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Evaluation of Attitude of Students toward Their Discipline and Its Relationship with Some Factors of Academic Failure in Students of Qom University of Medical Sciences in 2015

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Abstract

Background & Objectives: Given the importance of attitude of students and its impact on their academic success or failure and with regard to the fact that attitude toward discipline is one of the factors affecting the academic status of students, this study aimed to determine the attitude of students toward their discipline and its association with academic failure.

Materials and Methods: This descriptive and analytical research was performed on 313 students selected via simple sampling. Data analysis was performed using Chi-square, independent t-test, ANOVA, and linear regression. In addition, P-value of 0.05 was considered.

Results: In this study, there was a significant relationship between GPA and year of receiving a diploma ($P<0.05$). In addition, the difference of attitude between various disciplines was significant, in a way that the most positive attitude was toward medical sciences and dentistry while the most negative attitude was related to health ($P<0.001$). On the other hand, there was an association between paternal level of education and units passed ($P=0.03$). Overall, some factors of academic failure had a relationship with the total score of attitude, in a way that the more positive the attitude, the less the academic failure ($r=-0.33$, $P<0.001$).

Conclusion: According to the results of the study, the most positive attitude was related to the disciplines of medical sciences and dentistry, whereas the most negative attitude was toward the field of health. In this regard, there was a significant association between attitude and some factors of academic failure. Therefore, it is necessary to design and implement programs to improve the attitude of students toward their discipline and factors involved in academic success.

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Introduction

A positive attitude toward our goals is required in order to achieve the goal and be successful in the task. In general, the combination of cognition, feelings and readiness to react to an issue is considered the attitude of the person toward that problem. Lack of interest in the occupation would make the continuation of the work tedious and even impossible. Most research suggests that attitudes most likely change during the period of education in the university (1). Positive attitudes toward job prospects will lead to occupational motivation and job prosperity (2). Therefore, considering that students will form the main body of organizations and various social organizations in the future as one of the main elements of the university and their attitude toward and satisfaction with their discipline affect the motivation and promotion of knowledge quality (3), planning in this regard is of paramount importance.

One of the most important reasons for choosing a discipline by students is their future employment and career. Concerns about the career future are a global issue and not specific to our country. As such, performing national and regional studies to understand the students' attitudes toward their career and discipline can be useful in predicting their social behaviors (4). Since various health and medical disciplines play a significant role in promoting community health, health experts specializing in different fields of care are community-based healthcare providers, who must be assigned organizational positions related to their discipline after graduation and provide services related to the area of their responsibilities to solve the problems of the society (5). Therefore, it is evident that with regard to the importance of discipline in the field of prevention and treatment in the field of health research, evaluation of students' attitudes toward this career future and its relationship with academic performance is valuable. As a result, it is necessary to recognize and use these attitudes and related factors to improve medical professions and design plans and policies.

As one of the problems of educational systems in the countries of the world, academic failure leads to the loss of many resources, which is clearly observed in universities (6). Various interpretations and definitions have been presented for academic failure, all of which are similar in terms of inability and failure to successfully complete

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the official course of education (7). Academic failure of students is one of the major problems of higher education institutions in the country, which not only wastes time and expenses of these centers, but also causes psychological, family, and social issues for students. According to studies, there has been a growing increase in this problem, in a way that many students cannot properly learn the content of the curriculum (academic courses) or complete them at the due date (8).

Several studies have suggested that some factors could lead to academic failure in students, some of the most important of which include the personality, attitude, motivation and interest, sense of satisfaction, loneliness, family circumstances and psychological and physical health factors (9). In a study, Mahdion et al. evaluated the level of academic failure and its related factors from the viewpoint of students at the school of nursing and midwifery in Kermanshah, Iran during the academic year of 2011-2012. These scholars reported the negative effect of family problems, being male, living in a student dormitory, lack of curriculum planning and a negative attitude toward the career prospects on the level of academic failure of the participants (24).

In a research, Namadha et al. evaluated the relationship between the attitudes of the second-year students toward their knowledge, learning, and acquisition of higher education. Conducted on 422 students from different disciplines, the results of the research were indicative of a more positive attitude of female students toward learning, compared to male students. In addition, a significant and positive correlation was found between the type of attitude toward learning and achieving higher-education goals (14). In another study by Ali M.S.Awan A.S on the attitude of 1885 second-year students toward science and its relationship with the success of students in learning physics, chemistry, biology, and mathematics, it was demonstrated that the type of attitude had a significant impact on learning sciences (15). In addition, Zappla G performed a study on 3000 students entitled the effect of economic and social factors on the academic performance of students in Australia, reporting that subjects from low-income families had a lower learning level and a negative attitude toward learning and would dropout soonerthan other students (13). Considering the importance of student attitude and its effect on academic achievement and progress in education, this study aimed to determine the students' attitude toward their discipline and its relationship with academic

failure in Qom University of Medical Sciences, Iran in 2015.

Materials and Methods

This cross-sectional study was conducted on a minimum of 300 individuals selected based on correlation studies and with regard to the type I error of 0.05, test power of 0.9, and the correlation coefficient obtained at 0.2 in a pilot sample. The research population encompassed all students studying in Qom University of Medical Sciences, who completed at least one academic semester. In total, 313 students were selected by simple sampling, 40 of whom were medical students while 21, 70, 21, 34, 13, 32, 44, and 26 of whom were dental, nursing, emergency, laboratory sciences, operating room, anesthesiology, health, and midwifery students. The research tool was a researcher-made questionnaire consisting of two parts, the first part of included demographic characteristics items:

The level and the field of study, gender, place of residence and marital status. The second part contained questions about students' attitudes toward their discipline, which included 16 main items in four areas of relationship between discipline and career prospect (four items), social status of the academic discipline (four items), the effect of discipline on the formation of the personality and the attitude of students (four items), and the position of discipline among other fields of study (four items). The items were collected using valid scientific resources and opinions of experts. It is notable that the items were scored based on a five-point Likert scale (very low=1, low=2, average=3, high=4, and very high=5), and the score of the questionnaire varied in the range of 20-80.

The formal validity of the questionnaire was determined quantitatively, and item impact method was used to quantitatively determine face validity. In this technique, the items would be kept in the questionnaire in case of obtaining an effect score of ≥1.5. In addition, two content validity ratio (CVR) and content validity index (CVI) coefficients were applied to evaluate the content validity. To this end, 10 professors and faculty members evaluated and classified the items in three categories of necessary, useful but not necessary, and not necessary. To calculate the ratio of the content validity of each item, the number of specialists who responded with the essential option was divided into 10. According to the Lawshe table, the acceptable value for this criterion was 0.62 considering the number of 10 specialists. Furthermore, the items of the

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tool were scored by the experts based on a four-point Likert scale regarding three criteria of relevance, simplicity and clarity. This index was estimated for each item using the ratio of number of people who selected the third and fourth options. According to the results, all items designed had an impact score above 1.5. In a quantitative review of content validity, the CVR and CVI were estimated at 0.62 and 0.8, respectively.

The reliability of the questionnaires was estimated at 0.7 using test-retest, whereas the internal consistency of the questionnaire was confirmed at the Cronbach's alpha of 0.80. Regarding academic failure, a two-section researcher-made questionnaire was applied, encompassing 35 items (13 items related to individual factors, eight factors related to family factors, and 14 items related to educational factors). The items were scored based on a five-point Likert scale from very low (score=1) to very much (score=5). The formal and content validity of this questionnaire were confirmed similar to the attitude questionnaire, and the final questionnaire was obtained.

After the approval of the project, the license for the implementation of the research was obtained from the university and submitted to all schools. The researcher visited the schools and explained research objectives to students at the beginning of their classes after coordination with the education department and receiving consent from professors. The researcher asked students to complete the questionnaire with precision and patience and provide their actual opinions about the items of the questionnaire. After completing, the questionnaires were collected by the researcher himself. Data analysis was performed in SPSS version 18 using descriptive statistics, Chi-square, independent t-test, and multivariate regression. Moreover, the P-value of 0.05 was considered statistically significant.

Results

From 313 students who participated in the project, 111 subjects were male and 198 were female. In addition, 201 subjects were single and 71 individuals were married. Other characteristics of the participants are shown in Table 1. Moreover, the descriptive indexes of the two variables of academic failure and attitude are presented in Table 2. As observed, the lowest and highest scores of academic failure were related to the family and educational factors, respectively. In addition, while attitude had the least impact on the relationship between discipline and future

career, it had the most effect in the area of the social position of discipline and its impact on the formation of character. It is worth noting that in the attitude questionnaire, the highest score was attributed to the effect of discipline on the delivery of service to society and the impact of the content of the field of study on the increase of general and specialized knowledge. Furthermore, the lowest score was related to the component of the person's desire to change the discipline and level of job security in the future.

Table 1: Demographic characteristics of the subjects (313 people)

Percent	Number	variable	
63/9	200	Female	**Gender**
36/1	113	Man	
73/4	201	Single	**Marital status**
26/6	73	Married	
5/4	15	10-15	**Diploma grade**
14/7	41	15-17	
79/9	222	17-20	
2/8	8	>1370	**Year of receipt of diploma**
7/4	21	1370-1380	
24/5	69	1380-1390	
69/2	184	1390>	
13/5	42	Medical	**field educational**
6/8	21	dentistry	
22/5	70	Nursing	
8/7	27	Medical urgency	
11/3	35	Laboratory sciences	
4/2	13	surgery room	
10/3	32	Anesthetics	
14/1	44	Health	
8/7	27	Midwifery	
25/8	54	Employee	**Father's job**
41/6	87	Free	
32/5	68	Etc.	
14/4	28	Employee	**Mother's job**
79/9	155	Housewife	
5/7	11	Etc.	

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Table 2: The mean and standard deviation of academic failure and attitude

standard deviation	mean	
	Educational decline variable	
10/4	37/7	The domain of individual factors in academic failure
8/5	19/5	The domain of family factors in academic failure
12/1	45/4	The domain of educational factors in academic failure
25/6	102/8	Total grade drop of education
	The variable of attitude toward the field of study	
4/01	11/9	The domain of communication with the business future in attitude
3/62	13/2	The domain of social status of a discipline in attitude
3/5	3/13	The field of the effect of the discipline on the formation of personality in attitude
3/06	12/06	The domain of field position among other disciplines in attitude
11/62	50/5	Total score of the variable

According to the results, attitude had no significant relationship with the variables of gender, marital status, age, type of diploma, year of admission to university, native and non-native, family residential status, number of failed semesters, student residential status, maternal occupational status, paternal occupationalstatus,maternallevel of education, family income, and type of quota (P>0.05). However, there was an association between attitude and interest in the discipline, the knowledge of the labor market in the future, and thestatus of the job marketof the discipline (P<0.001). In other words, the higher the interest and the labor market, the better the attitude of students toward their discipline.

The results also indicated a significant relationship between grade point average (GPA) and the attitude of students (P<0.001). Moreover, there was a significant association between year of obtaining a diploma and attitude (P=0.03). Results also demonstrated that the most positive attitude was observed in those who reportedly received their diploma since 2011. According to ANOVA, the difference of attitude was significant between various disciplines, including medical, dentistry, nursing, urgency, laboratory sciences, operating room, anesthesiology, health, and midwifery. In this regard, the most positive attitude was toward the disciplines of medicine and dentistry, whereas the most

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negative attitude was related to health discipline (P<0.001). In addition, the relationship between the paternal level of education and attitude was significant (P=0.03).

The results were also indicative of a significant relationship between the number of units passed and academic failure (P<0.05), in a way that the higher the number of units passed by students, the lower the possibility of academic failure (P=0.03). There was a relationship between marriage and academic failure, in a way that the mean score of academic failure was significantly higher in single subjects, compared to married ones (P=0.025). Furthermore, there was a significant association between academic failure and year of obtaining a diploma (P=0.025), GPA (P=0.007), and discipline (P=0.018). On the other hand, no significant correlation was observed between academic failure and variables of gender, age, type of diploma, year of entrance to the university, native and non-native, family residential status, number of failed semesters, student residential status, maternal occupational status, paternal occupational status, maternal level of education, paternal level of education, family income, and type of quota (P>0.05).

Pearson's correlation coefficient indicated that some of the factors of academic failure had a significant and reverse association with four areas of attitude toward the relationship between discipline and career future (P<0.001, r=-0.26),socialposition of discipline (P<0.001, r=-0.25), effect of discipline on the formation of character and attitude of students (P<0.001, r=-0.26), and position of discipline among other fields of study (P<0.001, r=-0.22). In this respect, the more positive the attitude toward these areas, the lower the rate of academic failure (Table 3).

Table 3: Investigating the relationship between the attitude toward the field of study and its areas with academic failure

Total Attitude Score		**Social position field among others fields Among others**		**The effect field educational in the formation of personality**		**Social status of the field**		**Relationship field educational with the future of the job**		**Scope of attitude**
Test value	The correlation coefficient	Test value	The correlation coefficient	Test value	The correlation coefficient	Test value	The correlation coefficient	Test value	The correlation coefficient	
<0/001	-0/32	<0/001	-0/22	<0/001	-0/26	<0/001	-0/25	<0/001	-0/26	**Academic failure**

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Finally, the relationship between attitude and academic failure was assessed using the multivariate regression. To this end, the variables that had a univariate relationship with academic failure were included in the regression model to obtain the effect of attitude on academic failure through the modification of these variables. As observed in Table 4, there was a significant relationship between attitude and academic failure (P=0.04).

Table 4: Linear regression results on the effect of demographic variables and attitudes toward academic discipline on academic failure

Test value	SE(β)	β	variable
0/04	0/22	0/38	**Attitude**
0/7	5/92	-2/18	**marital status**
0/20	4/87	6/27	**Diploma grade**
0/19	2/63	3/45	**Year of receipt of diploma**
0/92	0/91	0/09	**Field educational**
0/76	1/03	-0/30	**Number of passed units**

Discussion

In the present study, we evaluated the attitude of students toward their discipline and its relationship with some of the factors of academic failure in Qom University of Medical Sciences in 2015.

According to the results, among the areas of academic failure, the lowest and highest scores were related to the family and educational factors, respectively, which is in line with the results obtained by Najimi et al. in a study entitled the factors affecting academic failure from the perspective of students of Isfahan University of Medical Sciences (16).

In addition, among the variables related to the type of attitude, the highest score was related to the impact of discipline in providing service to the society and the impact of the content of the field of study on increasing general and specialized knowledge. On the other hand, the lowest score was related to the desire to change the discipline and level of job security in the future. In this respect, our

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findings are in congruence with the results obtained by Fatahi et al. in a research entitled the evaluation of satisfaction of dental students of Kerman University of Medical Sciences with their discipline and some related factors (17).

Our findings were also indicative of a significant association between attitude of students and paternal level of education, the year of receiving a diploma, GPA, the level of interest in the discipline, and work market of the field of study before beginning the study and in the future, which is consistent with the results obtained by Hajian and Nasiri, in a study entitled the evaluation attitude of medical students toward their career future in Babol University of Medical Sciences (2006) (11), and the results achieved by Rajali et al. in a research entitled the attitude of students of health school of Isfahan University of Medical Sciences toward their discipline and career future (2008) (12).

According to the current study, the year of receiving a diploma had a significant correlation with the variable of attitude, in a way that those who received their diploma and entered the university from 2011 onward had a more positive attitude toward the subject of the research, compared to the other students. The most negative attitude was observed in the students who received their diploma during 1992-1997, which might be due to their problems in the past 15-20 years, increased age, and reduced energy. Moreover, receiving a diploma might have had no particular impact on their lives after all these years. In addition, while our results were indicative of a significant relationship between GPA and attitude, no study was found in this area. However, in a study by Nohi et al. entitled the evaluation of motivation of progress and its relationship with academic success in medical, nursing and healthcare students of Baqiyatallah University, there was a significant and positive association between GPA and academic success and score of motivation for progress (18). The results of the mentioned researchers are not irrational since those with higher GPAs are more encouraged to study and pay more attention to education.

According to the results of the present study, there was a positive relationship between the level of interest in the discipline and labor market, which is in accordance with the results obtained by Mirakhori et al. in a research entitled a review of studies on the attitude of dental students toward their field of study and career future in Iran in 2013. These researchers demonstrated that social position

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and job security of dentistry were recognized as the most important factors for a positive attitude toward this discipline and its career future (19). Moreover, Samadi et al. performed a research entitled the attitude of students of environmental health in Hamadan University of Medical Sciences toward the field of study and career future, marking that the mean scores of attitudes of the subjects compared to their career future were lower than the acceptable range. In other words, most students had an unfavorable attitude toward their career future. In the aforementioned study, the most positive attitude was related to medical sciences and dentistry while the most negative attitude was related to health discipline (10).

In a study, Avramova et al. expressed that 73% of the dental students in Bulgaria were satisfied with the selection of this discipline and considered it a social prestige (20). In another research conducted in the University of Pennsylvania in the United States (2005), results demonstrated that 90% of the medical students were satisfied with their educational programs and had hope about their career future (21). In a study by Khamrnia et al. entitled the attitudes of students of Zahedan School of Health toward their discipline and career future in 2015, the results demonstrated a reduction in the positive attitude of students toward their field of study and career future. In addition, they marked that career future was one of the negative factors for the attitude of students toward the discipline of health (22). The results of the mentioned three studies are consistent with our findings since the better the career future and job market, the more positive the attitude.

In addition, the number of units passed had a significant relationship with attitude, in a way that the higher the number of units passed, the higher the attitude. In this regard, no study was found to confirm the results, and our findings are somehow inconsistent with the results obtained by Ghaderi in a research entitled the evaluation of attitude of laboratory sciences students of Kurdistan University of Medical Sciences toward their discipline and career future. This is mainly due to the fact that in the present study, it was pointed out that the higher the students' academic term, the lower their motivation (23).

These contradictions might be due to the following reasons: firstly, this research was only performed on the discipline of laboratory sciences, and secondly, the attitudes of students toward their field of study and career future were negative. Therefore, the more they become close to graduation, the more

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they have a negative attitude due to the lack of a clear career future.

In addition, there was a significantly reversed relationship between factors of academic failure and four areas of attitude (relationship between field of study and career future, social position of the discipline, effect of the field of study on the formation of the character and attitude of students, and position of the discipline in comparison to other fields of study), in a way that the more positive the attitude toward each of these fields, the less the academic failure of students. In a research, Namadha et al. evaluated the relationship between the attitude of second-year students toward knowledge and learning and achieving higher education. The research was performed on 422 subjects with various disciplines, and the results demonstrated a more positive attitude toward learning in female subjects, compared to male participants. The mentioned scholars also reported a positive and significant relationship between attitude toward learning and achieving higher education (14).

In another study by Ali M.S. & Awan A.S entitled the attitudes toward the sciences and its relationship with the success of students in earning knowledge in the fields of physics, chemistry, biology, and mathematics conducted on 1885 second-year students, it was demonstrated that the type of attitude had a significant impact on the learning of sciences (15). Zappla conducted a research on more than 3000 students to assess the effect of socioeconomic factors on the academic performance of students in Australia, concluding that those coming from low-income families were likely to study less than others, had a negative attitude toward education, and would leave the school sooner (13). In this respect, our findings are in congruence with the results of the mentioned study.

Conclusion

According to the results of the current research, the most positive attitude was related to the fields of medicine and dentistry, whereas the most negative attitude was related to the discipline of health. Therefore, it is necessary to develop compiled programs to strengthen the attitude toward the discipline and the factors that contribute to academic success. By doing so, we can eliminate the educational challenges in medical schools and improve the quality of services in this regard.

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