



# Strategies to Improve Students' Educational Achievement Motivation at Guilan University of Medical Sciences

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## Abstract

**Introduction:** In view of the fact that motivation is linked directly to the learning process and educational achievement, this study endeavored to identify strategies to improve students' educational achievement motivation at Guilan University of Medical Sciences.

**Methods:** To conduct this descriptive-analytical study, 368 students from Guilan University of Medical Sciences were selected using simple random sampling from 2013-2014. All of the Guilan University of Medical Sciences' students met the general eligibility criteria except guest students. The questionnaire included five domains of economic, socio-cultural, educational, geo-regional, and personality factors in educational achievement motivation. Through using descriptive and inferential statistics (Kolmogorov-Smirnov, Mann-Whitney U and Kruskal-Wallis tests), the compiled data were analyzed at the significance level of 0.05.

**Results:** Data analysis revealed that socio-cultural factors have the maximum score ( $64.14 \pm 9.92$ ) and geo-regional factors have the minimum score ( $19.01 \pm 3.63$ ) on the participants' educational achievement motivation. What is more, a significant difference was revealed between educational field and educational effective factors as well as educational level and educational effective factors ( $p < 0.011$ ,  $p < 0.004$ , respectively).

**Conclusion:** Given that the socio-cultural factors had the maximum score on the students' educational achievement motivation, it is recommended that university officials take these factors into account, and attempt to plan to provide appropriate strategies to enhance their students' motivation, specifically their educational achievement motivation.

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## Introduction

Education is one of the fundamental aspects in the development of socio-economic, cultural, and political issues.<sup>1</sup> The success or failure of tackling the needs of individuals in order to make actual gains in their performance is the major concerns of any educational system.<sup>2</sup> In effect, learning can be encouraged by providing motivation.<sup>1,3</sup> Psychologists have recognized the necessity of concentrating on motivation in education due to the

outstanding importance of motivation for learning new skills, strategies and behaviors. Meanwhile, educational achievement motivation is one of the original structures that has been offered to explain motivation.<sup>4</sup> Educational achievement motivation is the far-reaching point of reference to evaluate learners' performance considering the highest standards for appropriate performance.<sup>5</sup> Likewise, in regard to students, educational achievement motivation

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is very important.<sup>4</sup>

Studies have illustrated that, despite the time and cost, a large number of students have changed or quit the field of studying. This failure to the large extent may be due to lack of knowledge about the field; that is, unfamiliarity of the learning context for students, or lack of motivation in the field.<sup>6</sup> Due to the significance of educational motivation in students' success in recent decades, psychologists have endeavored to pinpoint the factors that greatly influence motivation.<sup>7</sup> The ability and willingness of instructors in teaching encouragement, attention to individual differences, as well as the appropriateness of the curriculum, higher education officials' attention to the problems of the university and training equipment all have effects on students' educational motivation.<sup>2,8</sup> Yunus *et al.*<sup>9</sup> found that students who have a close relationship with their teacher are more motivated to learn.

As mentioned above, there is a close association between motivation and learning, educational achievement, and even in the learners' job satisfaction.<sup>2</sup> Most studies have focused only on students' motivation levels.<sup>10-12</sup> Improving students' motivation is generally viewed as important because high achievement is due to high motivation, with related to factors both inside and outside of motivation. There are individual differences in motivation and different ways to motivate students. Thus, motivation can increase student involvement, and different strategies can help students. A key point of this study was that teachers can encourage or discourage student responsibility for learning through the ways in which they structure education, so this study was conducted to capitalize on the strategies that give assistance to enhance the level of educational achievement motivation among students of Guilan University of Medical Sciences.

## Materials and Methods

### Setting and subjects

This study is an analytic cross-sectional study; the population consisted of 3369 students studying at Guilan University of Medical Sciences. The sample size was determined through a Morgan Table and consisted of 368 students. Simple random sampling was employed for selecting participants from among the students of the faculty of medicine (205 persons), dentistry (89 persons) and nursing (74 persons) in the academic years of 2013-2014. All subjects were enrolled voluntarily. All of the Guilan University of Medical Sciences' students met the general eligibility criteria except guest students who were excluded from the study.

### Data collection

The data collection tool was derived from a survey questionnaire by Hashemi *et al.*<sup>13</sup> that contained six sections and 56 questions. The items were based on a five-point Likert scale from very low to very high. The first part of the questionnaire deals with the socio-demographic characteristics of the sample. In the second part, the economic factors affecting educational achievement motivation (10

items) were included. Socio-cultural factors in educational achievement motivation (16 items) comprised the third part of the questionnaire. The fourth part was educational factors in educational achievement motivation (13 items) and geo-regional factors in educational achievement motivation with five items is addressed in the fifth part. The sixth part of the questionnaire was personality factors in educational achievement motivation (12 items) (Table 1). The minimum score of the questionnaires was 56 and the maximum score was 280. Higher scores represent a greater impact of that factor. The details about the score range of the questionnaire are tabulated in Table 2.

The face and content validity of the questionnaire were authenticated by 10 experts from among the faculty members of Guilan University of Medical Sciences (experts in medical education, psychology and public health). Also, it is of note that after the data regarding participants' view were garnered, required modifications were added to the original questionnaire. Reliability was calculated using Cronbach's alpha, which was 0.89 for the tool as a whole, and for the sections of economic factors, socio-cultural factors, educational factors, geo-regional factors and personality factors, it was 0.71, 0.85, 0.84, 0.79 and 0.70, respectively.

### Data analysis

Guest students excluded from study were a confounding factor. After collecting the questionnaires, the data was submitted to SPSS 19. Data was analyzed both descriptively (frequency, percentage, mean and standard deviation) and inferentially (Kolmogorov-Smirnov, Mann-Whitney U and Kruskal-Wallis tests) at the significance level of 0.05. Inferential statistics, including the Kolmogorov-Smirnov test was used for testing the normality of data distribution. The Mann-Whitney U and Kruskal-Wallis tests were used for variables with non-normal distribution and were used to investigate the association between factors affecting educational achievement motivation and socio-demographic characteristics.

### Ethical Considerations

This study was approved by the Ethics Committee of Research Deputy in Guilan University of Medical Sciences. Written informed consent was obtained from all of the participants at the beginning of the study. All participants were informed of the voluntary nature of participation and were assured about confidentiality of their personal information.

### Results

The average age of students was 21.13 years old (SD 2.95) and the majority of them were female (68.8%), studying medicine (55.7%) or basic science (38%) (Table 3).

According to Table 4, socio-cultural factors have the maximum score ( $64.26 \pm 9.92$ ) and geo-regional factors have the lowest score ( $19.07 \pm 3.58$ ) on students' motivation. As to the effect that economic factors exert on educational achievement motivation, 39.29% of participant assigned a high rank to these factors. Also, in regard to economic

**Students' Educational Achievement Motivation**

**Table 1.** Factors affecting student achievement motivation and its components

Questions related to each factor	Factors	Components
1-10	Economic	Being employed during the school
		Parents' financial support
		Loans by the university
		Better job in future
		Better facilities like an independent room
		Being financially independent from parents
		Being employed in government
		Being self-employed
		Being poor
		Unemployment
11-26	Socio-cultural	Cultural centers such as the library and cultural center
		Family members attitude about education
		Your friends' attitude about education
		Academic atmosphere of the university
		Respect and trust of the people in society to education
		Dormitory existence
		Having counseling centers
		Having sports facilities
		Having entertainment camps
		Having academic camps
		Holding ceremonies and feasts
		Amenities such as medical services
		Family education
		Successful models of education
Professional class (people's jobs)		
Family social status		
27-39	Educational	Teacher' teaching's method
		Educational facilities
		Ways of taking exams
		Specifying educational resources such as books and pamphlets training
		Your ability to learn lessons
		Using of teaching aids such as slides, videos & ...
		Color, lighting and heating and cooling equipment in class
		Student number in the class
		New teaching method
		Professor's expertise
The applicability of university education		
Professor's social behavior (eg, respect, etc.)		
40-44	Geo-regional	Regional climate
		Green refreshing space of university
		The suitability of educational facilities
		The high student population
		Being away from home
45-56	Personality	Having positive self-image (appearance and abilities)
		One's belief in his ability to influence events
		A commitment to the tasks that must be done
		The belief that life changes are the opportunity to grow
		Believing that the efforts and talent of one are the reason of his progress and failures
		Believing that the progress and failures are due to the chance, or the help of other people
		The amount of the value and respect for the individual
		Tendency to optimism about personal abilities
		Feeling worry, embarrassed, ... that are called anxiety
		Enjoying teamwork and being interested in learning through participation with others
Being interested in working alone, enjoying the silence and listening and watching rather than participating		
Having value such as work development commitment to work, compete with others & ...		

**Table 2.** Details about the score range of the educational achievement motivation questionnaire

Section	Score range
I. Economic factors	10-50
II. Socio-cultural factors	16-80
III. Educational factors	13-65
IV. Geo-regional factors	5-25
V. Personality factors	12-60

Note. Higher scores indicate a greater impact on students' motivation for academic achievement.

**Table 3.** Students' socio-demographic characteristics

Socio-demographic factors		Number	Percent	
Gender	Female	253	68.80	
	Male	115	31.30	
	Total	368	100	
Age (mean±SD)		21.13±2.95		
Field of study	Medicine	205	55.70	
	Dentistry	89	24.20	
	Nursing	74	20.10	
Degree	Medicine	Basic science	140	38
		Physiopathology	21	5.70
		Trainee	31	8.40
	Dentistry	Intern	13	3.50
		Basic science	77	20.90
	Nursing	Clinical	12	3.30
		BS	49	13.30
	MS	25	6.80	

factors, the component of 'better jobs in the future' had the greatest impact and the component of 'being employed during the school' had the least impact on educational achievement motivation.

Concerning the socio-cultural factors' impact on educational achievement motivation, 45.69% of students were of the opinion that this factor has the greatest impact. Also, in connection with the socio-cultural components, the component of 'academic atmosphere of the university' had the greatest impact and the component 'dormitory existence' had the least impact on educational achievement motivation.

In regard to the impact of educational factors on educational achievement motivation, 59.05% of students expressed that role of this factor was very high. Additionally, the component of 'teacher' teaching's method' had the greatest impact and the components of the 'new teaching method' had the least impact on educational achievement motivation.

As to the geo-regional factors affecting educational achievement motivation, 69.38% of students voted for the effectiveness of this factor. Also, the component of 'green refreshing space of university' had the greatest impact and the component 'away from home' had the least impact on educational achievement motivation.

In relation to the personality factors affecting educational achievement motivation, 47.37% of students opined that this factor was the most efficient one. In the same vein, the amount of value and respect for the individual had

the greatest impact and the component 'being interested in working alone, enjoying the silence and listening and watching rather than participating' was ranked the highest among other components that affect educational achievement motivation.

Analyzing the relationship between gender, field and level of education with factors affecting educational achievement motivation, only the relationship between the field and educational effective factors ( $p < 0.004$ ) and level of education with educational effective factors ( $p < 0.011$ ) was significant at the 0.05 level. Males and females from three fields and all levels of academic expertise who believed that socio-cultural factors had the greatest impact (in order with the average  $64.26 \pm 9.92$ ,  $64.26 \pm 9.92$ ,  $64.26 \pm 9.92$ ) were in the majority. In the same way, these students were of the opinion that geo-regional factors had a trivial impact (in order with the average  $19.07 \pm 3.58$ ,  $19.07 \pm 3.58$ ,  $19.07 \pm 3.58$ ) on educational motivation. They also believed that there was not any significant difference in factors' scores average from male' or females' view, field and levels of education (Table 4).

## Discussion

A lack of motivation in medical students not only imposes costs to the universities, but also brings numerous problems for health systems and their patients in the future.<sup>6</sup> This study sought to uncover the factors affecting educational achievement motivation and strategies to increase students' motivation at Guilan University of Medical Sciences. The results illustrated that socio-cultural

Table 4. The mean and standard deviation of the factors affecting student achievement motivation in terms of socio-demographic variables

Effective factors		Economic		Socio-cultural		Educational		Geo-regional		Personality	
		Mean±SD	P-value (Mann-Whitney U & Kruskal-Wallis tests)	Mean±SD	P-value (Mann-Whitney U & Kruskal-Wallis tests)	Mean±SD	P-value (Mann-Whitney U & Kruskal-Wallis tests)	Mean±SD	P-value (Mann-Whitney U & Kruskal-Wallis tests)	Mean±SD	P-value (Mann-Whitney U & Kruskal-Wallis tests)
Gender	Woman	36.63±5.93	P <sub>‡</sub> =0.45	64.67±8.92	P <sub>‡</sub> =0.57	56.29±7.86	P <sub>‡</sub> =0.52	18.96±3.61	P <sub>‡</sub> =0.93	49.02±5.95	P <sub>‡</sub> =0.11
	Man	35.78±6.60		63.14±11.57		56.10±7.17		19.10±3.70		47.55±7.04	
	Total	36.60±6.05		64.26±9.92		56.50±7.31		19.07±3.58		48.87±6.20	
Field of study	Medical	36.18±6.32	P <sub>‡</sub> =0.52	64.34±10.11	P <sub>‡</sub> =0.41	56.86±7.55	P <sub>‡</sub> =0.004*	18.96±3.68	P <sub>‡</sub> =0.95	48.70±6.53	P <sub>‡</sub> =0.18
	Dentistry	36.71± 5.83		63.69±9.50		54.76±7.61		19.11±3.55		48.11±6.02	
	Nursing	37.69±5.43		64.72±9.96		57.59±5.89		19.34±3.39		50.24±5.27	
	Total	36.60±6.05		64.26±9.92		56.50±7.31		19.07±3.58		48.87±6.20	
Educational level	Basic sciences (Medicine)	35.81±6.13	P <sub>‡</sub> =0.56	64.60±9.81	P <sub>‡</sub> =0.42	57.23±7.93	P <sub>‡</sub> =0.01*	19.02±3.95	P <sub>‡</sub> =0.94	49.41±6.51	P <sub>‡</sub> =0.14
	Physiopathology	36.90±5.42		62.86±10.19		57.19±6.62		18.86±3.65		46.90±6.72	
	Trainee	37.29±6.18		65.81±8.61		55.93±4.62		18.58±2.55		46.84±6.99	
	Intern	36.15±9.76		60.46±15.45		54.54±10.19		19.38±3.20		48.38±3.93	
	Basic sciences (Dentistry)	36.97±5.73		63.48±9.42		54.84±7.77		19.09±3.64		48.13±5.95	
	Clinical	35±6.38		65±10.31		54.25±6.73		19.25±2.99		48±6.70	
	BS	38.82±4.82		65.98±9.01		57.90±5.16		19.55±2.93		50.02±4.95	
	MS	35.48±5.97		62.24±11.39		57±7.19		18.92±4.18		50.68±5.93	
Total	36.60±6.05	64.26±9.92	56.50±7.31	19.07±3.58	48.87±6.20						

†: Mann-Whitney U; ‡: Kruskal-Wallis; \*: P<0.05



factors seem to have the most influence while geo-regional factors have a minimal impact on students' motivation. These findings bear testimony to the results reached by Najafi et al.<sup>6</sup> In this respect, the achieved results were a bit counterproductive to those reported by Hashemi et al.<sup>13</sup>; that is, personality had the most potential and economic had the least potential in students' achievement motivation. In line with the results achieved in this study, Roohi et al.<sup>1</sup> reported that there is a significant direct correlation between educational motivation and the four elements of students' welfare, faculty training, training and health centers, as well as job prospects. Similarly, Kosgeroglu et al.<sup>11</sup> argue that, among the internal motivation factors, professional interest has the least impact and the desire to work with people has the most impact. Identically, among the external motivational factors, the least important role was taken by the acquisition of knowledge and skills in the future and most important one was taken by willingness to work with people who can motivate them more. It would seem that existence of different results in different studies may be due to different variables, employing different tools and contextual factors that have effects on the condition of campus and students.

As regards the economic factors affecting educational achievement motivation, the component 'better jobs in the future' had a huge impact and these findings are in line with the results obtained by Hashemi et al.<sup>13</sup> Moreover, Dalir et al.<sup>14</sup> showed that there is a significant relationship between motivation and hope of success with effective performance (education and job). The students' belief in increasing achievement motivation with the aim of better jobs in the future to maintain good social status can be justified and can have an effect on educational motivation.

On the subject of the social and cultural factors affecting educational achievement motivation, 'academic atmosphere of the university' had the greatest impact. However, it is of note that the more scientific atmosphere of university smooths the way for students to be more motivated to learn, which, in turn, can motivate students to learn and improve academic achievement. These findings diverge from the results reported by Hashemi et al.,<sup>13</sup> which showed that the family members' attitude is one of the important factors affecting the educational achievement of students. In Chiu et al.<sup>15</sup> success was higher for students who had family with a culture of higher educational achievement. In this regard, Taheri et al.<sup>16</sup> showed that parents' education had a positive effect on their children's educational motivation.

In relation to the educational factors influencing educational achievement motivation, 'methods of teaching' had the greatest impact on educational motivation. The findings are congruent with the results reported by Salehi et al.<sup>17</sup> and Hashemi et al.<sup>13</sup>

To the extent that geo-regional factors affect educational achievement motivation, 'green and refreshing milieu of University' had a substantial impact on educational motivation. The finding disagrees with the results of Hashemi et al.<sup>13</sup> that revealed living with family is the most important geographical factors affecting student

achievement.

On the other hand, a study by Roohi et al.<sup>1</sup> established a direct link between university welfare and educational motivation that agrees with this study. The researcher believes that geographic factors including green and refreshing space can lead to happiness in students which can enhance motivation for studying and learning.

In relation to the personality component, the factor of 'the amount of the value and respect for the individual' had the greatest effect on educational motivation. This study is in contrast with the study done by Hashemi et al.<sup>13</sup> that revealed having a positive image of yourself has the greatest impact on educational achievement. Also, in the study of Kiafar et al.<sup>7</sup> on beliefs and optimism, and in studies by Moghimian et al.<sup>12</sup> Deontology, in Salehi et al.<sup>17</sup> and Wijnia et al.,<sup>18</sup> being interested in learning by participating were the most important factors in affecting educational achievement, and this disagreed with this study concerning the role of personality factors.

As to the limitations of this study, they include the impact of the environment and learning situation, and mental as well as individual differences when responding to the questions. Another limitation of this study is not evaluating students' motivation; it is suggested that future studies should measure students' motivation and then examine various factors affecting it. It is suggested that similar studies be done on other medical and paramedical sciences.

### Conclusion

The results indicate that the reduction in student motivation is influenced by several factors, which can be adjusted and reformed with the correct and appropriate measures to increase student motivation. Finally, it can be concluded that achieving motivation leads to mobility and proper planning at the time of learning; in this manner, motivation can end in students' educational success. In view of that, it seems possible to offer positive solutions regarding the factors that affect medical sciences students' achievement motivation, namely their ability to achieve greater educational success throughout study, which in turn clears the way for their employment. Also, with regard to the factors affecting educational achievement motivation, it seems indispensable to recommend that Guilan University of Medical Sciences practitioners be exact in setting the scene of social and cultural factors that make it easy for students to improve their learning. It is suggested that similar studies be done on other medical and paramedical sciences.

### Competing Interests

None to declare.

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