATEMENT

Dr. Kumaresan and Chathuritha conceptualized and gathered the data about this work. Dr. Sangeetha and Dr. G. Priyanka analyzed these data, and necessary inputs were given toward the design of the manuscript. Dr.Gunapriya Raghunath reviewed the manuscript. All authors discussed the methodology and results and contributed to the final manuscript.

10. CONFLICT OF INTEREST

Conflict of interest declared none.

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