

Original Article

# Motivation, self-efficacy, stress, and academic performance correlation with academic burnout among nursing students

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## Abstract

**Context:** Students may develop academic burnout due to various factors, especially in stressful fields. This may cause educational and occupational negative impacts.

**Aims:** The present study was an investigation of the relationship of motivation, self-efficacy, stress, and academic performance with academic burnout among paramedical and nursing students.

**Setting and Design:** This descriptive-analytic study was conducted in Qom University of Medical Sciences.

**Materials and Methods:** In the present study, 264 nursing and paramedical undergraduate students were selected through simple randomization. Demographic questionnaire, Maslach Burnout Inventory, Academic Stress Questionnaire (ASQ), Academic Self-efficacy Questionnaire (ASQ), and Academic Motivation Scale were used for data collection. The average of university course grades was used as the academic performance scale.

**Statistical Analysis Used:** Data were analyzed by linear regression analysis and descriptive statistics including mean, standard deviation, and frequency.

**Results:** The mean score of academic burnout was  $28.52 \pm 15.84$ . The results of regression analysis in univariate model showed that all subscales of academic performance variables, i.e., academic motivation, academic self-efficacy, and academic stress of students, were related to academic burnout ( $P < 0.05$ ). It was also found that internal motivation, no motivation, and assurance of self-ability to manage family and work were the most important factors in burnout, and 50% of variance changes was determined in academic burnout ( $r = 0.71$ ,  $r^2 = 0.50$ ).

**Conclusion:** Based on the results of this study, internal motivation, amotivation, and family work management were identified as the most important decreasing factors on academic burnout. Therefore, promoting academic motivation; recognizing and applying the skills of family-work management; and recognizing the factors affecting stress, motivation, self-efficacy, and academic performance cause students to be protected against academic burnout.

**Keywords:** Academic performance, Burnout, Motivation, Self-efficacy, Stress

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## INTRODUCTION

In addition to daily stress, nursing students are also exposed to special stress, so they experience more burnout than other students.<sup>[1-3]</sup> Stress is a meaningful part of medical care, specially nursing. Many studies showed the high levels of stress among medical students.<sup>[4,5]</sup>

The prevalence of burnout among students in different fields of study is 10.3%–76.8%.<sup>[6-8]</sup> Students who are burnout in the face of educational requirements get tired, lose their energy levels, lose their interest in education, and participate less in classroom activities; ultimately they will not have good performance.<sup>[9]</sup> Many studies have shown that the prevalence of aggression,<sup>[10]</sup> depression,<sup>[11]</sup> drug abuse,<sup>[12]</sup> educational abandonment,<sup>[13]</sup> and suicidal tendency<sup>[14]</sup> is high among burnout students than others. In addition, stress,<sup>[15]</sup> relationship between teacher and student,<sup>[16]</sup> social support,<sup>[17]</sup> emotional intelligence,<sup>[18]</sup> endurance,<sup>[19]</sup> personal features,<sup>[20]</sup> role conflict, work–family conflict,<sup>[21]</sup> academic atmosphere,<sup>[22]</sup> anxiety,<sup>[23]</sup> motivation,<sup>[24]</sup> self-efficacy,<sup>[25]</sup> etc., are among the factors that affect burnout. When stress is more than the individual's mentality, it is considered as a risk factor for burnout,<sup>[7]</sup> but motivation and self-efficacy are among the most important factors that seem to be effective in modulating the degree of academic burnout.<sup>[24,25]</sup> Self-efficient people choose more flexible, selective, and challenging things in achieving goals; they are more responsible and often attribute their failures to inadequate but compensatory knowledge and skills.<sup>[25]</sup> The results of one study showed that people believe in their ability to successfully complete activities with a sense of usefulness, effectiveness, and satisfaction, which would help them achieve predetermined goals and overcome educational and life stress.<sup>[26]</sup> Self-efficacy beliefs are a motivational product, and if a person can cope with his/her own problems, his/her self-efficacy increases and he/she gets motivated to achieve academic success.<sup>[27]</sup> Educational motivation includes internal, external, and no motivation. Internal motivation is the assessment of students to learn personal interests and feel the mastery of learning, whereas external motivation is teacher's encouragement, score, as well as other conditional rewards that are considered for students in case of performance improvement. No motivation is when a person could not express his or her goal to perform an activity.<sup>[28,29]</sup> A study showed the positive effects of learning, class participation and doing homeworks by educational motivation. Participation in class and doing homework can also improve performance and academic achievement in learners.<sup>[30]</sup> A study which was conducted in Iran showed educational motivation determines many variances for academic burnout among

girls (18%) and boys (16%); also, job's hope that was 14% for girls and 13% for boys.<sup>[31]</sup>

According to the above-mentioned findings, the importance of addressing the problem of academic burnout among students was determined. Although several studies have been conducted on various aspects and factors which are associated with academic burnout, those that examine the relationship of motivation, self-efficacy, academic stress, and academic performance with academic burnout among nursing students, especially in Iran, are very limited.

In addition, the degree of paramedical students' burnout was not determined in previous studies. Hence, the aim of this study was to consider the relationship between motivation, self-efficacy, stress, and academic performance with academic burnout among Iranian nursing and paramedical students in 2012–2013.

## MATERIALS AND METHODS

This cross-sectional-analytic study was carried out on 264 nursing and paramedical students in the second semester of the academic year of 2012–2013. It was performed on nursing and paramedical students of Qom University of Medical Sciences, Qom City, Iran.

Participants were undergraduate medical science students; a list of all the undergraduate students in nursing and paramedical schools (anesthesiologist, operation room, and prehospital medical emergency students) was prepared, and then, the participants were selected by simple randomization based on a random number table from the list. If they withdraw or not interested in participating in the study, or did not complete the questionnaire, the selected sample was deleted and replaced with another one.

Inclusion criterion was "being student at the time of completing the questionnaire", which was essential for entering the study and "the lack of psychological disorders history". Before the study, the necessary permissions were obtained from the authorities of Qom University of Medical Sciences. The questionnaire included a cover letter; while declaring the aims of the study, it was focused on the elimination of the information confidentiality, and the participants' consent was obtained, too. In addition to verbal consent, consent to participate in the study was recorded in writing on the sheet of the questionnaire, and the participant completed the questionnaire after studying this section. The study is part of a dissertation with Code of Ethics from the University of Social Welfare and Rehabilitation

Sciences (IR.USWR.REC.1392.74). Meanwhile, they were assured that data were collected without name and used only for this research.

The demographic information questionnaire, Maslach Burnout Questionnaire, and Zajacova's Educational Stress Questionnaire were used in this study.

To study the academic burnout, Maslach's Burnout Questionnaire was used as a general form that was modified by Schaufeli *et al.*, which measures academic burnout among students.<sup>[32]</sup> The questionnaire has generally 15 phrases, including three subscales, namely emotional fatigue (five phrases), doubts (four phrases), and self-efficacy (six phrases). All phrases in the form of a 7-point Likert degree are graded up to never (0) to always (6). Given the positive integrity of the expressions (during the class I'm sure that they are effective at the end) in the scale of self-efficacy, reverse grading shows a feeling of having not self-efficacy. Emotional fatigue subscales were from 0 to 30, doubts were 0 to 24, self-efficacy was from 0 to 36 and the range of scores in Maslach Burnout Questionnaire was from 0 to 90; the more a person achieves a score closer to 90, the more likely to burnout. The validity and reliability of this scale were confirmed by Rostami *et al.*, in 2011, on female students of the University of Isfahan with Cronbach's alpha for the emotional fatigue subscale of 0.89, 0.84, and 0.67 for self-efficacy.<sup>[33]</sup> In this study, reliability of this scale with Cronbach's alpha for emotional fatigue subscale was 0.89, 0.87, and 0.87, and self-efficacy of 0.79 was confirmed.

The new version of the Academic Stress Questionnaire and academic self-efficacy is developed by modeling the Mildstone scale<sup>[34]</sup> and the College Self-Efficacy Index.<sup>[35]</sup> In this scale, the concept of academic stress through 27 university assignments is measured. According to that, participants are asked to determine the degree of tension of each assignment on a 11-degree Likert scale from "no tension" (0) to "it is completely tensile" (10). In a research by Zajacova's *et al.*, the results of confirmatory factor analysis showed, the difficulty of doing homework in the classroom, the difficulty of doing homework outside of classes, the difficulty of interacting with others, and the difficulty of managing work, family, and university.<sup>[36]</sup> In the study by Shokri *et al.* (2010), Cronbach's alpha coefficient for academic stress and its subscales such as the difficulty of doing homework in the classroom, the difficulty of doing homework outside of class, the difficulty of interacting with others, and the difficulty of managing work, family, and university was found to be 0.95, 0.85, 0.83, 0.82, and 0.74, respectively.<sup>[37]</sup>

Furthermore, the concept of self-efficacy is measured through 27 homework assignments. The participants are asked to determine their degree of confidence in the success of each of the 27 academic assignments based on a 11-point Likert scale from absolutely uncertain (0) to absolutely sure (10).<sup>[36]</sup> In a research by Zajacova's *et al.*, the results of the analysis showed four factors including self-efficacy to manage family and work, self-efficacy to do homework assignments in the classroom, self-efficacy to do assignments outside of classroom, and self-efficacy to manage university tasks. In the study by Shokri *et al.*, the coefficient of internal consistency of the overall factor of academic self-efficacy beliefs was 94%; this scale is suitable for Iranian studies.<sup>[37]</sup> In order to assess the academic motivation of this study, Vallerand's academic motivation scale was used which is a self-administered questionnaire with 28 items, and academic motivation was measured in three dimensions of internal motivation, external motivation, and no motivation. All phrases are graded in the form of a 7-degree Likert scale from strongly agree (7) to completely disagree (1). The range of score changes varies from 28 to 196, and higher scores reflect the high academic motivation of the person. In the study, validity was confirmed, its reliability was tested by a 2-week interval ( $r = 0.73$ ), and internal consistency was determined by calculating Cronbach's alpha for the whole scale, which is 0.88.<sup>[38]</sup>

The performance in the present study was evaluated by student's total mean score of whole semesters, which was recorded based on individual statements.

Data were analyzed by linear regression analysis and to report the quantitative data, the mean and standard deviation were used, and for the analysis of qualitative data, percentage and frequency were used.

## RESULTS

In the present study, the majority of students were women. Most of them were single [Table 1].

The mean score of academic burnout was  $28.52 \pm 15.84$ . The mean score of academic stress was  $94.44 \pm 54.66$ . The mean score of academic motivation was  $145.30 \pm 21.44$ , and the mean  $\pm$  standard deviation of students' self-efficacy was  $179.46 \pm 47.44$ .

In order to achieve the relationship between variables, linear regression was conducted in this study. The results of linear regression analysis in univariate model showed that all subcategories of academic

motivation, academic self-efficacy, and academic stress and also academic performance were related to academic burnout ( $P < 0.05$ ) [Table 2]. According to Table 3, when all variables of this study were identified in the multiple regression model, based on enter method, the subcategories of Internal Motivation and No Motivation (from the Motivation variable), also Family and University (from the self-efficacy variable) were associated with academic burnout, which also determines 50% of variance changes in academic burnout ( $r = 0.71$ ,  $r^2 = 0.50$ ).

## DISCUSSION

Based on the results of this study, all subscales of self-efficacy, motivation, stress, and academic performance were correlated with academic burnout. Stress and educational performance were correlated with academic

burnout, and self-efficacy and academic motivation were reverse correlated with educational burnout. In addition, internal motivation; no motivation; and managing work, family, and university were the most important predictors of academic burnout. The results of this study were according to the results of other studies conducted on nursing students.<sup>[24,25,28,31,39-41]</sup> People have different roles in work life and family life; every day, they face stress related to each role. If they do not have the ability to use the required strategies for each role, increasing level of stress and anxiety creates a conflict between their work and family life. Furthermore, they could not make a balance between workplace and home; the anxiety caused by the workplace problems, is transmitted to the family which creates family disputes and conflicts. If this continues, they will also lose their confidence to manage work and family; they suffered from burnout.<sup>[42]</sup> Characteristics of work (too much work pressure, time of working, being a clerk or a supervisor, etc.), family characteristics (time taken to handle home affairs), and health status (sleep disorder, psychological disorders, depression, etc.) are effective in managing conflicts caused by work and family.<sup>[43]</sup> Internal motivation and no motivation are among those factors that affect burnout. A recent study showed those who are self-motivated, do not study for rewards but they enjoyed studying. Such people are more creative in dealing with educational challenges, doing homework volunteering, and doing a better job. Therefore, internal motivation increases the feelings of pleasure at the time of doing the work, and it is the basis of success among individuals. It increases the satisfaction of life and strengthens the sense of self-confidence and protects individuals against the burnout.<sup>[28]</sup> The results of the current study are in consistent with the results of the two studies which showed an inverse relation between

**Table 1: Demographic variables of nursing and paramedical students of Qom University of Medical Sciences (Iran, 2012-2013)**

Variables	Grouping	n (%)
Sex	Male	144 (45.5)
	Female	120 (54.5)
Marital status	Single	210 (79.5)
	Married	54 (20.5)
Grade of education	Associate	31 (11.7)
	Bachelor	233 (88.3)
Field of education	Anesthesiologist	78 (29.5)
	Operating room	74 (28)
	Medical emergency	49 (18.6)
	Nursing	63 (23.9)
Years of education	1 <sup>st</sup>	70 (26.5)
	2 <sup>nd</sup>	84 (31.8)
	3 <sup>rd</sup>	57 (21.8)
	4 <sup>th</sup>	53 (20.1)
Age*		21.78±3.50
Total mean score of whole semesters*		16.57±1.38

\*Data are reported as mean and standard deviation

**Table 2: Univariate regression for predictional academic burnout<sup>a</sup> with academic motivation, self-efficacy, and academic stress in nursing and paramedical students**

Variable	B	SE	β	t	P	F	R	R <sup>2</sup>
Motivation	0.42–	0.03	0.58–	10.9–	0.000	119.43	0.58	0.34
Internal motivation <sup>b</sup>	–0.78	0.07	–0.54	–10.24	0.000	105.05	0.54	0.30
External motivation <sup>b</sup>	–0.43	0.08	–0.31	–5.12	0.000	26.30	0.31	0.09
No motivation <sup>b</sup>	–1.63	0.16	–0.53	–9.88	0.000	97.75	0.53	0.28
Self-efficacy	0.18	0.01	0.53–	09.42	0.000	17.96	0.27	0.07
Do homework in the classroom <sup>b</sup>	–0.45	0.05	–0.49	–8.83	0.000	78.10	0.49	0.24
Do homework outside of the classroom <sup>b</sup>	–0.47	0.06	–0.45	–7.86	0.000	61.85	0.45	0.20
Interaction with others at the university <sup>b</sup>	–0.53	0.07	–0.41	–7.09	0.000	50.40	0.41	0.17
Manage work, family, and university <sup>b</sup>	–1.01	0.11	–0.51	–9.19	0.000	84.60	0.51	0.26
Stress	0.08	0.01	0.27	4.23	0.000	17.96	0.27	0.07
Difficulty of doing classroom assignments <sup>b</sup>	0.17	0.04	0.22	3.66	0.000	13.42	0.22	0.05
Difficulty of doing homework outside of the classroom <sup>b</sup>	0.22	0.06	0.23	3.68	0.000	13.57	0.23	0.05
Difficulty in relation with others in the university <sup>b</sup>	0.30	0.07	0.24	3.97	0.000	15.83	0.24	0.06
Difficulty in managing work and family <sup>b</sup>	0.44	0.10	0.26	4.23	0.000	17.95	0.26	0.07
Total mean score of whole semesters	–3.02	0.86	0.25	–3.50	0.001	12.30	0.25	0.06

<sup>a</sup>Dependent variable: Burnout, <sup>b</sup>Predictors: Constant, total mean score of whole semesters, difficulty of interacting with others, External motivation, no motivation, internal motivation, the difficulty of doing homework in the classroom, interacting with others, out-of-class performance, performance on class, difficulty of doing homework outside of the classroom, difficulty in managing work, family. SE: Standard error



**Table 3: Multiple regression for predictional academic burnout with academic motivation, self-efficacy, and academic stress in nursing and paramedical students**

Variable	B	SE	$\beta$	t	P
Model 1 (constant)	-	-	-	-	-
Fix	111.48	14.92	-	7.46	0.000
Motivation					
Internal motivation	-0.47	0.12	-0.32	-3.57	0.000
External motivation	-0.12	0.12	-0.08	-0.97	0.33
No motivation	-1.16	0.22	-0.39	-5.25	0.000
Self-efficacy					
Do homework in the classroom	-0.04	0.12	-0.04	-0.32	0.74
Do homework outside of the classroom	0.26	0.15	0.21	1.70	0.09
Interaction with others at the university	-0.04	0.16	-0.03	-0.28	0.77
Manage work, family, and university	-0.71	0.23	-0.33	-2.98	0.003
Stress					
Difficulty of doing classroom assignments	0.13	0.11	0.16	1.16	0.24
Difficulty of doing homework outside of the classroom	-0.03	0.13	-0.03	-0.24	0.80
Difficulty in relation with others in the university	-0.03	0.17	-0.02	-0.19	0.84
Difficulty in managing work and family	-0.20	0.29	-0.11	-0.69	0.48
Total mean score of whole semesters	-0.67	0.85	-0.05	-0.79	0.43
ADJ $R^2$ , F, R, $R^2$	0.49, 10.8, 0.71, 0.50				

Dependent variable: Burnout. Predictors: (Constant), total mean score of whole semesters, difficulty of interacting with others, external motivation, no motivation, internal motivation, the difficulty of doing homework in the classroom, interacting with others, out-of-class performance, performance on class, difficulty of doing homework outside of the classroom, difficulty in managing work, family, family-work management. ADJ: Adjusted, SE: Standard error

self-efficacy and burnout. Hence, self-efficacy reduces burnout by increasing positive achievements in individuals and enhancing self-confidence.<sup>[39,44]</sup>

Studies showed that students' satisfaction with educational factors and educational environment is effective in their motivation. The faculty's ability and interest to teach, using active methods, paying attention to proper curriculum, redirecting the university authorities toward problems, and employing educational tools, etc., are relevant to the student's academic motivation.<sup>[45,46]</sup> Therefore, students who have self-confidence in their ability to manage work, family, and university can resist the contradictions, continue to use new strategies, and increase their interest and motivation for their educational activities. They can achieve many successes by coping with the educational problems.

In the present study, the selection of students in nursing and paramedical groups was done at one center; hence, the results of this study may not generalizable. Hence, more researches are needed. The cross-sectional nature of the study also made it difficult to comment on the protective role of the factors identified in this study.

## CONCLUSION

Based on the results of this study, internal motivation, no motivation, and family/work and university management were identified as the most important moderating factors in academic burnout. Therefore, promoting academic motivation; recognizing and applying the skills of family and work and university task management; and recognizing

the factors affecting stress, motivation, self-efficacy, and academic performance make students to overcome the stresses of routine life with greater interest and effort; they protect themselves against academic burnout. It is suggested that cohort studies be designed for better determination of the degree of academic burnout and its related factors among the students from the beginning to the end of the course of the study.

## Conflicts of interest

There are no conflicts of interest.

## Authors' contribution

Hamid asayesh contributed with data collection and analysis, fatemeh shariffard contributed with designed, interpretation and writing the first draft of the article and supervised the work. mohammadreza sepahvandi translated the manuscript into English. mahsa haji mohammad hoseini was advisor of the article.

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