

Original Article

# Academic Dishonesty in the Dental Faculty: Relations Among Students' Behavior, Attitudes, and Interpretation

Soussan Irani<sup>1,2\*</sup>, Zahra Khamverdi<sup>3</sup>, Alireza Soltanian<sup>4</sup>, Oujan Bagheri<sup>5</sup>

<sup>1</sup>Department of Oral Pathology, Dental Faculty, Dental Research Center, Hamadan University of Medical Medical Sciences, Hamadan, Iran

<sup>2</sup>Department of Pathology, Faculty of Medicine, Griffith University, Gold Coast, Australia

<sup>3</sup>Department of Restorative Dentistry, Dental Faculty, Hamadan University of Medical Sciences, Hamadan, Iran

<sup>4</sup>Epidemiology Group, Faculty of Health, Hamadan University of Medical Sciences, Hamadan, Iran

<sup>5</sup>Dentist, Private Clinic

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## \*Corresponding author:

Soussan Irani,  
Emails: [sousanirani@gmail.com](mailto:sousanirani@gmail.com),  
[irani@umsha.ac.ir](mailto:irani@umsha.ac.ir)

## Abstract

**Background:** Academic dishonesty is the most important educational concern. According to previous studies, it is more common in several groups of students. To prevent academic dishonesty, it is important to know the extent of the problem. Accordingly, this study was designed to investigate the behaviors, attitudes, and interpretations of dental students regarding exam fraud in the 2015-2016 academic years.

**Methods:** For this purpose, a three-part questionnaire was prepared, including demographic characteristics and specific questions. The specific questions included students' behavior, attitudes, and interpretation in the form of three scenarios. A total of 163 questionnaires were collected, and the statistical analysis was performed using SPSS, version 20. The *Mann-Whitney U test* and the *Kruskal-Wallis test* were used to analyze the data.

**Results:** The students consisted of 90 males (55.2%) and 73 females (44.8%), and their average age was  $22.72 \pm 2$  years ( $22.3 \pm 2.87$  and  $23.23 \pm 2.37$  years for boys and girls, respectively). The results revealed that around 65.6% of students were generally aware of the fraud problem in the faculty and knew the cheaters (63.1%). Further, 55.2% of students believed that instructors should prevent cheating during the exam. Data analyses demonstrated that there were no significant differences between boys and girls in all research variables. Finally, the average behavior proportion and attitude of the first-year students were higher than those of other students.

**Conclusion:** Based on the findings, the rate of fraud was high in dentistry schools and possibly in other medical schools, highlighting the importance of the creating culture in changing students' attitudes.

**Keywords:** Attitude, Dental students, Dishonesty, Knowledge, Questionnaire



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## Background

Training of efficient and effective human resources is the most important educational goal (1). *Ethics* plays a critical role in education around the world. In contrast to the ethics standards taught in all countries, academic dishonesty is a common event among university students of all ages and specialties. These days, the global use of the Internet, mobile, and wireless devices has facilitated easily and illegally exchanging information (2). Academic dishonesty and plagiarism are the most important educational concerns and have attracted the attention of education officials, psychologists, and even politicians (3). Generally, academic dishonesty is divided into three main categories, including cheating in examining, doing homework, and publishing ideas and plagiarism (4). However, some believe that plagiarism might be related to the fact that students do not know

the rules rather than thinking that it may be intentional (2). Based on the previous evidence, academic dishonesty is more common in several groups of students; students who work several hours a week, are heavily funded by their family, live in dormitories, and have a male gender (5). There are several reasons to avoid fraud, the most important of which are as follows:

Fraud prevents the training of good citizens and leaders in a community, reduces confidence in a community, and prevents the proper evaluation of people in the community. Moreover, cheating in school and university later leads to cheating at all levels of life such as tax evasion (6). Nowadays, due to the COVID-19 pandemic, training and exams are held virtually and online. This issue causes more dishonesty such as sharing the answers to the assignments by the students and the opportunity to use the internet to answer homework (7). According to a survey of 276 medical



students in Brazil and Portugal conducted by Franco et al, unprofessional behavior later leads to more inappropriate behaviors in performing tasks (8). In an earlier study by Monteiro et al, the rate of fraud among medical students in the United States varied between 5% and 58%. Researchers concluded that this high rate of fraud is not just a personal problem but can be considered a social phenomenon (9). A previous study performed by Choi on 375 dental students in Korea showed that cheating in exams decreases not only adherence to ethical principles but also reading interest in students (10). In a similar study on 395 nursing students in Iran, Rafati et al found that 89.1% of students had committed dishonesty at least once in the clinic (11). Due to the COVID-19 pandemic, Reedy et al compared the possibility of cheating in online exams and face-to-face exams in 1827 students at three Australian universities. Interestingly, more than half of the students perceived that there was no difference in the ease of cheating between a face-to-face exam and an online exam. In addition, more students considered that an online exam to be harder than a traditional face-to-face exam. This study also revealed that younger students were more likely to cheat in online exams compared to traditional exams (12). Social behavior experts believe that students in various medical disciplines who cheat on exams will later repeat this pattern of behavior in dealing with patients (13). Furthermore, students who cheat, gain less information and skills which play an essential role in the quality of patients' treatment (14). It is important to know the extent of the problem in order to prevent academic dishonesty. Students' perceptions of ethical issues should be analyzed as well. The most important issue is the neutralization of this behavior among the students (15). A previous study reported that a higher level of cheating in previous exams leads to a higher amount of cheating in the next exams (16). Due to the importance of medical disciplines and the direct relationships of medical and dental students with patients, it is necessary to evaluate the prevalence of academic dishonesty among them to provide solutions to deal with this anti-value phenomenon. Despite the presence of different control systems in universities and educational centers, unfortunately, academic dishonesty is still common. The extent of academic dishonesty, cheating behaviors, and the attitude of learners are the most important points. The literature review represents that there are not enough studies to estimate the rate of academic dishonesty among dental students in different countries, including Iran. Thus, this study was designed to investigate the behaviors, attitudes, and interpretations of dental students regarding exam fraud among the dental students of Hamadan University of Medical Sciences, Iran in the 2015-2016 academic year. Such studies not only determine the extent of the problem in Iran but also inform authorities to provide appropriate solutions.

### Materials and Methods

First, the list of students was obtained from the Office

of the Dental Education of Hamadan University of Medical Sciences. Then, a three-part questionnaire was provided, including demographic characteristics such as age, gender, and year of entry, as well as questions about cheating history and awareness ( $n=4$ ) and specific questions. The specific questions were designed in three sections, including students' behavior regarding academic dishonesty ( $n=9$ ), attitudes toward academic dishonesty ( $n=5$ ), and interpretation in the form of three scenarios (Table 1). The questionnaire was adapted from the research of Salahi Yekta et al, who checked its validity and reliability (17,18). Based on Krejcie and Morgan's (1970) table, the sample size was calculated as 165 students consisting of first-to-sixth year students. The students filled out the questionnaires without writing their names. Two students returned the questionnaire empty; therefore, a total of 163 questionnaires were collected, and the obtained data were statistically analyzed using SPSS software, version 20. The *Mann-Whitney U test* and the *Kruskal-Wallis test* were employed to analyze the data, and a *P* value less than 0.05 was considered statistically significant.

### Results

Overall, 163 students, including 90 males (55.2%) and 73 females (44.8%), participated in this study. The average age of the students was  $22.72 \pm 2$  years ( $22.3 \pm 2.87$  and  $23.23 \pm 2.37$  years, for boys and girls, respectively). The data for all the questions and answers are provided in Table 1.

The results revealed that totally around 65.6% of students were aware of the fraud problem in the faculty and knew the cheaters (63.1%). Additionally, nearly 59% of the students admitted having engaged in at least one academic dishonest behavior. Regarding the students' attitudes toward academic dishonesty, 55.2% of them believed that it is the duty of instructors to prevent cheating during the exam. The results also demonstrated that instructors' discussing issues tied to cheating have no effect on fraud prevention. Details on answering the fraud questions are presented in Table 1.

The average scores of students' behavior, attitudes, and scenarios were  $13.43 \pm 3.26$ ,  $7.34 \pm 1.56$ , and  $7.34 \pm 1.56$ , respectively. Based on the Mann-Whitney test results, there were no significant differences between boys and girls in all research variables (Table 2).

The average proportion of students' behavior, attitudes, and scenarios by academic year are summarized in Table 3. Based on the results of the *Kruskal-Wallis test*, the average behavior proportion and attitude of first-year students were higher than those of the other students. However, statistically significant responses were noted for the scenarios regarding the academic year.

### Discussion

According to students' responses in this study, more than half of the students (62%) were aware of academic fraud and knew the cheaters. In addition, in more than half of the cases, the student himself/herself had committed one

**Table 1.** A Summary of all Questions and Answers

Types of Questions	No.	Questions	Yes (%)	No (%)
Academic dishonesty history and awareness	1	Do you know anyone who cheated in this faculty?	101 (62)	62 (38)
	2	Do you know anyone who cheated in this class?	102 (62.6)	61 (37.4)
	3	Have you seen anyone who cheated in this faculty?	103 (63.1)	60 (36.9)
	4	Have you seen anyone who cheated in this class?	107 (65.6)	56 (34.4)
Questions about students' behavior	1	Have you cheated on faculty exams?	77 (42.2)	86 (52.2)
	2	Have you cheated in class exams or homework?	83 (51)	80 (49)
	3	Have you used other students' answers in previous exams?	80 (49)	83 (51)
	4	Have you copied other students' homework?	89 (53)	74 (47)
	5	Have you given the answers to previous exams to other students?	94 (58)	69 (42)
	6	Have you used the answers to previous exams?	96 (59)	67 (41)
	7	Did you give the exam questions to the students of the next semesters?	81 (49)	82 (51)
	8	Did you get the same exam questions from the students of the previous semester?	82 (51)	81 (49)
	9	Have you used the other student's projects and assignments?	65 (40)	98 (60)
Questions about students' attitudes	1	It is the duty of instructors to ensure that students do not cheat.	90 (55.2)	73 (44.8)
	2	I believe that most students cheat on their homework.	95 (58.3)	68 (41.7)
	3	I believe that most students cheat on exams.	85 (51.5)	78 (48.5)
	4	Explaining rules and regulations by the instructor can reduce the risk of committing cheating.	66 (40)	97 (60)
	5	Cheating is not too bad as they say.	98 (60)	65 (40)
Scenario questions to evaluate students' interpretation	1	Imagine you do not know the answer to the question when taking the exam, and your classmate gives you the answer, do you think that it is acceptable?	109 (66.9)	54 (33.1)
	2	Imagine you do not know the answer to a question during the exam and you ask your teacher, do you think it is a fraud?	59 (36.2)	104 (63.8)
	3	Imagine your friend gives you questions from the previous semester, do you think it is a fraud?	47 (28.8)	116 (71.2)

**Table 2.** Mann-Whitney U Test Results of Academic Dishonesty by Gender

Domains	Gender		P Value
	Boys (Mean ±SD)	Girls (Mean ±SD)	
Students' behavior	13.66 ±3.51	13.16 ±2.92	0.422
Students' attitudes	7.44 ±1.70	7.22 ±1.37	0.425
Scenarios to evaluate the student's interpretations	4.711 ±0.95	4.64 ±0.89	0.596

Note. SD: Standard deviation.

of the types of cheating in the exam session or in doing homework. In the present study, the most common type of fraud was the use of information and answers from previous exams in more than 59% of cases. In a published study on 310 students from three different universities in Iran conducted by Salehi, 90% of the students indicated that they had cheated at least once in the exams (19). In a study on 655 nursing students in South Korea, Park et al (16) found that the highest rate of fraud was in the form of using questions from previous exams (37%). Likewise, Khodai et al studied 336 students from different universities in Tehran, Iran, of whom 95.8% witnessed cheating by their friends and classmates (20). The findings of a previous study on 200 dental students in Jordan performed by Al-Dwair et al demonstrated that about 70% of students cheated on the exams (21). In general, “not being ready for the exam,” “uselessness of the materials,” “getting a better score,” and “bulkiess of the materials” were the most important reasons for cheating (19). Further,

good academic grades and pressure to please family and guardians can be the leading causes of cheating (22). Based on the students' feedback, lack of time and motivation has been a driving factor in cheating (16). According to the results of a study on 174 physical therapy students in Canada by Montuno et al, the most common factors for cheating were school-related pressure, disagreement with evaluation methods, and the perception that “everyone else does it.” (23). Reasons such as difficult school subjects, lack of taking the teacher seriously, and lack of self-study were mentioned by students as motivations for cheating in another study (20). In an earlier study, students claimed that factors such as looking good in front of classmates, avoiding embarrassment due to low grades, looking good in the eyes of family members, and obtaining higher grades and degrees were the most important factors in committing fraud (21). The high rate of fraud at universities warns authorities to identify the causes to prevent similar events from happening again. Moreover, parents' perspectives affecting children's education need a change. Our study findings showed that the majority of students cheated in both class and university exams although the rate of cheating in class exams was higher than that in university exams (83% vs. 77%). The reason might be the higher level of instructors in the university exams compared to that of class exams.

According to a study by Lord et al in the United States, male students cheated more, while female students were more likely to answer questions on their own (24).

**Table 3.** Students' Responses According to Academic Years

Domains	Academic Year						P Value
	6 <sup>th</sup> Year	5 <sup>th</sup> Year	4 <sup>th</sup> Year	3 <sup>rd</sup> Year	2 <sup>nd</sup> Year	1 <sup>st</sup> Year	
Students' behavior	11.97±2.83	12.2±2.49	12.7±2.49	12.37±2.2	11.78±2.68	16.5±2.48	< 0.001
Students' attitudes	6.65±1.3	6.8±1.7	6.8±1.7	7.29±1.23	7.22±1.22	8.27±1.61	< 0.001
Scenarios to evaluate the student's interpretations	4.47±0.9	4.65±0.931	4.65±0.931	4.54±0.93	4.81±0.74	4.83±1.04	0.522

Note. Data are expressed as mean±standard deviation.

However, Chapman et al concluded that there was no gender difference regarding the rate of academic fraud among Hong Kong students, but in American society, males cheated more than females (25). In a study performed by Salah Yekta et al on 386 students in Iran, no statistically significant difference was observed between the two genders in terms of fraud (18). The findings of a study of 201 nursing students in Malaysia represented that 93.8% of male students were involved in the academic or clinical setting at least once (26). In the present study, there were no significant differences between boys and girls regarding students' behavior, attitudes, and interpretation of academic dishonesty. Nevertheless, another published investigation indicated that boys are more likely to report cheating (self-reports) but have lower self-control. Instead, it was reported that girls have more beliefs and are more ashamed of their misbehavior (27). Previously published papers have shown that men cheat more often than women. These findings suggest that women have more motivation to study. Men cheat in exams because studying is not an aim for them, as it has social reasons such as getting a job. In addition, women have more fear of punishment (28). Previously published studies indicated that there is a negative correlation between attitude toward cheating and academic self-confidence (29, 30).

In the present study, 52.2% of boys and 58.9% of girls answered "yes" to the first question of students' attitudes, namely, "It is the duty of the instructor to make sure that students do not cheat". These results can demonstrate that students are unsure if they can control themselves in the exams. It is interesting that most of the "yes" answers were related to the first-year students (younger students). However, a former study by Monteiro et al on medical students in Brazil revealed that the rate of fraud in the first and last year of education was 3.4% and 17.3%, respectively (9). Another study on the rate of fraud among dental students in 2019 in South Korea showed that 92.2% of students cheated on exams, but unlike previous studies, this study reported that students in older years cheated on exams to a greater degree (10). Here, a question arises regarding whether the student at the university is gradually losing control or even self-esteem or self-confidence. It seems that adherence to ethics is gradually diminishing in students. Thus, there are factors in universities that change students' attitudes to academic dishonesty and make it normal. In our study, 60% of the students responded that cheating is not as bad as said. Having self-confidence is highly important and should receive attention from authorities. This seems to be a particular issue when a

medical physician or a dentist should develop a treatment plan. To deal with the phenomenon of fraud, solutions must be provided during the early ages of education. Children learn moral issues at home and school. Hence, if children learn that lying, stealing, and cheating are disgusting, later, they better accept job standards in relation to forgery and plagiarism. Further, the role of professors in shaping students' beliefs and practices is extremely essential. Furthermore, the laws that are imposed to prevent the detection of dealing with academic dishonesty play an important role in the prevalence of these errors.

Cultural differences and educational regulations in each society cause differences in students' behavior and attitudes toward academic dishonesty. Moreover, the fear of being identified as committing fraud and the severity of punishment can be deterrents. Interestingly, there are different cultural issues and beliefs in different cultures. For example, according to a study by Salter et al, American students cheated more than British students. Interestingly, for American students, the fear of punishment was the only deterrent, but for British students, moral and cultural issues were the most important deterrent (31).

Strategies to prevent academic dishonesty can be divided into short- and long-term categories. In the short term, teachers need to spend more time to design new questions, and the questions from the previous exams should not be given in the next semesters. Additionally, the students can be assigned to two groups; therefore, different questions can be given to each group. This method can reduce the possibility of cheating from classmates. This strategy can prevent academic dishonesty to some extent in the short term. However, the long-term strategy goes back to the years before entering the university. It is suggested that authorities should work on the culture and attitudes of children and parents. Parents should get involved in their children's education. Parents should take an active role to decrease the children's stress and disappointments (32,33).

## Conclusions

In general, unfortunately, the rate of fraud is high in dentistry schools and possibly in other medical schools. This represents the importance of the creating culture in changing students' attitudes. The high rate of fraud at universities obliges authorities to identify the reasons and motives. This can not only improve the level of education and skills of students but also increase the level of honesty and self-confidence. It is the duty of authorities to provide the right information about the consequences of cheating. In addition, it is time to change the parents'

attitude toward obtaining high grades by their children. It can be suggested that students' behavior, attitudes, and interpretations regarding academic dishonesty should be assessed in every educational year. Every year assessments can help authorities to *improve* policies concerning academic dishonesty.

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#### Authors' Contribution

**Conceptualization:** Soussan Iran, Zahra Khamverdi, Oujan Bagheri.

**Data curation:** Soussan Irani, Zahra Khamverdi.

**Formal analysis:** Alireza Soltanian, Oujan Bagheri.

**Investigation:** Soussan Irani, Zahra Khamverdi.

**Methodology:** Soussan Irani, Zahra Khamverdi.

**Project Administration:** Soussan Irani, Zahra Khamverdi.

**Resources:** Soussan Irani.

**Supervision:** Soussan Irani.

**Validation:** Soussan Irani, Zahra Khamverdi.

**Visualization:** Soussan Irani.

**Writing—original draft:** Soussan Irani.

**Writing—review & editing:** Soussan Irani.

#### Competing Interests

There is no conflict of interests.

#### Ethical Approval

This study was approved by the ethical committee of of Hamadan University of Medical Sciences (code of ethics: IR.UMSHA.REC.1394.45)

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