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REASONS FOR COMMITTING OR AVOIDING ACADEMIC DISHONESTY AND SOLUTIONS AMONG PRECLINICAL DENTAL STUDENTS DURING THE COVID-19 PANDEMIC: A GROUNDED THEORY APPROACH

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ABSTRACT

Background: Virtual education implemented during the COVID-19 pandemic has various limitations and one of the biggest challenges is academic dishonesty. Global research related to reasons for committing or avoiding academic dishonesty among preclinical dental students during the COVID-19 pandemic is still very limited. This study aimed to explain the reasons for committing and avoiding academic dishonesty as well as the solutions among preclinical dental students during the COVID-19 pandemic.
Methods: The grounded theory approach was used by conducting semi-structured virtual in-depth interviews with preclinical dental students. Participants were selected using purposive, snowball, and maximum variation sampling. Interview transcripts were analyzed using a constant comparative approach.
Results: The reasons for committing and avoiding academic dishonesty as well as the solutions among preclinical dental students during the COVID-19 pandemic can be explained by the same two factors: internal and external. Internal factors are students, while external factors are teachers and learning activities.
Conclusion: Teaching adequate professionalism to students, effective faculty development, and "especially" improving learning activities can be preventive efforts against academic dishonesty.

Keywords: academic dishonesty reasons, academic dishonesty solutions, preclinical dental students, COVID-19 pandemic

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PRACTICE POINTS

- Teachers can reflect and develop themselves to encourage preventive efforts against academic dishonesty.
- Professional behavior, curriculum, and assessment committees can consider their program development to encourage preventive efforts against academic dishonesty.

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INTRODUCTION

Academic integrity is defined by the International Center for Academic Integrity (ICAI) as a commitment to six fundamental values: honesty, trust, fairness, respect, responsibility, and courage.[1] Honesty is very important because it is the foundation that forms academic integrity and also a prerequisite so that trust, justice, respect, and responsibility can be perfectly realized.[1] Academic honesty during college is very important because college is a critical period of character, moral development, and ethical decision-making for most students.[2] Students also experience changes in attitudes and these changes tend to persist in the future.[2] Therefore, students are expected to avoid dishonest academic behavior.

Academic dishonesty is any action taken by members of an academic group with the aim of obtaining benefits that are not their right or reducing the benefits of other members of the same or another academic group by using methods that are contrary to standard rules integrated into the academic community.[3] Academic dishonesty can have a negative impact on academic integrity, quality of education, and professional careers.[4,5] In the health sector, academic dishonesty can have a negative impact on health care and harm patients.[6] In the field of dentistry, academic dishonesty is very dangerous because dental students need adequate physical settings and psychomotor skills since the preclinical stage.[7] Those who commit academic dishonesty at the preclinical stage are more likely to engage in similar behavior at the clinical stage and engage in dishonest dental practice after graduate.[8]

The reasons students commit and avoid academic dishonesty are closely related to population, context, geography, and time. Whitley and Keith-Spiegel in their textbook report those reasons.[8] However, they seem irrelevant today due to the 20-year time gap. Furthermore, several qualitative researchers such as Henning et al, Moghadam, Anitha, and Maeda also reported those reasons in their scientific publications.[9–12] However, the population and context in their articles were general college students prior to the COVID-19 pandemic.

The COVID-19 pandemic has had an impact on various fields of life, including education.[13] In the field of education, a new era of virtual education has emerged.[14] Virtual education has various advantages and limitations.[15] One of the limitations and the biggest challenges of virtual education is academic dishonesty.[5,7] Global research on the reasons for committing and avoiding academic dishonesty among preclinical dental students during the COVID-19 pandemic is still very limited. In Jordan, Elsalem et al in their recent study reported that the reasons health professions students committed academic dishonesty during the COVID-19 pandemic could be due to the effort/time spent and the mismatch between exam and learning material.[5] However, the article didn't use qualitative methods nor did it examine the reasons for avoiding academic dishonesty.

This study aims to explain the reasons for committing and avoiding academic dishonesty as well as the solutions among preclinical dental students during the COVID-19 pandemic.

METHODS

Design and Participants

This study used the grounded theory approach by Corbin and Strauss.[16] The population was preclinical dental students. They were selected using purposive, snowball, and maximum variation sampling based on variations in the academic year, gender, and program. Initial participants were recruited by giving an open invitation each academic year through social media. The inclusion criteria were: active preclinical dental students; have attended at least one year of education; and are willing to participate. The exclusion criteria were not responded to after 7 days from the first day the interview invitation was sent.

Setting

This research was conducted in one of the dental faculties of a public university in Indonesia. The preclinical program at the faculty consists of 144 credits divided into 7 semesters using a block system. The preclinical program consists of regular and international classes that use a competency-

based curriculum with a student-centered learning approach. The learning strategies used are problem-based learning and small group discussions. Since the COVID-19 pandemic, all learning activities have been carried out virtually. This research was conducted from November 2021 to April 2022.

Reflexivity

The first researcher (AHA) was a male general dentist who didn't work in the study location. AHA was a novice qualitative researcher who conducts data collection independently. AHA had no previous relationship with the participants so he introduced himself and explained the purpose of the study to build trust. AHA's credibility as a researcher was enhanced by conducting data collection with colleagues prior to preclinical dental students.

Data Collection

The data was collected using the virtual in-depth interview method with a semi-structured approach using an interview guide that was prepared in an open-ended question format. The interview guide was based on a literature review, theoretical foundation, and academic dishonesty scale. These guidelines have been reviewed by supervisors (GRR) and (TSP) who were experts in the field of medical education. The interview time was determined according to the comfort and security between AHA and the participants. Interviews were conducted 2 times with a gap between interviews of approximately 5-10 days and a total time of 70-90 minutes. All interviews used a video conferencing application (Zoom) and were recorded in audio. AHA also used interview notes during the interview.

All interviews were transcribed verbatim using an AI-based auto-text generator (Google Docs). AHA evaluates all transcripts at least twice to minimize errors by checking verbatim to ensure conformity between transcripts and recordings. The data collection procedure was carried out iteratively as follows: participant recruitment; data collection; transcription; initial coding; reflection on methods, processes, and results; evaluation of probing questions; and recruitment of new participants. Data saturation was achieved when there is no new

coded from the participants and it was agreed upon by the AHA, GRR, and TSP.

Data Analysis

The transcripts were analyzed using a constant comparative approach. The transcript was read, interpreted, and coded openly to form an initial code by the AHA independently. Each initial code was constantly compared with the initial code in the previous transcript to form a fixed code. Representative quotes were also selected. All fixed codes were grouped based on similarities to form subcategories. All subcategories were grouped again based on similarities to form a category. Code clustering was done iteratively until all code can be grouped and no code was removed. Each category and subcategory was linked to each other to form a relationship between categories. The core category was selected. All categories and subcategories were arranged to form a model. Codification, categorization, model, and quotes results were reviewed by GRR and TSP. Differences in codes, subcategories, categories, models, and quotes that arise were discussed until an agreement was reached.

Trustworthiness

The credibility of the data was improved by participant checking. The dependability of the data was improved by analyzed triangulation with GRR and TSP who were female general practitioners. GRR is a professor, while TSP is a Ph.D. GRR and TSP already had experience as qualitative researchers and didn't work in the study location.

Ethics Approval

Research ethics approval was obtained from the Medical and Health Research Ethics Committee (MHREC) Universitas Gadjah Mada with the number KE/FK/1216/EC/2021.

RESULTS AND DISCUSSION

The participants who were interviewed were 10 people. Variations of participants obtained are academic year, gender, program, grade point average, background, scholarship, and religion (Table 1).

Table 1. Participants Variations

No	Year	Gender	Program	GPA	Background	Scholarship	Religion
1.	IV	Man	Regular	3,5-4,0	Urban	No	Catholic
2.	IV	Man	Regular	3,0-3,5	Urban	No	Islam
3.	IV	Woman	Regular	3,0-3,5	Rural	No	Islam
4.	III	Man	Regular	3,5-4,0	Rural	Yes	Islam
5.	III	Woman	Regular	3,5-4,0	Rural	No	Islam
6.	III	Woman	International	3,5-4,0	Urban	No	Protestant
7.	II	Man	Regular	3,0-3,5	Rural	No	Islam
8.	II	Man	International	3,0-3,5	Rural	No	Islam
9.	II	Woman	Regular	3,5-4,0	Urban	No	Islam
10.	II	Woman	International	3,0-3,5	Urban	No	Islam

The reasons for committing or avoiding academic dishonesty as well as the solutions among preclinical dental students during the COVID-19 pandemic can be explained by the same two factors: internal and external. Internal factors are students, while external factors are teachers and learning activities (Figure 1). The students' category is formed from nine subcategories: personality, physical, mental, moral, social, time, learning, religious, and readiness. The teachers' category is formed from three subcategories: moral, teaching, and readiness. Learning activities are a core category formed from four subcategories: design, rules, surveillance, and support. Each subcategory can be a reason that supports or hinders academic dishonesty depending on the circumstances (Table 2). Each of these categories and subcategories will be described in detail with quotes.
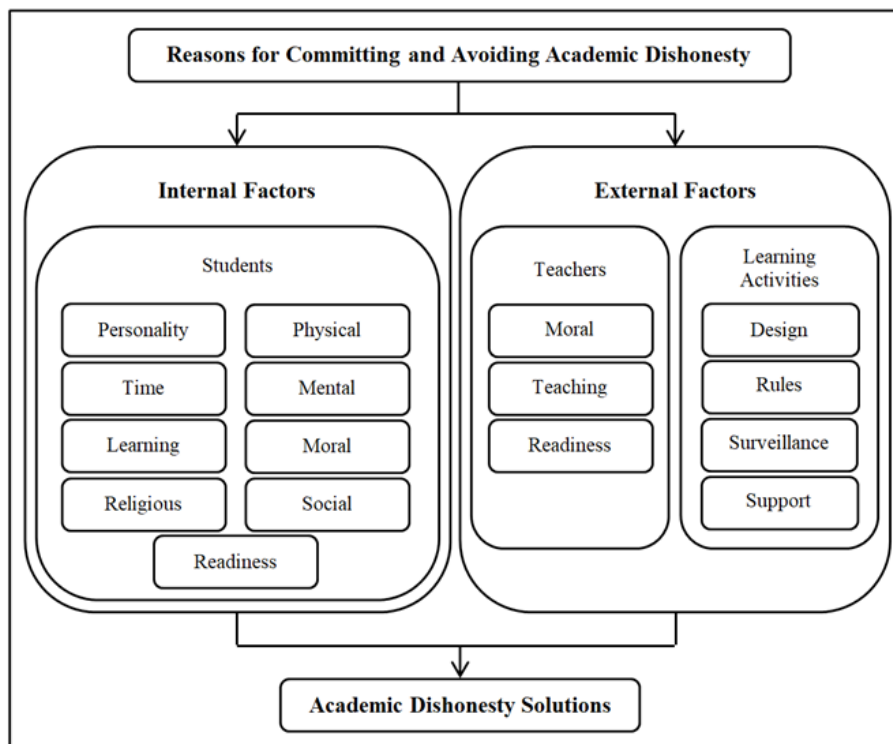

Figure 1. A Model of Reasons for Committing and Avoiding Academic Dishonesty as Well as the Solutions among Preclinical Dental Students during the Covid-19 Pandemic

Table 2. Example Conditions that Support and Hinder Academic Dishonesty

Category	Subcategory	Example conditions that support academic dishonesty	Example conditions that hinder academic dishonesty
Students	Personality	Value oriented	Knowledge oriented
	Physical	Fatigue	-
	Mental	Low confidence	High confidence
	Moral	Low morality	High morality
	Social	Bad social environment	Good social environment
	Time	Bad time management	Good time management
	Learning	Bad learning method	Good learning method
	Religious	-	Strong faith
	Readiness	Lack of knowledge understanding	Adequate knowledge understanding
Teachers	Moral	Indifferent	Assertive
	Teaching	Bad teaching style	-
	Readiness	Lack of technological understanding	Adequate technological understanding
Learning activities	Design	Lack of exam questions variation	Adequate exam questions variation
	Rules	Non-strict exam rules	Strict exam rules
	Surveillance	Loose exam surveillance	Tight exam surveillance
	Support	Vulnerable technology	Invulnerable technology

Students

Personality

The personality of students can be the reason they commit or avoid academic dishonesty as well as the solutions.

> *"The mark that matters, not the ability, like what's important is the high mark, it's safe, it's up to you whether you know it or not." (P8.2)*
>
> *"Just doing this test honestly, like or not, good or not, the important thing is that you are satisfied with the results." (P6.3)*

Physical

The physical of students can be the reason they commit academic dishonesty.

> *"A lot of my friends are also tired, so they're usually lazy like if they've been present from the teacher, capture, have been present, leave, sleep." (P8.2)*

Mental

The mental of students can be the reason they commit or avoid academic dishonesty as well as the solutions.

> *"If he communicates with his friends while doing the exam, he usually becomes more confident in the answers he answers, whether it's right or wrong." (P2.4)*

"I am confident to face the exam, I will not want to cheat even though the opportunity for us to be able to cheat is big." (P4.3)

Moral

The morals of students can be the reason they commit or avoid academic dishonesty as well as the solutions.

> *"Less value honesty in him." (P7.2)*
>
> *"Recognizing that something has been sacrificed for this, you don't want to waste it if you realize that honesty is important." (P7.2)*

Social

The social of students can be the reason they commit or avoid academic dishonesty as well as the solutions.

"I was once offered to my friend, you passed CBT, so you helped us with remedial, so I behaved dishonestly there." (P1.4)

"Stay away from friends like that and make friends again with friends who are smarter, have the knowledge, so they can ask to be taught before the exam." (P9.2)

Time

The time of students can be the reason they commit or avoid academic dishonesty as well as the solutions.

"Procrastinating, like there's still time." (P8.2)

"I also see friends who are diligent, they have good time management, just like work this, finish the other thing too." (P8.2)

Learning

The learning of students can be the reason they commit or avoid academic dishonesty as well as the solutions.

"I saw my friends, they didn't study all of it, but instead wanted them to study all the subjects, D-1 or D-2 before the exam." (P5.3)

"If you know you want to take an exam, you must prepare yourself well, study not D-1, not D-few hours. but from a long time ago." (P6.3)

Religious

The religion of students can be the reason they avoid academic dishonesty.

"Afraid of being seen by the Almighty… God knows that cheating is not an honest thing, lying is a sin." (P3.4)

Readiness

The readiness of preclinical dental students can be the reason they commit or avoid academic dishonesty as well as the solutions.

"This student doesn't know the material presented by the teacher or maybe he doesn't understand it." (P4.3)

"He already understands that, he reviews the journal after doing the assignment and collects the journal." (P8.2)

Teachers

Moral

Teachers' morals can be the reason for students to commit or avoid academic dishonesty as well as the solutions.

"The teachers are also indifferent, so students seem to be taking it easy, they can leave this teacher's presence, not being noticed." (P6.3)

"Teachers have to be firm… because there are some students who go to an online lecture, they can use virtual videos." (P10.2)

Teaching

Teachers' teaching can be the reason for students to commit academic dishonesty.

"From the teacher, for example, when I just entered this class, he immediately became angry, even though we were enthusiastic about learning at first." (P7.2.1)

Readiness

Teachers' readiness can be the reason for students to commit or avoid academic dishonesty as well as the solutions.

"The teachers usually have someone who is technology-blind." (P4.3)

"This teacher understands technology." (P4.3)

Learning Activities

Design

Learning activities design can be the reason for students to commit or avoid academic dishonesty as well as the solutions.

"Divided like one wave of 5 people ... so from the first wave, it was actually a problem because it was documented through screenshots or camera photos." (P3.4)

"We can increase the number of bank questions, so if for example, one wave has arrived, all stations are finished, we change the questions again at each station." (P2.4)

Rules

Learning activities rules can be the reason for students to commit or avoid academic dishonesty as well as the solutions.

> *"Usually the teachers don't pay much attention or don't check before the exam." (P9.2)*

> *"It's really checked by the teachers regarding what tabs are opened, it must really be the web." (P10.2)*

Surveillance

Learning activities surveillance can be the reason for students to commit or avoid academic dishonesty as well as the solutions.

> *"The teacher did not warn that the camera must be moved a little because the screen is not very visible, then there are some teachers who do not require to turn on the microphone." (P1.4)*

> *"The invigilator should pay more attention to the details like under his desk, and throughout the exam, the invigilator must pay attention to as much detail as possible." (P9.2)*

Support

Learning activities support can be the reason for students to commit or avoid academic dishonesty as well as the solutions.

> *"He tried his hacks in the international or the regular class, so we've been studying together but just for fun, who knows if there's a problem, eh, it turns out to be true." (P5.3)*

> *"We really need to be tactical at the application level, the web that we use for this exam ... I think it's too easy to find a loophole, especially if the students understand IT very well." (P2.4)*

This study was the first study in Indonesia regarding reasons for committing and avoiding academic dishonesty as well as the solutions among preclinical dental students during the COVID-19 pandemic. Geographically, Indonesia is one of the developing countries in Southeast Asia that has implemented virtual education for the first time due to the COVID-19 pandemic. Indonesia is a country with the largest Muslim population which has a high power distance culture (78 out of 100) and collectivism (86 out of 100).[17]

Students

This study found that students' personalities, mentality, and/or morality could be the reason they commit and avoid academic dishonesty. Students who are value-oriented, lack self-confidence, and/or have low moral values tend to commit academic dishonesty. On the other hand, students who are knowledge-oriented, self-confident, and/or have high moral values are less likely to commit academic dishonesty even though there is an opportunity. Personality, mentality, and morality are innate conditions from the previous education levels that also occur in college students around the world.[8-12] To prevent this, teachers need to embed a good personality, strong mentality, and high moral values, and also be a healthy role models for students since they first enter the dental faculty.[18]

This study also found that students' religion could be the reason they avoid academic honesty. Students who have strong faith are less likely to commit academic dishonesty. Teaching religion to dental students is similar to teaching professionalism which basically supports the character and moral development of future dentists.[19] It can help prevent the emergence of intentions to commit academic dishonesty. Therefore, teachers need to put religious content in their teaching of professionalism.

This study also found that students' social could be the reason they commit and avoid academic dishonesty. A social environment like solidarity and superiority seems to be related to Indonesian culture with high power distance and collectivism. In collectivist societies, people tend to belong to groups that care about them with loyalty in return.[17] Those who are disloyal to groups tend to be stigmatized, even in negative things. To avoid this stigma, some students are forced to collaborate in academic dishonesty. While in a society with a high power distance, there is inequality of power due to heredity, position, and wealth.[17] These inequalities can also lead to collaboration in academic dishonesty. To prevent this, every member of the academic group must create a good social environment. Teachers must also constantly remind students to avoid toxic relationships.

This study also found that students' time, learning, readiness, and/or physique could be the reasons they commit and avoid academic dishonesty. Students who have a lot of busyness that isn't managed properly may get fatigued or even have health problems. In addition, their study and assignments time may also be disrupted, especially when their learning methods are not good. Elsalem et al also reported the same thing regarding students' effort/time.[5] This could lead to the students' unpreparedness, so they tend to take shortcuts such as plagiarism on assignments and/or cheating on exams. To prevent this, teachers need to teach time management and learning strategies to students since they enter the dental faculty.

Teachers

This study also found that teachers' morality, teaching, and/or readiness could be the reasons for students to commit and avoid academic dishonesty. When the teachers didn't seem to care about students, students may perceive that academic dishonesty is acceptable or at least permissible.[8] When the teachers' readiness for technology is low, the students may have the courage to commit academic dishonesty. On the other hand, when the teachers appear strict with students and understand the technology, students may not have the courage to commit academic dishonesty. In addition, teachers need to improve the quality of their teaching because it is very important to stimulate students' satisfaction.[7] Those who are dissatisfied with the teaching process, tend to commit academic dishonesty. To prevent this, a faculty development program is mandatory to improve teachers' morality, teaching, and technology readiness.

Learning Activities

This study also found that the learning activities design can be a reason for students to commit and avoid academic dishonesty. When the number of assignments given not being proportional to the deadline for submission, the lack of variations in assignments/exam questions each year, and/or a mismatch between the exam and learning material, students tend to take shortcuts such as plagiarism on assignments, looking for assignments/exam questions from the previous year through their seniors, and/or cheating on exams. Elsalem et al also reported a similar thing regarding the mismatch between exams and learning material.[5] On the other hand, when the design of learning activities is good, students are less likely to commit academic dishonesty. To prevent this, teachers need to improve the design of their learning activities so that the potential for academic dishonesty can be minimized.

This study also found that the learning activities rules can be a reason for students to commit and avoid academic dishonesty. When the rules for learning activities aren't strict and/or the sanctions given are light, students may find it easy to commit academic dishonesty and/or not be afraid of the sanctions given. On the other hand, when the rules for learning activities are strict and sanctions are severe, students may find it difficult and fear academic dishonesty. In addition, teachers need to tell all students to restart their computers before the online exam starts to close all applications that have been prepared for cheating. To prevent this, teachers need to tighten the rules for learning activities and intensify the sanctions given so that the potential for academic dishonesty can be minimized.

This study also found that learning activities surveillance can be a reason for students to commit and avoid academic dishonesty. In online exams, students may find it easy to commit academic dishonesty because its surveillance is relatively loose. During online exams, invigilators are limited by proxies making it difficult to monitor students.[20] On the other hand, when the surveillance is relatively tight such as offline exams, students may find it difficult to commit academic dishonesty. When exams are offline, invigilators and students are in the same room so it's easy to monitor students. In addition, students also feel that offline exams are fairer than online exams.[21] If offline exams can't be done for some reason, then online exams must be conducted under strict surveillance. One invigilator only monitors a small group of students, surveillance cameras from the front and back of students, and audio is on.[22] To prevent this, teachers need to tighten the surveillance of their learning activities so that the potential for academic dishonesty can be minimized.

This study also found that learning activities support can be a reason for students to commit and avoid academic dishonesty. When the lack of available references and/or the use of vulnerable technology, students tend to take shortcuts such as taking references from invalid sources or looking for loopholes in the technology used. On the other hand, when the support for learning activities is adequate, students tend to take advantage of the available support or do not get the opportunity to commit academic dishonesty. To prevent this, teachers need to improve the support of their learning activities so that the potential for academic dishonesty can be minimized.

Academic dishonesty behavior can be explained by Whitley's academic dishonesty reasons model. Based on that model, academic dishonesty behavior is based on the intention to do so.[8] The extent to which the intention actually results in academic dishonesty behavior is influenced by the situation constraints.[8] Learning activities were chosen as the core category because it is the situation that limits academic dishonesty behavior. The potential for academic dishonesty will be smaller in learning activities with good design, rules, surveillance, and support. On the other hand, the potential for academic dishonesty will be greater in learning activities with poor design, rules, surveillance, and support, and this can even lead to the emergence of intentions to commit academic dishonesty through the students' perceived abilities and the risk of being detected.[8]

Limitations

The limitation of this study was that there were no participants with a GPA below three points zero and preclinical dental students from public and single universities due to feasibility and the peak of the COVID-19 Omicron variant wave was occurring. The transferability of this study is also limited to the population of dental students from a developing country with the largest Muslim population, high power distance, and collectivist culture in Asia

CONCLUSION

This study provides an explanation regarding the reasons for committing or avoiding academic dishonesty as well as the solutions among preclinical dental students during the COVID-19 pandemic. Teaching adequate professionalism to students, effective faculty development, and "especially" improving learning activities can be preventive efforts against academic dishonesty. By doing this continuously, the potential for academic dishonesty will be minimized.

RECOMMENDATION

Similar qualitative research needs to be carried out in different populations, contexts, and regions to fill the information gap regarding the reasons for committing and avoiding academic dishonesty as well as the solutions so that a qualitative systematic review can be conducted.

COMPETING INTEREST

The authors declare that there are no competing interests related to the study.

AUTHORS' CONTRIBUTION

Aditya Hari Asmara – developing a research proposal, collecting data, data analysis, and publishing a manuscript
Gandes Retno Rahayu – supervising all steps
Titi Savitri Prihatiningsih – supervising all steps

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