



Research article

Investigating the relationship between academic burnout and educational factors among students of Guilan University of Medical Sciences

Soodabeh Gholizadeh Sarcheshmeh¹, Fariba Asgari^{2,*}, Minoo Mitra Chehrzad³ and Ehsan Kazemnezhad Leili⁴

¹ Master of Science (MSc) in Nursing, Social Determinants of Health Research Center, Guilan University of Medical Sciences, Rasht, Iran

² Assistant professor, Department of Medical Education, School of Nursing and Midwifery, Social Determinants of Health Research Center (SDHRC), Guilan University of Medical Sciences, Rasht, Iran

³ Instructor, Department of Nursing, School of Nursing and Midwifery, Social Determinants of Health Research Center (SDHRC), Guilan University of Medical Sciences, Rasht, Iran

⁴ Associate Professor, Social Determinants of Health Research Center (SDHRC), Biostatistics, Guilan University of Medical Sciences, Rasht, Iran

* **Correspondence:** Email: asgari.frb@gmail.com.

Abstract: *Introduction:* Academic burnout is among the factors that negatively affect academic performance and has recently been studied in schools and universities. *Aim:* The aim of this study was to determine the relationship between academic burnout and educational factors among students of Guilan University of Medical Sciences in 2015–2016. *Materials and methods:* This cross sectional study was conducted on 532 students who were in second or higher semester of their study in Guilan University of Medical Sciences. The instruments used in this study were the Maslach's Student Burnout Questionnaire and the Educational Factors Questionnaire. Data were analyzed using SPSS software version 21. *Results:* A significant relationship was observed between academic burnout and passion in college major ($P = 0.0001$), failing the courses ($P = 0.0001$), probation record ($P < 0.009$), teaching factors, educational environment and educational facilities ($P < 0.05$). *Conclusion:* The results of this study indicated a significant relationship between academic burnout and a number of educational factors. As a result, appropriate educational and teaching facilities can reduce students' academic burnout.

Keywords: academic burnout; educational factors; students

1. Introduction

One of the factors affecting education that less has been addressed is burnout, which is referred to as academic burnout, and can be one of the factors interrupting education. In general, academic burnout can be defined as fatigue due to study requirements, having a pessimistic sense toward homework and a feeling of inadequacy as a student [1].

Following the theory of job burnout, the fatigue deriving from school or university can be defined as the feeling of pressure, especially chronic fatigue resulting from heavy homework. Pessimism, in turn, is defined as an apathetic attitude toward homework, lack of interest in doing school assignments and oversimplification of homework. Lack of efficiency is also seen as a loss of merit along with lack of success and failure to perform assignments [2]. Newman, on the other hand, considers academic burnout among students as one of the major areas of academic research for a number of reasons. First, academic burnout can be an important clue in understanding diverse behaviors of the students, including academic performance, during the period of study. Second, academic burnout affects the relationship between students and college and university. For example, academic burnout affects students' commitment to college and their participation in academic affairs after graduation. Third, academic burnout can affect students' passion and enthusiasm toward continuing their education. For this reason, identification of variables predicting academic burnout is one of the main issues in the field of education [3]. Therefore, examining the factors associated with burnout is of high importance. One of the factors affecting academic burnout is educational factors. In this regard, the results of the Salmela-Aro study showed a negative relationship between academic burnout and dominant atmosphere of the school and educational performance [4]. The results of a study by Neami and Hayati showed a significant negative relationship between the quality of learning experiences (references, content, learning flexibility, student-teacher relationship) and academic burnout dimensions [5,6]. Therefore, given the importance of academic burnout, this study tried to assess the relationship between academic burnout and educational factors among students of Guilan University of Medical Sciences.

2. Methodology

2.1. Study population

This cross-sectional study was conducted on students of Guilan University of Medical Sciences in 2015–2016. The research population included 997 students of Guilan University of Medical Sciences who were in second semester or higher. The sample size of the study was determined 555 individuals by based on the results of the study by Hayati et al. regarding the correlation between teacher and student relationship and academic burnout [5]. Stratified random sampling method was used in this study.

2.2. Ethical consideration

This research protocol was approved by the Ethical Committee of Guilan University of Medical Sciences (registration code: GUMS.RES.1394.22). Then, after obtaining a recommendation letter from related authorities, written consents were obtained from the students who were willing to participate in the research during one month.

2.3. Data collection

The data collection instruments used in this study was Maslach Burnout Inventory- Student Survey and Educational Factors Questionnaire. Maslach Burnout Inventory- Student Survey consists of 15 items and includes three subscales, including Emotional exhaustion, Cynicism, and Self-efficacy. All questions are graded in a 7-point Likert scale from Never (0) to Always (6). High scores in emotional exhaustion, cynicism, and low scores in self-efficacy indicate academic burnout. It has to be noted that self-efficacy is scored reversely. Questions 1 to 7 relate to emotional exhaustion subscale, questions 8 and 9 related to the cynicism subscale, and questions 10 to 15 relate to self-efficacy subscale. This questionnaire was validated by Rostami et al. (2011) in Iran [7].

A researcher-made educational factors questionnaire, that were designed based on reviewing related literature, was also used in this study. This questionnaire consists of three aspects of educational factors in relation to learner, lecturer, environment and theoretical training facilities. Educational factors questionnaire in terms of learner was a researcher made questionnaire that included the quota in entrance exam, the interval between taking pre-university degree to entrance exam, academic major, college, study semester, passion toward the major, failing in courses, the number of failing in a course and the probation record. The educational factors questionnaire in terms of teacher was a researcher-made questionnaire and was used to measure the quality of theoretical knowledge of the teachers from the point of view of students, and included 10 items in the form of 5-point Likert scale (totally agree, agree, not sure, disagree, totally disagree). In this questionnaire the correlation between every single subscale and academic burnout was examined. Content validity index (CVI), content validity ratio (CVR) were used to determine the content validity of every single questionnaire in terms of simplicity, clarity and relevance. The content validity of both subscales ranged between 0.78 and 1. In order to assess the reliability of the questionnaires, internal consistency, Cronbach's alpha coefficient and test re-test analyses were used. To that end, in a preliminary study, 20 qualified students were selected randomly and were asked to complete the questionnaires. After one week, the questionnaires were completed once again by the same students. Then, data analysis was performed using the statistical package for social sciences (SPSS) software version 21. The observed Cronbach's alpha coefficients of the theoretical educational factors questionnaire and learning environment and facilities were 73% and 77%, respectively. Furthermore, the reliability of the educational factors questionnaire in the field of lecturer was determined as 93% and the reliability of the theoretical educational factors questionnaire in the field of learning environment and facilities was determined as 99% by test re-test analysis, which suggest acceptable reliability of the questionnaire.

2.4. Statistical analysis

Data were analyzed using independent t-test, Pearson correlation coefficient, Spearman and analysis of variance (ANOVA) tests, using the SPSS software version 21.

3. Results

Table 1 shows a statistically significant correlation between academic burnout and passion for college major ($P < 0.0001$), failing in courses ($P < 0.0001$) and probation record ($P < 0.009$). Table 2 shows that there was a statistically significant correlation between academic burnout and all Educational factors in the field of lecturer, based on Spearman correlation coefficient. Table 3 shows that there was a significant correlation between academic burnout and all educational factors in the field of learning environment and facilities based on Spearman correlation coefficient.

Table 1. Correlation between academic burnout and the educational factors in the field of learner.

Academic burnout Variable		<i>P</i>
Type of quota in entrance exam	Regional	0.099
	Veteran	
The interval between taking pre-university degree and participating in the entrance exam	Immediately after taking the degree	0.136
	One year	
	Two years	
	Three years or more	
Major	Nursing	
	Midwifery	
	Operation room	
	Anesthesia	
	Lab sciences	
	Radiology	0.213
	Professional Health Engineering	
	Environmental Health Engineering	
	Public Health	
The university	Shahid Beheshti Rasht	0.739
	Paramedical Langroud	
	Rasht hygiene college	
Semester	Second	
	Third	
	Fourth	
	Fifth	0.412
	Sixth	
Passion for the major	Yes	
	No	0.0001*
	To some extent	

Continued on next page

Academic burnout Variable		<i>P</i>
History of failing a course	Yes	0.0001*
	No	
Frequency of failing a course	Once	0.186
	Twice	
	Three times	
	More than three times	
Probation record	Yes	0.009*
	No	

4. Discussion

The aim of this study was to evaluate the relationship between academic burnout and educational factors among students of the Guilan University of Medical Sciences. The results showed that there was a statistically significant correlation between academic workload and passion for college major, failing in courses and probation record. Regarding the passion in college major variable, in the study by Ghadampour et al. a significant correlation was reported between passion or academic engagement for college major and academic burnout, indicating that an increase in exhaustion level and its components leads to an increase in students' educational passion [8]. It seems that lack of interest in the college major leads to lack of energy, enthusiasm and attention in students when attending a class, or even discourages them from attending classes that are not interesting to them or because they do not allocate enough time for such courses. All the mentioned items are related to the emotional dimension of academic burnout. All these factors ultimately lead to poor results and academic failure, which in turn exacerbates students' unwillingness and leads to cynicism and fatigue. Regarding the variables of failing the courses and probation, given that the academic performance refers to the students' progress or decline [9] and probation is one of the criteria for academic failure [10], according to Zahed study it can be said that there is an interrelationship between academic performance and academic burnout. On the one hand, poor academic performance leads to unwillingness, academic failure, emotional fatigue and ultimately academic burnout, and on the other hand, academic burnout leads to performance decline. Therefore, Zahed et al. reported a significant relationship between academic performance and academic burnout. This relationship was negative (correlation coefficient of -0.62). That is, an increase in academic performance leads to a decrease in academic burnout. and decrease in academic performance leads to an increase in academic burnout [11]. Yang et al. also reported a negative relationship between academic burnout and educational performance [12]. In another study by Ghadampour, a negative and significant relationship was reported between academic burnout and academic performance ($r = -0.17$, $P < 0.001$) [8]. In this regard, in the study by Salmela reported that students with lower grade point averages (GPAs) experienced higher academic burnout [1]. Obtaining poor exam results due to various reasons may lead to emotional exhaustion and since the emergence of one of exhaustion dimensions triggers other dimensions, emotional exhaustion leads to cynicism, inefficiency and academic burnout in sequence. A burned out student cannot do his or her tasks well and eventually suffers academic failure.

Table 2. Correlation between academic burnout and the educational factors of the teacher.

Educational factors Academic burnout	Good teacher-student relationship	The lecturer comment on the course	The lecturer ability to communicate scientific contents	Using up to date knowledge by lecturer	Using teaching aid instruments by the lecturers	Using diverse and new methods of teaching by the lecturers	The lecturers' passion and attempt to teach the students	Appropriate feedback by the students	Using appropriate incentive and punitive mechanisms by the lecturers	Easy access to the lecturers
Spearman correlation coefficient	-0.218	-0.089	-0.124	-0.173	-0.144	-0.089	-0.182	-0.150	-0.107	-0.177
Significance level	$P < 0.0001$	$P < 0.042$	$P < 0.004$	$P < 0.0001$	$P < 0.0001$	$P < 0.040$	$P < 0.0001$	$P < 0.0001$	$P < 0.014$	$P < 0.0001$

Table 3. Correlation between academic burnout and the educational factors in the field of educational facilities and environment.

Educational factors Academic burnout	Ease of access to library resources and books and publications	Updated library resources, books and publications	Ease of access to the internet and computer	The suitability of the library conditions in terms of space, light, cooling and heating, etc.	The suitability of the classrooms in terms of space, light, cooling and heating, etc.	Sufficiency of transportation services for students	Suitability of the campus dining services
Spearman correlation coefficient	-0.261	-0.210	-0.241	-0.166	-0.223	-0.171	-0.205
Significance level	$P < 0.0001$	$P < 0.0001$	$P < 0.0001$	$P < 0.0001$	$P < 0.0001$	$P < 0.0001$	$P < 0.0001$

This study reported a statistically significant relationship between academic burnout and educational factors in the field of lecturer, which were consistent with the results of the study conducted by Neami, where a significant inverse relationship was reported between academic burnout (academic fatigue, academic unwillingness, and academic inefficiency) and quality of learning experiences (resources, content, learning flexibility and the quality of teacher-student relationships) [6]. In a study conducted by Hayati, a simple correlation was reported between academic burnout and the quality of learning experiences in the field of content (the quality of educational guidance and the value of the courses presented), learning flexibility (the chance to learn independently, the ability to choose different courses, and the existence of discussion in the classroom) and finally, the quality of formal and informal relations between lecturers and students ($P < 0.05$) [5]. In another study by Pour Atashi, a significant negative relationship was reported between academic burnout and teaching method of the lecturer and the presented content [13]. Regarding the relationship between learning and academic burnout it should be noted that the content refers to the worthiness and usefulness of presented courses. That is, the courses presented should be practical and have scientific implication for the student. Clearly, if the contents are repetitive, do not have real world implication, or the learners feel they cannot take advantage of the content or communicate the content to other contents, they become burned out. As a result, they will not do their best to learn the content which makes them susceptible for academic burnout.

Regarding the role of teacher-student relationship and academic burnout, it should be noted that communication with lecturer is one of the most important resources for students. Students have close relationship with their lecturers during their study period and the quality of this relationship can deeply affect their emotions and attitudes. Two types of lecturer behaviors can play an important role in this regard. The first group is organizer behaviors. That is, regular and specific curricula, targeting and assigning tasks and assignments are one of the key areas that can play an important role in the academic achievements of students. The other group is supportive behaviors of the lecturers. Lecturers' sensitivity toward emotions and self-concept of the learners, confidential and constructive criticism, appreciating learners and empathy toward their problems, and supportive and friendly behaviors that make the learning environment pleasant can play an important role in reducing academic burnout. Sympathetic, supportive and friendly lecturers handle situations without excessive rigor, which will increase the cognitive and emotional success of learners and reduce the severity of academic burnout [9]. It is supposed that the lecturer factor in various aspects, including educational, incentive and punitive methods, which have also been assessed in the present study, will affect academic burnout. Therefore, the more teachers use appropriate teaching methods, the more students will learn and their academic burnout will decrease. To use appropriate incentive and punitive methods by the lecturers also leads students toward the right path of learning and inhibits academic burnout.

Regarding the statistically significant relationship between academic burnout and educational environment and facilities, Hayati, reported a significant correlation between academic burnout and quality of learning experiences in four areas of resources, including library quality and computer site facilities [5]. Furthermore, the findings of our study were consistent with the results of Neami et al., where a significant inverse relationship was reported between the quality of learning experiences (resources) and the dimensions of academic burnout (academic fatigue, academic unwillingness, and academic inefficiency) [6]. The findings of the study were also consistent with the findings of the study by Pour Atashi, where a significant negative relationship was reported between physical environment and academic burnout [13].

To clarify the findings related to the relationship between academic burnout and educational factors in the field of educational environment and facilities, Naami [6] argues that lack of required

resources to perform educational tasks paves the ground for academic burnout. That is, the student is influenced by the desires and requirements of education contents that require adequate resources. If the homework is excessive and the individuals do not have required resources, they will be exposed to stress and their abilities to complete the homework declines. Two of the models available to clarify this issue is requirements-control model (De Lange et al. 2004) [14] and the resources requirements model (Demrouti et al. 2001) [15]. In this research, the requirements refer to the academic requirements considered as a set of assignments and duties that students are required to undertake during the course of study. According to these models, a person will be exposed to academic burnout when he is unable to control and manage these requirements. One of the important ways to control and manage these requirements is to have required resources. In universities, one of the important resources that the students need to carry out their academic duties is libraries and computer sites. If they do not have adequate access to these resources, they will face more stress. The continuous stresses can pave the ground for academic burnout. Research shows that resources can reduce the relationship between requirements and academic burnout [16]. Therefore, a combination of high educational requirements and low resources lead to more academic burnout [17].

5. Conclusion

The results of this study indicated a significant relationship between academic burnout and a number of educational factors. It can be said that appropriate resources and learning equipment including library resources and access to the Internet and computer improve students learning process and prevent academic failure and burnout. Given that the appropriate classrooms and library environment creates a favorable learning environment for students, which enables them to better focus on learning and thus reduce academic burnout.

Acknowledgments

This research was conducted as student dissertation with the financial support from the vice chancellor of research in Guilan University of Medical Sciences. The author hearty appreciate the respectable authorities of Guilan University of Medical Sciences, the Deputy of Education and all the students who contributed to the study.

Conflict of interest

The authors declare no conflict of interest.

References

1. Salmela-Aro K, Kiuru N, Pietikäinen M, et al. (2008) Does school matter? The role of school context in Adolescents' school-related burnout. *Eur Psychol* 13: 12–23.
2. Salmela-Aro K, Kiuru N, Leskinen E, et al. (2009) School burnout inventory (SBI) reliability and validity. *Eur J Psychol Assess* 25: 47–57.
3. Neumann Y, Finaly-Neumann E, Reichel A (1990) Determinants and consequences of students' burnout in universities. *J Higher Educ* 61: 20–31.
4. Salmela-Aro K, Savolainen H, Holopainen L (2009) Depressive symptoms and school burnout during adolescence: Evidence from two cross-lagged longitudinal studies. *J Youth Adolesc* 38: 1316–1327.

5. Hayati D, Abdolhossein O, Abedin HS, et al. (2012) Investigating the relationship between quality of learning experiences components and self-efficacy on academic burnout among students of Allame Tabatabaei university of Tehran. *J Educ Dev Jundishapur* 3: 18–29.
6. Naami A (2009) The relationship between quality of learning experience and academic burnout of MA students of Shahid Chamran University of ahvaz. *Psychol stud* 3: 117–134.
7. Sharififard F, Nourozi K, Hosseini M, et al. (2014) Related factors with academic burnout in nursing andparamedics students of Qom university of medical sciences in 2014. *J Nurs Educ* 3: 59–68.
8. Ghadampour E, Farhadi A, Naghibeiranvand F (2015) The relationship among academic burnout ,academic engagement and performance of students of Lorestan University of Medical Sciences. *Res Med Educ* 8: 60–68.
9. Parto S (2013) Survey students educatinal status and its realted factors in Shahid Beheshti Nursing and Midwifery Faculty in Rasht city. [MSC Nursing Thesis] Rasht: Shahid Beheshti school of Nursing and Midwifery,Guilan University of Medical Sciences and Health Services.
10. Tagharobi Z, Fakharian E, Mirhosseini F, et al. (2010) Survey of educational drop-out Indexes and its related factors in alumni of paramedical faculty of Kashan Medical University. *J Babol Univ Med Sci* 12: 77–89.
11. Zahed BA, Pourbahram R, Rahmani JS (2014) The relationship of perfectionism, goal achievement orientation and academic performance to academic burnout. *J New Approach Educ Adm* 5: 109–123.
12. Yang HJ, Farn CK (2005) An investigation the factors affecting MIS student burnout in technical-vocational college. *Comput Hum behav* 21: 917–932.
13. Pouratashi M, Zamani A (2018) Effect of educational factors on academic burnout of agricultural engineering students. *Iran J Agric Econ Develoment Res* 49: 151–163.
14. De Lange AH, Taris TW, Kompier MA, et al. (2004) The relationships between work characteristics and mental health: Examining normal, reversed and reciprocal relationships in a 4-wave study. *Work Stress* 18: 149–166.
15. Demerouti E, Bakker AB, Nachreiner F, et al. (2001) The job demands-resources model of burnout. *J Appl Psychol* 86: 499.
16. Halbesleben JR, Buckley MR (2004) Burnout in organizational life. *J Manage* 30: 859–879.
17. Bakker AB, Demerouti E, Taris TW, et al. (2003) A multigroup analysis of the job demands-resources model in four home care organizations. *Int J Stress Manage* 10: 16.



AIMS Press

© 2019 the Author(s), licensee AIMS Press. This is an open access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>)