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From Prestige to Humanism: The Experiences of Medical Students about Motivational Factors

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Abstract

Background & Objective: Students are invaluable assets of every country. Medicine has long been a major of great interest worldwide, the selection of which involves numerous motivational factors. The present study aimed to assess various motivational factors in medical students since the first until the last year of education.

Materials and Methods: This cross-sectional study was conducted on the medical students at Mashhad University of Medical Sciences in Mashhad, Iran in 2016. In total, 200 students were selected via stratified cluster sampling. Data were collected using a researcher-made questionnaire with 29 items regarding motivational factors. The questionnaire was validated (α=0.77) and completed by the participants.

Results: The main reasons for the selection of medicine as a field of studies were as follows: "Doctors have a good social status." (n=84; 46.7%), "I wanted to help people improve their health." (n=81; 44.8%), and "I wanted to be self-employed in the future." (n=73; 40.8%). The male students were more concerned about financial income (mean score: 1.1±0.7 vs. 0.8±0.9; P=0.04) and job security (mean score: 0.4±1.1 vs. 0.1±1; P=0.05) compared to the female students. Moreover, the viewpoint of the students toward the propriety of the duration of medical education completely changed (0.7 in basic sciences up to -0.4 in internship; P<0.001).

Conclusion: According to the results, some motivational factors varied significantly as the medical students progressed into educational stages, which could be explained by the fact that medical students became more realistic than idealistic as they started actual medical practice during clinical education.

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Introduction

Studies have placed great emphasis on the importance of responsible medical and dental students in order to protect and improve public health. However, it is a rather complicated issue as any alteration in the social, economic, and political state of the community may dramatically influence the healthcare system and healthcare providers (1).

Students are invaluable assets in every country, and medical students are considered to be among the top students in many communities (2). In addition, selecting a special academic field of studies is consequential, and proper decision-making in this regard could prevent the waste of various resources. Every individual may be faced with the 'selection crisis', and one of the most crucial decisions is selecting a career, which is a complicated process affecting various aspects of human life. Career selection is often linked to the financial status and psychological characteristics of an individual (3, 4). Epidemiological studies in this regard have demonstrated that choosing a study major and the future job is influenced by motivational factors, which vary depending on age, gender, and ethnicity (3, 4). Motivation is an internal predisposition, which involves the reasons for the actions of individuals; these reasons could be affected by internal or external factors. Therefore, there are two general categories of motivation, including autonomous motivation (AM) and controlled motivation (CM). AM involves the tendencies to act with eagerness and predisposes positive values, while CM is observed when an individual act due to feeling pressured (5). Academic improvement is essentially based on motivation and interest.

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Medicine has long been a field of interest in many countries, and a significant number of top students tend to opt for this field of study. The appeal of medicine as a field of study has been linked to several factors, such as high socioeconomic status and interest of family and friends in the selection of medicine (6). Other motivational factors that have been proposed by medical students include humanism, competency, and the challenging feature of the medical profession (7, 8).

According to the literature, there is a broad range of motivational factors for medical students in Iran (9-11) and other countries (12-14). For instance, a qualitative study in Golestan province (Iran) indicated the key role of the professors in the promotion of educational motivation in students (15). Some of the studies in this regard have been performed on medical students in Ahvaz (Iran) in 2014 (16), Hormozgan (Iran) in 2015 (17), and Ardabil (Iran) in 2006 (18).

To the best of our knowledge, no studies have been focused on this issue in Mashhad city, and only one of the aforementioned studies has evaluated the possible changes in motivational factors throughout academic education. The present study aimed to assess the variations in the motivation of medical students during the medical education period and compare these factors between different educational grades at Mashhad University of Medical Sciences (MUMS).

Materials and Methods

This cross-sectional study was conducted on the medical students at MUMS in 2016. MUMS is one of the oldest Iranian medical universities, which is located in Mashhad (northeast of Iran), admitting nearly 250 medical students every academic year. The participants were selected via stratified cluster sampling to ensure the generalizability of the findings. The four academic grades of basic, physiopathology, externship, and internship were considered as different strata, and two classes were randomly selected from each stratum as clusters. The sample size of the study was calculated based on a similar study using the qualitative estimation of the proportion of a population formula (9). Considering a 15% sample loss, 200 questionnaires were provided and distributed among the participants.

Data were collected using a researcher-made questionnaire, the content validity of which was qualitatively assessed in terms of the grammar, diction, item allocation, and scaling. In addition, the face validity of the questionnaire was evaluated in terms of difficulty, relevance, and ambiguity. The reliability of the questionnaire was confirmed at the Cronbach's alpha of 0.77. The questionnaire consisted of 29 items regarding the attitudes of selecting medicine as a future career by the students. The items in the questionnaire were scored based on a five-point Likert scale (Totally Agree=2, Agree=1, Do Not Know: 0, Disagree: -1, Totally Disagree: -2). The study protocol was approved by the Ethics Committee of MUMS (code: MUMS-931562). The students were free to participate in the study. Among 200 distributed questionnaires, 181 were returned (response rate: 90%).

Data analysis was performed in SPSS version 11.5 using descriptive statistics [frequency (absolute and relative], mean, standard deviation [SD], and range). The differences in the obtained scores between the male and female students were evaluated using Mann-Whitney U test. In addition, the differences in the scores of the four categories of the educational grades were assessed using the Kruskal-Wallis test. All the tests were two-tailed, and P-value of less than 0.05 was considered statistically significant.

Results

The mean age of the participants was 22.1±2.6 years (age range: 18-27 years). Almost half of the students (n=91; 53%) were female, and the majority of the participants were in the basic academic stage (n=69; 38%), followed by internship (n=51; 28%), physiopathology (n=35; 19%), and externship (n=26; 15%). The majority of the students (n=109; 66.5%) were native residents of Mashhad, and MUMS was the third-best students' choice (mean score: 3.1±2.6; score range: 1-11) among the national medical universities.

According to the remarks of the participants, the main reasons for the selection of medicine were as follows: "Doctors have a good social status." (n=84; 46.7%), "I wanted to help people improve their health." (n=81; 44.8%), and "I wanted to be self-employed in the future." (n=73; 40.8%). On the other hand, the students were mainly opposed to the following statements: "Job-related stress is low in the medical profession." (n=101; 56.1%), "The medical profession is independent of the life and death of people." (n=96; 53.6%), and "The medical occupation allows me to spend more time with the family." (n=67; 37.2%) (Table 1).

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Table 1: Attitudes of medical students in selecting medicine as their future career

	Completely disagree	Disagree	Not agree/Not disagree	Agree	Completely agree
I wanted to be a doctor forever.	5(2.8)*	18(10)	44(24.4)	45(25)	68(37.8)
One of the first-class relatives was a doctor.	65(35.9)	38(21)	16(8.8)	28(15.5)	34(18.8)
One of my family friends who was a doctor encouraged me to study medicine.	56(31.1)	46(25.6)	29(16.1)	22(12.2)	27(15)
My affiliates who were physicians encouraged to study medicine.	55(30.7)	42(23.5)	31(17.3)	25(14)	26(14.5)
My high school teachers encouraged me to study medicine.	21(11.7)	29(16.1)	39(21.7)	51(28.3)	40(22.2)
My acquaintance with the professional life of a doctor gave me the passion to become a doctor.	35(19.3)	42(23.2)	47(26)	34(18.8)	23(12.7)
Mass media were effective in choosing this field of study.	26(14.4)	41(22.7)	58(32)	37(20.4)	19(10.5)
I became interested in medicine because it combines science and art.	15(8.3)	29(16)	48(26.5)	64(35.4)	25(13.8)
I wanted to be self-employed in the future.	6(3.4)	12(6.7)	30(16.8)	58(32.4)	73(40.8)
Medical occupation allows me to spend more time with the family.	67(37.2)	60(33.3)	30(16.7)	15(8.3)	8(4.4)
My interest and motivation have not been reduced due to the long duration of medical education.	21(11.6)	32(17.7)	43(23.8)	45(24.9)	40(22.1)
Medical practice can be limited to daytime and does not necessarily require night shifts.	29(16.1)	50(27.8)	49(27.2)	38(21.1)	14(7.8)
I enjoy doing fine manual works.	8(4.4)	17(9.4)	48(26.5)	67(37)	41(22.7)
I wanted to help people improve their health.	3(1.7)	2(1.1)	15(8.3)	80(44.2)	81(44.8)
I realized that it is easy to find a job for doctors.	7(3.9)	15(8.3)	47(26)	74(40.9)	38(21)
Doctors earn enough money.	3(1.7)	4(2.2)	34(18.9)	89(49.4)	50(27.8)
The medical occupation has regular work hours.	42(23.3)	46(25.6)	44(24.4)	38(21.1)	10(5.6)
The medical profession is independent of life and death of people.	96(53.6)	58(32.4)	15(8.4)	5(2.8)	5(2.8)
Medical profession is an attractive and interesting job.	6(3.4)	9(5)	17(9.5)	75(41.9)	72(40.2)
Medicine has little occupational hazards.	51(28.3)	66(36.7)	41(22.8)	15(8.3)	7(3.9)
Doctors have a good social status.	4(2.2)	4(2.2)	15(8.3)	73(40.6)	84(46.7)
Doctors have a good job security.	13(7.3)	29(16.3)	51(28.7)	58(32.6)	27(15.2)
Job-related stress is low in the medical profession.	101(56.1)	50(27.8)	19(10.6)	7(3.9)	3(1.7)
Job vacancies are still available for doctors in Iran.	19(10.5)	49(27.1)	66(36.5)	32(17.7)	15(8.3)
I was interested in doing research in the field of medicine.	13(7.4)	23(13.1)	44(25)	57(32.4)	39(22.2)
General practitioners can treat a wide range of diseases without any required speciality.	57(31.7)	64(35.6)	39(21.7)	16(8.9)	4(2.2)
I chose medicine because I was interested in a certain medical speciality.	14(7.8)	24(13.3)	41(22.8)	60(33.3)	41(22.8)
I chose medicine because of my excellent rank in the National centralized exam of the entrance to the universities.	29(16)	38(21)	44(24.3)	44(24.3)	26(14.4)
Studying in this field is an opportunity to obtain advanced academic degrees.	2(1.1)	6(3.3)	19(10.6)	84(46.7)	69(38.3)

* Data is represented as Frequency (Percentage)

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The results of gender analysis indicated that the female students were more concerned about sufficient time to spend with the family compared to the male students (mean score: -1.06±1.1 vs. -0.7±1.1; P=0.03). Moreover, the comparison demonstrated that the female students were more strongly disagreed with low job stress in medicine (mean score: -1.5±0.7 vs. -1.2±0.9; P=0.006) and low occupational hazards than the male students (mean score: -1±1 vs. -0.5±1; P=0.004). In addition, the female students mainly selected medicine to help improve community health (mean score: 1.4±0.7 vs. 1.1±0.8; P=0.02), and another reason in this regard was the higher rank of the female students in the national centralized entrance exam to universities compared to the male students (mean score: -0.1±1.3 vs. 0.2±1.1; P=0.05). On the other hand, the male students were more concerned about financial income (mean score: 1.1±0.7 vs. 0.8±0.9; P=0.04) and job security (mean score: 0.4±1.1 vs. 0.1±1; P=0.05) compared to the female students.

According to the results of the present study, the notion that there would be sufficient time to spend with the family became less prominent in the students with the passage of the academic grades (from -0.6 to -1.2; P=0.01). Furthermore, the viewpoint of the medical students regarding the propriety of the duration of medical education completely changed over the years (from 0.7 in the basic science stage to -0.4 in the internship course; P<0.001). As a profession, medicine had the least appeal among other occupations in the internship period (P=0.05), while the opposition with the notion of "Medicine has little occupational hazards." was least perceived during the externship period (P=0.01). Similarly, the interest to enter a research field continuously faded with the passing of the academic grades (P<0.001), and the highest interest to continue education in a definite speciality was observed during the externship stage (P=0.04) (Table 2).

Table 2: Attitudes of medical students in different grades in selecting medicine as their future career

	Basic science	Physiopathology	Externship	Internship	p-value
I wanted to be a doctor forever.	0.9±1.1	0.6±1.3	1±1.1	0.9±1	0.50
One of first class relatives was a doctor.	-0.3±1.6	-0.6±1.6	-0.5±1.6	-0.4±1.5	0.84
One of my family friends who was a doctor encouraged me to study medicine.	-0.2±1.5	-0.4±1.5	-0.7±1.5	-0.7±1.2	0.24
My affileateswho were physicians encouraged to study medicine.	-0.4±1.4	-0.3±1.4	-0.3±1.6	-0.6±1.4	0.86
My high school teachers encouraged me to study medicine.	0.5±1.3	0.1±1.1	0.4±1.5	0.3±1.3	0.42
My acquaintance with the professional life of a doctor gave me the passion to become a doctor.	-0.1±1.4	-0.4±1.2	-0.2±1.3	-0.1±1.2	0.81
Mass media were effective in choosing this field of study.	0±1.2	-0.5±1.2	-0.1±1.3	0±1.1	0.27
I became interested in medicine because it combines science and art.	0.4±1.1	-0.1±1.3	0.5±1	0.3±1.1	0.21
I wanted to be self-employed in the future.	0.9±1	0.8±1.2	1.2±1.3	1.2±0.9	0.09
Medical occupation allows me to spend more time with the family.	-0.6±1.2	-1.1±1.1	-1.1±0.9	-1.2±1	0.01
My interest and motivation have not been reduced due to the long duration of medical education.	0.7±1.1	0.8±1.2	-0.2±1.5	-0.4±1.1	0.01
Medical practice can be limited to daytime and does not necessarily require night shifts.	-0.5±1.1	-0.2±1.3	0±1.2	0±1.1	0.06
I enjoy to do fine manual works.	0.7±1	0.6±1.2	0.6±1.3	0.6±1	0.92
I wanted to help people improve their health.	1.3±0.7	1.3±1.1	1.4±0.5	1.2±0.8	0.55
I realized that it is easy to find a job for doctors.	0.6±1.1	0.5±1.2	0.8±1	0.9±0.8	0.30
Doctors earn enough money.	1±0.7	0.9±1.1	1.2±0.9	0.9±0.7	0.33
Medical occupation has regular work hours.	-0.5±1.1	-0.6±1.2	-0.1±1.5	-0.2±1.2	0.25
The medical profession is independent to life and death of people.	-1.2±1	-1.3±1	-1.4±0.9	-1.4±0.8	0.63
Medical profession is an attractive and interesting job.	1.2±1	1.1±1.2	1.3±0.8	0.9±0.9	0.05
Medicine has little occupational hazards.	-0.5±1	-0.9±1	-1.1±1.1	-0.9±1.1	0.01

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Continue of Table 2: Attitudes of medical students in different grades in selecting medicine as their future career

Doctors have a good social status.	1.4±0.7	1.2±1.2	1.3±0.9	1.2±0.9	0.87
Doctors have a good job security.	0.5±1.1	0.3±1.3	0.1±1.3	0.1±1	0.25
Job related stress is low in the medical profession.	-1.3±0.9	-1.3±1.1	-1.4±0.7	-1.4±1	0.84
Job vacancies is still available for doctors in Iran.	-0.1±1	-0.2±1.2	-0.2±1.3	-0.1±1	0.95
I was interested in doing research in the field of medicine.	0.9±1	0.7±1.1	0.1±1.3	-0.1±1.2	0.01
General practitioners can treat a wide range of diseases without any required speciality.	-0.9±1	-0.9±1.2	-1±1.1	-0.7±1	0.48
I chose medicine because I was interested in a certain medical speciality.	0.6±1.1	0.4±1.4	0.9±1.1	0.1±1.2	0.04
I chose medicine because of my excellent rank in the National centralized exam of the entrance to the universities.	-0.1±1.2	0.1±1.3	0.4±1.5	-0.1±1.2	0.29
Studying in this field is an opportunity to obtain advanced academic degrees.	1.2±0.8	1.2±1	1.1±0.8	1.2±0.8	0.71

Discussion

The main objective of the current research was to assess the motivational factors in the selection of medicine as a field of academic studies and evaluate the possible motivational changes during the course of medical education. The most commonly stated motivation for the selection of medicine by medical students was the favourable social status of physicians. Our findings in this regard are consistent with the results obtained by Dastjerdi et al. (10), Kooshki et al. (11), and Baharvand et al. (19), as well as the fifth statement ranked in the study by Mostafavi et al. (20). In the present study, the statement "Helping people to improve their health." was ranked second among the motivational factors.

Molnar et al. (7), Puljak et al. (13), and Mukhtar et al. (21) proposed humanism as a major motivational factor for medical students to selected medicine as their future career, with the third important motivational factor reported to be self-employment. Similarly, the study conducted by Korkmaz et al. to assess the motivations of freshman students to select medicine suggested that self-employment and job independence were effective motivational factors in the selection of medicine, especially in male students (22). Concerns about future job security are reflected by the tendency toward self-employment, which has also been reported to be a major motivational factor for dentistry and nursing students (23-26). Among the other motivational factors for medical students in this regard are patient care and working with people, use of personal skills, and general interest in sciences (8).

According to the results of the present study, the interest of medical students in their academic field had a descending pattern with the advancement in academic stages. It seems that medical students enter universities with remarkable interest, while they tend to lose their interest gradually (16, 22). Such diminished pattern could be attributed to some internal or community-related factors. Moreover, the stressful features of medical education adversely affect the educational function and physical and mental health of medical students (27). Since the first year of medical education until the internship period, medicine gradually loses its appeal to the students, and their motivation to continue education in a certain medical speciality also ebbs away. This could be due to facing the complicated aspects of medicine and stress of night shifts, which change the attitude of students toward medicine in the final stages of medical education.

Another consequence is the loss of interest in participating in medical research. A recent study in this regard reported a relatively high rate of research misconduct in the thesis projects of medical students (28). Another research conducted in 2007 also indicated that during the final year of education, medical students were less enthusiastic in the scientific aspects of their field of study compared to the new applicants of the field (13). However, other studies have proposed that there could be a great trend for medical students to continue their studies in a medical speciality after graduation (29-32).

In the current research, many medical students disagreed with the statement "The medical profession is independent of the life and death of people." In addition, they did not believe that a medical career provides them with sufficient time to spend with their family, and this attitude was observed to have an ascending pattern throughout the years of medical education. The last two statements were particularly prominent in the female students in the current

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research. According to a study performed on Croatian medical students, approximately 40% of the medical school applicants had fear of possible mistakes and legal constraints in their job, while 60% of the senior students had this concern as well. Inconsistent with the results of the present study, a general agreement has been reported in medical students on the statement that they lack sufficient time to spend with their family although this issue is among the least common concerns of medical applicants (13). However, later in actual medical practice, this issue is highlighted as one of the three most important problems among physicians (33-35). Moreover, the medical students in the present study also claimed that the academic period is very long, and the statement in this regard had a significant ascending pattern from the first year of medical education until the internship period. However, it was not reported among the primary concerns of the medical students in the current research (13).

In the present study, comparison of the motivational factor in terms of gender indicated that financial issues were more important to the male students compared to the female students. Furthermore, our findings demonstrated that job security was more motivating to male students compared to females. These findings are in line with the results obtained by Korkmaz et al., which denoted that job security and high income were the most important motivational factors in male medical students (22). Consistent with the study by Prka et al. (36) and inconsistent with the findings of Puljak et al. (13), the results of the present study showed that the level of humanism and financial perspectives in the medical students had no significant changes during various educational stages.

In the current research, many students believed that job stress is high in the medical profession and the fact that this profession is highly related to the life and death of individuals (i.e. the patients' fate). A review study regarding distress in medical students was conducted in 2005, indicating that these students tolerated tremendous pressure since the beginning of medical education (37). Although some baseline stress is required to progress in medical education and might even be motivating to the students, it may not be the case for all medical students, and the coping strategies of medical students in facing stress determine whether the perceived stress is constructive or destructive (27, 38).

Job security is considered to be a foremost motivator for physicians, which could influence the other aspects of demographic motivational factors as well. Newly graduated, young physicians have great concerns about their job security, while this may not be the case for junior medical students due to the long period of medical education (39). Many applicants of medical schools have insufficient information about the problems of medicine as a field of study and their responsibility toward the community. An important influential factor in the attitudes of medical students that is often neglected is the quality of the received educational services throughout their educational period (39-43). It seems that enhanced quality of services, whether in the form of presentations (44) or even journal clubs (45), could improve the educational environment, thereby promoting the motivation of medical students. Gender is considered another important factor in this regard. In general, male physicians have higher job satisfaction compared to female physicians (41). However, some factors (e.g., social attitude toward medicine) could influence the motivation of medical students (40).

Due to the dynamic nature of the educational system, the opinions of students may be affected by time. Despite the advantages of a cross-sectional methodology, designing a cohort could shed light on the motivational trend of various students. This is one of the few studies underscoring the changes in the motivation of medical students during the period of medical education. The authors believe that this important issue should not be overlooked in medical educational systems.

Conclusion

According to the results of the present study, the main motivational factors in the medical students were favorable social status, humanism, and self-employment, whereas occupational stress, fear of job hazards and legal responsibilities, and insufficient time to spend with the family were among the factors associated with the demotivation of the students. It is notable that the mentioned factor had slight changes between male and female students. On the other hand, some of the identified motivational factors varied significantly with the passing of the educational stages, which could be due to the fact that medical students become more realistic than idealistic as they are faced with the actual hardships in medical practice in hospital settings. It is recommended that further investigation be conducted in this regard so as to evaluate such changes and compare them in various medical universities with different educational systems across the world.

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