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ORIGINAL ARTICLE

Study orientation among high and low achievers in undergraduate students of Medical and Allied health sciences

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ABSTRACT

This study was aimed to determine the relationship between study orientation and academic achievements of MBBS and allied health sciences undergraduate students. This cross-sectional survey was conducted in King Edward Medical University, Lahore. The authors selected 450 students using non-probability, convenience sampling. Student of either gender enrolled in MBBS and Allied Health Sciences were included in this study. Study habits were calculated using modified Study Orientation Scale developed on lines of M. Mukhopandy and D.N Sansawal's Study Habit inventory scale. Quantitative variables were presented as mean ±S.D. Qualitative variables were presented as frequency and percentages**.** Student were divided into high (CGPA ≥ 3) and low achievers (CGPA < 3). Association of different demographic variables and CGPA with SHI scores was calculated using independent sample t test. P value < .05 was considered significant. Of the 450 respondents, 48 (10.67%) were male and 402 (89.3 %) were female students. Mean age of the participants was 20.98 ± 1.97 years. Majority 331 (73.6%) were Allied Health Sciences (AHS) students. Most of the participants 363 (80.67%) were from urban background while 231 (51.33%) participants were living in hostels. Of the total, 246 (55.4%) participants were labelled as high achievers while 198 (44.6%) were labelled as low achievers. Students with higher CGPA scores were found to have better SHI scores i.e.,113.78 (15.31) as compared to low achievers i.e., 109.56 (16.34) (P value 0.005). Study orientation of students had a significant effect on the performance of students, with high achievers having significantly better SHI scores than their low achiever colleagues so it is recommended that due attention should be given to study habits.

Key words: SHI, achievers, study orientation, medical and allied health sciences, undergraduates.

INTRODUCTION

Quality of education is a major factor in deciding the quality of citizens and ultimately, the quality of a nation.[1]Every student has a different approach to what he observes as well as understands and applies in daily life. Generally, individuals learn and organize the skills to express their thoughts and talents, which subconsciously becomes a part of one's routine. Study, however, is a special type of learning and is achieved with a goal in mind.[2]Besides other factors the quality of education largely depends upon the study habits and attitudes of the learner.[1]Pattern of behavior which a student adapts during his studies for learning purpose is called study habit.[3]Study habits of a student and his overall attitude towards his curriculum and subjects under study describe his orientation. Not all of us know how to study, but to gain the maximum out of what we read; we need to understand, what learning actually is! [2]

One of the major factors, other than low intellectual capacity, resulting in poor academic performance is poor study habits. Many innately intelligent students cannot perform well in the academics, mainly due to poor study orientation and habits. Poor study skills are also associated with higher depressive symptoms[4] and they produce stress and anxiety among students.[5]Therefore, it is the responsibility of the teachers to impart good study habits among the students, which include important skills related to time management, study focus, thorough concentration, deep observation and good learning approach.[6]

Association of study habits with academic performance had been extensively studied and different results were reported. In many studies, a positive and significant correlation was found between the students' academic performance and their study habits. [7-9] However Lawrence (2014) showed no significant relationship between these two variables. [10]Nevertheless, local data are limited but they have shown positive correlation between study habits and academic performance. A similar study showed no significant difference between study habits of male and female students, though rural students differed significantly from urban students in the study habits.[11] This is in contrast to some international literature, where urban students depicted better study orientation than the rural students. [12]

This study aims to determine the relationship between study orientation and academic achievements of MBBS and allied health sciences undergraduate students. To date, data are scarce on this subject at global level and very little research has been done on this topic in this part of the world.[11] There is also controversy among the international data [7-8, 10]that whether study orientation is associated with academic performance or not. All these controversies could be due to the fact that study habits vary from person to person. So, this study intends to fill these gaps by adding to the existing body of knowledge. Additionally, it will serve as a guideline for educators, facilitators and counsellors to keenly assess the aptitude of students, in order to direct them towards improvisation of their study patterns and better performance in academics.

METHODS

This cross-sectional survey was conducted in King Edward medical university, Lahore over a period of 3 months from August 2021 to October 2021. Study was evaluated and approved from Institutional review board. A total of 450 students were selected using non-probability, convenience sampling. Student of either gender enrolled in MBBS and Allied Health Sciences were included in this study while nursing students were excluded. A written informed written consent was taken.

The information was collected using a pre-designed, structured, questionnaire which was divided into two parts. Demographic variables included GPA, year of study, residence, accommodation, parent's education and income and occupation. Study habits were calculated using modified Study Orientation Scale developed on lines of M. Mukhopandy and D.N Sansawal's Study Habit inventory scale. The scale contained 50 items, divided into the following sub-components namely Comprehension (11 items), Concentration (10 items), Task Orientation (8items), Study Sets (7 items), Interaction (3 items), Drilling (4 items), Supports (4 items), Recording (2 items) and Language (1 item). Each item was divided into positive and negative responses indicated by + and –

signs. The positive items scored 4 for Always, 3 for frequently, 2 for Sometimes, 1 for rarely and 0 for Never. The negative items were scored in reverse. Student with higher score will be declared as having good study habits. The items of the scale were arranged randomly in the scale to avoid any mechanistic pattern of response.

All students were requested to fill a questionnaire. The questionnaire was distributed in person, an immediate response was requested for and the questionnaires collected back.

Data obtained were entered into SPSS- 23. Quantitative variables like age, CGPA, Study Habit Inventory (SHI) scores were presented as mean ±S.D. Qualitative variables like gender and demographic variables were presented as frequency and percentages**.** Student were divided into high and low achievers depending upon their CGPA. Those having CGPA ≥ 3 were labelled as high achievers while those having < 3 were labelled as low achievers. Association of different demographic variables and CGPA with SHI scores was calculated using independent sample t test. P value < .05 was considered significant.

RESULTS

Initially 490 students were approached and 471 submitted/answered the questionnaire. Then 21 questionnaires were excluded as they were incomplete. Of the 450 respondents, 48 (10.67%) were male and 402 (89.3 %) were female students. Mean age of the participants was 20.98 ± 1.97 years. Majority 331 (73.6%) were Allied Health Sciences (AHS) students. Most of the participants 363 (80.67%) were from urban background while 231 (51.33%) participants were living in hostels. Of the total,246 (55.4%) participants were labelled as high achievers while 198(44.6%) were labelled as low achievers. (Table 3)

Students with higher CGPA scores were found to have better SHI scores as compared to low achievers (P value 0.005). (Table 1). Exploring the subcomponent of SHI score, Comprehension and recording scores of high achievers were significantly higher than low achievers.(p<0.05)whereas other subcomponents were insignificant. (Table 2)

SHI scores of allied health sciences students were significantly higher than medical students [113.7 (15.4) vs 106.31 (15.7); p<0.05] table 3.The total mean SHI score of first year students was highest [116.98 (15.16)], followed by second year [112.47(15.32)] fourth year [111.26 (16.67)], third year [107.84 (15.29)] and final year students [107.00 (15.21)]. A one-way ANOVA was computed on SHI scores and was significant. (p < 0.05). Fischer's LSD test was computed to examine the group means. The analysis showed first year SHI score's difference of mean was significantly higher in comparison to second year (p= 0.04), third year (p < 0.05), fourth year (p= 0.006) and final year (p= 0.004). Also, second year SHI score's difference of mean was significantly higher than third year (p= 0.04). Association of SHI with gender, residence, accommodation, parent's occupation, education and income was insignificant. Table 3

Table 1: Association of SHI scores with CGPA

	No of students	SHI scores [Mean (SD)]	P value
High achievers	246	113.78 (15.31)	0.005
Low achievers	198	109.56 (16.34)	

Table 2: Association of subcomponents of SHI score with CGPA.

Subcomponents of SHI		SHI scores [Mean (SD)]	P value
Comprehension	High achievers	30.15 (5.59)	0.004
	Low achievers	28.46 (6.78)	
Concentration	High achievers	19.76 (6.16)	0.13
	Low achievers	18.89 (5.88)	
Task orientation	High achievers	20.78 (5.12)	0.50
	Low achievers	20.44 (5.28)	
Study sets	High achievers	14.62 (4.52)	0.37
	Low achievers	14.26 (3.85)	
Interaction	High achievers	7.04 (2.73)	0.09
	Low achievers	6.62 (2.44)	
Drilling	High achievers	6.66 (2.40)	0.23
	Low achievers	6.39 (2.31)	
Support	High achievers	6.48 (2.70)	0.36
	Low achievers	6.24 (2.90)	
Recording	High achievers	6.24 (1.60)	0.03
	Low achievers	5.89 (1.82)	
Language	High achievers	2.17 (1.23)	0.23
	Low achievers	2.39 (2.41)	

Table 3: Association of SHI scores with demographic variables

Variable	Subcategory	No of students	SHI scores Mean (SD)	P value
Gender	Male	48	113.54 (15.60)	0.44
	Female	402	111.67 (15.99)	
Class	Allied Health students	331	113.73 (15.45)	0.00
	Medical students	118	106.31 ± 15.75	
Residence	rural	87	113.87 (14.66)	0.19
	urban	363	111.39 (16.21)	
Accommodation	day scholar	219	112.03 (16.00)	0.84
	hostel	231	111.72 (15.91)	
Mother's occupation	house wife	359	112.22 (15.51)	0.36
	working women	91	110.51 (17.54)	
Father's occupation	govt officer	177	111.42 (16.80)	0.13
	private job	93	111.08 (15.61)	
	own business	163	111.88 (15.03)	
	unemployment	17	120.76 (15.77)	
Mother education	Undergraduate	235	112.86 (15.75)	0.17
	Graduate and above	215	110.79 (16.12)	
Father education	Undergraduate	157	113.67 (15.31)	0.08
	Graduate and above	293	110.91 (16.21)	
Academic year	1st year	113	116.98 (15.16)	0.00
	2nd year	87	112.47 (15.32)	
	3rd year	108	107.84 (15.29)	
	fourth year	117	111.25 (16.69)	
	final year	25	107.00 (15.21)	
Father's income	Low	83	112.81 (16.73)	0.18
	Middle	329	111.17 (16.06)	
	High	38	115.92 (12.48)	

DISCUSSION

We believe that having good study skills and habits play a major role in academic performance of students and it is the most important factor in achieving the educational goals [13] and the main cause of academic failure is poor study habits. [10]Our study showed that high achievers have significantly better SHI scores[113.78

(15.31)]than low achievers[109.56 (16.34)] (p value 0.005), which means that students who have better study orientation perform better academically than students who have poor study orientation scores. This is in accordance with the study conducted by Biswas,[2] which showed that high achievers have mean score of 134.52 (16.01) and low achievers have mean score of 117.07(18.42). Studies conducted by Jafari etal[10] and Sarwar et al also supports our results. [11] However, research works by Lawrence [14] and Torabi et al [15] denied any significant relationship between the study habits and the academic performance. This may be attributed to the fact that a study assessment tool used in this study was not used widely. Use of validated tool with broader sample size may have produced different results.

Exploring the individual components of SHI scores our study showed that high achievers performed significantly better than low achievers, in areas of comprehension and recording, while in rest of the seven areas the scores were comparable and were not significant. Study conducted by Zohmingliani et al [16] also revealed that students with better SHI scores were only significantly better in comprehension and task orientation while rest of the areas were not significant. This means each individual component contributes to an improved outcome. Therefore, there is need to identify individual area in which a student is deficient and help him/her to improve that area, which will contribute to significant boost in study habits and in return academic performance. Since academic performance is considered as a predictor of success in a person's career, it is important to pay attention to this issue and apply appropriate strategies to improve the study habits of students.

Our study also unveiled no significant difference between male and female students with respect to their study habits, which could be due to same study environment. However, Dhanalakshmi and Murthy have described a significant difference in the study habit of male and female students with mean scores of 62.5 (15.9) in males vs 75 (10.6) in females, concluding that gender has significant effect on study habits.[6] This was also reinforced by study of Muniza and Nagina, which showed that females have significantly better study habits than males (p value <0.01). [1] Another study showed similar results [3] but study conducted by Yadav and Pareek showed no significant difference between male and female students in association with study habits. [17] This was substantiated by other studies which displayed no significant difference in terms of study habits and orientation on the basis of gender. [11-12]

Present study shows that rural students have better study orientation scores than the urban students but there is no significant difference between rural and urban students with mean scores of 113.87 (14.66) vs 111.39 (16.21), respectively. Our study findings were in accordance with American national freshman attitude reports. [18] On the contrary, a study by Radha and Muthukumar [12] pointed out that urban students have considerably better study habit scores than their rural counter parts [133.41(17.68) vs 123.67(19.43)].This was supported by the study of Singh which stated that urban students are significantly better than rural students with mean scores of 184.61 (19.54) vs 166.62 (12.46). [3] This narrowing gap may be due to the fact that with every passing day more facilities are reaching the rural areas and infrastructure is improving along with extension of internet services to the far-flung areas. As a result, the rural students also have access to better opportunities and better teaching facilities than the past.

We have found that children of working and non-working mothers differ significantly in their study habits with mean scores of 188.15 (14.64) vs 195.24 (23.02), respectively. However, there was no significant difference between them regarding study orientation, with children of non-working women having slightly better study orientation scores than children of working women i.e.,112.22(15.51) vs 110.51 (17.54), respectively (p value 0.36). Thus, study habits in our part of the world are not much affected whether the mother is a working woman or not. This may be due to the fact that in our part of the world even non-working women are over burdened with their house hold tasks. Moreover, they have to look after joint families so they are unable to pay much attention to the education of their children.

There is a significant difference between study habits of medical students and allied health sciences students. The allied health sciences students have displayed better study orientation than their medical equivalents. This infers those medical students possess poor study habits and there is no system in place that can inculcate good study habits in them. This is also backed by the evidence that there is a significant drop in study orientation score from 1st to final year, with more marked difference between 1st and 3rd year. This signifies the need of introducing good study habit in medical and allied students that will help them improve their skills and academic scores.

Our study has discovered that study orientation is not significantly affected by parent's education or occupation, which tells us that students' learning is significantly affected by factors outside of family. [19] Furthermore, there is no effect of income on the study habit scores, supporting the findings of Radha and Muthukumar.[12]We also found no association of study habits and students' accommodation, as demonstrated by study of Rachna Pathak. [20]

Limitations: This was a single centered survey focusing only on medical and allied health undergraduates. In future multicenter trials on multiple levels of education are needed to further assess and strengthen these findings.

CONCLUSION

Study orientation of students have a significant effect on the performance of students, with high achievers having significantly better SHI scores than their low achiever colleagues. So, this analysis will help the policy makers to streamline the structure of teaching in order to utilize the talents of all students to its maximum capacity by imparting good study habits in them. Based on the above discussion, it is recommended that due attention should be given to study habits, which will not only boost the academic performance of the students, ratherenhance the quality of life of the nation and its citizens. It is noteworthy that despite the fact that high achievers have significantly better study habits, they also lacked in some of the components. This observation will guide the policy makers to focus on these individual elements and devise strategies to improvise each of them, thereby helping the students in their academics and, ultimately, in their professions.

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