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Original Article

Perspectives of Teachers and Students on the Reasons Behind Students' Engagement in Cheating on Exams: A Delphi Study

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Abstract

Introduction: Academic misconduct specifically cheating is much debated in literature. Cheating on exams undermines educational integrity and student development. The purpose of this study was to explore the perspectives of teachers and students on the underlying reasons behind students' engagement in cheating on exams.

Methods: This study employed a qualitative Delphi technique and four rounds of Delphi were conducted with 42 participants to narrow down the reasons behind students' engagement in cheating on exams at Sirjan School of Medical Sciences in 2024. Participants were selected through purposive sampling, and included students (n=30), and teachers (n=12). To collect data, an electronic questionnaire was developed and distributed in Delphi rounds over a period of five weeks. Thematic analysis using the six steps proposed by Braun and Clarke was employed to identify and analyze key themes and concepts. Data analysis was performed using MAXQDA-10 software. The ten most significant reasons were systematically ranked using a 5-point Likert scale.

Results: Among students, 60.0% were male (n=18) and 40.0% were female (n=12). In contrast, the teacher group consisted of 66.7% males (n=8) and 33.3% females (n=4). Students had a mean age of 22.73±1.12 years and teachers averaged 36.50±2.10 years. Findings revealed a consensus between teachers and students, though their prioritization of these factors differed. The most significant factors identified by both groups were "fear of failure", "lack of student engagement", "lack of formative assessment", "lack of knowledge", "exam anxiety", "unmonitored environment", "exam room layout", "competition among peers", "normalizing cheating", and "lack of perseverance".

Conclusion: The identified factors are critically important to be taken into consideration to avert academic misconduct by university students. Therefore, there is a need to orient students on the consequences of academic misconduct in a dual effort between university officials and teachers to promote academic integrity.

Keywords: Academic misconduct, Cheating, Delphi technique, Medical Education

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Introduction

Academic cheating is defined as possessing unauthorized materials during an examination, copying from such materials, or allowing another student to replicate answers through various means, including verbal, symbolic, written, or electronic methods (1). It encompasses the act of utilizing information, tools, or resources in prohibited ways to achieve desired outcomes in educational or research contexts (2). This behavior, particularly within medical and health science institutions, must be unequivocally condemned due to its profound implications for human lives, societal values, and economic stability. Academic dishonesty has emerged as a significant issue in higher education globally (1), with various studies indicating that it is pervasive and that certain forms of cheating have significantly increased over the past several decades (3, 4). The rise of technology has further exacerbated this phenomenon, making academic dishonesty more prevalent and challenging to address (3).

Research to date indicates that the prevalence of student cheating is 56% in the United States, 40% in the United Kingdom, 56% in Australia, 71% in China, 51% in Ireland, and 72% in Japan (5). A separate investigation involving medical

students in Hamedan, Iran revealed a prevalence of cheating at a rate of 66.4% among the students (6). By the same token, numerous studies indicate that students perceive cheating as a prevalent phenomenon that is on the rise (4). This issue adversely impacts the integrity of the university's academic standards as well as the credibility and worth of the degrees conferred by the institution or scientific organization (7). These alarming statistics highlight not only the widespread nature of academic dishonesty but also underscore the urgent need for effective interventions. The implications of such high prevalence rates extend beyond the classroom, influencing future professional conduct and ethical standards.

A multicampus study examining the correlation between academic dishonesty and unethical behavior in the workplace indicates a consensus that a zero-tolerance policy towards cheating is essential in professions that rely on trust and have significant implications for human lives. It is plausible to infer that individuals who engage in dishonest practices during their medical education are more likely to perpetuate such behavior in their interactions with patients, colleagues, insurers, and governmental entities (8). Academic dishonesty poses a significant challenge not only to the integrity of the educational system but also to the fairness experienced by those who adhere to ethical standards. This behavior undermines the accurate assessment of students' knowledge and skills, thereby distorting the educational evaluation process. Moreover, widespread cheating can lead to a workforce that is inadequately prepared for professional responsibilities, as it affects the overall quality of education. Additionally, research indicates that instances of academic dishonesty in higher education may serve as indicators of unethical behavior in professional environments (9).

It is posited that the inability of students to attain the necessary knowledge and skills throughout their university education, frequently due to academic dishonesty or examination fraud, can adversely impact their employability upon graduation. Employers generally have established criteria concerning competencies, and graduates who fail to fulfill these expectations may find themselves insufficiently equipped to handle the responsibilities outlined in their job descriptions. (10).

On the grounds of what was mentioned, it is critically important in an academic context that students behave based on the ethical behavior and attain the knowledge and skills required during their university education. Therefore, this Delphi study was conducted to identify the reasons behind students' engagement in cheating on exams elucidated by students and teachers at Sirjan School of Medical Sciences in 2024. The Sirjan School of Medical Sciences was chosen for this Delphi study due to its commitment to fostering ethical standards in medical education. Located in a region where healthcare challenges are prevalent, the institution plays a crucial role in training future healthcare professionals who will directly impact community health outcomes. By focusing on this institution, the study aims to generate context-specific findings that can inform targeted interventions and policies, ultimately enhancing the quality of education and the ethical standards upheld by its graduates. It is important to mention that the Delphi technique was utilized in this study to gather diverse perspectives from both teachers and students regarding the reasons behind students' engagement in cheating on exams. This method is particularly effective for exploring complex issues where opinions may vary, as it allows for anonymous feedback and iterative rounds of discussion. By employing the Delphi technique, the study can achieve a consensus on the underlying factors contributing to academic dishonesty while minimizing the influence of dominant voices that might skew the results. Additionally, the structured nature of the Delphi process encourages participants to reflect critically on their views and fosters deeper insights into the cultural and contextual factors at play. This approach not only enhances the validity of the findings but also provides a comprehensive understanding of the multifaceted nature of cheating in the academic environment.

The findings of this study are significant for university officials, and teachers to develop targeted interventions to promote ethical behavior and preventive measures to sustain a culture of academic integrity within the university community. In addition, by understanding the underlying reasons for cheating and addressing them proactively, students can attain the expected knowledge and skills and contribute to maintaining an atmosphere of trust and honesty.

Materials and Methods

Study Design and Setting

This study employed a qualitative Delphi

technique in a series of sequential rounds to identify a collective view of participants about the reasons behind students' engagement in cheating on exams. The study was conducted at Sirjan School of medical sciences in 2024. The Delphi method was chosen to facilitate consensus-building among participants with varying perspectives, allowing for a comprehensive understanding of the factors influencing academic dishonesty. This technique is particularly beneficial in contexts where intuitive interpretation plays a crucial role to harness and organize judgement (11).

Study Participants and Sampling

This study comprised two distinct groups of participants. The first group consisted of Bachelor of Science students from various disciplines at Sirjan School of Medical Sciences. Additionally, the second group included teachers affiliated with Sirjan School of Medical Sciences. The demographic characteristics of the participants are presented in Table 1. Participants were recruited using purposive sampling, adhering to specified inclusion and exclusion criteria. Care was taken to select students to ensure a diverse representation of experiences and backgrounds, which would facilitate the identification of factors contributing to their engagement in cheating during examinations.

Inclusion and Exclusion Criteria

Students

The criteria for including students in the study were as follows: 1) enrollment as Bachelor of Science students at Sirjan School of Medical Sciences, 2) completion of a minimum of one semester in the academic program to ensure adequate familiarity with the examination procedures, 3) involvement in cheating during at least one examination based on self-reporting, and 4) expressed willingness to participate in the study. Conversely, the exclusion criteria comprised: 1) prior participation in similar studies concerning academic dishonesty, 2) status as an exchange or guest student, and 3) failure to participate in all four rounds of the Delphi technique.

Teachers

The criteria for inclusion of teachers in the study were as follows: 1) affiliation with Sirjan School of Medical Sciences as faculty members across any academic rank, 2) a minimum of three years of teaching experience, and 3) a willingness to engage in the study. Conversely, the exclusion criteria included: 1) failure to participate in all four rounds of the Delphi technique, and 2) involvement in similar research pertaining to academic dishonesty.

The Delphi Technique

To implement the Delphi technique, we conducted a number of rounds in an iterative manner involving the distribution of an electronic questionnaire, the collection of feedback, and the subsequent modification of responses, culminating in the rank-ordering of items. Although the Delphi method is commonly conducted in three rounds, in our study, we employed four rounds to ensure rigorous validation and participant

Table 1: The demography of study participants involved in Delphi technique

Variables	Students (n=30)		Teachers (n=12)	
Gender	Male	18 (60.0%)	Male	8 (66.7%)
	Female	12 (40.0%)	Female	4 (33.3%)
Age (year)	22.73±1.12		36.50±2.10	
Marital status	Single	28 (93.3%)	Single	3 (25.0%)
	Married	2 (6.7)	Married	9 (75.0%)
Residence	Native	5 (16.7%)	Native	4 (33.3%)
	Non-native	25 (83.3%)	Non-native	8 (66.7%)
Year of study/ teaching experience	1st year	4 (13.3%)	1-5 years	6 (50.0%)
	2nd year	9 (30.0%)	6-10 years	4 (33.3%)
	3rd year	13 (43.4%)	11-15 years	2 (16.7%)
	4th year	4 (13.3%)	16-20 years	0 (0.0%)
Field of study/ Academic rank	Nursing	14 (46.7%)	Instructor	4 (33.3%)
	Public health	6 (20.0%)		
	Environmental health	3 (10.0%)	Assistant professor	7 (58.4%)
	Anesthesia	3 (10.0%)		
	Laboratory sciences	4 (13.3%)	Associate professor	1 (8.3%)

consensus. The fourth round was specifically designed to confirm the final rankings and allow participants to amend their responses after seeing the aggregated mean scores. The use of the Delphi technique comprised four distinct rounds, which are detailed as follows:

Round One: An initial open-ended questionnaire as the cornerstone of soliciting specific information was distributed to all participants, asking them to describe factors contributing to cheating on exams. In this round, we aimed to identify broad issues related to the topic under investigation. The responses to the open-ended question were subjected to qualitative analysis through the processes of sorting, categorizing, and identifying recurring themes. From the participants' responses, a total of 312 initial codes were extracted. These codes were independently reviewed, and through open coding, they were grouped into 97 subcategories based on semantic similarity. After eliminating overlaps and merging similar ideas, the final list was reduced to 64 distinct items (themes) that were carried forward to the second round.

Round Two: The responses obtained from the first round were edited and then used to construct the questionnaire of the second round. The synthesized responses were then shared with participants, who were then asked to provide feedback and suggest any additional factors. This round aimed to clarify and expand upon the initial findings. Based on the participants' suggestions in Round Two, 6 new items were proposed and added to the list, while 12 others were either merged or removed due to redundancy or lack of clarity. The refined list used in Round Three comprised 58 finalized items.

Round Three: This round was more specific, with the questionnaire seeking the ranking of factors leading to student cheating in terms of their significance and relevance. Consequently, a structured questionnaire was provided to the participants, asking them to rank the identified reasons for cheating based on perceived importance using a five-point Likert scale ranging from 1 (not very important) to 5 (very important). This round aimed to achieve a consensus on the most significant factors influencing cheating behavior among students.

Round Four: In this round, the mean scores were calculated and sent to participants to confirm them. Rooms were provided for amendment if desired. Reasons rated as 4 or more by at least 90% of the participants were regarded as important reasons of cheating on exams (Figure 1).

Criteria for Identifying Important Items in Delphi Rounds

To ensure consistency and transparency across all rounds, we established specific criteria for evaluating the significance of items at each stage. In Round One, factors identified through qualitative analysis were initially categorized based on their frequency of mention and the strength of participant sentiment, with items mentioned by multiple respondents being prioritized for further exploration. In Round Two, we refined these factors based on participant feedback, retaining those that received substantial input or suggestions for inclusion. For Round Three, we utilized the five-point Likert scale to rank the importance of the identified factors, with a focus on those receiving higher average scores. Finally, in Round Four, we applied the criterion of at least 90% of participants rating an item as 4 or 5 to confirm its importance. This structured approach across all rounds ensured that the items deemed significant were consistently evaluated, enhancing the reliability of our findings.

Rate of Participation

In this Delphi study, we initially engaged 30 students and 12 teachers, totaling 42 participants in Round One. During this first round, all participants provided their insights by completing the open-ended questionnaire. In Round Two, we maintained participation from 38 individuals, as four participants opted out due to time constraints or other commitments, resulting in an attrition rate of approximately 9.5%. For Round Three, 36 participants completed the structured questionnaire, reflecting a further attrition of 5.3%, as two additional participants withdrew. Finally, in Round Four, 34 participants confirmed their rankings and provided feedback on the mean scores, leading to an attrition rate of 5.6% from the previous round. Overall, the study experienced a cumulative attrition rate of 19% across the four rounds, highlighting the challenges of maintaining participant engagement throughout the Delphi process while still achieving a robust consensus on the factors influencing student cheating.

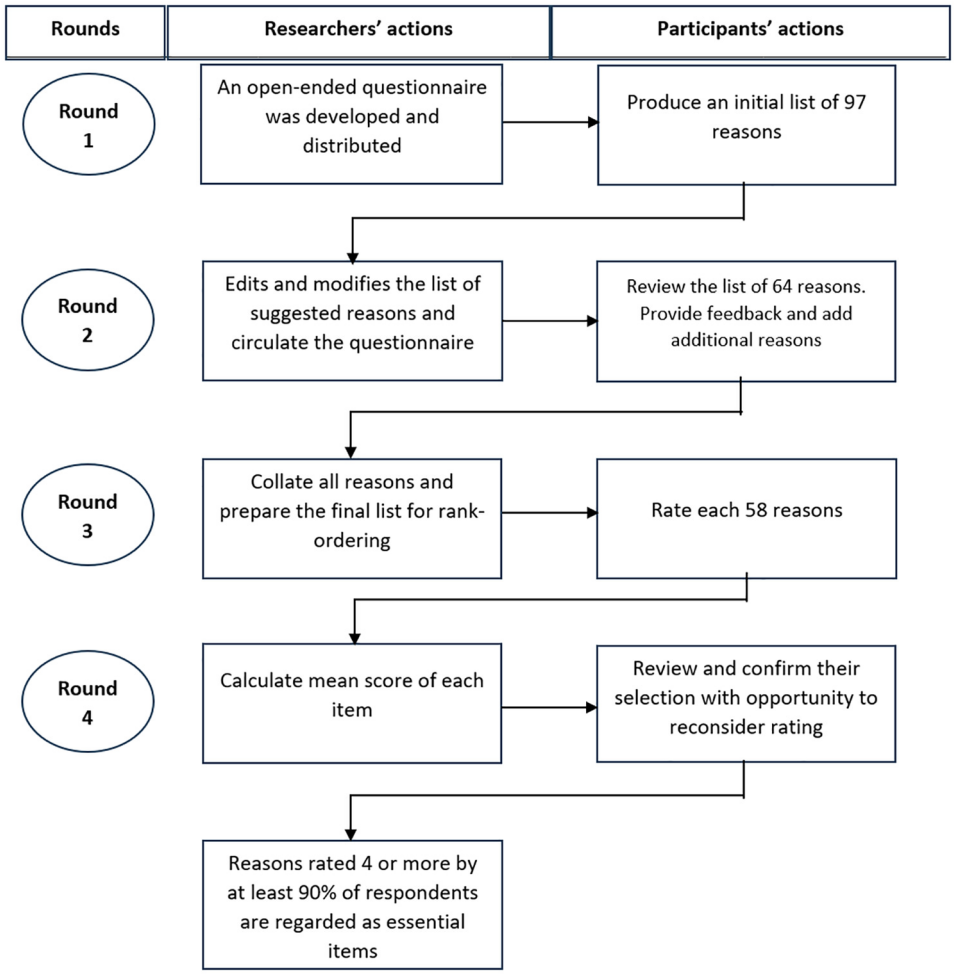

Figure 1: The flow of communication between researchers and participants over the four rounds of Delphi

Data collection and analysis

To collect data, an initial questionnaire was developed and distributed to eligible participants, accompanied by an explanation of the study's objectives, inviting their participation in the research. The questionnaire was administered electronically, ensuring accessibility and convenience for participants. Data were collected over a period of five weeks, with reminders sent to encourage participation.

In round one, after receiving the qualitative responses, 312 initial codes were extracted based on participants' statements. These codes were then grouped into 97 subcategories or themes through thematic analysis. Redundant or overlapping items were consolidated, and ultimately, 64 distinct reasons were retained for round two. In the second round, participant feedback was incorporated, leading to the removal or merging of 12 items and the addition of 6 new ones, resulting in a finalized list of 58 items used in round three.

The qualitative responses were subsequently analyzed through thematic analysis, allowing us to identify key themes and issues. In round two, the questionnaire was constructed based on the synthesized responses from round one. It consisted of 64 items that reflected the most frequently mentioned factors, along with a prompt for participants to suggest any additional factors they believed were relevant. This iterative design ensured that we captured the evolving understanding of the topic. In round three, we provided a structured questionnaire containing 58 items derived from the previous rounds. Participants were asked to rank these items using a five-point Likert scale. The design of this questionnaire was informed by best practices in survey methodology, ensuring clarity and ease of response. In round four, the final questionnaire included the same items from round three, with the addition of a section for participants to confirm or amend the mean scores calculated from the previous round. This round aimed

to validate the importance ratings and ensure consensus among participants.

Data analysis was conducted using thematic analysis approach. In this regard, the six-step framework established by Braun and Clarke was used for the analysis of data (12). Initially, two members of the research team (AB and AY) independently read the participants' responses to gain a comprehensive understanding of its content. Subsequently, the responses underwent a coding process. During the open coding phase, the responses were segmented into distinct units, which were then defined and labeled. After the initial coding of each transcript, a discussion ensued to refine the coding for enhanced credibility. In the axial coding phase, the relationships among the codes were explored, leading to their organization and grouping into overarching concepts. The third step involved identifying relationships and patterns among these concepts, culminating in the amalgamation of codes into a coherent theme. The fourth step entailed a thorough review and enhancement of the identified themes by the research team. In the fifth step, each theme was assigned a name and a clear definition. Finally, in the sixth step, the interrelationships among the themes were delineated, and the findings of the analysis were documented. Throughout this process, we engaged in a continuous cycle of data collection and analysis, ensuring that no new codes emerged, ultimately resulting in the development of concepts and themes.

Finally, rankings provided by teacher and student participants were analyzed using descriptive statistics to identify the most frequently highlighted reasons for cheating. To enhance the credibility of the research, the authors conducted an independent review of the sentences (reasons) presented. It is essential to note that throughout all stages of data collection and analysis—including sorting, duplicate identification, categorization, and the identification of themes—two members of the research team participated actively. Any discrepancies in data interpretation were resolved through discussions with additional team members. To reach consensus, we employed a structured approach during our debriefing sessions, which included regular meetings where team members discussed their interpretations of the data and any discrepancies that arose. Each researcher presented their perspectives and rationales, fostering an open dialogue that encouraged critical evaluation of differing viewpoints. When disagreements arose during the data analysis, the two primary researchers engaged in a systematic review of the conflicting interpretations, utilizing a predefined set of indicators to guide their discussions. These indicators included the alignment of findings with the study's objectives, the frequency of themes identified across the data, and the strength of evidence supporting each interpretation. If consensus could not be reached through initial discussions, we convened additional team members with relevant expertise to provide their insights and facilitate a broader dialogue. This collaborative framework, guided by the principles of the Delphi method, ensured that all voices were heard and multiple perspectives were considered, fostering an environment of transparency and mutual respect. Ultimately, consensus was achieved through this iterative process, where we collectively evaluated the evidence, reconciled differing interpretations, and arrived at a unified understanding of the findings. This rigorous process not only enhanced the validity of our research outcomes but also ensured that our conclusions were robust and reflective of the diverse perspectives within our team, thereby enhancing the credibility of our findings (11). For consensus issues, a 5-point Likert-type scale, where 1 indicated 'not very unimportant', and 5 indicated 'very important' was used in the third round of the Delphi. We utilized descriptive statistics to analyze the data collected from the 5-point Likert-type scale responses, where participants rated the importance of various reasons for cheating on exams. Specifically, we calculated the mean scores and standard deviations for each reason to assess central tendencies and variability in the responses. The mean score provided an overall ranking of the reasons based on their perceived importance, while the standard deviation indicated the level of agreement among participants regarding each reason. This comprehensive approach ensured a robust interpretation of the findings, enabling us to draw meaningful conclusions about the factors influencing students' engagement in cheating behaviors.

Validation of Research Instrument

To ensure the reliability and validity of our

questionnaires, we employed a multi-faceted validation process. Initially, the content validity of the instruments was assessed through expert review, where a panel of scholars with expertise in Medical Education evaluated the initial open-ended questionnaire and subsequent iterations. Their feedback was instrumental in refining the questions to ensure they accurately captured the factors contributing to cheating on exams. Additionally, we conducted a pilot test of the Round One questionnaire with a small group of participants representative of our target population. This pilot test allowed us to identify any ambiguities or issues in question clarity and response options, leading to further modifications before the full-scale study. Throughout the Delphi rounds, we continuously monitored participant feedback and engagement to assess the instruments' effectiveness, ensuring that each iteration remained relevant and comprehensible.

Ethical Considerations

This study was approved by the Ethics Committee of Sirjan School of Medical Sciences, Sirjan, Iran under the ethics code IR.SIRUMS.REC.1403.047. All participants were guaranteed the confidentiality of their personal information and their anonymity. Prior to the commencement of the study, written informed consent was obtained from each participant. Additionally, participants were informed about their right to withdraw from the study at any stage, ensuring their freedom to do so. The researchers also provided an explanation of the potential benefits associated with the study.

Results

Among the students, 60% were male and 40% were female, with an average age of approximately 22.73 years. In contrast, the teachers were predominantly male (66.7%), with an average age of 36.5 years. The marital status revealed that a significant majority of students (93.3%) were single, while most teachers (75.0%) were married. Regarding residency, 83.3% of students were non-native, compared to 66.7% of teachers who were also non-native. In terms of academic progression, students were primarily in their third year (43.4%), while teachers had varying levels of teaching experience, with 50.0% having 1-5 years. The students' majors were diverse, with nursing being the most common (46.7%), while teachers hold various academic ranks, including 33.3% as instructors and 58.4% as assistant professors (Table 1).

In the initial round of analysis, a total of 97 distinct reasons for student engagement in examination cheating were identified. Following the elimination of duplicate and similar responses, as well as necessary modifications, 64 reasons were retained for further examination in the second round. Based on the feedback received from participants in the second round, a final set of 58 reasons was established for rank-ordering in the third round. In the fourth round, 8 reasons were excluded based on participant responses, resulting in the approval and rank-ordering of 50 reasons. Table 2 presents the mean scores of the reasons, each receiving a score exceeding 4.

As can be seen from Table 2, the analysis of the data highlights a consensus between teachers and students regarding the factors influencing academic dishonesty during examinations, although the prioritization of these factors varied between the two groups.

The most significant factor identified by both groups is "fear of failure", which received a mean score of 4.95 from teachers, ranking it first, and a mean of 4.91 from students, placing it second. This underscores the immense pressure students feel to succeed academically. Following closely is "lack of student engagement", with teachers rating it at a mean of 4.90 (ranking second) and students at 4.88 (ranking fourth), indicating that disengagement from the learning process significantly contributes to dishonest behavior.

Evaluation factors played a crucial role, with "lack of formative assessment" receiving a mean of 4.88 from teachers (ranking third) and 4.70 from students (ranking eighth), indicating insufficient feedback creates knowledge gaps, leading students to resort to cheating. Another critical factor was "lack of knowledge", which teachers rated at a mean of 4.87 (fourth) and students at 4.90 (third). This suggests that insufficient understanding of the material often leads students to resort to cheating. Additionally, "exam anxiety" was particularly prominent among students, with a mean score of 4.93 (ranking first) compared to teachers' mean of 4.78 (ranking fifth), highlighting how anxiety can drive students to unethical practices as a coping mechanism.

Environmental factors also played a significant

Table 2: Reasons behind students' engagement in cheating on exams over the four rounds of Delphi

Condensed meaning unit	Meaning units	Teachers		Students	
		Mean (SD)	Ranking	Mean (SD)	Ranking
Psychological factors	Exam anxiety	4.78 (0.97)	5	4.93 (1.18)	1
	Fear of being humiliated	4.01 (0.94)	25	4.20 (1.13)	19
	Fear of failure	4.95 (1.01)	1	4.91 (1.07)	2
	Poor time management	4.19 (0.77)	19	4.60 (1.13)	11
	Perceived unfairness	4.10 (1.04)	23	4.09 (1.33)	24
Teachers' factors	Teachers' reduced engagement with students' progress	4.57 (0.99)	11	4.50 (1.28)	13
	Leniency in the enforcement of examination regulations	4.44 (1.14)	13	4.40 (0.96)	15
	Lack of student engagement	4.90 (0.77)	2	4.88 (1.21)	4
	Including helpful but non-essential supplementary content	4.56 (0.93)	12	4.25 (1.08)	18
Peers influence factors	Obligation to help peers	4.13 (1.15)	21	4.10 (1.06)	23
	Competition to outperform peers	4.66 (1.08)	8	4.81 (1.07)	5
	Undermined by peers in case of failure	4.21 (0.88)	18	4.37 (1.27)	16
	Normalizing cheating	4.61 (1.09)	9	4.68 (1.14)	9
Evaluation factors	Unfair test	4.05 (0.98)	24	4.18 (1.15)	20
	Lack of formative assessment	4.88 (0.97)	3	4.70 (1.06)	8
	Inconsistent grading	4.34 (0.86)	14	4.13 (1.12)	22
	Overemphasis on grades	4.32 (1.03)	15	4.46 (1.33)	14
Student factors	Lack of knowledge	4.87 (1.90)	4	4.90 (0.99)	3
	Poor study skills	4.30 (1.70)	16	4.55 (0.87)	12
	Students' lack of perseverance	4.59 (1.60)	10	4.65 (1.02)	10
	Procrastination	4.14 (1.04)	20	4.30 (0.96)	17
Environmental factors	Access to modern-day technologies	4.22 (1.02)	17	4.15 (0.98)	21
	Unmonitored environment	4.70 (1.00)	6	4.75 (1.20)	7
	Exam room layout	4.69 (0.99)	7	4.77 (1.09)	6
	Lack of proctoring	4.11 (0.76)	22	4.00 (0.89)	25

role, with "unmonitored environment" receiving a mean of 4.70 from teachers (ranking sixth) and 4.75 from students (ranking seventh), indicating that a lack of supervision creates opportunities for cheating. The "exam room layout" further influences this behavior, with teachers rating it at 4.69 (seventh) and students at 4.77 (sixth).

Competition among peers was another motivating factor, as reflected in the mean scores for "competition to outperform peers", which teachers rated at 4.66 (eighth) and students at 4.81 (fifth). This competitive environment can lead to increased pressure to cheat. Notably, both groups ranked "normalizing cheating" and "students' lack of perseverance" consistently at the ninth and tenth positions, respectively, with means of 4.61 (teachers) and 4.68 (students) for normalizing cheating, and 4.59 (teachers) and 4.65 (students) for lack of perseverance.

Discussion

The results of this study provide important insights into the determinants of academic dishonesty in examination contexts, indicating a shared understanding between teachers and students regarding the fundamental causes of cheating. Although both groups recognize comparable factors, their relative importance differs, thereby illuminating the intricate dynamics of academic integrity within educational environments.

Fear of Failure

One of the most significant factors influencing academic dishonesty, as indicated by both teachers (mean score of 4.95) and students (mean score of 4.91), is fear of failure. This finding aligns with existing literature that emphasizes the high stakes associated with academic performance. Research indicates that the pressure to achieve can lead students to engage in unethical behaviors as a means of coping with their anxiety (13). The fear of failing to meet academic expectations can create a paradox where students, feeling overwhelmed, resort to cheating as a strategy to avoid perceived catastrophic outcomes. The results of the study by Desalegan and Berhan is

consistent with our findings, highlighting that lack of preparation for examinations, the desire to achieve high grades, and the fear of failing assessments were the main reasons reported by students for cheating (1). Given the profound implications of failure on a student's self-esteem and future, it is crucial for teachers to foster a supportive learning environment that mitigates these fears through constructive feedback and encouragement.

Lack of Student Engagement

Another factor was lack of student engagement, with mean scores of 4.90 from teachers and 4.88 from students. This aligns with the concept of student engagement as a critical determinant of academic success. When students are disengaged from the learning process, they are less likely to internalize the material, increasing the likelihood of resorting to cheating (14). Research has shown that engaged students are more likely to develop intrinsic motivation and a sense of ownership over their learning, which can reduce the temptation to cheat (15). Conversely, disengagement can stem from various factors, including boredom, lack of relevance in the curriculum, and inadequate instructional methods. Evidence shows that the educational context plays a crucial role in determining student success within medical education (16, 17). Also, effective instruction such as the application of active learning strategies (18) and the presence of role models can develop student engagement and understanding (19, 20).

Lack of Formative Assessment

The role of evaluation factors, particularly the lack of formative assessment, emerged as a crucial theme. With teachers rating this factor at a mean of 4.88 and students at 4.70, it underscores the importance of ongoing feedback in the learning process. Formative assessments are designed to provide students with timely feedback on their understanding, allowing them to identify areas for improvement before high-stakes evaluations (21). A deficiency in formative assessment can lead to knowledge gaps, leaving students feeling unprepared and more likely to cheat during exams (22). Lack of feedback may contribute to a cycle of disengagement and academic dishonesty, as students feel uncertain about their knowledge and skills. Implementing regular formative assessments can not only enhance student understanding but also promote a culture of integrity by reducing the perceived need to cheat (23).

Lack of Knowledge

Lack of knowledge ranked as highly important among the factors influencing academic dishonesty is corroborated by the mean scores of 4.87 from teachers and 4.90 from students. This suggests that when students do not fully grasp the material, they may resort to cheating as a means of compensating for their lack of understanding. Research indicates that academic dishonesty often correlates with inadequate preparation and comprehension (24). Research has indicated a significant inverse relationship between students' self-reported grade-point averages and their propensity to engage in academic dishonesty (25, 26). So, the more competent a student is, there is no need to engage in cheating behavior. Furthermore, the pressure to perform well can exacerbate this issue, as students may feel compelled to cheat rather than admit their struggles (27). To combat this, educational institutions should prioritize teaching methodologies that enhance comprehension and retention, such as collaborative learning (28) and peer tutoring, which can foster a deeper understanding of the material and reduce the temptation to cheat.

Exam Anxiety

Exam anxiety is another prominent factor, particularly among students, who rated it with a mean score of 4.93 compared to teachers' score of 4.78. This finding highlights the psychological pressures students face during examinations. Research has consistently shown that high levels of anxiety can impair cognitive functioning, leading to decreased performance and increased likelihood of engaging in dishonest behavior as a coping mechanism (29). Besides, another research indicates that test anxiety serves as a psychological variable that contributes to the emergence of maladaptive behaviors during examination periods. While numerous scholars assert that a certain level of anxiety is beneficial for optimal performance in exams, it is evident that excessive anxiety can result in counterproductive behaviors during these assessments (2). Students experiencing anxiety may perceive cheating as a viable strategy to alleviate their stress and secure better grades. Addressing exam anxiety through

supportive measures, such as stress management workshops and counseling services, can help students develop healthier coping strategies and reduce the incidence of cheating (30).

Unmonitored Environment and Exam Room Layout

Environmental factors, particularly the unmonitored environment and exam room layout, also play a significant role in facilitating cheating. The mean scores of 4.70 (teachers) and 4.75 (students) for unmonitored environments suggest that a lack of supervision creates opportunities for dishonest behavior. Research supports this notion, indicating that students are more likely to cheat when they believe they can do so without detection (31).

Concerning the exam room layout, teachers scored it at 4.69 and students scored it at 4.77. The physical layout of exam rooms can further influence cheating behavior. For instance, crowded seating arrangements may encourage dishonest practices, as students may feel they can easily glance at others' papers. In the study by Pomales-Garcia et al. an experiment was meticulously designed and conducted to ascertain the legibility region under various combinations of angles and distances within an examination context. The results of this study suggested novel seating arrangements for examinations aimed at reducing the likelihood of academic dishonesty through the act of peeking at a neighboring student's exam (32). Institutions should consider implementing stricter monitoring policies and redesigning exam environments to minimize opportunities for cheating.

Competition among Peers

The competitive nature of academic environments is reflected in the mean scores for competition to outperform peers, with teachers rating it at 4.66 and students at 4.81. This competitive pressure can drive students to engage in cheating as a means of gaining an advantage over their peers (33). Research suggests that when students perceive their peers as competitors, they may be more likely to compromise their integrity to achieve better results (34). A comprehensive analysis of several decades of research concerning academic dishonesty has revealed that students' perceptions of their peers' behaviors serve as the most significant factor influencing their decisions regarding whether to engage in cheating (4). A study at Texas dental hygiene schools showed that the majority of students believed that it was necessary to cheat in order to get ahead and compete with their peers (35). A systematic review by Saeidi et al. in 2024 accentuated that in educational environments characterized by competitive dynamics among students, individuals often engage in a range of strategies aimed at attaining superior academic performance (2). These findings are in line with our investigation.

To mitigate this issue, teachers should emphasize collaboration over competition, fostering a learning environment that values collective success and support. Encouraging group work and cooperative learning can help shift the focus from individual performance to shared goals, thereby reducing the incentives for cheating.

Normalizing Cheating and Lack of Perseverance

Interestingly, both teachers and students ranked normalizing cheating and students' lack of perseverance consistently at the ninth and tenth positions, indicating that while these factors are recognized, they are not viewed as primary drivers of dishonest behavior.

The normalization of cheating can stem from societal attitudes toward academic integrity, where dishonest practices are trivialized or overlooked (36). We posit that a student's previous experiences with academic dishonesty in high school significantly influence their propensity to engage in similar behaviors during their university education. This normalization of cheating, coupled with the perceived rewards of successfully passing courses through dishonest means, may diminish their motivation to engage in diligent study practices. A study conducted among second-year students across 31 educational institutions in the United States revealed that the most significant predictor of academic dishonesty in medical school was the individual's history of cheating during high school (37). Additional research has suggested that individuals who engaged in academic dishonesty during their high school years exhibit a higher propensity to continue such behavior upon their transition to college or university (38, 39). The results of the study by Desalegan and Berhan offer significant insights into the

prevalence of academic dishonesty and its related determinants. Their research identified that high school cheating, dishonesty during university entrance examinations, passive cheating behaviors, academic discipline, and year of study are critical factors that exhibit a strong correlation with current cheating practices among university students (1).

Similarly, a lack of perseverance may reflect broader issues related to motivation and resilience among students. Research indicates that fostering a growth mindset, where students view challenges as opportunities for growth, can enhance their perseverance and reduce the likelihood of resorting to cheating (40). When a student attains academic success through dishonest means, they may develop a reliance on such unethical behavior, which can hinder their ability to pursue educational goals and achieve higher grades through legitimate effort in the future. Engaging in cheating instills in students the belief that they should await an effortless resolution to challenges, rather than actively engaging in problem-solving and seeking effective solutions. Individuals who become habituated to cheating are likely to approach future difficulties in ways that contravene legal and ethical standards, potentially infringing upon the rights of others. Consequently, these individuals may find themselves at a disadvantage in their future endeavors, as they lack the skills necessary to independently navigate challenges.

This study has its own limitations. Due to the nature of the study, achieving complete objectivity might prove challenging, but authors tried to remain impartial during data gathering and data analysis. Another potential limitation can be owing to multiple rounds of data collection leading to possible participant attrition, which may adversely affect the study's outcomes. In this regard, the study purpose, importance, and participants' roles were clearly expressed to keep them engaged and motivated to participate. In addition, because of the restriction of the data to students, and teachers within a specific university context, the findings cannot be generalized to other universities. Consequently, it is recommended to conducted multi-center studies using the Delphi technique to delve into the topic under investigation. The descriptive cross-sectional design of this study, which incorporates qualitative elements, may be vulnerable to recall bias. The last but not least, expert bias can indeed influence the outcomes, as the selection of participants and their subjective interpretations may shape the findings. We aimed to mitigate this by ensuring a diverse representation of views among participants and emphasizing the importance of impartiality throughout the data collection and analysis phases. Future research could benefit from explicitly exploring and addressing these biases, alongside implementing strategies to enhance the objectivity of expert contributions.

Conclusion

Academic dishonesty, particularly among university students, is notably prevalent in challenging subjects characterized by extensive content. The results of this Delphi study elucidate the complex nature of cheating, highlighting a shared understanding among teachers and students regarding the primary factors that contribute to this issue. The significant roles of fear of failure, lack of student engagement and knowledge, inadequate formative assessment, inter-student competition, insufficient perseverance, and exam-related anxiety emphasize the necessity for educational institutions to adopt a comprehensive approach to these challenges. By developing supportive learning environments, improving feedback mechanisms, and encouraging collaboration rather than competition, university officials and teachers can alleviate the pressures that drive students toward dishonest practices. Ultimately, addressing these underlying factors is essential for fostering a culture of integrity and academic excellence within educational contexts. Furthermore, enhancing personal and ethical values, and creating a more comfortable classroom atmosphere can further reduce instances of cheating.

The results of our study are intended to inform the development of interventions aimed at mitigating both the occurrence of cheating and the prevalence of favorable attitudes towards it. Educational institutions responsible for training healthcare professionals should cultivate a culture of integrity and proactively confront the issue of academic dishonesty. We advocate for the implementation of admission screening measures that assess ethical maturity, rather than relying solely on academic performance indicators such

as high grades. Furthermore, the instruction of medical ethics should be conducted in small discussion groups that emphasize the daily ethical dilemmas encountered by students, as this approach is critically important. Our findings also carry significant policy implications: the enforcement of academic integrity within institutions of higher education necessitates a reevaluation of existing policies regarding cheating. Additionally, the establishment of more stringent anti-cheating policies at the high school level is likely to contribute to a reduction in cheating behaviors at the university level.

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Authors' Contribution
Study concept and design: A.B. and A.R.Y; analysis and interpretation of data: A.B., A.R.Y., R.S., and S.M.S.A.; drafting of the manuscript: A.B. and A.R.Y; critical revision of the manuscript for important intellectual content: A.B., A.R.Y., R.S., and S.M.S.A.; statistical analysis: A.B. and A.R.Y.

Ethics Approval and Consent for the Company
This article was approved by the Sirjan University of Medical Sciences ethics committee under number IR.SIRUMS.REC.1403.047.

Consent for Publication
The survey was conducted among teachers and students. Participation was voluntary and could be withdrawn at any time without consequences. All information was kept strictly confidential. Responses were anonymous, and the identity of participants was not associated with their answers.

Conflict of Interest
There are no conflicts of interest.

References
1. Desalegn AA, Berhan A. Cheating on examinations and its predictors among undergraduate students at Hawassa University College of Medicine and Health Science, Hawassa, Ethiopia. *BMC Med Educ*. 2014;14:89. doi: 10.1186/1472-6920-14-89.
2. 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. *Medical Education Bulletin*. 2022;3(1):407-16.
3. Bazoukis G, Dimoliatis I. Cheating in medical schools in Greece: Quantitative evaluation and recommendations for resolving the problem. *Arch Hell Med*. 2011;28(3):390-9.
4. McCabe DL, Treviño LK, Butterfield KD. Cheating in academic institutions: A decade of research. *Ethics &Behavior*. 2001;11(3):219-32.
5. Bernardi RA, Banzhoff CA, Martino AM, Savasta KJ. Challenges to academic integrity: Identifying the factors associated with the cheating chain. *Accounting Education*. 2012;21(3):247-63.
6. Moradi V, Saidijam M. A Study of identifying the cheating trend in exams of medical students of Hamedan University of Medical Sciences. *Medicine and Spiritual Cultivation*. 2001;40(1):16-19.
7. Run-xian Z, Xiao-pin Z. On the Cause of University Students' Cheating Phenomenon from the Perspective of Albert Bandura's Reciprocal Determinism. *Online submission*. 2007;4(5):7-10.
8. Glick SM. Cheating at medical school. *BMJ*. 2001;322(7281):250-1. doi: 10.1136/bmj.322.7281.250.
9. Nonis S, Swift CO. An examination of the relationship between academic dishonesty and workplace dishonesty: A multicampus investigation. *Journal of Education for Business*. 2001;77(2):69-77.
10. Ormond JL. Soft Skills in Higher Education and Graduate Employability: A Delphi Study: Sam Houston State University; 2023.
11. Hsu CC, Sandford BA. The Delphi technique: making sense of consensus. *Practical Assessment, Research, and Evaluation*. 2007;12(1):10.
12. Braun V, Clarke V. Using thematic analysis in psychology. *Qualitative research in psychology*. 2006;3(2):77-101. doi: 10.1191/1478088706qp063oa.
13. Ifeagwazi CM, Chukwuorji JC, Egbodo SO, Nwoke MB. Peer pressure, fear of failure and examination cheating behavior in the university: Does gender make the difference?

Cognition, Brain, Behavior. 2019;23(1).
14. Fredricks JA, Blumenfeld PC, Paris AH. School engagement: Potential of the concept, state of the evidence. *Review of educational research*. 2004;74(1):59-109.
15. Deci EL, Ryan RM. The" what" and" why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological inquiry*. 2000;11(4):227-68.
16. Beigzadeh A, Yamani N, Sharifpoor E, Bahaadinbeigy K, Adibi P. Teaching and learning in clinical rounds: a qualitative meta-analysis. *Journal of Emergency Practice and Trauma*. 2021;7(1):46-55. doi: 10.34172/jept.2020.32.
17. Salajegheh M, Bahmanbijari B, Shokouhi M, Safipour Afshar A, Beigzadeh A. Educational Environment Assessment at Outpatient Clinics in Teaching Hospitals of Kerman University of Medical Sciences, Iran, from Resident's Perspective Based on the ACLEEM Questionnaire. *Strides in Development of Medical Education*. 2015;12(Supplement):119-30.
18. Beigzadeh A, Haghani F. Active Learning Methods: A Way of Tackling Large Classroom Setting. *Strides in Development and Medical Education*. 206;13(1):107-13.
19. Esmaeili M, Haghdoost AA, Beigzadeh A, Bahmanbijari B, Bazrafshan A. Personal and scientific characteristics of positive and negative role models among medical educators from the viewpoint of dentistry and pharmacy students in Kerman University of Medical Sciences Iran. *Strides in Development of Medical Education*. 2013;10(3):298-311.
20. LEILA V, Shokoohi M, Beigzadeh A. Characteristics of a capable university teacher; the viewpoints of faculty members of health services management department in Iranian medical universities. Iranian *Journal of Medical Education*. 2014;14(2):90-100.
21. Irons A, Elkington S. Enhancing learning through formative assessment and feedback: Routledge; 2021.
22. KoÄ T. Formative Assessment in Higher Education: From Theory to Practice. *European Journal of Social Sciences Education and Research Articles*. 2023;10(4):79-89.
23. Hattie J, Timperley H. The power of feedback. Review of Educational Re-search, 77 (1): 81-112. 2007.
24. McCabe DL, Butterfield KD, Treviño LK. Cheating in college: Why students do it and what educators can do about it. Maryland: Johns Hopkins University Press. 2012.
25. Scheers N, Dayton CM. Improved estimation of academic cheating behavior using the randomized response technique. *Research in Higher Education*. 1987;26(1):61-9.
26. Klein HA, Levenburg NM, McKendall M, Mothersell W. Cheating during the college years: How do business school students compare? *Journal of business ethics*. 2007;72(2):197-206.
27. Pulfrey CJ, Vansteenkiste M, Michou A. Under Pressure to Achieve? The Impact of Type and Style of Task Instructions on Student Cheating. *Front Psychol*. 2019;10:1624. doi: 10.3389/fpsyg.2019.01624.
28. Beigzadeh A, Bazyar H, Delzendeh M, Razmi MH, Sharifi N. Comparing the effect of lecture method and cooperative teaching method on the learning, communication skills, and attitudes of students: a quasi-experimental study. *Frontiers in Education*. 2024;9:1449538.
29. Eshet Y, Steinberger P, Grinautsky K. Relationship between statistics anxiety and academic dishonesty: A comparison between learning environments in social sciences. *Sustainability*. 2021;13(3):1564.
30. Arora S, Chaudhary P, Singh RK. Impact of coronavirus and online exam anxiety on self-efficacy: the moderating role of coping strategy. *Interactive Technology and Smart Education*. 2021;18(3):475-92.
31. McCabe DL, Trevino LK. Academic dishonesty: Honor codes and other contextual influences. *The journal of higher education*. 1993;64(5):522-38.
32. Pomales-Garcia C, Carlo HJ, Ramos-Ortiz TM, Figueroa-Santiago IM, Garcia-Ortiz S. Non-traditional exam seat arrangements. *Computers & Industrial Engineering*. 2009;57(1):188-95.
33. Miller AD, Murdock TB, Grotewiel MM. Addressing academic dishonesty among the highest achievers. *Theory Into Practice*. 2017;56(2):121-8.
34. Teodorescu D, Andrei T. Faculty and peer influences on academic integrity: College cheating in Romania. *Higher Education*. 2009;57(3):267-82.

35. Muhney KA, Gutmann ME, Schneiderman E, DeWald JP, McCann A, Campbell PR. The prevalence of academic dishonesty in Texas dental hygiene programs. *J Dent Educ*. 2008;72(11):1247-60.
36. McCabe DL, Trevino LK. Individual and contextual influences on academic dishonesty: A multicampus investigation. *Research in higher education*. 1997;38(3):379-96.
37. Baldwin DC, Jr., Daugherty SR, Rowley BD, Schwarz MD. Cheating in medical school: a survey of second-year students at 31 schools. *Acad Med*. 1996;71(3):267-73. doi: 10.1097/00001888-199603000-00020.
38. Tolkin L, Glick S. Ethical behavioral standards of medical students on examinations and studies. *Harefuah*. 2007;146(6):429-34, 502.
39. Kusnoor AV, Falik R. Cheating in medical school: the unacknowledged ailment. *South Med J*. 2013;106(8):479-83. doi: 10.1097/SMJ.0b013e3182a14388.
40. Matthews D. Book review: mindset: the new psychology of success, by Dweck, CS (2006). *Gifted Children*. 2007;1(2):7.