



Examining Effective Factors, Inhibitory Factors and the Most Common Methods of Cheating in Students: A Systematic Review

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Abstract

Background: Cheating is a common unethical phenomenon in educational systems. This study aimed to investigate the effective factors, inhibitory factors, and the most common methods of cheating among Iranian students.

Materials and Methods: This systematic review was conducted by a systematic search of electronic resources in English such as Medline, Scopus, Web of Science, Cochrane Library, EMBASE, and Google Scholar with no time limit from inception up to February 2021 using the following keywords, alone or in combination: "Cheating", "Students", "Inhibitory factors", "Iran", "Iranian students" and "Common methods".

Results: Ten to 80% of students have experienced cheating at least once throughout their education. Some effective factors on cheating include fear of rejection or failure in subjects, difficult course/subject, the large volume of content, insufficient study time, and professors' unreasonable expectations from students. There are inhibitory factors that limit cheating, such as individual conscience, individual beliefs, and the atmosphere in the classroom. The most common methods of cheating mentioned by students include looking at a classmates' paper and copying their answers, showing their own exam papers to other classmates, and exchanging answers through certain gestures. Cheating was more frequent among male students compared to females ($P < 0.05$), and among students in the 18-24 age group compared to other groups.

Conclusion

Cheating is prevalent among university students, particularly in difficult subjects and large volumes. It is possible to reduce this phenomenon by strengthening personal and religious beliefs, improving the classroom atmosphere, formative tests, and changing the type of exam questions.

Key Words: Cheating, Inhibitory Factors, Effective Factors, Prevalence, Students.

*Please cite this article as: Saeidi M, Noori M, Jajarmi Khayyat H, Ashraf azimi M, Bolourian M, Mirzaei M. Examining Effective Factors, Inhibitory Factors and the Most Common Methods of Cheating in Students: A Systematic Review. Med Edu Bull 2021; 2(1): 143-52. DOI: [10.22034/MEB.2021.293126.1006](https://doi.org/10.22034/MEB.2021.293126.1006)

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Received date: Jan. 10, 2021; Accepted date: Mar.22, 2021

1- INTRODUCTION

Cheating is defined as the equivalent of distrust, hypocrisy, deception, betrayal, dissension, and dishonesty. Cheating in tests means that a student uses information, equipment, or facilities in a way that is not allowed, and with the intent of achieving the required result for an educational or research activity. Academic misconduct among students is considered a serious problem in universities and higher education institutions. Investigations on the status of this type of cheating behavior among students reveals that its rate is increasing in all parts of the world, at all academic levels, among all students, and in all universities. Various international studies have reported that between 2% and 100% of students stated that they have committed cheating or academic misconduct at least once (1-10). A study conducted in Ethiopia estimated the prevalence of cheating among students at 19.8% based on the students' own report (11). In a survey conducted in two medical schools in the United States, about 58% of medical students admitted to cheating (12).

Other studies have revealed that between 27% and 58% of medical students have cheated at least once (13). The results of a study revealed that 26.9 to 88.8% of students ask someone else to help them in cheating (14). Academic cheating has different types; from publication papers received over the Internet to using various electronic means of cheating. Rettinger has divided the types of academic cheating into exam cheating and homework cheating, and has stated examples for each one (15). Studies conducted so far show that the student-cheating rate is 56% in the United States, 40% in the United Kingdom, 56% in Australia, 71% in China, 51% in Ireland, and 72% in Japan (16). Various studies show that students believe that cheating is a common phenomenon that is increasing day by day (17). This issue has a detrimental effect on the

discipline of the university and on the validity and value of the degree granted by a university or scientific institution (18). The spread of cheating can hinder individual and institutional talent and progress, and should not be considered as an insignificant issue. The fundamental problem with cheating is that it ruins trust (19). Cheating in exams is one of the most significant issues that violates scientific honesty and severely weakens the quality of teaching, reliability in the assessment process, and public trust in higher education. This study aimed to examine the effective factors, inhibitory factors, and the most common methods of cheating among Iranian students.

2- MATERIALS AND METHODS

Preferred Reporting Items for Systematic review and Meta-Analysis (PRISMA) checklist was used as a template for this review.

2-1. Eligibility criteria

Participants, interventions, comparators, and outcome (PICO) was used to formulate the review objective and inclusion criteria.

2-1-1. Participants: Iranian students.

2-1-2. Interventions: The included research are non- interventional studies, so we did not have comparison group.

2-1-3. Comparators: We did not have a comparison group and intervention.

2-1-4. Outcomes: The effective factors, inhibitory factors, and the most common methods of cheating.

2-2. Included and excluded studies: Descriptive and analytical studies, qualitative studies, and case-control studies were included. Pilot, preliminary and case report studies were not included due to limited sample size and higher risk of bias. The included studies were

published in English or Persian up to February 2021.

2-3. Information sources

Systemic research of Electronic databases: Medline (via PubMed), Web of Science, Cochrane Library, EMBASE- Ovid, Scopus, and Google Scholar, was carried out.

2-4. Search

Search words were a combination of "Cheating", "Students", "Inhibitory factors", "Iran", "Iranian students", and "Common methods".

2-5. Study selection

Database search was performed for possible studies; abstracts of the studies were screened for identification of eligible studies, full text articles were obtained and assessed, and a final list of included studies was made. This process was carried out independently and in duplication by two reviewers and any disagreement was resolved by a third reviewer.

2-6. Data collection process

A form based on the Cochrane Consumers and Communication Review Group's data extraction template was developed and followed for each study. Two reviewers collected the data; the independently collected data was then combined and compared for accuracy and any discrepancies were solved by a third reviewer.

2-7. Risk of bias in individual studies

Risk of bias assessment was done following The STROBE checklists (20). The assessment was carried out by two reviewers independently and in duplication, and any discrepancies were resolved by a third reviewer.

2-8. Synthesis of results

Due to the differences in the included studies, study designs, and sample size, meta-analysis was not conducted.

3- RESULTS

Thirteen papers (with a sample size of 2,826 people) satisfied the inclusion criteria (**Figure 1**). The results achieved by one study revealed that 77.9% of sixth-year dentistry students seemed to accept cheating in their projects in the previous year. Also, 98.7% of students believed that someone who exposes a cheating student behaves incorrectly (21).

In a qualitative study, professors stated the effective causes of cheating and plagiarism in the academic community as cultural (weakness of ethical values, comfort-seeking, lack of interest and motivation, connections instead of principles and criteria, and weakness of conscience), training-related (lack of sufficient expertise, unfamiliarity with relevant rules, weakness in writing, weakness in translation), economic (profit-seeking in science, lack of budget and facilities, under-developed tools and technology), social (insufficient control and administration, absence of up-to-date laws, lack of an agreement between the criminal system and justice system, and the formation of wrong models), and educational (education-oriented universities, paying attention to quantity instead of quality, insufficient training and informing, time shortage) (22).

The results of a study conducted on undergraduate students of medical science showed that 45% of students have experienced cheating. Students stated that the large volume of course materials and the difficulty of the subjects are the main contributors to cheating. Individual conscience and beliefs were the most significant factors in deterring students from cheating. Students stated that looking at a classmates' paper and copying their answers, showing their own exam paper

other classmates, and exchanging answers through certain gestures are the most common methods of cheating (23).

The results of a study on non-medical students revealed that the rate of cheating in male students was higher than females, and female students believed more in the generality of cheating in females compared to males ($P < 0.05$). The most common way of cheating in exam sessions was looking at another's paper and copying the answer, and the most common way of cheating on homework was copying the homework of a classmate or from the Internet. Students explained that internal factors such as irresponsibility and lack of sufficient time contributed to cheating more than external factors such as the difficulty of subjects and high expectations of students (24). The results achieved in another study on medical and non-medical students revealed that anxious students in the age range of 18 to 24 tend to cheat more frequently. Gender, field of study, and the attitude towards cheating did not have a significant relationship with cheating (25).

The results of another study on non-medical students indicated that allowing other students to look at the exam paper, copying the responses of the nearby students, and using body language and gestures were the most popular ways of cheating in university exams. Pearson correlation coefficient revealed a significant relationship between the demographic and psychological variables of the respondents and their cheating frequency in academic exams (26). The results achieved by a study on graduate students of agriculture showed that the cheating behavior of students has two dimensions: "type of cheating behavior", and "seriousness of cheating behavior". Findings show that competition affects the occurrence of some cheating behaviors. Also, students believed that cheating behaviors are more frequent in universities (27).

A study conducted at Shahid Beheshti University of Medical Sciences in Tehran showed that there was a significant difference between the attitude related to the students of basic sciences and internships in the three behaviors of cheating: copying exam answers from other students' exam papers, helping other students to copy answers during exams, and intentionally recording false reports to facilitate homework. The students' tendency to cheat was the most common reason, and included the fear of failing the exam with 79.3% and the difficulty of the subjects with 77.5% prevalence (28).

The results of a qualitative study additionally showed that exams in the Iranian educational system have changed from an assessment issue to a value issue, and this change has been effective in increasing the rate of cheating among students (29). The results achieved a study on students of agriculture revealed that the most common methods of cheating in the exam sessions include copying other students' exam papers, using gestures, and writing on objects, respectively. Moreover, no significant relationship was observed between committing cheating by students and age, gender, the field of study, and study grade; notwithstanding, a significant negative relationship was observed between students' cheating and their grade point average (30). The results achieved by conducting a study at Payame Noor University (PNU) revealed that students assessed cheating as difficult due to holding exams in universities and supervision, and only 10% of students reported cheating during their two semesters. On the other hand, 62% of students copy their homework in some way; 30% do their homework with the help of others; 18% copy from web sites without giving reference; and 4% submit the completely copied paper to professors in their own name. Students believe in cheating from other students in the test at

81%, 54% in the homework, and 45% without mentioning the source (31).

A study conducted in Shiraz University revealed that more than 80% of students had experienced cheating by copying at least once throughout the exams during their student years. Additionally, 25% of them have performed at least one form of plagiarism in writing their theses and essays. Student performance indicated that 50% of them had experienced cheating at least once during their clinical course. The cheating rate in female students was significantly lower (32). Another study conducted in Qom on 536 students showed that the frequency of cheating was the

highest among anesthesia students (79.3%), and the lowest rate was observed among midwifery students (25.9%), and operating room (32.1%). It has been stated that the most common method of cheating is looking at the exam paper of the person sitting at one's side or exposing one's sheet (20.9%), and the least common method is getting access to the questions before the exam and sitting the exam session for another person and vice versa (3.4%). Students stated that they cheat mainly because the score is the only criterion of assessment (80.8%), and they have stated anxiety as the least effective reason for cheating (64.1%) (33).

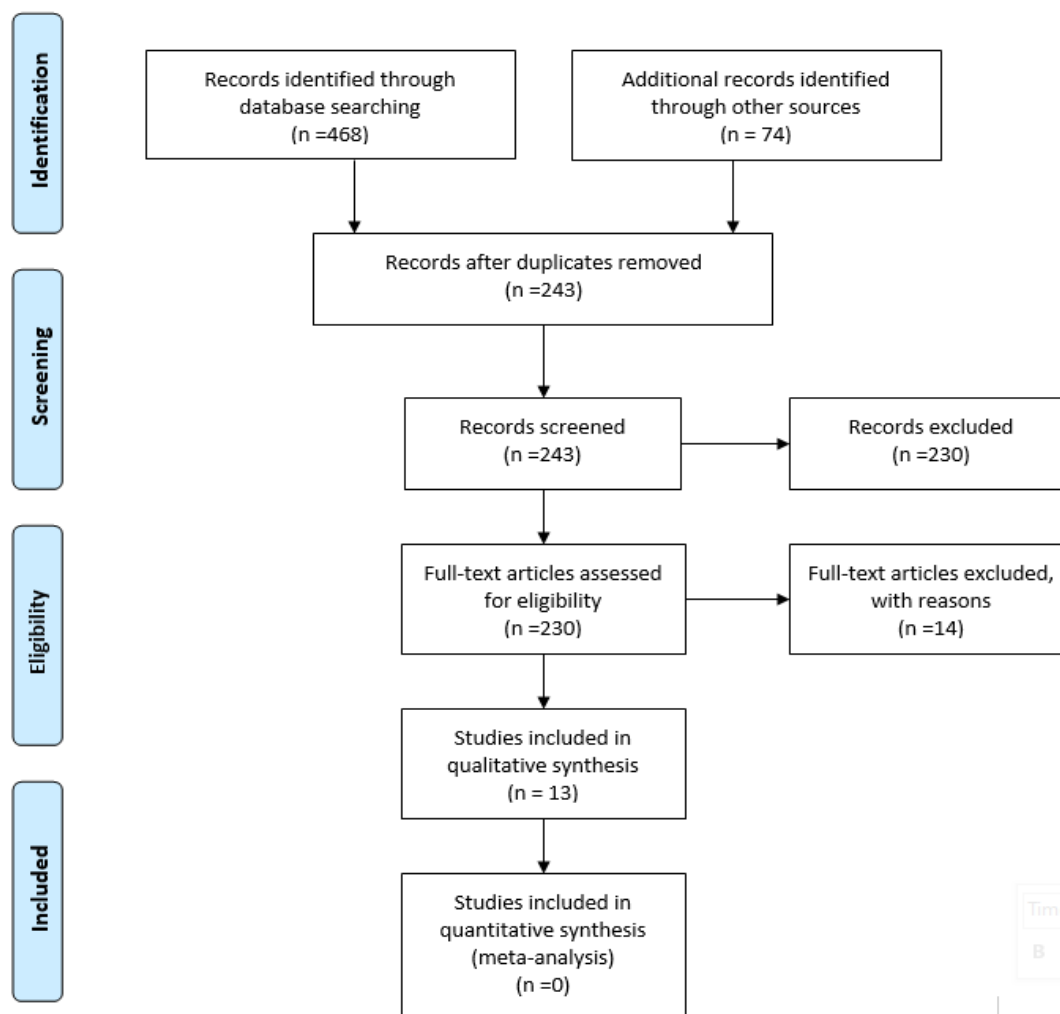


Fig.1: PRISMA Flowchart.

4- DISCUSSION

4-1. General Characteristics

This study aimed to examine the effective factors, inhibitory factors, and the most common methods of cheating among students. The results revealed that several types of cheating and inappropriate academic behaviors are widespread among students and their prevalence and frequency varies between 10 and 80%. Male students tend to cheat more often than female students, and female students believed significantly more in the generality of cheating. There are different types of cheating, including cheating on exams, cheating on homework, copying from websites, papers, and books without mentioning their names, and so on. Students stated that the large volume of course contents and the difficulty of the subjects are the highest contributors to their cheating behavior. Individual conscience and personal beliefs were the most significant factors in deterring students from cheating. Students mentioned some methods of cheating as the most common ways such as looking at the classmates' paper and copying the answers, exposing their own exam papers to other students, and exchanging answers by gestures. Investigating this type of cheating behavior among students reveals that its rate is increasing in all parts of the world, at all academic levels, among all students, and in all universities so much that its prevalence has reached 85 to 95% in various studies (6).

A study conducted by Kleiner shows that students cheat from high school to the time of graduation from university as they believe cheating is necessary to succeed in today's educational systems (34). A study conducted by Seyed Hosseini Davarani shows that the frequency of some dishonest and cheating behaviors in the test, such as copying from other people's sheets or allowing others to copy from their test sheet is near 50% (35).

Another study conducted on medical students in Hamedan showed a cheating rate of 66.4% among students (36). A study conducted by Rimer on 23 universities shows that 38% of university graduates have cheated during their university studies (37). Dick et al. reported that 75% of students have admitted to cheating during their college years (38). The results of another study showed that the student cheating rate is 56% in the United States, 40% in the United Kingdom, 56% in Australia, 71% in China, 51% in Ireland, and 72% in Japan (16).

Cheating makes a student (i.e., one of the most important and valuable assets of a country and a determining factor in all dimensions in the future) lazy. Once a student achieves educational success by cheating, they become accustomed to and psychologically dependent on this misconduct, making it very difficult for them to try to achieve educational objectives and better marks through their own effort in the future. Cheating teaches students that, in the face of any problem, they should wait for a miracle instead of putting effort into identifying its dimensions and trying to find the best solution for that problem. Someone who is accustomed to cheating will usually try to solve all their problems in a way that violates the law and others people's rights in the future. Such people will be more vulnerable in their future lives as they are not capable of dealing with problems on their own. Punishments have been considered in the disciplinary code for students who cheat on exams, but it appears that there are not significant punishments predicted due to the deterrence of students.

4-2. Psychological results of cheating

1. The incidence of feelings of fear: The dishonest person fears for their honor and the possibility of being exposed, and as they fear that their sense of security might

be compromised, it is affected by physiological factors.

2. The appearance of a sense of inferiority: Cheating creates an implicit sense of inferiority as one does not cheat until they feel deficient and desperate. Also, this feeling of inferiority is exacerbated by inability of answering the questions.

3. Occurrence of secrecy: The person who wants to hide something that they know is wrong, unknowingly makes mistakes and opens the grounds of error to themselves (39).

4-3. Underlying cheating factors

The following are several factors involved in cheating:

A. Educational Factors

Educational factors affect people's space and relationships and play a significant role in forming their experiences. The most important problems that lead to students cheating are educational factors which are divided into the following five sections:

1. Student accountability: Individuals who are responsible for their actions and their consequences will never allow themselves to commit acts like cheating. The responsibility of students is an objective manifestation of the function and behavior of the custodians of cultural and educational affairs, especially university professors and staff.

2. Weakness of ethical values: Lack of ethical values is considered by many experts to be another factor which leads a person to commit exam cheating.

3. Parental expectations: One of the most influential factors in pushing students to cheat is high expectations of parents and family members so that they are not ashamed to face them. Parents' high expectations are the result of their

unawareness of assessment conditions in academic environments.

4. Lack of discipline in doing activities: Having discipline leads a student to do their activities by planning and time management. An undisciplined student is challenged by the shortage of time during exams, forcing them to cheat.

5. The weakness of moral values in the family environment: Many experts believe that the weakness of moral values in the family environment and culture will influence the formation of one's moral values in society.

B. Personality factors

Personality factors are considerable patterns of thought, emotion, and behavior than distinguish one person from another, and are originated in one's personality. These factors are summarized in several sections as follows:

1. Finding cheating fun: Based on expert views, since positive emotions are lacking in universities, students cheat to experience excitement and fun. Hence, if there is space for appropriate emotions, pleasures, and enjoyable activities at the university, the frequency of cheating will be decreased.

2. Cheating as a habit: A student who once achieves educational success through cheating develops a form of addiction to and psychological dependence on this misbehavior and is unlikely to put an effort into achieving academic objectives and good grades in the future. Unfortunately, among many students of Iranians universities, cheating has turned into a habit, and they will carry this habit even after finishing their study as it becomes institutionalized in their personality and stays with most of them for the rest of their lives, resulting in lasting negative influences on society.

3. Complacency: Laziness and tendency for students to be comfortable and following other activities are factors that continue to be observed in activities like exams, causing students to spend time thinking about cheating methods instead of concentrating on their lessons and studying them.

4. Low self-esteem: According to experts, low confidence is the cause of many misbehaviors in the educational environment, including exam cheating. A student who does not trust their ability to pass the courses attempts to compensate for it by cheating.

5. Seeking a higher score: In classrooms where there is competition between students, students take various steps to achieve a higher score.

6. Showing off and attracting attention: Social professionals believe that the receiving attention is a basic requirement for individuals which peaks in their youth. Those who cannot satisfy this need for the right activities, turn to undesirable activities to attract attention and “show off”. The need to attract attention is another factor leading a person to cheat in exams.

7. Test anxiety: Another psychological factor influencing the formation of misbehavior in the exam session is the presence of test anxiety. Although many experts believe that some anxiety is necessary for exam sessions, excessive anxiety leads to misbehavior in exams.

8. Poor memory: Some students do study a lot; however, as they have did not study in a practical way and have only memorized the content, they will suffer from anxiety and forget what they have studied during the exam. Since they do not want to waste their time of studying, they prefer to cheat in order to pass the exam (39, 40).

5- CONCLUSION

Exams in the Iranian educational system have changed from a measurement issue to a value issue, and this change is effective in increasing the rate of cheating behavior among students. Cheating is prevalent among university students, particularly in difficult subjects with high content volume. It is possible to reduce this problem by strengthening personal and ethical values, increasing comfort in the classroom atmosphere, formative tests (several times in the semester), and changing the types of exam questions (short responses, descriptive, parallel questions, etc.), and more supervision when conducting tests.

6- AUTHORS' CONTRIBUTIONS

Study conception or design: MS, MB; Data analyzing and draft manuscript preparation: MN, HJ, MA, MM; Critical revision of the paper: MB, and MN; Supervision of the research: MS and MB; Final approval of the version to be published: MS, MN, HJ, MA, MB and MM.

7- CONFLICT OF INTEREST

The authors declare no competing interests.

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