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Academic burnout as an educational complication and promotion barrier among undergraduate students: A cross-sectional study

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Abstract:

BACKGROUND: Academic burnout is a worldwide problem that troubles students at all academic levels. Despite the significant effects of this problem on students' mental health and academic achievements, yet, it has not been adequately studied in Iranian system of academic education. Therefore, we aimed to explore the incidence of academic burnout status and its associated factors among the students at Guilan University of Medical Sciences.

SUBJECTS AND METHODS: This cross-sectional study was conducted over a number of 303 students at Guilan University of Medical Sciences during 2016. Study samples were selected through the stratified random sampling method, and a set of data including sociodemographic information, educational status, study habits, and burnout inventory status was collected for each sample. Items of burnout inventory status were based on the Maslach Burnout Inventory. Data were analyzed using descriptive and inferential statistics including *t*-test and linear regression.

RESULTS: The students in our study reported a mean of 2.53 ± 0.7 for academic burnout score. Along with related factors of academic burnout, marital status ($P = 0.029$), grade point average ($P = 0.002$), being interested in field of study ($P = 0.000$), and study time ($P = 0.000$) were significantly associated with academic burnout of students. Furthermore, the incidence of academic burnout did not differ between male and female students.

CONCLUSIONS: Regarding the considerable prevalence of academic burnout among students of medical sciences, it is needed that policymakers implement more effective educational programs considering the associated factors of academic burnout.

Keywords:

Academic burnout, educational psychology, Maslach Burnout Inventory, undergraduate students

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Introduction

In the 1970s, the concept of burnout was first proposed by an American psychologist, Freudemberger. He used this concept to define the deterioration process in the care and professional attention among individuals with an emphasis on interpersonal relationships among demanders and suppliers.^[1,2]

Since the university students were facing with a variety of stressful conditions, such as taking examinations and preparing assignments during their study period, the concept of burnout which was previously applied only to the occupational tensions or interpersonal stressors^[3] got a broader domain covering the educational and academic concerns.^[4]

In general, academic burnout is defined as the feeling of exhaustion resulting

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from a compulsion for study (exhaustion), pessimism toward the assignments (cynicism), and feeling incompetent as a student (inefficacy),^[5,6] and the most common definition of burnout represented by Maslach presents it as “a psychological syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishment that occurs as a response to emotional and interpersonal stressors among individuals.”^[2,7]

Although recent investigations reported diverse data on the prevalence of academic burnout among university students,^[8-11] academic burnout is more frequent in Asian countries.^[4,12] According to the Korea National Statistical Office, more than half of the Korean students experience a high level of stress due to their academic problems.^[13] In addition, an Iranian study demonstrated that the majority of students in universities of medical sciences suffer from academic burnout.^[14,15]

Nikodijević *et al.* reported that about half of students are at risk of academic burnout and 20% of them already suffer from academic burnout.^[7] In the study of Fang *et al.*, paramedical students presented a higher level of academic burnout than nonparamedical ones.^[16]

Several studies indicated that academic burnout has a negative impact on students' efficacy^[17-20] which is a barrier in their academic achievements.^[21,22] Furthermore, it can cause some psychological disorders including anxiety, depression, frustration, hostility, and fear in students.^[17] Academic burnout also imposes an extra financial burden on governments and extra charges on students for retaking their failed courses.^[4] Charkhabi *et al.* proposed three reasons for the importance of academic burnout; first, it influences the students' academic performance; second, it affects the interactions between students and faculty members and staffs; and third, it can reduce the students' interest toward education.^[18] Rudman and Gustavsson followed 1702 Swedish nursing students 1 year after their graduation and suggested that the students suffering from academic burnout had a lower mastery of occupational tasks, less research utilization, and were more willing to leave their jobs.^[23]

The academic burnout can arise from different issues, namely the universities' demands, teachers' expectation and behavior, tensions ahead in courses, and extracurricular activities.^[24] Studies in Iran demonstrated that a significant proportion of students suffer from academic burnout problems, particularly due to the high expectation of society including families and teachers regarding their academic achievement.^[14,15]

Considering the consequences of academic burnout on students mainly in terms of mental and physical health

and academic achievements, detecting the associated factors of it is important to implement prevention programs and better management of educational plans. Although few studies investigated this issue among students at some Iranian medical universities, its associated factors are yet doubtful. Therefore, the current study aimed to explore the frequency and associated factors of academic burnout among undergraduate students of Guilan University of Medical Sciences.

Subjects and Methods

This cross-sectional study was conducted during 2016 on undergraduate students of Guilan University of Medical Sciences. Using stratified random sampling method, of 810 undergraduate students of Guilan University of Medical Sciences who already passed at least one semester from diverse faculties of nursing, midwifery, health, emergency medical technician, and paramedicine, 303 samples were selected. Then, a questionnaire consisting of sociodemographic information (i.e., age, gender, marital status, and socioeconomic status), educational information (i.e., study major, grade point average [GPA] of previous semesters, and being interested in study field), and study habits (i.e., place of study, time of study, and study condition [quiet or busy environment]) was independently completed for each study sample after illustration of study goals to them and obtaining written informed consents from them.

Maslach Burnout Inventory-Student Survey (MBI-SS) was used to assess the academic burnout in study samples. MBI-SS comprises 15 self-reported questions in three dimensions: exhaustion (5 items), cynicism (4 items), and academic inefficacy (6 items). In our study, academic efficacy was reverse-coded in data analysis to assess the academic inefficacy. All items were scored in a 7-point frequency rating scale ranging from 0 (never) to 6 (every day). The psychometric properties of MBI-SS were evaluated by Rostami *et al.* in 2014. The construct validity was calculated by principal component factor analysis (Varimax rotation). Furthermore, Cronbach's alphas for the MBI-SS were 0.89 for exhaustion, 0.84 for cynicism, and 0.67 for efficacy.^[25]

For data analysis, normal distribution of variables was tested by the Kolmogorov-Smirnov test. For normal quantitative data, mean and standard deviation, for nonnormal quantitative data, median and interquartile range, and for qualitative variables, number and frequency were reported. Student's *t*-test or Mann-Whitney U-test and Chi-square test were used to compare the quantitative and qualitative variables, respectively. The relationship between the variables was examined through linear regression. $P < 0.05$ was considered as statistically significant. All

analyses were done using SPSS version 22.0 (SPSS Inc., Chicago, IL, USA).

Results

In this study, all study samples (303 students) filled out the questionnaire completely. The mean age of students was 21.5 ± 3.4 years, and the majority of them were female (231, 76.2%) and single (261, 86.1%), with a middle socioeconomic status (201, 66.3%). The average GPA of students was 16.3 ± 1.4 [Table 1].

Table 2 presents the mean score of academic burnout in students considering their gender. The mean amount of academic burnout's total score among students was 2.53 ± 0.7 . Although the total burnout score of male students was higher than females, the difference between them was not significant (2.35 ± 0.5 vs. 2.87 ± 0.9 in males, $P = 0.13$). The results of *t*-test suggested that there were not any significant statistically differences between male and female students in subscales of academic burnout [Table 2].

The linear regression analysis with stepwise method revealed that marital status ($\beta = -0.12$, $P = 0.029$), GPA ($\beta = -1.17$, $P = 0.002$), having interest in field of study ($\beta = -0.42$, $P = 0.000$), and time of study ($\beta = 0.22$, $P = 0.000$) were significantly correlated with academic burnout among university students [Table 3].

Discussion

The current study investigated the academic burnout score and its associated factors in undergraduate students of medical sciences. Our findings indicated that marital status, GPA, having interest in study field, and time of study were significantly associated with academic burnout in students.

Since the burnout falls along a spectrum, there are no specific threshold values to distinguish when a person has become "burned out." In addition, comparing our results with other similar studies was not feasible due to different cutoff points of academic burnout and definition differences.

In the current study, male students reported higher scores of academic burnout in every MBI-SS subscale than females; however, the difference was not statistically significant. Similar results were found in studies of Backović *et al.* and Azimi *et al.*^[15,26]

Likewise, married students showed a lower score of academic burnout than single ones. It is assumed that married students have more purposeful lives, better time planning, and more motivations to continue and complete their education. However, in the study of

Table 1: Sociodemographic and educational features and study habits of included students

Variables	n (%)
Marital status	
Single	261 (87.3)
Married	38 (12.7)
Socioeconomic status	
Good	87 (28.8)
Moderate	201 (66.6)
Poor	14 (4.6)
Academic field	
Nursing	89 (29.4)
Midwifery	56 (18.5)
Health	70 (23.1)
EMT	10 (3.3)
Paramedical	78 (25.7)
Interest in field of study	
High	103 (34.0)
Moderate	159 (52.5)
Low	33 (10.9)
No interest	8 (2.6)
GPA	
<16	107 (45.0)
≥16	131 (55.0)
Place of study	
Personal room	213 (70.3)
Library	34 (11.2)
Dormitory	50 (16.5)
Other	6 (2.0)
Study condition	
Quiet	282 (93.0)
Busy	15 (5.0)
Both	6 (2.0)
Time of study	
During the semester	124 (40.9)
2 weeks before examination	71 (23.4)
1 week before examination	53 (17.5)
Night before examination	55 (18.2)

GPA=Grade point average, EMT=Emergency medical technician

Table 2: Comparison of academic burnout subscales and students' gender

Subscale	Mean±SD			t	P
	Total	Female	Male		
Exhaustion	2.41±1.3	2.41±1.4	2.41±1.2	-0.03	0.97
Cynicism	2.03±1.5	1.96±1.5	2.25±1.4	-1.48	0.15
Academic inefficacy	2.52±1.1	2.48±1.2	2.64±1.0	-1.14	0.25
MBI-SS total	2.53±0.7	2.35±0.5	2.87±0.9	-1.5	0.13

SD=Standard deviation, MBI-SS=Maslach Burnout Inventory-Student Survey

Dyrbye *et al.*, there was no significant relationship between marital status and academic burnout of students.^[6]

Along with educational characteristics, students with GPA <16/20 had higher academic burnout scores in our study. This is in line with the findings of Nikodijević *et al.* which indicated that GPA is the most important

Table 3: Multivariate linear regression of factors associated with academic burnout

Evaluated factor	B	SE	β	T	P	CI		R	F ²	Adjusted F ²
						Lower	Upper			
Marital status	-0.33	0.15	-0.12	-2.19	0.02	-0.63	-0.03	0.55	0.31	0.30
Time of study	0.19	0.22	0.234	4.07	0.000	0.10	0.28			
GPA	-0.33	0.10	-1.17	-3.08	0.002	-0.54	-0.12			
Interest in field	-0.56	0.07	-0.42	-7.69	0.000	-0.71	-0.42			

GPA=Grade point average, SE=Standard error, CI=Confidence interval

predictive factor of academic burnout.^[7] It has been suggested that there is a reciprocal relationship between academic burnout and GPA; when students feel disappointed and miserable due to academic burnout, they show less tendency to participate in class activities; consequently, they experience academic burnout and present less educational achievements. Therefore, increasing GPA in students could prevent academic burnout in them. In this regard, Lee *et al.* reported that students with higher GPA have more self-confidence and experience less academic burnout.^[27]

In the current study, having interest in field of study was associated with academic burnout. Students with less interest in their field of study will suffer more from academic burnout. Tavakoli noted that having interest in field of study is an excellent motivation for students toward a better study planning and it can enhance their performance in assignments.^[28] Accordingly, attaining more academic achievements rises the students' interest in what they study. In other words, lack of interest in field of study can be accounted as a cause of academic burnout as well as a consequence of it.

Among study habits in our study, only time of study showed an association with academic burnout score. Students who postponed their studies to latter days of semester which are close to examinations presented higher academic burnout score than the ones who used to study during the semester. Procrastinating the studying of lessons to latter days of semester can lead the student to experience more stress in final days and consequently having more academic burnout.

Several limitations would be addressed in the current study; first, due to dissimilar definitions and cutoff points of academic burnout among different studies, it was not feasible to compare our results with other related studies. Second, since this study was conducted in one single university, the results might not be generalizable to all Iranian undergraduate students at medical universities. Third, our study may have missed some possible factors associated with academic burnout. Therefore, we suggest that future studies explore other associated factors of academic burnout with a generalizable sample size to Iranian students through a prospective study.

Conclusions

According to the findings of the current study, marital status, GPA, having interest in field of study, and time of study were associated with the incidence of academic burnout among undergraduate students of medical sciences. Students with academic burnout were unwilling to participate regularly in classes and contribute to class activities; also, they showed an inability of learning new lessons and a feeling of meaninglessness. Our findings could be applied by Iranian educational policymakers to develop better academic educational programs against academic burnout in students of medical sciences.

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Conflicts of interest

There are no conflicts of interest.

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