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# Evaluation of the relationship between religious beliefs and academic achievements of dental students

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## Abstract:

**INTRODUCTION:** Considering the importance of the academic level of university graduates in the advancement of communities, it is necessary to evaluate factors affecting the academic achievements of university students. Therefore, this study investigated the relationship between religious beliefs and academic achievements of students in the Dental School in Qazvin University of Medical Sciences.

**MATERIALS AND METHODS:** In this correlational study, all the dentistry students in the last 4 years of education were selected as the study samples. Of 109 students who had the inclusion criteria, 81 (31 males and 50 females) completed the questionnaires. The data collection tools were three questionnaires, including Gluck–Stark’s questionnaire, two researcher-made questionnaires on “sympathy with and responsibility for patients,” and the “self-satisfaction” questionnaire. Data were analyzed with descriptive and deductive statistics (*t*-test, Friedman test, and Pearson’s correlation coefficient).

**RESULTS:** According to the analyses, a significant and positive correlation was found between religiosity and students’ overall mean grades ( $r = 0.27$ ,  $P = 0.016$ ) or “sympathy with and responsibility for patients” ( $r = 0.21$ ,  $P = 0.05$ ). No significant correlation was found between self-satisfaction and religious beliefs.

**CONCLUSION:** Based on the results of the present study, the religious beliefs of the students were at a moderate level. On the other hand, this variable had a direct relationship with academic achievement and responsibility. Therefore, attention has to be paid to the promotion of these beliefs among students in colleges. Reinforcement of religious beliefs will improve the students’ academic achievement. Based on the findings of this study, it should be considered by university professors and educational planners that the average score of students with higher religiosity was higher, and with the increase of religious beliefs, academic achievement is increased.

## Keywords:

Academic achievement, dental students, religion

## Introduction

Religion is defined as a specific set of beliefs and principles about “musts and must-nots” and “is and is-nots.”<sup>[1]</sup> An individual with religious beliefs feels that they are committed to some ethical principles and if they choose the medical profession, they should make further efforts to acquire knowledge and gain further educational achievements.<sup>[2]</sup>

Academic achievement is defined as the learners’ success in one or several educational fields, which is determined and evaluated in different ways and with the use of different criteria.<sup>[3]</sup> Several factors affect academic achievement, including motivation, anxiety, study technique, physical factors, self-esteem, mental health, and intelligence.<sup>[4,5]</sup> Apart from intelligence, which is more God-given, religious beliefs approximately affect all other factors, and because these factors have a direct impact on academic achievement, it can be expected

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that religiosity will also affect academic achievement. On the other hand, it appears that religious and nonreligious individuals experience similar mental pressures; however, religious individuals cope with the negative events of life and psychologically exacting pressures more appropriately.

In a study by Henning *et al.*<sup>[16]</sup> on medical students with different religions in New Zealand, a study by Zubira *et al.*<sup>[17]</sup> on nonmedical students in Malaysia, and a study by Elias *et al.*,<sup>[8]</sup> no significant relationship was found between religious beliefs and academic achievements. Taghavinia *et al.*<sup>[9]</sup> in a study on medical students in Tehran University of Medical Sciences and Pour Ashouri *et al.*<sup>[10]</sup> in a study on medical students in Bandare-Abbas University of Medical Sciences reported the same results. In studies by Sikink *et al.*<sup>[11]</sup> on Latin American youth, Jeynes *et al.*<sup>[12]</sup> on high school students in California, and Maleki *et al.*<sup>[13]</sup> on medical students in Qom, Iran, religious students exhibited better academic performance, with a direct and significant relationship between these two variables. Aramideh *et al.*<sup>[14]</sup> reported significant relationships between academic motivation, prayers, and spiritual health.

Considering the decrease in the university students' tendency toward studying over time,<sup>[14,15]</sup> as an ever-increasing problem in the community, it is necessary to carry out studies on the factors involved. In addition, considering the religious beliefs and the religious manifestations over time in the community<sup>[16,17]</sup> and the discrepancies of the effects of these variables, the present study was undertaken to evaluate the relationship between religious beliefs and academic achievements in Qazvin Faculty of Dentistry, Iran.

## Materials and Methods

The participants in this correlational descriptive/cross-sectional study consisted of all the senior and junior Muslim dental students (the last 4 years) in the Qazvin Faculty of Dentistry in 2016. The samples were collected using the census technique, and all the eligible students ( $n = 109$ ) were registered, of which 81 who were willing to take part in the study were included. The students were grouped in terms of their educational level. The students in each level received explanations on the questionnaire and the study procedures. Then, the students willing to take part in the study completed the questionnaires and returned them. Data were collected using three separate questionnaires using the field research technique. Demographic data were obtained using a special form, including age, gender, marital status, educational level, parents' education, and location of residence. Average grades were provided by the Office of Deputy Dean for Education in the Faculty. Scholastic success was

determined by evaluating the average grades of the students and self-assessment of the students using a questionnaire on students' satisfaction with their own performance. Efficiency was evaluated with the use of the researcher-made questionnaire on student's responsibility for the patients, and religious beliefs were evaluated by Gluck-Stark's questionnaire, which consists of five aspects, including belief, emotion, outcome, rites, and thought dimensions.<sup>[18]</sup> The questionnaire consisted of 26 questions in different aspects. The fifth aspect (thought) was removed because of religious teaching at different educational levels in Iran.<sup>[18]</sup>

The self-satisfaction (educational self-assessment) and responsibility questionnaires were researcher-made tools. They had 13 questions in each of the two aspects above.

The validity of Gluck–Stark's questionnaire has been determined in various studies on different samples, indicating its high validity in different aspects. In the latest use of this questionnaire for students, the overall alpha of the questionnaire was 0.83. In addition, due to the standard nature of this test, it has high reliability. The alpha coefficients for belief, emotion, outcome, and rite aspects were 0.81, 0.75, 0.72, and 0.83, respectively.<sup>[18]</sup>

The validity of these tests was evaluated by six professors in the fields of dentistry and community dentistry, using content validity technique. To evaluate reliability, the internal consistency technique with Cronbach's alpha and retest correction technique were used by twenty dental students other than the final samples. After 10 days, the same questionnaires were distributed among the same students, completed, and returned. In the section on "satisfaction with self," the result of internal consistency comparison yielded a Cronbach's alpha coefficient of 0.952 and retest reliability with Pearson's correlation coefficient of 0.99. In the section of "sympathy with and responsibility for patients," Cronbach's alpha coefficient was 0.915, and Pearson's correlation coefficient was 0.877.

Likert scale was used for scoring the students on these questionnaires. Each aspect consisted of five scores for "strongly agree," "agree," "no specific idea," "disagree," and "strongly disagree." The scores of each question varied from 0 to 4.

Concerning average scores, the students' overall average scores were calculated up to the time of the study.

Based on the responses on the questionnaires for empathy, responsibility, and satisfaction variables, a score of 0–52 was achieved for each student. The relevant score range for religious beliefs was 0–104. Then, the

relationship between the scores on self-satisfaction, a feeling of responsibility, and the overall mean score and the religious belief score was analyzed.

Data were saved on a computer by a computer operator to provide a database for SPSS version 21 (IBM Co., Armonk, NY, USA). After extraction of descriptive statistics and evaluation of the normal distribution of data, *t*-test and Friedman test were used for data analysis. Pearson's correlation coefficient was used to evaluate the relationship between the variables. The participants' data were kept confidential. Statistical significance was set at  $P \leq 0.05$ .

## Results

The questionnaires yielded the following results:

The majority of the students had moderate religious beliefs (86.4%).

The different aspects of religious beliefs were evaluated in students, and the differences were analyzed statistically [Table 1].

Friedman test analyses indicate significant differences in religious beliefs aspect scores of dental students. The highest mean score belonged to the emotion aspect ( $P = 0.00$ ).

The following results were achieved as to the relationship between religious beliefs, mean grades, Sympathy with and responsibility for patients and a feeling of satisfaction [Table 2].

As shown in Table 2, there was a significant, positive, and direct relationship between religious beliefs and overall mean grades ( $P = 0.01$ ) or sympathy with and responsibility for patients ( $P = 0.05$ ).

The variables were evaluated in students in terms of gender [Table 3].

*t*-test analysis showed a significantly higher rate of sympathy with and responsibility for patients ( $P = 0.00$ ), mean grade ( $P = 0.05$ ), and religious belief ( $P = 0.01$ ) in female dental students but not about the feeling of satisfaction ( $P = 0.70$ ).

The overall mean grade of the students was >14. Data analysis (*t*-test) showed that students who had an overall mean grade of > 17 exhibited higher scores on religious beliefs ( $P = 0.00$ ).

## Discussion

In this study, majority of the students had an overall

**Table 1: Comparison of the students' religious belief scores in different aspects**

Dimension	Mean	Mean rank	Rank	P
Belief	2.55	2.87	2	0.000
Emotional	2.8	3.43	1	
Outcome	2.17	2.26	3	
Rites	1.59	1.44	4	

**Table 2: The relationship between the dental students' religious beliefs and the variables evaluated**

Variable	P	R
Average grade	0.016	0.27
Self-satisfaction	0.9	0.013
Sympathy with and responsibility for patients	0.05	0.21

**Table 3: Comparison of the academic and religious performance in terms of gender**

Variable	Sex		P
	Male	Female	
Religious beliefs	54.2±15	62.1±12.3	0.01
Average grade	15.76±1.1	16.24±0.96	0.05
Sympathy with and responsibility for patients	35.6±5.2	40.71±7.8	0.00
Self-satisfaction	27.6±4.7	28.1±7.4	0.7

moderate mean grade, like the other similar studies.<sup>[7,19,20]</sup> They also had a moderate level of religiosity. Although the Iranian community is a religious community with a long history of religiosity, it appears that religious beliefs are gradually fading. In this context, Mirsondosi *et al.*<sup>[16]</sup> and Velayati *et al.*,<sup>[17]</sup> too, reported that personal attitudes, religious personalization, and secularism are on the increase. It appears that such changes in religious beliefs are due to the influences exerted by mass media,<sup>[21,22]</sup> financial problems, and lack of religious commitment by religious leaders and authorities.<sup>[23]</sup>

Consistent with the majority of previous studies, in the present study, female students exhibited stronger religious beliefs than male students.<sup>[24-26]</sup> Because females exhibit a lower rate of personality crisis,<sup>[27]</sup> with higher levels of self-actualization,<sup>[26]</sup> extroversion, and mental health,<sup>[24]</sup> this finding was expected. However, it appears that a higher rate of emotion and earlier maturity have a role, too.

In this study, there was a positive correlation between religious belief and average grades ( $P = 0.01$ ). Because individuals with stronger religious beliefs have better mental health, integrity of personality, and more effective time management and feel less stressed, it appears that they can better cope with the stresses and tensions in the educational environments, especially during examinations.<sup>[8,18,24,28]</sup> As a result, they get better grades. However, studies have not achieved consistent results on the relationship between religious beliefs and academic achievements.

Such discrepancies might be explained by the fact that religious beliefs are not the only factors that affect the life and the academic performance of an individual unless the individual himself feels obliged to fulfill religious duties. One of the signs of this obligation is the commitment to carry out the incumbent religious rites. This might be one of the reasons why some studies such as those by Zubira *et al.*, Taghavinia *et al.*, and Nora *et al.*<sup>[7,9,29]</sup> have shown a direct relationship between the rites aspect and academic achievement, but there was a poor correlation between religious beliefs and academic achievement.

Therefore, only the ritual aspect of religiosity is related to academic success, and the general reason for the difference between studies can be the same. Studies that have examined the relationship between religiosity and academic success in different dimensions have reached this relationship. In studies where the level of religiosity in the ritual dimension in the study population is not known, this relationship can exist or not. In addition, there is a general difference between studies; also, differences in the populations under study and the study methodologies, too, are reasons for differences in the results. Henning studied a population, the majority of which were Christians. The participants evaluated by Sikking and William, too, were all American high school students who exhibited different effects of religious beliefs on academic performance than university students because of their greater dependence on their parents. Zubira *et al.* carried out a study on Muslim university students and reported different results. However, Zubira *et al.* finally reported a significant relationship between the rites aspect of religious beliefs and academic achievement, i.e., students with higher grades had significantly stronger religious beliefs. Elias *et al.* did not report any significant relationship between religious beliefs and academic achievement in the Muslim university students they evaluated; however, students with stronger religious beliefs were more responsible. In contrast, Taghavinia *et al.* considered the mean grades of the first two terms in the university as a criterion for the evaluation of academic achievement and did not report any direct relationship between academic achievement and religious beliefs. However, they reported a significant relationship between the rites aspect of religious beliefs and academic achievement. In the study by Aramideh *et al.*,<sup>[14]</sup> different questionnaires were used to collect data, compared to the present study, and the different aspects of religious belief were not evaluated. The study evaluated students in different fields of medicine at all the educational levels.

In the current study, there was a significant level of correlation between religious belief and sympathy and responsibility for patients ( $P = 0.05$ ). Almost all other

studies have reached the same conclusion. Based on the results of a study by Badsar *et al.*,<sup>[30]</sup> religiosity indirectly affected some factors that increasing responsibility. Elias reported a direct relationship between religiosity and responsibility.<sup>[8]</sup> Hamidipour *et al.*,<sup>[31]</sup> too, reported that attitudes and levels of spirituality had a significant relationship with a feeling of social security, which decreases social threats by increasing a feeling of attachment to and solidarity with the society, finally resulting in a feeling of responsibility and because there is a direct and significant relationship between spirituality and religious beliefs,<sup>[14]</sup> it can be concluded that religiosity increases a feeling of responsibility.

In this study, the relationship between religiosity and self-satisfaction was examined as an indicator of academic success. There was no significant relationship between self-satisfaction and religious beliefs. This was attributed to two factors: first, inefficiency and shortcomings of the individual himself and second, higher expectations from oneself. In the present study, as an increase in average grades was not associated with an increase in satisfaction with oneself, it appears that the second factor was responsible for this dissatisfaction. It is possible that the expectations of students with strong religious beliefs concerning the rate of their educational success were higher, and failure to achieve those expectations and ideal overall average scores resulted in a decrease in their satisfaction with themselves.

The current study relied on self-reports similar to all the studies that rely on questionnaires to collect data; due to the effect of the human factor, it is possible that some answers were not honest. The other limitations of the present study was that only dental students were included to evaluate the relationship between religious beliefs and academic achievements in their entirety.

## Conclusion

Based on the findings of this study, it should be considered by university professors and educational planners that the average score of students with higher religiosity was higher, and with the increase of religious beliefs, academic achievement is increased.

## Recommendation

It is suggested that more comprehensive studies be carried out in other medical sciences universities all over the country to evaluate the relationship between these two variables more precisely.

The overall mean grades and responsibility feeling in the students were significantly correlated with religious beliefs. Therefore, by considering this finding and the moderate level of religious beliefs in the present



study, it is necessary to improve religious beliefs in universities by incorporating programs into the educational curricula. Considering the influence of university professors, special attention should be paid to the selection of religious professors. These professors should be instructed to be able to impart religious beliefs to the students in association with other theoretical and practical lessons.

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### Conflicts of interest

There are no conflicts of interest.

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