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## THE EFFECT OF CONTROLS ON THE PREVENTION OF ONLINE EXAMINATION FRAUD

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### ABSTRACT

This study aimed to identify the effect of controls and heavy punishment on preventing online examination fraud for high-qualification professional students at one of the universities in Malaysia. The study listed five potential key factors: (1) identity verification, (2) exam proctoring, (3) toilet visit procedures, (4) punishment, and (5) embarrassment. A questionnaire was distributed to 108 professional students. Correlation and multiple regression analyses were performed on the data collected from the respondents. The results of the analyses showed that certain controls, such as exam proctoring and embarrassment, had a positive impact on preventing online examination fraud at the university. Whereas the other controls, which are identity verification, toilet visit procedures, and punishment, do not significantly have a positive impact on the prevention of online examination fraud at the university. This study benefits higher education institutions by providing valuable information that may boost their oversight and improve their ability to prevent online examination fraud through more effective controls.

**Keywords:** *Academic Fraud, Controls, Online Examination, Punishment*

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## 1. INTRODUCTION

Academic examination fraud is a serious concern that has the potential to erode the development of one's character and jeopardize the credibility of academic institutions (Meng et al., 2014). According to Bujaki et al. (2019) and Wei et al. (2014), the provision of unfair advantages to individuals can lead to the distortion of academic performance assessment. The perpetration of examination fraud in higher education can result in enduring ramifications, given that students who engage in unethical conduct during their academic tenure are predisposed to persist in such behavior in their vocational pursuits, which could potentially culminate in corporate scandals (Malgwi & Rakovski, 2009; Meng et al., 2014).

The prevention of academic examination fraud is the responsibility of the faculty and staff. Management of an institution is instrumental in establishing an environment that reduces the likelihood of fraudulent activities (Malgwi & Rakovski, 2008). According to Malgwi and Rakovski (2008, 2009), the implementation of robust internal control measures and the identification of risk factors can serve as effective deterrents to academic fraud within institutions. Hutton (2006) argued that the implementation of severe sanctions and the uniform application of rules, in addition to the informal actions taken by academic staff, have proven to be efficacious in preventing instances of academic dishonesty.

Glenn and Raine (2014) state that the imposition of penalties is a crucial component in dealing with academic dishonesty, and that individuals should be held responsible for their misconduct. Lin (2013) has identified that insufficient punitive measures may serve as a contributing factor to academic fraud, as students may not be dissuaded from engaging in such behavior if the repercussions are deemed inadequate. According to Leung (1995), the deterrent effect of punishment is more strongly influenced by the possibility of being punished than the severity of the punishment. Meng et al. (2014) and Bunn et al. (1992) state that enhancing the probability of facing penalties can serve as a preventive measure against academic misconduct.

Hutton (2006) identified several determinants that impact students' inclination towards engaging in unethical conduct, such as the potential for reward, level of enforcement, severity of penalties, and probability of being caught. The phenomenon of academic examination fraud can be elucidated through the use of the fraud triangle theory, which encompasses three key elements: incentive or pressure, rationalization, and opportunity (Muhsin et al., 2018).

Previous research has indicated that the enrolment criteria for professional accounting examinations, such as the Association of Chartered Certified Accountants (ACCA), should be limited to students who have achieved exceptional academic performance in secondary education. This is because a significant number of students encounter difficulties in successfully completing their studies (Azemi et al., 2022).

The development of a professional accounting program is underway to align with the government's objective of attaining 60,000 professional accountants by 2030. As evidenced by Azemi et al. (2022), this target was not achieved in 2020.

The Association of Chartered Certified Accountants (ACCA) initially implemented computer-based exams (CBEs) for the Applied Knowledge component in 1998. Since 2015, ACCA has been actively exploring the utilization of technology for exam administration, particularly in the context of Applied Skills CBEs. Starting in June 2019, all Applied Skills exams offered by the Association of Chartered Certified Accountants (ACCA) have been exclusively administered as CBEs. By June 2020, the remaining variants of these exams will also be delivered digitally. The administration of ACCA Strategic Professional examinations will transition to exclusive computer-based delivery in specific markets starting in March 2020. This progressive shift will ultimately result in the complete global adoption of computer-based examinations for all ACCA assessments by the year 2022.

Students who possess a strong belief in the security, stability, and potential for future career opportunities in the field of professional accounting exhibit a higher likelihood of selecting the professional accounting program. Indeed, it is a widely acknowledged fact that the industry actively pursues individuals with a strong academic background who possess

and the potential to assume roles as accountants or auditors in the future. According to Azemi et al. (2022), these people are expected to exhibit qualities such as integrity, honesty, and professionalism.

Online examination fraud is a widespread phenomenon that has impacted numerous countries worldwide. Recent news articles have highlighted instances of online examination fraud, citing examples of cheating during online examinations in India and at military academies (BBC News, 2020; Bengrut, 2021). Academic fraud has also been observed in Southeast Asian nations, such as Singapore and Malaysia (The Star, 2019; The Straits Times, 2020).

The contemporary rapid-paced milieu, coupled with the desire to attain academic excellence and the accessibility of technology, are among the factors that have led to the escalation of academic misconduct in recent years (Curran et al., 2011; Gasparyan et al., 2016). The implementation of robust internal control measures is imperative to minimize the incidence of fraudulent activities and discourage individuals from engaging in academic fraud (Transparency International, 2013). It is imperative to ensure that internal control policies and regulations are frequently revised to effectively tackle emerging challenges and prevent fraudulent activities (Baz et al., 2017).

Previous studies by Azhar et al. (2023) have shown that there is a relationship between monitoring and punishment in academic fraud prevention in physical examinations. Given the growing prevalence of online tests and assessments after the pandemic, it is worthwhile to conduct more studies on the issue within the framework of online examinations (Azhar et al., 2023).

To effectively tackle online examination fraud, academic institutions must consistently evaluate potential opportunities and pressures, revise internal control policies, and amend pertinent legislation to address emerging trends and deter fraudulent activities (Baz et al., 2017).

## **2. LITERATURE REVIEW**

### **2.1. Academic Fraud**

Studies define academic fraud differently. Martinez and Ramirez (2018) believe that academic dishonesty gives disadvantaged students an unfair advantage. Sierra and Hyman (2008) studied student fraud. Academic fraud involves test cheating, assignment plagiarism, and the use of uncited academic contexts (Hughes & McCabe, 2006). Genereux and McLeod (1995) defined academic fraud as illegally obtaining academic results.

Several academic fraud prevention methods exist. The administration's strict rules and strong punishments work (Malgwi & Rakovski, 2009). Following the COVID-19 pandemic and the Movement Restriction Order (MRO), which requires many schools to deliver examinations online, laws and punishments must be modified to remain current and effective in preventing large-scale online academic fraud.

### **2.2. Identity Verification**

Exam impersonation was 27.1% for Taderera, Nyikahadzoi, Matamande, and Mandimika (2014). A person mimicking another is impersonation. To avoid impersonation, the student's ID card is checked against official documents. According to Taderera et al. (2014), students may claim to have lost their student IDs to obtain a letter from the Student Records and Registration Office confirming their enrollment. This letter has no image, and thus, anyone may imitate the student. Invigilators checking the student ID before allowing entry into the examination hall may not identify the impostor. ID cards may be falsified, making student authentication inefficient. The ID card contains actual student information but with the impostor's photo. ID verification waits are long at the examination location, and invigilators cannot spend much time checking for impersonation (Rufai, Adigun, & Yekini, 2012). Online examinations without invigilators increase the risk of impersonation (Gathuri & Kamundi, 2014).

Rufai et al. (2012), Haruna (2018), and Saheed, Hambali, Adeniji, and Kadri (2017) advised the use of biometric examinations. More secure biometric recognition prevents counterfeiting. Student screening, queueing, and dependability increase. Online tests and assessments might benefit from biometric identification because invigilators would have problems matching students' image IDs with their information (Gathuri & Kamundi, 2014).

Cheating students may even attend the test's start for identity verification alone and then ask someone else to take it (Gathuri & Kamundi, 2014). Thus, Gathuri and Kamundi (2014) recommended biometric or photo ID verification during tests. Given that the study was conducted in 2014, it would be interesting to examine whether the same control mechanism may prevent fraud in commonly used online COVID-19 tests.

### **2.3. Exam Proctoring**

Impersonation, cooperation, and unauthorized resource use during tests constitute academic fraud (Hylton, Levy, & Dringus, 2016). Proctoring students using invigilators may help avoid exam-related crimes. Exam proctoring involves student conduct (Hylton et al., 2016). Students may commit fraud with little oversight. Minor tests are cheated more than finals. Quizzes and assignments affect final grades less, and management will punish cheaters less. Minor assessments are frequently conducted unsupervised and without assigned seating. This setting encourages student cheating (Yussof & Ismail, 2018). Noor and Dangi (2014) found that 23.7% of respondents believed invigilators were mismanaging tests. Another 22% claimed that the seating was too close, while 20.3% said that free test seating encouraged cheating.

Abdaoui (2018) showed that 80.25% of teachers invigilate poorly. According to Taderera et al. (2014), 42.8% of respondents said the university should improve test monitoring to discourage cheating. As invigilators are not voluntary, staff may be paid for their hours. Extra invigilators may help. Money makes more invigilators pay attention. Starovoytova and Arimi (2017) found that 26% of Kenyan students reported relaxed invigilation, which encourages cheating. Only 22% of students dreaded invigilators, and 18% never cheated. Bernardi, Banzhoff, Martino, and Savasta (2012) revealed that business students may cheat again on large or small tests. Thus, strict exam monitoring and proper student seating prevent cheating. According to LaSalle (2009), poor detection may promote cheating. Yussof and Ismail (2018) discovered that precise seating, strict proctoring, and integrating students from different courses in one test hall decrease major exam fraud. Madara and Namango (2016) reported that 100% of respondents agreed that randomizing seating to prevent friends from sitting together reduces cheating. Forty-four percent of students sat close to friends and swapped answers during examinations, 39% peeked at other students' answer sheets, and 20.3% took short notes, according to Noor and Dangi (2014). They found that 44.1% of respondents felt youngsters would cheat everywhere. According to Hosny and Fatima (2014), management may increase exam invigilators to decrease cheating.

Online tests are more prone to academic fraud, especially unsupervised ones (Hylton, Levy, & Dringus, 2016). Hylton, Levy, and Dringus (2016) found that unproctored online test takers outperformed webcam-proctored students. The former took longer to test. The study also found that students took longer because they felt more comfortable taking it alone. However, Stack (2015) found no substantial difference in test performance between university-monitored and unmonitored browsers. These studies were conducted five years ago. It would be interesting to observe whether monitoring online tests can still prevent academic fraud, given rapid technological advancements.

### **2.4. Toilet Visit Procedures**

Muhammad, Ghani, and Rossli (2021) discovered that loo breaks may lead to test fraud. They may use this loophole to get unauthorised material. If not checked before and during online tests at the university, students may hide their materials in toilets. Madara and Namango (2016) discovered that most students believed the examinations were in a vast auditorium to avoid detection. These variables favor student cheating. Thirteen percent suggested safe, toilet-equipped test venues away from lecture halls. Students may use the restroom many times throughout an exam, especially during an online examination at home. This student often returned from the 'toilet library' thrilled.

## 2.5. Punishment

Cheating students sometimes don't realise the consequences. Molnar and Kletke (2012) suggested penalties and laws to minimize fraud. Students must understand the regulations and penalties. According to Abdaoui (2018), Algerian students cheat more in college because there are few punishments. Non-fraudulent students recognize university standards and the consequences of breaking them, according to Yussof and Ismail (2018). Most of Madara and Namango's (2016) respondents believed that an academic honor code and frequent class and written warnings would reduce academic dishonesty. In online examination settings, this warning could be briefed to students before the examination commences.

Madara and Namango (2016) state that cheating affects student morale. Cheating lowers morale because unpunished cheaters disappoint non-cheaters. 21.4% claimed that no repercussions affected cheating. 33% of kids preferred suspension, 26% expulsion. Automatic failing, a warning or cautionary statement, expulsion from the test, student disciplinary committee, permanent ban from higher education, suspension for years, and a zero mark in the linked module were recommended cheating punishments by study participants. Nullification, expulsion, suspension, and transcript inclusion worked for Taderera et al. (2014). They believed that treatment and another opportunity to graduate with a lower class were futile. Disobedient candidates should be punished to deter others. Publicizing fines and actions may deter and prevent cheating, according to Malgwi and Rakovski (2009). The next section addresses this measure.

## 2.6. Embarrassment

The punishment humiliates a person when discovered (Cochran, Chamlin, Wood, & Sellers, 1999). Punishment for academic fraud scares pupils. The worst outcome is university expulsion or disgrace if friends and family discover dishonesty. Remorse and shame may deter students from cheating in exams.

Cheating is caused by unclear learning goals. After a hard study in high school, many college students relax their knowledge requirements in a free environment. Some cheat, knowing that they will fail the exam. To educate, universities should encourage honesty and discourage cheating (Zhang, 2019). Exams assess morals and cultural awareness; thus, integrity should be the first priority. Integrity and conscience are related.

To decrease test cheating, Madara and Namango (2016) proposed exposing cheaters as a form of punishment. Exposure involves permanently publishing their photos on the school's notice board with their names, degrees, departments, and penalties. Without this exposure, pupils may believe that cheaters are never caught (Madara & Namango, 2016).

Unlike Cochran et al. (1999), shame does not discourage academic fraud. Given the prevalence of social media and the importance of image now, it would be interesting to check whether the findings of the 1999 study are still valid.

## 3. METHODOLOGY

### 3.1. Population and Sample of the Study

In the context of research, the term "population" denotes a specific cohort of individuals or entities that seek to extend their findings through generalization. The study involved a population of 150 professional accounting students enrolled at the university. Highly qualified professional students were selected because they faced higher pressure to pass their examinations than foundation-level students. This was assessed through published world pass rates by the qualification body. The sampling method employed was simple random sampling, which involved the selection of a random sample from a comprehensive list of all subjects within the intended population. A sample size of 108 students was determined by utilizing the sample size formulae developed by Krejcie and Morgan (1970), in conjunction with a table designed for determining sample size based on a given population.

### 3.2. Data Collection Procedure

The study used primary data to investigate the impact of robust controls and severe penalties on deterring online academic misconduct. This study utilized a questionnaire survey as the means of data collection to elicit information from the participants. The survey consisted of three principal components. The first section, Section A, was centred on gathering demographic data. The second section, Section B, assessed participants' knowledge of online examination fraud using a Likert scale. Finally, Section C focused on the study's independent variables, which encompassed identity verification controls, exam proctoring controls, toilet visit procedures, punishment, and embarrassment.

The methodology employed for data collection involved the use of digital questionnaires on the Google Form platform, which ensured the anonymity of the participants and enhanced data credibility. The rationale behind selecting this approach was based on the fact that a significant proportion of the participants had convenient access to digital gadgets, and it also helped in reducing expenses by utilizing the computer laboratory of the institution, if necessary. The utilization of the Google Form platform obviated the necessity of producing physical questionnaires, thereby diminishing expenses and reducing the environmental impact.

## 4. RESULTS AND ANALYSIS

The research project received a total of 108 completed questionnaires, which is consistent with the recommended sample size proposed by Krejcie & Morgan (1970) in their sample size table. Section A of the survey was used to gather demographic data from the participants. Given that there were no instances of missing data in Section A, the present study proceeded to conduct a demographic analysis of the 108 participants using the frequency function of SPSS software for descriptive statistics. Table 1 displays the outcomes.

**Table 1:**  
Demographic Summary

Demographic Profile	N	Percent	Cumulative Percent
Gender			
Male	29	26.8%	26.8%
Female	79	73.2%	100.0%
Race			
Malay	105	97.2%	97.2%
Bidayuh	3	2.8%	100.0%
Age			
20-21 years	49	45.4%	45.4%
22-24 years	50	46.3%	91.7%
25 years or above	9	8.3%	100.0%
Education Level			
SPM	1	0.9%	0.9%
Diploma	10	9.3%	10.2%
Bachelor's Degree	27	25.0%	35.2%

Professional Certificate	70	64.8%	100.0%
Semester			
1-2	25	23.1%	23.1%
3-4	39	36.1%	59.2%
5 or more	44	40.8%	100.0%
Source Of Income			
Family	10	9.3%	9.3%
Student's Loan/Scholarship	74	68.5%	77.8%
Working	24	22.2%	100.0%

## 5. FINDINGS AND DISCUSSION

### 5.1. Correlation Analysis

The analysis of correlation is significant in a research endeavor as it enables the determination of the magnitude and orientation of the association between two given variables. Several correlation analyses can be employed in a research investigation. Pearson's and Spearman's rank correlation coefficients are frequently used analytical techniques (Pallant, 2016). To investigate the association between the variables, a Pearson correlation analysis was conducted in the present study. The Pearson correlation outcome is a numerical value ranging from negative one to positive one. The sign of the score indicates the presence of either a positive or negative correlation, denoting a direct or inverse relationship between the variables, respectively.

According to Pallant (2016), the magnitude of the Pearson correlation's absolute value indicates the degree of association, where a value of 1 indicates a robust association, and a value of zero (0) indicates no association. Pallant (2016) posits that a correlation coefficient of approximately 0.1 is indicative of a small effect size, approximately 0.3 is indicative of a medium effect size, and approximately 0.5 is indicative of a large effect size. The subsequent subsections discuss the Pearson analysis results.

### 5.2. Relationship between Prevention of Online Examination Fraud and Identity Verification (H1)

The results of the Pearson's correlation analysis for the correlation between the prevention of online examination fraud and identity verification are presented in Table 2.1. The two-tailed significance value was 0.008, indicating statistical significance at a 95% confidence level. Therefore, it can be concluded that the variables exhibited a statistically significant correlation. According to the Pearson's correlation coefficient of 0.255, there exists a moderately positive correlation between identity verification and the mitigation of online examination fraud.

**Table 2.1**

Correlation between Prevention of Online Examination Fraud and Identity Verification

		<b>Online Examination Fraud</b>	<b>Identity Verification</b>
Online Examination Fraud	Pearson Correlation	1	0.255**
	Sig. (2-tailed)		0.008
	N	108	108

\*\*Correlation is significant at the 0.01 level (2-tailed)

### 5.2.1. Relationship between Prevention of Online Examination Fraud and Exam proctoring (H2)

The findings of the Pearson correlation study are presented in Table 2.2, which discusses the relationship between preventing online examination fraud and monitoring. The two-tailed significance value is 0.000, indicating statistical significance at a 95% confidence level. Therefore, there is a noteworthy correlation between the variables. The table displays a Pearson correlation value of 0.507, indicating a significant positive correlation between exam proctoring and the prevention of online examination fraud.

**Table 2.2**

Correlation between Prevention of Online Examination Fraud and Exam Proctoring

		<b>Online Examination Fraud</b>	<b>Exam Proctoring</b>
Online Examination Fraud	Pearson Correlation	1	0.507**
	Sig. (2-tailed)		0.000
	N	108	108

\*\*Correlation is significant at the 0.01 level (2-tailed)

### 5.2.2. Relationship between Prevention of Online Examination Fraud and Toilet Visit Procedures (H3)

The results of the Pearson correlation analysis examining the association between the prevention of online examination fraud and toilet visit procedures are presented in Table 2.3. The two-tailed significance value was 0.001, indicating a level of statistical significance below the commonly accepted threshold of 0.05. Therefore, it can be concluded that there is a significant correlation between the two variables. According to the Pearson correlation coefficient of 0.318, there exists a moderately positive association between strict toilet visit procedures and the prevention of online examination fraud.

**Table 2.3**

Correlation between Prevention of Online Examination Fraud and Toilet Visit Procedures (H3)

		<b>Online Examination Fraud</b>	<b>Toilet Visit Procedures</b>
Online Examination Fraud	Pearson Correlation	1	0.318**
	Sig. (2-tailed)		0.001
	N	108	108

\*\*Correlation is significant at the 0.01 level (2-tailed)

**5.2.3. Relationship between Prevention of Online Examination Fraud and Punishment (H4)**

The results of the Pearson’s correlation analysis for the association between the prevention of online examination fraud and punishment are presented in Table 2.4. The two-tailed significance value was 0.000, indicating a level of statistical significance below the commonly accepted threshold of 0.05. Therefore, there was a statistically significant correlation between the two variables. As shown by the Pearson’s correlation coefficient of 0.455, which is displayed in the table, there was a significant positive correlation between the administration of punishment and the prevention of online examination fraud.

**Table 2. 4**

Correlation between Prevention of Online Examination Fraud and Punishment

		<b>Online Examination Fraud</b>	<b>Punishment</b>
Online Examination Fraud	Pearson Correlation	1	0.455**
	Sig. (2-tailed)		0.000
	N	108	108

\*\*Correlation is significant at the 0.01 level (2-tailed)

**5.2.4. Relationship between Prevention of Online Examination Fraud and Embarrassment (H5)**

Table 2.5 presents the results of the Pearson correlation analysis examining the association between the prevention of online examination fraud and embarrassment. The two-tailed significance value is 0.000, indicating statistical significance at a 95% confidence level. Consequently, there is a noteworthy correlation between the two variables. The table displays a Pearson correlation value of 0.391, indicating a moderate positive association between embarrassment and the prevention of online examination fraud.

**Table 2. 5 Correlation between Prevention of Online Examination Fraud and Embarrassment**

		<b>Online Examination Fraud</b>	<b>Embarrassment</b>
Online Examination Fraud	Pearson Correlation	1	0.391**
	Sig. (2-tailed)		0.000
	N	108	108

\*\*Correlation is significant at the 0.01 level (2-tailed)

The primary aim of this investigation was to examine the influence of identity verification in mitigating academic misconduct at the university. The present study formulated Hypothesis (H1), which states that identity verification exerts a positive influence on the deterrence of online examination fraud. The findings of this study indicate that the implementation of identity verification measures has a negligible beneficial effect on deterring instances of online examination fraud. This result aligns with the discovery made by Farisi (2013). One possible explanation for the limited effect observed could be attributed to the unreliability of online identity verifications in the era of sophisticated technology that can assist individuals in impersonating students taking online examinations.

The subsequent aim of this investigation was to examine the influence of surveillance on the deterrence of online scholarly misconduct, as indicated by Hypothesis H2. The findings derived from the conducted analyses indicate that exam proctoring exerts a noteworthy favorable influence on the deterrence of online academic misconduct. This discovery aligns with the research conducted by Hylton et al. (2016) and LaSalle (2009), who posited that students are more likely to achieve higher

scores in an unsupervised setting that affords them the ability to engage in academic dishonesty during online examinations.

The third aim of the study was to examine the influence of lavatory protocols on deterring online academic misconduct. Hypothesis H3 was formulated to achieve this particular objective. The conducted analyses indicate that the procedures related to toilet visits have a negligible positive effect on deterring online examination fraud. This finding aligns with the research conducted by Vegendla and Sindre (2019), who posited that stringent protocols for lavatory usage, particularly in the context of online assessments, may not yield optimal outcomes. Measures such as complete prohibition or mandating students to carry a webcam and record themselves while using the lavatory are not feasible.

This study aimed to examine the influence of punitive measures on deterring online academic misconduct, as posited by Hypothesis H4. The results of the analyses indicate that the imposition of punishment exerts a statistically insignificant positive influence on the deterrence of online academic misconduct. Therefore, this discovery aligns with Taderera et al. 's (2014) research, which asserted that specific forms of penalties, such as graduating with a lower class and counselling, are not effective in deterring students from cheating in online examinations.

The final aim of this investigation was to examine the influence of embarrassment on deterring online academic misconduct. Hypothesis H5 was formulated to address this particular objective. The conducted analyses indicate that embarrassment has a statistically significant and positive effect on deterring online examination fraud. The statistical analysis of the embarrassment regression yielded a p-value of 0.062, indicating a significance level between 0.05 and 0.10. This discovery aligns with the research conducted by Madara and Namango (2016), who posited that to deter cheating, one effective approach is to publicly shame the cheaters by displaying their photographs, names, year of study, and department on the institution notice board. Furthermore, it is crucial to explicitly state the penalty assigned to each individual, prominently displayed in a large font. This will effectively demonstrate that there are consequences for cheating, countering the misconception held by some students that no one faces punishment even when detected.

### 5.3. Multiple Regression

Pallant (2016) asserts that multiple regression is a crucial statistical technique utilized to ascertain the degree to which independent variables can accurately predict the dependent variable, which represents the outcome of interest. Tables 3 and 4 present the outcomes of the multiple regression analysis conducted in this study. Table 3 reveals that the R<sup>2</sup> value is 0.302, signifying that 30.2% of the variance in the prevention of online examination fraud can be accounted for by the independent variables: identity verification, monitoring, toilet visit procedures, punishment, and embarrassment.

**Table 3**  
Multiple Regression Table

Model summary for multiple regression				
Model	R	R Square	Adjusted R-Square	Std. Error of The Estimate
1	.550 <sup>a</sup>	.302	.268	0.460954

- a. Predictors: (Constant), Embarrassment, Identity Verification, Toilet Visit Procedures, Punishment, Proctoring
- b. Dependent Variable: Online Examination Fraud

Table 4 presents the linear correlations between each independent variable and the dependent variable. Consequently, the analysis supports both Hypotheses H2 and H5. The findings suggest that the implementation of exam proctoring and embarrassment has a notable and favourable impact on deterring academic misconduct. The observed p-value for the exam proctoring process is statistically significant, with a value of 0.010. The statistical analysis reveals that toilet visit procedures exhibited the highest p-value, which was equal to 0.957. Given that exam proctoring is the sole independent variable with a

p-value below 0.05, it is deemed to be a statistically significant factor in mitigating academic misconduct. Conversely, despite the fact that the p-value associated with embarrassment (0.062) exceeds the threshold of 0.05 for statistical significance, it remains below the level of 0.10. Thus, this factor is deemed to have marginal significance.

The results also suggest that implementing identity verification procedures, establishing limits for toilet use, and imposing punishments do not significantly deter online examination fraud. Based on the findings of the statistical significance tests, it was concluded that the variables of identification verification ( $p = 0.742$ ), bathroom visit procedures ( $p = 0.957$ ), and punishment ( $p = 0.514$ ) did not meet the conventional significance level of  $p < 0.05$ . Consequently, the study lacked data to substantiate Hypotheses H1, H3, and H4.

Table 4: Multiple Regression Results Coefficients<sup>a</sup>

Models	Unstandardized Coefficients		Standardized Coefficients Beta	T	Sig.
	B	Std. Error			
1 (Constant)	1.841	0.426		4.319	0.000
Identity Verification (H1)	0.026	0.077	0.031	0.331	0.742
Exam proctoring (H2)	0.334	0.127	0.353	2.635	0.010
Toilet Visit Procedures (H3)	0.004	0.067	0.006	0.054	0.957
Punishment (H4)	0.081	0.123	0.085	0.655	0.514
Embarrassment (H5)	0.128	0.068	0.191	1.884	0.062

a. Dependent variable: Online Examination Fraud

## 6. CONCLUSION AND FUTURE DIRECTION

The primary objective of this study was to investigate the determinants that impact the deterrence of online academic dishonesty at the university level among students with high-level professional qualifications. This study identified five factors that significantly impact the subject matter. These factors include identity verification, monitoring, toilet visit procedures, punishment, and feelings of embarrassment.

The correlation analysis results showed that all variables had a significant positive correlation with the prevention of online examination fraud. In contrast, multiple regression analysis showed that only exam proctoring and embarrassment had statistical significance in preventing online examination fraud.

Subsequent investigations could direct their attention towards the analysis of various forms of embarrassment, as such measures have been shown to yield favourable outcomes in deterring instances of academic misconduct. The present investigation incorporated embarrassment as a variable, and the outcomes of the statistical analysis exhibited a marginal level of significance. Various forms of disciplinary measures are available to universities to name and shame students, including reporting to parents, publishing names or images on the university board, and publishing names or images on social media. Further categorizing various forms of embarrassment and conducting a comprehensive examination of each category may yield supplementary insights and generate more intricate findings and inferences.

Finally, the present investigation was conducted in a nation in the process of economic and social growth. Subsequent investigations could replicate this study in an alternative nation, particularly in a developed context, and contrast the outcomes with those obtained from a distinct country. Various factors, including the accessibility of dependable technology, legal and regulatory frameworks, ethical considerations, and other pertinent aspects, may impact the outcomes of interactions between different nations. This study has the potential to make a significant contribution to ongoing research on the prevention of online examination fraud.

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