



## Self Reported Cheating During Examinations and Associated Factors among Undergraduate Students of Mekelle University

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### Abstract

Academic dishonesty is unethical behavior in academic institutions that endangers the quality of education and authentic achievement of others. It is one form of academic dishonesty prevalent worldwide with an increasing trend over the past ten years. To assess the magnitude of self-reported cheating on exam and associated factors among regular undergraduate students of Mekelle University College of health science, 2015. A cross sectional study was conducted on 268 regular undergraduate students of medicine and other health sciences. Participants were selected using systematic sampling method. Data was collected using self-administered questionnaire, entered and analyzed using SPSS version 20. Descriptive statistics and logistic regression analysis were done to summarize data identify predicting factors respectively. The magnitude of self-reported cheating on examination was 36.5% and sixty seven percent of students who admitted ever cheating started cheating in high school. The odds of exam cheating among female students were significantly higher than odds males who admitted cheating during examination (Adjusted OR= 4.06; 95% CI= 1.47-11.20). Enrollment in the field of study without choice and participation in extracurricular activities were strongly related to cheating (Adjusted OR=4.19; 95% CI 1.23-14.27) and Adjusted OR=11.27, 95% CI= 4.37-28.31) respectively. Low CGPA was strongly associated with cheating (Adjusted OR= 6.59; 95% CI=2.47-17.60). Exam cheating was found prevalent in Mekelle University College of health science impacting educational quality and reducing the public trust of higher educational institution. This pervasive problem can be reduced by stricter invigilation system in schools and universities and familiarizing students that main purpose of assessment is not for giving grades.

**Key words:** Cheating, self reported, Mekelle University, Student

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### Introduction

#### Background

Academic integrity (AI) is defined as commitment to five fundamental values from which actionable principles of behavior are formulated:

honesty, respect, trust, fairness and responsibility (1). Academic dishonesty (AD) is a deviant academic behavior that occur when academic community failed to identify and implement standards of integrity intentionally or unintentionally (2). Different unethical behaviors are observed in colleges and universities where dishonest students and their actions disrupt the learning environment (3).

Exam cheating is an important violation of academic integrity, seriously undermining the quality of teaching, reduced the accuracy of evaluation process which leads to decreases exams validity and reliability and decrease public trust in education (4). In addition to this it is against the spirit of higher education and a violation of institutional regulations, results in self robbing which hinders learning how to learn, force others to live in the unfair system, failure to give equal opportunities for all students to learn(5). Moreover; it cause instability of student's value that

potentially result serious psychological problems such as felling of guilt and shame which in turn will have negative impact on level of motivation, self-esteem, self-respect, and learning ability(6). At the broader societal level, it diminishes academic reputation and it is likely that students who do not respect academic integrity while at university will not respect integrity in their future professional and personal relationships (7, 8).

The predictors of cheating vary in different societies and cultural backgrounds. And Research reports revealed that exam cheating is multifactorial: Age, cumulative grade point average (CGPA), extent of friend ship, amount of pocket money received, eating outside university cafeteria are identified as predictors of exam cheating behavior(4,6,9).

Although more attention has been devoted to the question of professionalism in recent years many medical schools are still confronted with a high level of academic dishonesty: 82 % of students in Addis Ababa and Jimma universities reported engaged at least once in one form of exam related dishonesty (10). Cheating is widespread among college students with overall percentage of 37.8% (6).

In spite of the fact that, exam cheating which is one form of academic dishonesty is a serious problem having negative educational, psychological and social consequences; little is known about the magnitude and associated factors of self reported exam cheating in Ethiopia in general and no data in the study area in particular. Therefore, this study aimed to have certain contribution in closing this gap.

## **Methods and materials**

### ***Study setting and design***

The study was conducted at Mekelle University College of health science found in Mekelle town from April 28-May 4 /2015. College of health science (CHS) is one of the seven colleges of Mekelle University which provides eight undergraduate and nine postgraduate programs in seven academic departments: school of medicine, department of dentistry, department of pharmacy, department of public health, department of midwifery, department of anesthesia and department of nursing and one institute which is institute of biomedical sciences(11). Facility based cross sectional study using quantitative data collection method was carried out.

### ***Source and study Population***

All fulltime regular undergraduate students in college of health sciences were the source of

population and students systematically selected from each class year within departments were the study population.

### ***Sampling procedure***

The desired sample size was calculated to be 268 using single population proportion formula [ $n = [Z / 2]2 p (1-p) / d2$ ] considering 19.8 % proportion of self reported exam cheating from study done in Hawassa (9) with 5% margin of error at 95% confidence level and 10% contingency. The total sample size was allocated to each of the seven departments using probability proportion to size (PPS). And in each department the allocated sample size also distributed to each year of study by PPS and systematic sampling technique was used to select each Participant from each year of study with in departments using list of students as sampling frame.

### ***Data collection instruments and procedures***

The data was collected using pretested semi-structured self-administered questionnaire. The questionnaire contained 35 items related to socio demographic variables, student's behavior variable and perceptions on exam cheating variable. The dependent variable self reported exam cheating was measured by asking yes/no questions on ever cheating experience in college exams. Questionnaire was pretested on 5% of undergraduate students other than the study population in another campus prior to the actual data collection to assess the validity of the questionnaire.

### ***Data analysis***

Following data collection, data were coded and entered in to a computer using Epiinfo version 3.51 and exported in to SPSS version 20 for analysis. Descriptive statistics and binary logistic regressions analysis were performed to present the results. In the binary logistic regression, both binary and multivariate analyses were carried out. All the variables were entered in Bivariate analysis and those explanatory variables with a p-value < 0.2 in crude analysis was considered as a candidate for multivariable analysis and those variables with p value of < 0.05 in multivariable analysis were considered as significant predictors of cheating during examination with 95% CI.

### ***Ethical clearance***

Ethical clearance was obtained from Mekelle University College of Health Sciences Institutional Ethical Review Board (IERB). Formal letter was written to registrar and alumni office for cooperation. Participation were informed the purpose of the study,

the benefit and risk of participation in the study before administration. Written informed consent from each participant was obtained using consent form attached to each questionnaire. The information provided were confidential.

**Results**

A total of 252 students were participated in the study giving a response rate of 94%. More than half (51.6%) of respondents were from medicine department and the remaining were Pharmacy (9.5%), Public health (9.5%), Dentistry (5.6%), Comprehensive Nursing (8.3%), Psychiatry Nursing (5.6%), Midwifery (7.5%), and Anesthesia (2.4%).

**Socio demographic characteristics of students**

Majority of the respondents (63.1%) were males. The mean age of students was 21.23 years (SD= 2.2 years), and overall age of participants ranged from 18 to 30, with the majority (66.3%) between 20-24 years. Regarding religion most of the participants (80.6%) were orthodox Christian. Greatest numbers of students (69%) were from urban

background and 63.5% of the respondents attended their high school in government schools. Sixty three (25%) of the respondents were 1<sup>st</sup> year students. Majority of students (88.5%) reside in the university dormitory followed by 8.7% living outside university dormitory. Average number of students per room (dormitory) was 6.29 students (SD = 1.72) with maximum of eight and minimum of one students in each room. The median income of students was 500 Ethiopian Birr per month and varied from 0 to 300 birr. The mean for CGPA was 3.12 (SD = .48), and the average number of students per class was 77.4 students (SD=42.9). On the other hand, Eighty two percent of students were enrolled in the field of study of their choice; 205 (81.3%) were interested in their field of study; and 187 (74.2%) reported they attended all their classes (**Refer Table 1**). Regarding family educational status, majority of students 83(32.9%) were from fathers with educational status of first degree and above, and 58(23%) were from mothers with educational status of elementary school level.

		Gender of participants	
		Male	Female
		N (%)	N (%)
<b>Age of students</b>	15-19	32(20%)	37(39.8%)
	20-24	114(71.7%)	53(57%)
	>=25	13(8.2%)	3(3.2%)
<b>Mothers educational level</b>	Unable to read and write	47(29.6%)	6(6.5%)
	Elementary school	45(28.3%)	13(14%)
	Secondary school	18(11.3%)	15(16%)
	College diploma	26(16.4%)	30(32.3%)
	First degree and above	23(14.5%)	29(31.2%)
<b>Fathers educational level</b>	Unable to read and write	39(24.5%)	7(7.5%)
	Elementary school	43(27%)	5(5.4%)
	Secondary school	27(17.5%)	15(16%)
	College diploma	18(11%)	15(16.1%)
	First degree and above	32(20%)	51(54.85)
<b>No of room mates</b>	<=3	7(4.8%)	4(5%)
	4-6	66(45.2%)	26(33.3%)
	>=7	73(50%)	48(61.5%)
<b>Monthly pocket money</b>	<100	11(6.9%)	1(1.1%)
	100-299	38(23.9%)	5(5.4%)
	300-500	60(37.7%)	28(30%)
	>500	50(31.4%)	59(63.4%)
<b>Latest CGPA</b>	2-2.99	34(21.4%)	33(35.5%)
	3-4	125(78.6%)	60(64.5%)

**Table1:** Socio demographic characteristics of respondents by sex, MU, CHS, 2015 (n=252).

\*MU-CHS Mekelle University College of Health sciences

**Magnitude of cheating during examination**

The magnitude of self reported cheating during examination since admission to college was 36.5%.

Forty four percent of students disclosed their involvement in any form of exam cheating behavior at least once in academia. From those, most of them

65(56.8%) had their first experience while studying in high school followed by 21(18.9%) in preparatory, 15 (13.5%) in university and 10 (9%) on entrance examination.

Majority 60% of students who started cheating at university for the first time reported they had cheated during their first year of study and the remaining revealed that they started cheating while they were second and third year students; 20% in each year of study. Students were also asked to determine the type of exam they have cheated in university. Most of them (42.1%) disclosed their cheating engagement on final exam, followed by 31.6% on mid exam, and 26.3% on quizzes. Reported frequency of involvement in cheating were; seldom (1-2 times) 43.5%, occasionally (3-5 times) 34.8%, and frequently (six or more times) 21%.

Majority of participants (93.3%) witnessed they had observed others cheating during examinations among these, 80.6% them responded they would ignore the case, 8.3% reporting them, and 11.1% described other measures like giving advice and telling the situation for their other friends. 38.5% of students perceived frequency of cheating among classmates as a very common problem, 33.7% sometimes, 16.7% rare and 11.1% as a very rare event. Nine percent of students involved in passive cheating, i.e. allowing others to cheat or copy from them.

**Reasons for cheating during examinations**

Fear of failure accounted for the major (19%) of the reasons for exam cheating behavior reported (Refer table 2). Among the teaching methods used during examination, cheating note accounted the most common (24%) cheating method reported by the students (Refer figure 1).

**Factors associated with cheating on examination**

After controlling for confounding variables using multivariable logistic regressions; gender, choice of field of study, participation in extracurricular activity, CGPA and experience of cheating in high school were found to have statistically significant association with exam cheating behavior of students. Accordingly, the odds of exam cheating among female students were significantly higher than odds of males (AOR= 4.06, 95% CI= 1.47-11.20). Students who were not enrolled in the field of study of their choice were 4 times more likely to cheat on examination than their counter parts (AOR=4.19, 95% CI 1.23-14.27). The odds of cheating during examination were 11 times higher among students involved in extracurricular activities than among students who didn't participate (AOR=11.27, 95% CI= 4.37-28.31). Students who had CGPA of 2-2.99 were found to cheat in exam more frequently than students who had CGPA of three and above (AOR= 6.59, 95% CI=2.47-17.60). The odds of cheating among student with history of cheating in high school were 25 higher as compared to their counterparts (AOR=25.78, 95% CI= 9.15-72.60) (Refer Table 3).

**Discussion**

According to this study the magnitude of self reported cheating on examination was 36.5%. This is higher than the study conducted in Awassa (19.8%) (9), and lower than the study conducted in United States 41% and 87.6% (12, 13). This could be as a result of the invigilation and monitoring system difference in the universities. This study found that 80.6% of respondents would ignore acts of friends/classmates cheating if witnessed. This is consistent with a study conducted in Singapore (14). The higher proportion of ignoring to report cheaters if witnessed might be related to fear of consideration like whistle blower, breakage of good relations, and uncertainty/perceived inappropriateness of measures to be taken for reported cases.

The results of this study showed that CGPA was strongly associated with cheating in college

Reasons	Frequency Percent	
Fear of failure	53	19%
Parental pressure for good grades	38	13.6%
High course load	24	8.6%
To get good marks/grades	44	15.8%
Unprepared for exam	21	7.5%
Poor invigilation during exam	14	5%
Hard exams	44	15.8%
Competition with others	24	8.6%
Other students do it/urged me to do it	8	2.9%
Others	9	3.2%
<b>Total</b>	<b>279</b>	<b>100.0%</b>

**Key: Others** (many exams at the same time, lots of materials to cover for exam) \*MU-CHS Mekelle University College of Health sciences

**Table 2:** Reasons for exam cheating behavior reported by students MU, CHS, 2015

examinations (AOR= 6.59; 95% CI=2.47-17.60). This finding was similar to findings in other studies that reported negative relations between CGPA and cheating on examinations (6, 9, 10, and 15). This might result from desire to get good grades and remain competent in campus. In addition to this; exam cheating might result from a thought that good grades would result in having good jobs after graduation.

This study evidenced that sex has significant relationship with exam cheating behavior of students. Females were found to cheat more frequently than males (AOR= 4.06; 95% CI= 1.47-11.20). This is in line with a study conducted in Awassa and South Africa (9, 16) but inconsistent with studies conducted in Turk, and Singapore (6, 14, 17) in which Males were reported to cheat on exam frequently than females. Literatures on academic cheating tried to explain this conflicting difference between gender and cheating in terms of psychological gender rather than biological aspects of being male or female.

This study revealed presence of positive correlations between cheating in university exams and student's participation in extracurricular activity (Adjusted OR=11.27, 95% CI= 4.37-28.31). This finding was in line with an exploratory study finding in South Africa (16). In this study, Majority (43.7%) of participants reported that they had cheated at least once during examination in academia. From those (81.5%) reported that they had their first experience of cheating on examination while studying in high schools. Students who had cheated in high school were more likely to cheat on college examinations than those who hadn't cheated in high school (OR=25.78, 95% CI= 9.15-72.60). This finding was consistent with a study conducted in United Arab Emirates (6).

### **Limitations of the study**

Cheating is undesirable behavior that violates moral values, attitude, and institutional and social regulations hence students may not respond honestly.

### **Conclusion and recommendation**

Self reported exam cheating was higher in this study which in turn disrupts the quality of education in higher institution and it treats the public protection in the health service. Considering the factors that encourage students in cheating, we recommend academic institution authorities and departments to use this finding as base line information in developing coherent strategies and policies to improve climate of academic integrity in

the campus which will enhance quality of education. Moreover, students should be enrolled based on their field of study.

### **Competing interests**

We authors declare that we don't have any competing interests

### **Author's contribution**

AY, has made substantial contributions to conception and design, or acquisition of data, or analysis and interpretation of data; HA and SW, has been involved in designing and analyzing the data, including critical review from the beginning to the end of report for its intellectual content. BD and AZ have been involved in drafting the manuscript or revising it critically for important intellectual content; and ZM have given final approval of the version to be published. Finally all authors read and approved the final manuscript before submission.

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