



Performance and Attitude of Undergraduate Students of Golestan University of Medical Sciences Towards Cheating in Exams

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Abstract

Background and Objectives: Cheating is a common phenomenon that can undermine the credibility of university tests and certificates. Cheating is a more sensitive issue among medical students. The present study was conducted to investigate the performance and attitude of undergraduate students of Golestan University of Medical Sciences in Iran towards cheating, as well as the factors that influence cheating.

Methods: The present descriptive analytical and cross-sectional study was conducted in 2014 on 524 female and male undergraduate students of Golestan University of Medical Sciences. Convenience sampling was used to select the participants. The data were collected using a valid and reliable 64-item questionnaire on performance and attitude towards cheating with a Cronbach's alpha of 0.88. The obtained data were then analyzed using descriptive tests and the χ^2 test. $P < 0.05$ was set as the level of statistical significance.

Results: Demographically, women made up 58% of the study population. In terms of ethnicity, 68.5% of the population were Fars, 24.6% Turkmen, and the rest were other ethnicities. A total of 70.6% of students had negative attitudes towards cheating. In terms of performance, 57.1% of students admitted to cheating. Significant relationships were observed between the attitude and performance of students ($P = 0.001$). The relationship between gender and occupational status, and attitude and performance was also found to be statistically significant ($P < 0.050$). Male and employed students had more positive attitudes towards cheating and actually did it more frequently than their female counterparts.

Conclusions: The majority of nursing students were against cheating in terms of attitude and performance. Nevertheless, to better understand this behavior and develop coping strategies, further studies should be conducted on the phenomenon of cheating in other academic activities among medical students.

Keywords: Cheating, Attitude, Performance, Exam, Student, Nursing

1. Background

Cheating is a common phenomenon in academic tests that threatens the credibility of the admissions and certificates awarded by universities (1). Academic dishonesty has become a major concern in Iranian universities, and universities of medical sciences are no exception (2). Given the sensitivity of the issue, committing this violation is more serious for medical students, their subgroups, and medical education centers (3) because it can cause grave consequences for human life and social and economic values (4).

Cheating during studies in university can lead to similar behavioral patterns after graduation (5-8). Academic

dishonesty observed in university students has been referred to as a plague for the professional process of teaching and learning, and its prevalence has been reported differently in students in different communities. These differences appear to depend on students' culture and family, social, religious, and ethical values before entering university (4, 5). Receiving rewards from other students, the educational atmosphere of the classroom, receiving the top score, receiving a passing score, positive attitudes towards cheating, gender, and technology are among the factors that are correlated with cheating (9-11). Cheating among students can be planned cheating or fear-associated cheating. With planned cheating, the person consciously and

intentionally sets out to cheat. Fear-associated cheating is performed out of fear and frustration or fear of defeat by other students (12).

Failing to assume responsibility and failing to pay enough attention are the most discussed causes of cheating by students, rather than external factors such as tough assignments and high expectations for students. Cheating on exams can be performed in different ways, including using unauthorized notes in open-book tests or take-home tests, using unauthorized notes in an in-class test, transcribing the answers to open tests, solving the test at home by copying from another person, transcribing the in-class test from another person, and permitting or asking for permission to copy the test answers. The most common method of academic fraud in exam sessions is viewing another's paper and writing on paper, and the most common method of cheating in class assignments is receiving help from classmates and the internet (2, 5).

Desalegn and Behran found 30.5% of students allow their classmates to copy their test papers during exams, and 22% consider academic fraud a natural and accepted behavior among students (2). Park et al. found 50% of 566 Korean nursing students admitted to cheating on exams and 78% admitted to cheating on course assignments and projects (13).

A descriptive correlational study was conducted on 180 undergraduate students selected using simple random sampling. They had successfully completed at least one semester in the School of Agriculture in Gorgan Islamic Azad University. The results showed that the highest frequency of cheating on university exams was associated with letting other students see one's test paper without the person himself committing cheating (86.7%), followed by transcribing the responses of nearby students while coordinating with them (80%), and using sign language, especially fingers for numbers (70%) (14).

The importance of understanding the influential factors and strategies for preventing the spread of fraud has resulted in a wave of scientific research on students' perception of the costs and benefits of cheating (15). Cheating on exams is a major source of academic dishonesty that seriously degrades the quality of teaching, the reliability of the evaluation process, and the public's trust in higher education.

Examining the experiences of 26 graduate students with cheating on exams using a descriptive phenomenological approach showed that different factors affect cheating, including internal factors, such as talent, the person's perception and receptions, and the family atmosphere, as well as structural factors, including environmental effects on the person's performance when committing fraud (16). Cheating is an immoral phenomenon common in educa-

tional systems that has been increasingly facilitated by, and becoming more prevalent with, the development of technology (17). Undergraduate students make up the majority of students in most universities. Many positive and negative educational behaviors are officially or unofficially learned at this educational level, and there is a possibility of repeating behaviors in higher levels of education. Given the importance of cheating among medical sciences students, the present research investigated the performance and attitude of undergraduate students towards cheating on university exams.

2. Methods

The present descriptive analytical and cross-sectional study was conducted in 2014. A total of 524 students at Golestan University of Medical Sciences was selected using convenience sampling. Given a cheating frequency of 66.4% reported in a study on students of Hamadan University of Medical Sciences, a confidence interval of 95% (1.96) and an error of 10% (18), the sample size was calculated using the sample size determination formula. The eligible candidates comprised all undergraduate students at Golestan University of Medical Sciences who had successfully completed two semesters and were willing to participate in the study. The exclusion criterion was being a guest student at the time of the study.

The data were collected using a researcher-created fraud questionnaire developed based on a review of literature and similar studies. This questionnaire contained 10 items on demographic and academic details, seven on the status of the cheating phenomenon, 19 on attitude (the motive of cheating) and performance (the method of giving and receiving unauthorized help), and 38 on the students' performance.

Examples of the questionnaire items on attitude included "Having expertise in cheating is a significant issue," "Cheating improves the score," and "Punishment does not affect the behavior withdrawal," which were rated on a Likert scale, from completely agree = 1 to completely disagree = 4. Based on the scores obtained, attitude was classified into two groups of negative and positive, with a score of less than 38 considered a positive attitude towards cheating and greater than 38 considered a negative attitude. The score range was from 19 to 76, with 38 representing the second quartet and including responses such as disagree and completely disagree to the attitude items.

Examples of the questionnaire items on performance included "I peek at others' paper to cheat," "I use a mobile phone to cheat," "I exchange my paper to cheat," and "I use modern equipment such as cheat pens and cheat computers to cheat." These items were rated on a four-point scale

from always = 1 to never = 4, with the score of 114 being the third quartet. Receiving a score of less than 114 was, therefore, considered positive performance in cheating, meaning avoiding cheating on exams, whereas a score greater than 114 indicated cheating on exams and negative performance.

The content validity method was used to determine the validity of the questionnaire. For this purpose, seven faculty members received the questionnaire and confirmed it. The reliability of this tool was also confirmed by calculating a Cronbach's alpha of 0.88 in a sample of 10, using a test-retest, and calculating the correlation between the two stages ($r = 0.90$).

The data obtained were ultimately analyzed in SPSS-11 (SPSS Inc., Chicago, IL) using descriptive statistics and the χ^2 test.

The present study observed all ethical principles associated with human research, including obtaining informed consent, giving the participants the right to withdraw from the study, preserving the private information of the samples, using numerical codes in reporting, and obtaining legal permissions before beginning the study.

3. Results

Females aged 21.17 ± 6.49 made up 58% of the study students. In terms of ethnicity, 68.5% of the population were Fars, 24.6% Turkmen, and the rest were of other ethnicities. A total of 90.6% of the participants were single and 89.1% were unemployed.

Investigating the status of cheating showed that 73.9% of the participants cheated on exams, of which 32.3% began experiencing it in high school and 20.8% in elementary school. A total of 54.6% of the participants believed that cheating sometimes improves test scores, while 5.2% stated that they had other students sit for their exams. In response to the question "Have you ever given unauthorized help to someone else in exams?" 87.7% of the samples selected yes.

As for the attitude towards cheating on exams, 70.6% of the students had negative attitudes towards receiving or giving unauthorized help on exams.

Investigating the data associated with the students' performance showed that 42.9% of students cheat on exams. Table 1 presents the relationship of students' attitude and performance with a history of cheating. Table 2 shows the relationship between students' attitude towards cheating and their performance.

The results of the χ^2 test suggested significant relationships between students' attitude and performance towards cheating ($P < 0.001$). Significant relationships

Table 1. The Relationship of Students' Attitude and Performance with a History of Cheating^a

Variable	Cheating		P Value
	Yes	No	
Attitude			< 0.001
Positive	131 (33.9)	23 (16.8)	
Negative	256 (66.1)	137 (82.2)	
Performance			< 0.001
Positive	204 (52.7)	21 (15.3)	
Negative	183 (47.3)	116 (84.7)	

^aValues are expressed as No. (%).

Table 2. The Relationship Between Students' Attitude Towards Cheating and Their Performance^a

Performance	Attitude		P Value
	Positive	Negative	
Positive	104 (67.5)	121 (32.7)	< 0.001
Negative	154 (32.5)	249 (67.3)	

^aValues are expressed as No. (%).

were observed between students' attitude towards cheating and gender ($P = 0.006$) in terms of the relationship of certain demographic and academic variables with attitude; in other words, more positive attitudes toward cheating were observed in male students than in female students. The relationship between attitude towards cheating on exams and students' occupational status was found to be significant, and employed students presented positive attitudes towards cheating ($P=0.040$). The relationships between attitude towards cheating and marital status and place of residence were, however, insignificant ($P > 0.050$).

Analyzing the items associated with students' performance suggested significant relationships between students' performance associated with cheating on exams and gender ($P = 0.001$); male students tend to cheat more than the females. The relationship between students' performance and their occupational status was also found to be significant ($P = 0.020$), and the employed students tend to cheat more frequently than unemployed students. The relationships between students' performance (cheating on exams) and marital status and place of residence were insignificant ($P > 0.050$).

4. Discussion and Conclusions

According to the results of the present study, more than half of the students cheated at least once while being a student, and around half of the participants believed that cheating sometimes improves exam scores. Park et al. also found 76% of the nursing students cheated at least once a semester (13). This finding suggests a high prevalence of cheating among nursing students.

Approximately half of the present study participants stated that they cheated in exams while being a student, which is consistent with the results of a study reporting the phenomenon of cheating as a dilemma in education (2). In the last five years, 117 articles have been published on cheating according to the PubMed data bank. Cheating and dishonesty can damage the integrity of the nursing profession. In a collaborative study, Macale et al. investigated the phenomenon of academic dishonesty in the classroom among Italian undergraduate nursing students and concluded that students considered cheating and their behaviors associated with cheating to be acceptable and normal (19).

Some evidence suggests that the educational system of universities pave the way for student cheating (20). According to Tonkin, cheating occurs in many schools of medicine and teaching staff also help students cheat. Tonkin believes that cheating is a serious issue because it threatens the accuracy of assessment decisions and because unprofessional behavior in medical schools is associated with future unprofessional behavior by practitioners (21).

Genereux and McLeod found that 83% of 365 students self-reported that they cheated in college, and that the most common types of cheating were giving (58%) and receiving (49%) exam questions to and from other students before exams (22).

Ip et al. found that 11.8% of pharmacy students admitted to cheating. Their principle motivations for cheating included fear of failure, procrastination, and stress. The most significant predictor of cheating in pharmacy school was a history of cheating in the previous academic period (23).

In the present study, less than half of students admitted that their cheating had been discovered by the examiners and sometimes had led to their expulsion from the exam session. Desalegn and Behran reported that the cheating of the majority of participants (80.1%) was not disclosed and that students do not report cheating to exam proctors even if they witness cheating (2). Increased levels of supervision by exam proctors during exam sessions may affect the identification of those cheating.

Investigating the prevalence of cheating and the attitude of 400 female and male students in Birjand Univer-

sity in Iran showed that the mean rate of cheating on exams is less than half. The prevalence of cheating was higher in men than in women, but the general belief was that girls are cheating more than boys (7). The present study also found that female students have negative attitudes towards cheating (i.e., they were against cheating). Gender-associated differences in attitudes toward cheating have also been reported in similar studies (7, 24). Bani Mahd and Pashmi Tabar examined the relationship between cheating and machiavellianism in 233 undergraduate accounting students and found significant relationships between gender and cheating, meaning male students tend to cheat more than female students (25).

Negative and difficult consequences of cheating, pressures, instructor personality, social norms, and interest in the course have been referred to as factors associated with the determinants of behavior as per the theory of planned behavior (22). The study conducted by Orosz et al. on 266 participants showed that teachers' enthusiasm promotes academic motivation and reduces the prevalence of cheating in students. As an unexplored interpersonal factor, teachers' enthusiasm can, therefore, effectively prevent academic cheating (26).

Bahrami et al. investigated 169 undergraduate students of Torbat Heydariyeh University of Medical Sciences. They reported that the most effective factors that lead to cheating include large volumes of texts and difficult courses, whereas the most significant inhibitors of student cheating include individual conscience and personal beliefs. According to the students, the most common methods of cheating include viewing or exposing the paper, sending and receiving answers to questions through gestures, and sending and receiving answers to questions orally (27).

A study conducted on 493 physician assistant students showed that only 3% of the clinical year students self-reported cheating in school. Moreover, male students reported higher rates of cheating than the female students. The most common cheating behavior (71%) was observing or hearing information about an exam before its administration. The attitudinal statement that most respondents strongly agreed with was "cheaters in the school end up hurting themselves in the long term." The strongest predictor of cheating in later years of education was a history of cheating in the pre-clinical stage (28). According to Syam and Al-Shaikh, the reasons for cheating among Qatar University students included physiological factors such as fear of failure and being reprimanded by parents, as well as work-related factors such as large class sizes and the teacher (29).

Evidence suggests that students consider cheating a common and acceptable issue, especially as far as helping

others is concerned (30). External motivation and competition are not reliable predictors for academic cheating behaviors (31). Although cheating behaviors on exams and teaching assignments are diverse, their common feature is a high prevalence among the student community.

The present survey was a self-reporting study, which can be considered a limitation, even though all similar studies conducted in Iran and abroad have also used self-reporting tools. Different studies have used different instruments. Achieving the goals of such studies is guaranteed by designing more reliable tools with proper and standard psychometric properties. In addition, other diverse research approaches are recommended to understand the dimensions of cheating. The present cross-sectional study only addressed cheating on exams. Longitudinal investigations surely present a better understanding of this phenomenon in educational atmospheres.

The results of the present study showed that nearly half of students are against cheating on exams and have negative attitudes towards it. In terms of performance, more than half of the participants were found not to cheat during exams. These findings will undoubtedly help educational authorities with culture-building and the design of strategies for coping with this phenomenon. Meanwhile, the importance of providing rules, correct training, educational management, and promotion of Islamic Ethics during studies, as well as integrating self-purification into education, is undeniable.

The answers to the following questions are crucial: "Is there a defect in the value system of educational environments?"; "Are score orientation and passing the course more important than understanding and profound learning?"; "Do class culture and the educational atmosphere of universities pave the way for cheating?" All of these unanswered questions should be addressed by conducting more extensive and profound studies, such as qualitative research.

Supplementary Material

Supplementary material(s) is available [here](#) [To read supplementary materials, please refer to the journal website and open PDF/HTML].

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