

The Relationship between the Study habits and the Academic performance of Medical Sciences Students

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Received: 2015March 01; Accepted: 2015September 04

Abstract

Introduction: Students' study methods affect their learning and academic achievement, and the resultant process plays a role in the development cognitive and practical skills, and ultimately their future career. Determining the students' study habits and the relationship between their study habits and their academic performance can, therefore, improve their academic achievement, strengthen and modify their study habits.

Objective: This study aimed to determine the relationship between the study habits and the academic performance of the students of the Guilan University of Medical Sciences.

Materials and Methods: This analytical-descriptive study conducted between 2013 and 2014, samples comprising 461 students from different courses at the Guilan University of Medical Sciences were selected based on a stratified random sampling method. The data collection tools included Palsane and Sharma Study Habit Inventory (PSSHI) with 8 areas (division of time, physical status, ability to read, noting, learning motivation, memory, exams, and wellness) and 45 items. The data from this research were analysed using mean descriptive and inferential statistical tests, standard deviation, Spearman's correlation coefficient, and multiple regressions with a significance level of $p < 0.05$.

Results: The mean of the overall status of the students' study habits was 48.35 ± 10.37 from 90. The academic performance of the majority (67.2%) of the students was estimated to belong to the intermediate level. Data suggests that the academic performance of the students had the highest correlation with the field of noting ($p < 0.0001$ and $r = 0.234$), while the lowest correlation was with the wellness area ($p = 0.03$ and $r = 0.101$). In general, the correlation between study habits and academic performance was significant ($p < 0.0001$ and $r = 0.229$). In addition, the study habits score can predict 6.8% of the changes in academic performance ($R^2 = 0.068$).

Conclusion: The results showed that the study habits of the students are at a relatively good or average level. In addition, owing to the existence of a significant relationship between study habits and academic performance, education administrators and planners can enhance students' study habits with the inclusion of appropriate educational content, especially their skills of noting and reading their notes, and thus improve their academic performance. There is a significant relationship between the study habits of students and their academic performance.

Keywords: Learning, Students, Universities

Introduction

Academic performance is a skill that students obtain from school, college, and university through the time spent in the classroom, the lab, or the library [1]. Enhancement of academic performance leads to academic achievement; an improvement in academic achievement results in national development and the delivery of efficient forces [2].

It seems that study habits are the most important predictor-variables in academic performance [3-5]. Study habits are the methods of study used by students during an academic course within an appropriate environment; in other words, it is the ability of students to manage time for the successful accomplishment of academic tasks [6]. According to the definition presented by Azikiwie, Bajwa et al. introduces study habits as the method selected by the student for private study or the technique used to dominate a topic after classroom learning [7]. Study habits play an important role in academic success, and effective study cannot be conducted without using these skills. Students who have better academic achievements adopt a wider utilization of these skills than those who make poor progress [8]. According to the statistics, about one third of university students are at risk of academic failure [9]. Investigating the causes of academic failure of the students at the Shiraz University of Medical Sciences, Dehbozorgi and Mooseli found that 43.4% of the unsuccessful students had no plans for studying [10]. People who do not have enough information on study strategies will not have effective and sustainable learning practices, despite all the time that they spend studying [11]. In their article, Abd Khodaei and Ghaffari reported that there is a relationship between study strategies and the achievement of success in studies [12].

Based on Pankison, Rana, and Kausar study assert that students who have more effective study habits get higher scores in comparison to students with ineffective study habits [13]. In various studies, the skills and habits of students have been reported differently. Parto studied the academic achievement of nursing students and identified the factors related to the academic achievement of students [14].

Since medical students work with a great deal of information during their studies, they need to use new strategies for organization and learning [15]. Since there is a relationship between the study habits and the academic performances of different students, this study aimed to determine the relationship between these study habits and academic performances so that we could present recommendations for academic achievements, and the enhancement and modification of study habits in students through the investigation of study skills and the identification of the related factors.

Materials and Methods

The study sample consisted of 515 students of the different colleges affiliated with the Guilan University of Medical Sciences; these colleges were selected based on the results of Fereiduni Moghadam, and Cheraghyan [16], which possessed 95% confidence interval and 80% test power by stratified random sampling in the academic year of 2013–2014. The loss of samples was calculated to be 10%. 461 out of 515 questionnaires were delivered after the completion of the research. All the students studying at the Guilan University of Medical Sciences, apart from the guest- and the transferred students who had completed only one semester, could enter the study as samples.

The data collection tools included a questionnaire in two parts. The first part included the students' demographic

information; this section contained 12 questions. The second part of the questionnaire included a study of Palsane and Sharma Study Habit Inventory (PSSHI); this section contained 45 questions. PSSHI measures the students' study habits in 8 domains: division of time, physical status, ability to read, noting, learning motivation, memory, exams, and wellness. According to the instructions of the questionnaire, the minimum and maximum scores were 0 and 90, respectively; scores of 60 and above were considered as the desirable study habits; scores between 31 and 59 were considered relatively desirable, and scores below 30 were considered as undesirable [17]. To determine the validity, the content validity method, and the completed forms of the Content Validity Index (CVI) and the Content Validity Ratio (CVR) were used along with the comments of 10 professors at the Rasht University of Nursing and Midwifery. In every question in all the eight domains relating to study habits, scores between 0.76 and 1 was obtained for the three criteria, simplicity, clarity, and relevance score, while scores between 0.85 and 0.97 provided the results of the content validity. The questionnaire's reliability was examined in the two stages of retest on 20 nursing students of the Rasht University of Nursing and Midwifery in a span of 10 days. The correlation coefficient between the domains was obtained as 0.89; Cronbach's alpha was determined for the internal consistency of the domains that were generally obtained for all the aspects equalling 0.88; these were acceptable in terms of measuring. Each student's Grade Point Average was used to assess their academic performance. The names of

students along with their GPA were taken from the Department of Education and were recorded in the questionnaire after asking students questions. Achieving a score of 17 and above was considered as a good performance; a score of 14–16.99 was considered as a moderate performance; and the score of 13.99 or lower was considered as a weak performance. After obtaining authorization by the Research Council of the Guilan University of Medical Sciences and the Ethics Committee of the Department of Research and Technology by the end of the semester in the first half of 2013, we referred to the desired colleges; the consent forms and the questionnaires were given to the students and were collected after completion. Data were collected after coding and they were entered into the SPSS software (version 22).

In order to categorize and summarize the data, descriptive statistics such as the mean, the standard deviation, and frequency distribution tables were used. To determine the study methods, the frequency distribution of study habit methods was carried out by items separation. In reviewing the study habits based on the scores obtained, the Kolmogorov–Smirnov test was first used; the Spearman correlation coefficient was then used to investigate the relationship between academic performance and study habits. In order to determine these relationships by individual-social variables' control, the multiple linear regression model was used. To determine the predictors of academic performance based on study habits, logistic regression was used by the Backward method, with entry = 0.05 and removal = 0.1.

Results

The results of this study show that the majority of the participants in the study were female (65.1%), single (87.2%),

single and without a history of failure (92.6%), living in dormitories (51.81%), and non-native (51%).

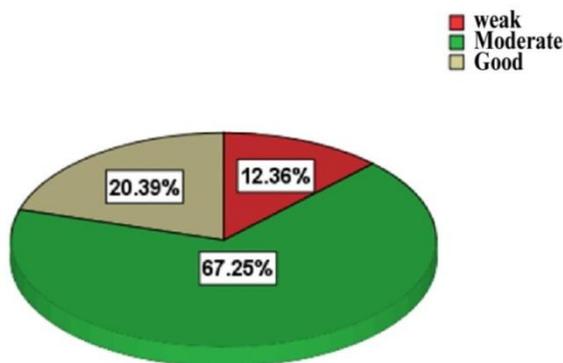


Figure 1. Distribution of academic performance scores.

Table 1. Distribution of students' study habits status by domains

Domains of study habits	Average score (% of attainable score)	Standard Deviation (% of attainable score)	Median (% of attainable score)
Division of Time	5.68(56.83)	2.16 (21.65)	6 (60)
Physical Status	6.61(55.04)	2 (16.69)	7 (58.33)
Ability to Read	8.48(53.02)	2.33 (14.54)	8 (50)
Noting	3.27(54.48)	1.69 (28.22)	3 (50)
Learning Motivation	7.49(62.40)	2.30 (19.15)	8 (66.67)
Memory	4.38(54.77)	1.31 (16.33)	4 (50)
Exams	10.94(54.69)	2.29 (11.46)	11 (55)
Wellness	2.86(47.61)	1.27 (21.12)	3 (50)
Total	48.35(53.73)	10.37 (11.52)	49 (54.44)

Table 2. Spearman correlation coefficient of the study habit scores by the separation of the areas and academic performance

Domains of study habits	Wellness	Exams	Memory	Learning motivation	Noting	Ability to read	Physical status	Division of Time	domains of study habits
Spearman correlation coefficients	0.203	0.158	0.197	0.234	0.213	0.148	0.118	0.101	0.229
P	0.0001	0.001	0.0001	0.0001	0.0001	0.001	0.011	0.030	0.0001

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Figure 1 shows that the majority of students (67.25%) had an average academic performance. In the analysis of study habits, the highest and the lowest mean scores were achieved for learning motivation and wellness, respectively (Table 1). In general, there was a significant relationship between the academic performance of students using the Spearman correlation coefficient, the scores of all the domains of study habits (physical status, ability to read, noting, learning motivation, memory, exams, and wellness), and the total score of study habits. The highest correlation was seen in

the case of noting ($P < 0.001$ and $r = 0.23$) and the lowest correlation was witnessed in the domains of wellness ($r = 0.101$ and $p = 0.03$). In general, the correlation between study habits and academic performance was significant ($P < 0.0001$ and $r = 0.229$) (Table 2).

The final regression model showed that the ability to read and take notes were the predictors of academic performance through the control of the impact of the demographic variables. An increase in one score in the ability to read resulted in a relative chance that was 1.09 times greater

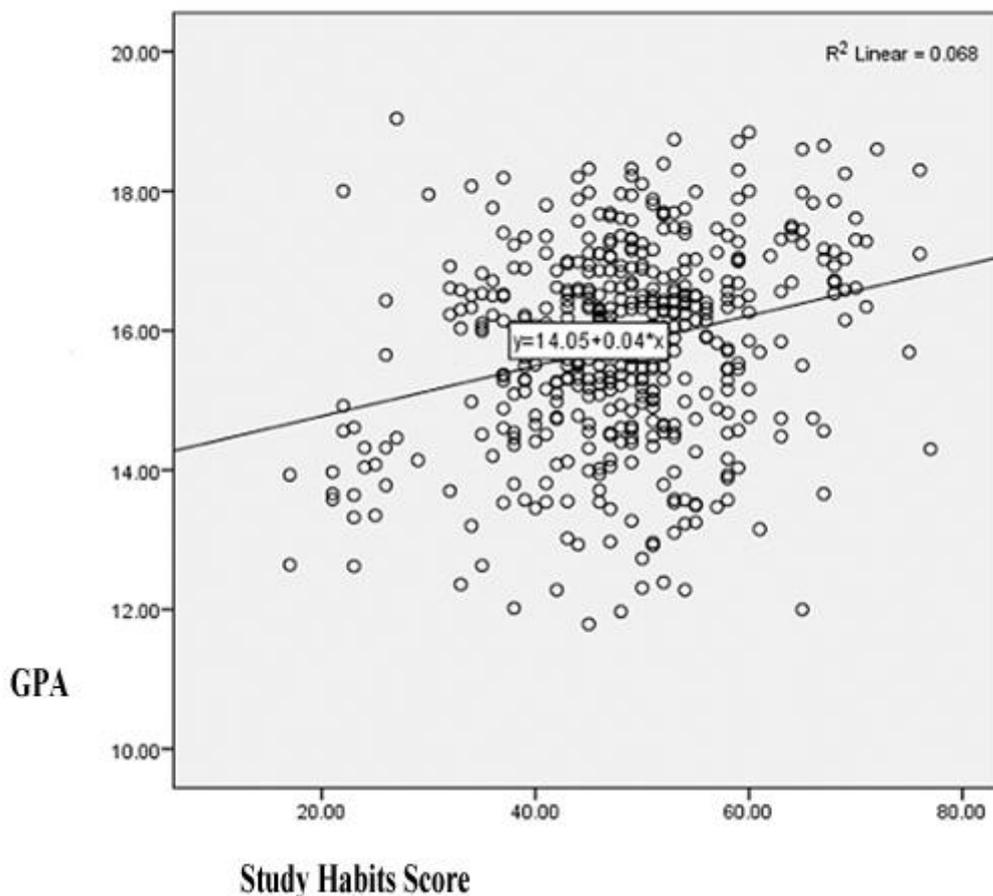


Figure 2. The Linear correlation scatter plot of the academic performance score with the study habits score

Table 3. Predictors of academic performance based on study habits by moderating the effects of the demographic variables based on the logistic regression model by the Backward LR method

Predictors	Beta coefficient	Standard error	Sig.	Relative chance	95% CI	
					Lower	Higher
Ability to read	0.093	0.055	0.088	1.098	0.986	1.223
Noting	0.155	0.074	0.073	1.167	1.009	1.35
Female vs. Male	0.787	0.232	0.001	2.196	1.394	3.46
Grade			0.0001			
MSc. vs. PhD	2.708	0.887	0.002	14.998	2.637	85.302
BS. vs. PhD	1.078	0.294	0.0001	2.938	1.651	5.227
Associate Degree vs. PhD	1.999	0.703	0.004	7.384	1.861	29.296
Semester	0.101	0.045	0.024	1.106	1.013	1.208
History of failure	1.825	0.569	0.001	6.206	2.035	18.927
Residence			0.005			
Living with parents vs. Rental	1.168	0.374	0.002	3.216	1.544	6.699
Dormitory vs. Rental	0.511	0.357	0.151	1.668	0.829	3.354
Others vs. Rental	0.332	0.56	0.553	1.394	0.465	4.176
Unknown factors	-5.417	0.863	0.0001	0.004		

than the above mean academic performance score; an increase in one score in noting increased the mean score of the academic performance by 1.17 times. In addition to the above items, gender ($P = 0.0001$), semester ($P = 0.024$), history of failure ($P < 0.0001$), and residence ($P = 0.005$) were the other predictors of academic performance based on the regression models (Table 3). Based on the linear relationship between, for each increase of one unit in the study habits score, 0.04 was added to the student's academic performance score. In general, the study habits score could predict 6.8% of the changes in the academic performance ($R^2 = 0.068$) (Figure 2).

Discussion

In this study, the relationship between the study habits and the academic performance of the students of the Guilan University of

Medical Sciences was studied. The data shows that the academic performance of the students has a significant and positive relationship with the score of all the areas of study habits as well as the total score of study habits; academic performance has the highest and lowest correlation with the areas of noting and wellness, respectively. In general, the correlation between the study habits and the academic performance is significant.

Numerous studies have confirmed the authenticity of the relationship between study habits and academic performance (12, 18). In a study conducted by Abd Khodaei and Ghaffari, which is titled 'Investigating the students' use of study skills and learning, and its relationship with their academic status and history', it was concluded that there is a direct and significant relationship between study

skills and learning, and the average score of university, which is the index of academic achievement [12]. In other words, students who used more skills had higher academic achievements.

Rana and Kausar, in their study titled 'Comparing the study habits and the academic performance of white-English students and Pakistani-English students', concluded that although white-English students had better study habits than Pakistani students, no significant difference was found between the academic performances of these two groups; they, however, concluded that improvements in the students' study habits can lead to higher academic achievements [13]. Academic performance had the highest and the lowest correlations with the areas of noting and wellness, respectively.

According to the researcher, students who use noting while learning can remember educational materials longer. In addition, they write down key points, which lead to better understanding. On the other hand, students who do not take notes, copy their classmates' notes in order to be prepared for exams, which cause undesirable academic performances.

Another finding shows that the lowest relationship exists between academic performance and wellness. This finding is consistent with the theoretical study of Nazary Shakir et al., which aimed to determine the relationship between study habits and academic self-efficacy considering the academic performances of third-graders in the city of Babol [19]. The findings of this study may be biased because a majority of students have to study on the days immediately preceding an exam; therefore, they spend all their time and energy becoming prepared for the exam, even in the case of illness. In

general, the study habits score can predict 6.8% of the changes in academic performance. This finding was consistent with the findings of other studies; in addition, the study habits score had impacts on the improvement of the academic performance score [4, 12, 18, and 19] yet. The impact of study habits on academic performance has not been determined in similar studies. According to the researcher, this study shows that there are other factors that influence the academic performance outside study habits. According to the results, in addition to study habits, components such as gender, semester, and a history of failures as well as residence are other predictors of academic performance. In the research conducted by Homaei et al., the results of multiple regression analysis showed that the best predictors of the academic performance of students are GPA, gender, and emotional intelligence. Other variables including achievement motivation, cognitive intelligence, marital status, employment status, age, native/non-native status, and family income had no significant relationship with academic performance [20].

Generally, the results of this study showed that the study habits of the students of the Guilan University of Medical Sciences were at the moderate level, and their study method was good. Therefore, considering the importance of study habits in academic performance and achievement, and as academic performance has an ultimate decisive impact on the career and the education of people, planning and attention are necessary to improve the methods and study habits of students. Since study habits and skills can be taught and learned, introducing the education of learning and study strategies in the curriculum, and compelling students to attend educational workshops in the application fields of

these skills can be effective initial steps. Holding educational classes for these strategies, correcting study habits for the development of knowledge in this field during the beginning of university courses, and conducting interventional programmes to teach helpful study habits by continually consulting university offices for all students can be efficient measures. Effective study habits are important factors for learning and remembering content. Knowing the weaknesses and the shortcomings of these habits results in better and more effective planning in order to strengthen them. The limitation of this study is the participants' psychological states, which influence the results of this study and is outside the control of the researcher. Given that the present study revealed that factors other than study habits (which are not addressed) can affect academic performance, the study of the factors affecting the academic performances of the students of the medical sciences is recommended; in addition, a comparison between the efficacy of medical students and their study habits as well as the effect of noting skills on their academic performance in future studies is suggested.

Acknowledgment

The research is an MSc thesis in Nursing with a registration number of 902127, which has been sponsored by the Guilan University of Medical Sciences. We, therefore, acknowledge the support of the members of the Department of Research and Technology as well as all the teachers, administrators, and students who spent their valuable time collaborating with this researcher and completing the questionnaire.

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