

Determinants of Examination Malpractices Among Kenyan Public Universities

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<https://doi.org/10.62049/jkncu.v5i1.194>

Abstract

Examination malpractice is a major problem in many universities in Kenya and world over. Many students have been expelled or suspended, leading to either delayed graduation or non-completion of their courses altogether. This study sought to determine the factors influencing examination malpractice among Kenyan university students. Cross-sectional study design and cluster sampling were adopted. Structured questionnaires were used to collect data and data was collected from four public universities. The dependent variable was examination malpractice, while school, home, course and student factors were independent variables. Multiple linear regression was used to fit a model between examination malpractice as the dependent variable and school, home, course and student factors as the independent variables. The data collected were cleaned, coded, captured and analyzed using SPSS version 27. Results obtained showed that the prevalence of examination malpractice in Kenyan Public Universities is 56.2%. It was further noted that significant relationships exist between school factors and examination malpractice, home factors and examination malpractice, course factors and examination malpractice and student factors and examination malpractice. This study recommends that universities need to strengthen their guidance and counseling units and the parents and guardians need to regularly monitor the academic progress of their children.

Introduction

The emerging cases of examination malpractices in universities are a serious threat to academic integrity and assessment systems' fairness. Even with the numerous preventive measures that educational institutions have put in place, like invigilation procedures and technological advancements, cheating, plagiarism, and other forms of academic misconduct continue to occur. Joshua (2008) defined Examination malpractice as any unauthorized action, behavior or practice that is linked to examination planning, conducting and processing executed by an individual engaged in planning, administering, taking or processing the examination. Exam malpractice in universities is a complex issue with significant consequences for academic integrity and student learning. Existing research offers valuable insights into factors associated with cheating, but often lacks predictive power. Therefore, there is a need to develop a model that can identify the reasons behind students' involvement in examination malpractices in Kenya's state universities. Statistical methods such as regression analysis can be employed to model the relationship between various factors and the likelihood of exam malpractice occurrence. The general objective of this research was to determine the factors that influence examination malpractices among students in public universities in Kenya. This general objective was achieved through the following specific objectives;

- i. To determine the prevalence of examination malpractices among students in public universities in Kenya.
- ii. To determine the influence of school factors on examination malpractices among students in public universities in Kenya.
- iii. To determine the influence of home factors on examination malpractices among students in public universities in Kenya
- iv. To determine the influence of course factors on examination malpractices among students in public universities in Kenya
- v. To determine the influence of student factors on examination malpractices among students in public universities in Kenya

These specific objectives were measured by answering the following research questions.

- i. What is the proportion of students involved in examination malpractices in Kenya's Public Universities?
- ii. Do school factors influence students' engagements in examination malpractices in Kenya's Public Universities?
- iii. Do home factors influence students' engagements in examination malpractices in Kenya's Public Universities?
- iv. Do course factors influence students' engagements in examination malpractices in Kenya's Public Universities?
- v. Do student's factors influence students' engagements in examination malpractices in Kenya's Public Universities?

Literature Review

Several scholars have done research on examination malpractices in the education sector locally and globally. Sifuna & Sawamura (2009) provided an overview of the challenges in maintaining quality education, including examination malpractices in Sub-Saharan Africa, with a focus on Kenyan educational institutions. They also investigated the critical shortage of qualified teachers in the region and the inadequacies of teacher training programs. They emphasized that without well-trained and motivated teachers, efforts to improve education quality are likely to fail. They thus identified shortage of teachers and adequacy in their training as contributors to examination malpractices in the region.

Higher Education has faced a myriad challenges, Odhiambo (2011) investigated a number of critical challenges undermining quality of higher education. Some of the challenges Kenyan Universities face include lack of career guidance, lack of adequate counselling services, inadequate health services, examination malpractices among others which are very essential for student well-being and academic success. The quality of student support services is also a major challenge, absence of these essential services has led to increased dropout rates and poor academic performance.

Organizations have been keen on recruiting high quality graduates from Kenyan Universities. However, most students are not aware of the quality assurance offices in the Universities and their roles. There is dire need for sensitization on quality assurance in order to curb examination malpractices. Mbirithi (2013) explores the various challenges faced by public universities in Kenya when it comes to implementing quality assurance mechanisms. Mbirithi's study gives an in-depth analysis of the obstacles that impede the effectiveness of quality assurance processes. Since these processes indirectly touch on issues of examination integrity and malpractice, they are crucial for maintaining and improving the standards of higher education in the country.

Lang et al (2018) investigated the impact of the educational environment on exam malpractices and found out that competitive academic environment had a significant correlation on examination malpractices

Kimani and Kinyua (2018) directly addressed examination irregularities in public universities in Kenya. Their study delves into examination irregularities which is one of the most persistent issues in public universities in Kenya. The study explores the various challenges that contribute to the prevalence of these irregularities and discusses strategies that have been implemented to curb the problem. The authors emphasize the need for a multifaceted and thorough approach to address the issue efficaciously.

Johnson 2020 investigated influence of parental attitude on students' engagement in dishonest behavior. The study pointed out that students who perceived their parents as lenient were more likely to engage in examination malpractices.

Chen and Wu (2020) researched on how academic pressure relates with examination malpractice universities. The research noted strong direct relationship between academic pressure and cheating behaviors.

Thomson (2021) in a study on course related factors affecting students commitment to academic integrity found that students were more likely to cheat in courses perceived as challenging or irrelevant to their academic or career goals

Muthoni and Ndung'u (2021) explored the use of statistical models in analyzing and understanding trends in examination irregularities in Kenyan public universities. In their study, they identified key factors associated with examination irregularities and developed models that predict examination malpractice recurrence, thereby aiding in management of such incidents. Relevance. Their investigation provided insights into the effectiveness of different modelling approaches, such as time series and regression analysis.

Mwangi (2021) provides a comprehensive overview of educational integrity issues in Sub-Saharan Africa, with a particular focus on Kenya. It discusses the cultural, economic, and institutional factors contributing to examination malpractices and offers strategies for mitigating these challenges through effective modelling. Mwangi focused on modelling techniques and the use of data science to understand and predict educational outcomes in Kenyan public universities, including examination malpractices.

Commission for University Education (CUE) Kenya (2022) reported on detailed analysis of the state of examination integrity in Kenyan public universities. Their report includes data on the prevalence of malpractices and discusses the impact of existing policies. The report also suggests areas where modelling could improve monitoring and enforcement and identifies examination malpractices as a pervasive issue across all Kenyan universities, affecting both public and private institutions. The reported identified common forms of examination malpractice include impersonation, collusion between students and faculty members, cheating during exams and unauthorized access to exam papers among others.

Ochieng and Muturi (2022) reported that machine learning algorithms represent a powerful tool in curbing examination malpractices in Kenyan universities. Though it faces implementation challenges, there are potential benefits such as the ability to handle large volumes of data and increased detection accuracy making it a promising approach. They gave broader implications of using machine learning in education beyond detecting examination malpractices, these algorithms could be used for other purposes, such as predicting student performance, identifying at-risk students and personalized learning. Their study emphasized the importance of artificial intelligence in enhancing efficiency and accuracy of monitoring systems in public universities in Kenya.

Application of predictive modelling techniques has been used to understand and address the issue of examination malpractices in Kenyan public universities; the most recent study was done by Wanjohi and Gikonyo (2023) who presented a case study approach on specific universities. They analyzed and developed test predictive models that identified potential malpractices before they occurred. The predictive modelling offers a favorable avenue for addressing examination malpractices within the institutions of higher learning in the country. The study bespeaks that with the right data and analytical tools, all universities can develop lucid strategies to identify and alleviate risks associated with examination malpractices. These models can be further refined by exploring their broader application across different contexts of examination malpractices.

Leveraging Data Analytics to Combat Examination Malpractices is one of the key aspects in Kenyan Public Universities as given by Karanja & Otieno (2023) who cited relevance on the use of data analytics and big data in monitoring and predicting examination malpractices. They highlighted case studies from several Kenyan universities and discussed the challenges and opportunities in implementing such systems.

While a number of studies have been done on examination malpractices, it is worth noting that most of the studies were univariate in nature and data was collected from only one study site. This study adopted a multivariate approach with data collection being done in four study sites. Multiple linear regression model was built with school, home, student and course factors as independent variables while examination malpractices was considered as the dependent variable.

Materials and Method

Cross sectional study design was adopted in this research. A survey was carried out using well-structured questionnaires. Data was collected from many respondents at the same time. The participants were selected based on the inclusion criteria. Cross sectional study design was selected in this research since it is instrumental in determining prevalence of a given phenomenon and understanding determinants of a given outcome. This study targeted students in public universities in Kenya who were doing their undergraduate studies. A single cluster sampling technique was adopted where four public universities were picked purposively to form clusters from which random sampling was used to recruit participants into the study. The four public universities selected were considered adequate since there is homogeneity in students' behavior in public universities. Proportional allocation was used to determine the size of each cluster. Cochran formula was used to select sample size as given in equation 1

$$n = \frac{z^2 pq}{d^2} \quad (1)$$

where z is the reliability coefficient, p is the proportion of the population exhibiting the behavior of interest and d is the margin of error.

Therefore.

$$n = \frac{1.96^2 \times 0.5 \times 0.5}{0.05^2} = 385 \quad (2)$$

Structured questionnaires were used to collect data. The study variables were school, student, course and home factors as independent and examination malpractice as dependent. These variables were measured using several constructs in a likert scale of 1 to 5 where 1 was an indication of the respondent strongly disagreeing with the statement while 5 was strongly agreeing with the statement. The component of school factors included teaching methodology, syllabus coverage, examination invigilators' seriousness, school policy, availability of lecturers for consultation and adequacy of examination halls. The elements considered under students' factors included high school cheating cases, level of preparedness, seriousness, fear of failing, lack of interest in the unit, peer pressure and lack of mentors. The constructs under course factors included difficulty in course, lack of consistency in syllabus coverage, mode of delivery, course content relevance and choice of course. Home factors indicator were parents' pressure, family financial status, family talks on exam cheating and family morals. Components of examination malpractices included written materials, carrying phone illegally, exchange of papers, copying from a neighbor, impersonation and written materials on chairs and body parts. The data collected was coded, cleaned, and then converted to a continuous data by computing average score per variable per respondent. A pilot study was conducted using 10% of the sample size before the data was collected to test on the suitability of the tool. Reliability

and validity were tested during the pilot phase. Cronbach's alpha was used to test for reliability and all the variables were found to have a Cronbach's alpha value of more than 0.7 which is the recommended threshold. This confirmed that the tool was reliable. Validity was tested using Pearson correlation coefficient and Factor analysis and the tool was found to be valid. Data was analyzed using SPSS version 27.

Results and Discussion

A total of 385 questionnaires were given out of which 306 were dully filled and returned translating to 79.48% response rate. Fincham (2008) proposed a minimum response rate of 60% which is lower than the response rate of this research. The data collected comprised of 52.9% male and 47.1% female. This implies that both genders were equally represented in the research. Majority of the participants were aged below 25 years at 92.8%.

Prevalence of Examination Malpractices

The first objective of this study was to determine the prevalence of examination malpractices in Public Universities in Kenya. The results obtained are presented by Table 1

Table 1: Prevalence of Examination Malpractices

Responses	Cases	Prevalence
Yes	172	56.2
No	134	43.8
Total	306	100.0

Table 1 shows that 56.2% of the students sampled have participated in examination malpractice at any given time of their study. The proportion of female students involved in cheating was higher than those of male students as shown in in Table 2

Table 2: Prevalence in Terms of Gender

		Yes	No	Df	Chi square	P value
Gender	Male	83 (52.2%)	79 (48.8%)	1	3.461	0.063
	Female	89 (61.8%)	55(38.2%)			
	Total	172 (56.2%)	134 (43.8%)			

Table 2 shows that, 61.8% of female students have participated in examination cheating at any given time of their study. This is higher than 52.2% of the male students who reported the same. However, this difference in proportion was not significant at 5% level of significance.

Determinants of Examination Malpractices

The assumptions of linear regression were tested namely normality, homoscedasticity, autocorrelation and multi collinearity. None of these assumptions was found to have been violated hence the relationship between Examination malpractices and the risk factors (school, student, course and home) were examined. This was done using correlation analysis and regression analysis.

Correlation Analysis

Pearson Correlation Coefficient was used to determine the strength and the nature of the relationship between the independent and dependent variables. The results obtained are presented in Table 3.

Table 3: Correlation Analysis

Correlations						
		School	Student	Course	Home	Malpractice
School	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	306				
Student	Pearson Correlation	.812**	1			
	Sig. (2-tailed)	.000				
	N	306	306			
Course	Pearson Correlation	.841**	.843**	1		
	Sig. (2-tailed)	.000	.000			
	N	306	306	306	306	
Home	Pearson Correlation	.794**	.844**	.789**	1	
	Sig. (2-tailed)	.000	.000	.000		
	N	306	306	306	306	306
Malpractice	Pearson Correlation	.791**	.819**	.831**	.814**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	306	306	306	306	306

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

Table 3 shows that there were strong significant (at 5% level of significance) positive relationships between all the independent variables and dependent variable. Regression model was fitted to obtain the exact form of the relationship between the independent and dependent variables.

Regression Analysis

A multiple linear regression model was used in the study with Examination malpractice as the dependent variable and school, student, course and home factors as the independent variables.

The model summary obtained is given by Table 4.

Table 4: Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
0.877	0.770	0.767	0.56091

From the results obtained in Table 4, 77% of the variations in Examination malpractice are explained by the factors used in this study; 23% of the variations in the Examination malpractice are accounted for by factors not in the model.

The ANOVA table was generated to determine if any of the independent variables has significant influence on the dependent variable as given in Table 5.

Table 5: ANOVA Table

	Sum of Squares	Df	Mean Square	F	Sig.
Regression	316.937	4	79.234	251.840	0.000
Residual	94.701	301	0.315		
Total	411.638	305			

In ANOVA table the null hypothesis is always that there is no significant influence of any of the independent variables on the dependent variable against the alternative that at least one independent variable has significant influence on the dependent variable. The null hypothesis is rejected if the P value of the F test is less than the level of significance (0.05). From the results obtained in Table 5, the P value is less than 0.05 suggesting that at least one of the independent variables has significant influence on Examination malpractice.

The regression coefficients table was generated to determine which independent variable specifically has significant influence on examination malpractice. Table 6 presents the regression coefficients result.

Table 6: Regression Coefficients

	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std. Error	Beta	t	
(Constant)	0.177	0.089		1.992	0.047
School	0.117	0.055	0.120	2.114	0.035
Student	0.183	0.061	0.186	2.985	0.003
Course	0.345	0.060	0.346	5.793	0.000
Home	0.285	0.054	0.290	5.237	0.000

From the results obtained in Table 6, it is observed that all the independent variables had significant positive influence on examination malpractice. From Table 4.10, the model can be summarized by equation 3 as

$$Y_i = 0.177 + 0.117X_1 + 0.183X_2 + 0.345X_3 + 0.285X_4 \quad (3)$$

Where,

Y = Examination Malpractice, X_1 = School factors, X_2 = Student factors, X_3 = Course factors and X_4 = Home factors.

From equation 3 it can be noted that; for every unit change in school factors, examination malpractice increases by 11.7% keeping other factors constant; Examination malpractice increases by 18.3% for every unit change in student factors keeping other factors constants; For every unit change in course factors, examination malpractice increases by 34.5% keeping other factors constant; and for every unit change in home factors examination malpractice increases by 28.5% keeping other factors constant.

This study found that examination malpractice prevalence in Kenyan Public Universities is 56.2%. This is lower compared to the findings of Madara and Namango 2016 who found out that 81% of engineering students engage in examination cheating.

In this study course factors were found to have positive significant influence on examination malpractices. This was found to be consistent by the findings of Thompson & Brown (2019). They found out that courses utilizing traditional lecture-based instruction were associated with higher rates of cheating compared to those incorporating interactive and experiential learning approaches. This was further supported by the findings of Chen and Wu (2020) who pointed out that there is a strong direct relationship between academic pressure and cheating behaviors.

Student factors were found to have significant positive influence on examination malpractices which is consistent with the findings of Brown et al. (2020). They found that students who experienced high levels of academic stress were more likely to engage in exam malpractice.

Home factors were found to have a significant positive influence on examination malpractice which is in agreement to the findings of Johnson 2020 who carried out a study on the influence of parental attitude on students' engagement in dishonest behavior. The study pointed out that, students who perceived their parents as lenient were more likely to engage in examination malpractices.

Conclusion

This research had five specific objectives which were measured through answering five research questions. Based on the findings of this study a number of conclusions can be drawn namely;

- i. The proportion of students involved in examination malpractices is relatively high at 56.2%
- ii. School factors have significant influence on examination malpractices
- iii. Student factors have significant influence on examination malpractices
- iv. Course factors have significant influence on examination malpractices
- v. Home factors have significant influence on examination malpractices

Recommendations

Based on the findings of this study, the following recommendations are proposed:

- vi. Schools should strengthen policies and regulations regarding examination conduct, emphasizing the reduction of malpractice opportunities. This may involve stricter supervision, improved exam management, and increased awareness initiatives.
- vii. Institutions should establish strong support systems for students, including counseling and academic assistance, to alleviate the pressures that often lead to malpractice.
- viii. The curriculum should be revised to ensure it is both engaging and relevant, which could reduce the likelihood of cheating. Additionally, assessment methods should be diversified to include continuous assessment, project work, and oral examinations.
- ix. Parents should be encouraged to take a more active role in their children's academic lives by creating a supportive home environment for studying and promoting values that discourage dishonesty.

Further Research

This study focused solely on public universities; a more comprehensive understanding could be achieved by including private universities in future research. Additionally, incorporating the role of quality assurance in examination management as an intervening variable would provide deeper insights.

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