
Academic misconduct among medical students

Somchai Tanawattanacharoen¹, Chaichana Nimnuan²

Abstract

Objectives: To explore attitudes and behaviour in medical students to scenarios involving academic misconduct and to determine the association between attitudes and behaviour.

Methods: In August 2008, a cross-sectional survey using an anonymous, self-administered questionnaire was conducted at the Faculty of Medicine, Chulalongkorn University. All first year medical students were subjects. Completed questionnaires were collected and analyzed.

Results: Of the 291 medical students, 247 (84.9%) completed the questionnaire. The majority of medical students felt that most scenarios were wrong but admitted to engaging in at least one of the scenarios. In all, 139 (56.7%) students responded that cheating should be reported. Only 22 (9.1%) of the students stated that they had or would consider cheating or had witnessed such events. Fourteen out of 22 items showed significant association between attitudes and behaviours. No scenario demonstrated a negative relationship between attitudes and behaviour.

Conclusion: The proportion of first year medical students engaging in academic misconduct was high, although they considered it wrong. There were associations between students' attitudes and behaviour in most of the scenarios.

Introduction

Learning to become a physician requires not only the development of medical knowledge and practical skills, but also high ethical and moral standards including academic integrity (Swick, 2000; Berkow, 2002). More attention has been devoted in recent years to the question of professionalism in medical education and practice (Hensel & Dickey, 1998; Wynia *et al.*, 1999). Nevertheless, many medical schools are still confronted with a high level of academic dishonesty: up to 58% of students admitted to cheating at least once during medical school (Sierles *et al.*, 1980).

The prevalence was even higher in some developing countries where 94% of students admitted cheating at least once during their studies (Hrabak *et al.*, 2004). This might be due to multiple factors such as social, cultural and economic factors.

Students who have cheated in elementary school, high school and college are more likely to cheat in professional schools (Baldwin *et al.*, 1996). Likewise, cheating in medical school may be a significant predictor of dishonesty in future medical practice (Sierles, *et al.*, 1980) similar to those in business practice (Sims, 1993). Moreover, dishonesty among medical students may result in lack of knowledge and cause harm to patients (Rozance, 1991; Vengoechea *et al.*, 2008).

Previous studies have shown that most medical students consider academic misconduct to be wrong and would not engage in such activities (Rennie & Crosby, 2001; Elzubeir & Rizk, 2003). Numerous individuals and environmental factors are associated with dishonest behaviour. These include moral development, personality and institutional factors.

¹ Office of Student Affairs, Faculty of Medicine, Chulalongkorn University, Bangkok, Thailand

² Office Institutional Research, Faculty of Medicine, Chulalongkorn University, Bangkok, Thailand

Correspondence: Somchai Tanawattanacharoen, M.D.
Office of Student Affairs
Faculty of Medicine, Chulalongkorn University
Rama IV Road, Patumwan
Bangkok 10330, Thailand

Gender difference in cheating is one of the most researched individual factors. The results are not clear, with some studies indicating that males are more likely to cheat (Elzubeir & Rizk, 2003; McCabe *et al.*, 2001) and others indicating no significant difference between genders (Baldwin *et al.*, 1996; Anderson & Obenshain, 1994; Satterwhite *et al.*, 1998; Whitley, 2001). Furthermore, students' grade and academic year were other factors that have been studied recently and the results were still controversial (Hrabak *et al.*, 2004; McCabe *et al.*, 2001; Satterwhite *et al.*, 1998).

In Chulalongkorn University, the medical curriculum spans 6 years. As students progress through the course of their studies, it is quite possible that they are faced with increasing pressure and stress. Stress has been identified as one of the sources of academic misconduct (Helms & Helms, 1991).

Academic misconduct among medical students is the faculty's area of concern. Therefore, the faculty has integrated ethical dilemmas as a topic of the curriculum for over six years. The status of undergraduate ethics as a curricular topic has not yet been evaluated. The first year medical students are new members and have not learnt about the medical profession.

The objectives of this study were to determine attitudes and behaviour of medical students to scenarios involving academic misconduct and determine the association between the said attitudes and behaviours. The results may be helpful as baseline data and useful for comparing their attitudes and behaviour to academic misconduct across the years.

Materials and methods

All first year medical students of the Faculty of Medicine, Chulalongkorn University, academic year 2008, were recruited as participants. A cross-sectional survey was conducted using an anonymous, self-administered questionnaire. Any student who was absent on the survey day was excluded. Personal data in Part I covered information only on the students' gender. Part II of the questionnaire consisted of 22 questions which asked the students whether they had engaged in, or would

consider engaging in various behaviour involving academic misconduct. There were also 4 items that were either not classified as academic misconduct or were controversial issues (items 18 – 21 in questionnaire part II). This was to prevent students from answering without reading the questions. Part III consisted of 21 scenarios, a mimic to part II, but arranged in a different order. Each scenario portrayed "Somchai", a fictitious student engaged in academic misconduct described in part II. Students were asked whether they felt Somchai was wrong.

A final question of each part asked students to indicate their attitudes and willingness to inform the faculty of the misconduct of their peers. In contrast to previous studies, we assessed the students' behaviour prior to assessing their attitudes. Students were thus not compelled to accept that they had performed or considered performing what they have judged as wrong.

Response options used a Likert-type scale point proliferation. The 5-scale point response of each item was then transformed into 2 categories ("yes" and "no") to make results easy to interpret and to lessen social desirability bias. The data was analyzed using SPSS software (version 13.0 for Windows; copyright 2004. SPSS Inc, Rainbow Technologies, Chicago, Ill) using percentage frequency responses. Chi-squared and Fisher exact tests were used for categorical variables. A *p* value of less than 0.05 was considered statistically significant.

Results

The survey was conducted in August 2008. Two hundred and forty-seven of 291 medical students (84.9%) completed the questionnaire. There were 102 (42.5%) male and 138 (57.5%) female students. Seven respondents (2.8%) had not indicated their gender.

Self reported attitudes and behaviour to the scenarios

The medical students' attitudes and behaviour on scenarios regarding academic misconduct are shown in Table 1. The majority of medical students felt that most scenarios were wrong.

Table 1: Attitudes and behaviours of medical students on scenarios regarding academic misconduct

Scenario	Attitudes [§] [n/N (%)]	Behaviours* [n/N (%)]
1. Forging staff's signature on a piece of work.	236/246 (95.9)	13/247 (5.3)
2. Copying answers from friend in an examination.	233/246 (94.7)	82/247 (33.2)
3. Finding out about test questions file in the computer in the classroom and tells friends.	154/246 (62.6)	43/247 (17.4)
4. Copying directly from textbooks or published papers without acknowledging the source.	155/245 (63.3)	177/247 (71.7)
5. Copying friend's work.	207/246 (84.1)	115/247 (46.6)
6. Writing a piece of work for friend.	166/244 (68.0)	91/245 (37.1)
7. Lending friend work to copy.	158/246 (64.2)	170/247 (68.8)
8. Not attending the class but ask friend to sign a class attendance list.	216/246 (87.8)	102/247 (41.3)
9. Signing friend's name in a class attendance list for friend who does not attend the class.	201/245 (82.0)	120/245 (49.0)
10. Not ready for an examination so asking a doctor who is relatives to write the false sick medical certificate.	219/246 (89.0)	11/247 (4.5)
11. Presenting the expensive gift to the Head of Department on New Year occasion and asks to take an oral examination with a kind staff.	221/246 (89.8)	7/247 (2.8)
12. Resubmitting work already submitted for a different course for the present course.	144/246 (58.5)	51/244 (20.9)
13. Submitting work submitted the previous year by the senior.	205/246 (83.3)	37/244 (15.2)
14. Modifying friends' works and submitting it.	145/246 (58.9)	71/242 (29.3)
15. Submitting the same work with friend.	193/245 (78.8)	15/244 (6.1)
16. Not attending the class due to friend's birthday party.	124/246 (50.4)	57/243 (23.5)
17. Seeing friend copies answers from another student in an examination, but does not inform the examiner.	126/246 (51.2)	180/244 (73.8)
18. Copying from textbooks or published papers and lists them as references.	54/246 (22.0)	183/242 (75.6)
19. Lending friend work to look at, and she copies it without telling you.	147/246 (59.8)	140/242 (57.9)
20. Advising friend how to write a piece of work.	19/245 (7.8)	165/241 (68.5)
21. Not attending the class due to food poisoning.	18/246 (7.3)	78/243 (32.1)
22. Informing faculty of another student's serious academic misconduct?	139/245 (56.7)	22/242 (9.1)

[§] Yes = wrong which included the choices: "Absolutely yes: and "Probably yes"

* Yes = had or would consider doing which included the choices: "Often", "Occasionally", and "Not sure"

Table 2: Association between attitudes and behaviours of medical students

Scenario	Odd ratio (95% CI)	p value
1. Forging staff's signature on a piece of work.	9.7 (2.2, 43.1)	<0.001
2. Copying answers from friend in an examination.	3.4 (1.1, 10.9)	0.027
3. Finding out about test questions file in the computer in the classroom and tells friends.	2.5 (1.3, 4.9)	0.006
4. Copying directly from textbooks or published papers without acknowledging the source.	2.4 (1.3, 4.5)	0.006
5. Copying friend's work.	1.6 (0.8, 3.2)	0.187*
6. Writing a piece of work for friend.	1.1 (0.6, 1.9)	0.845*
7. Lending friend work to copy.	1.6 (0.9, 2.8)	0.135*
8. Not attending the class but ask friend to sign a class attendance list.	3.3 (1.5, 7.3)	0.003
9. Signing friend's name in a class attendance list for friend who does not attend the class.	1.7 (0.9, 3.4)	0.109*
10. Not ready for an examination so asking a doctor who is relatives to write the false sick medical certificate.	18.8 (5.1, 69.8)	<0.001
11. Presenting the expensive gift to the Head of Department on New Year occasion and asks to take an oral examination with a kind staff.	13.8 (2.9, 66.0)	<0.001
12. Resubmitting work already submitted for a different course for the present course.	3.5 (1.8, 6.7)	<0.001
13. Submitting work submitted the previous year by the senior.	1.7 (0.8, 4.1)	0.189*
14. Modifying friends' works and submitting it.	3.2 (1.8, 5.7)	<0.001
15. Submitting the same work with friend.	3.6 (1.3, 10.6)	0.012
16. Not attending the class due to friend's birthday party.	2.3 (1.2, 4.2)	0.008
17. Seeing friend copies answers from another student in an examination, but does not inform the examiner.	2.4 (1.3, 4.4)	0.004
18. Copying from textbooks or published papers and lists them as references.	3.4 (1.7, 6.5)	<0.001
19. Lending friend work to look at, and she copies it without telling you.	1.1 (0.6, 1.8)	0.776*
20. Advising friend how to write a piece of work.	3.0 (1.1, 7.9)	0.022
21. Not attending the class due to food poisoning.	1.2 (0.4, 3.4)	0.796*
22. Informing faculty of another student's serious academic misconduct?	1.4 (0.6, 3.5)	0.464*

* no statistical significance

However, for every scenario, there were students who had engaged in, or would consider engaging in similar behaviour. The two scenarios that most students considered wrong were item 1: forging a staff member's signature (95.9%) and item 2: copying answers from friends during an examination (94.7%). The scenarios that were not considered academic misconduct or controversial issues were items 18 – 21. Only a few students identified them as academic misconduct except for item 19 (lending a friend work to look at, and she copies it without telling you). The majority of students were uncertain about scenarios 3,12,14,16 and 17 (Table1).

Regarding behaviour of the students, the four most frequent scenarios of academic misconduct were items 4,7,9, and 17. The two

scenarios the students seldom reported practicing were item 10, which was not being ready for an examination and asking a doctor who is a relative to write the medical certificate stating an illness to be excused from an examination (4.5%) and item 11: presenting expensive gifts to the Head of Department during New Year's and asking to take the oral examination with a staff member who is very kind (2.8%). In all, 139 (56.7%) respondents answered they should inform the faculty of another student's academic misconduct. However, only 22 (9.1%) students stated that they had or would consider informing faculty in case they witnessed such an event.

Association between reported attitudes and behaviour

The results show a trend that if the students felt the action was wrong they would not engage in the behaviour described in most of the scenarios of academic misconduct (Table 2). There were strong associations between attitudes and behaviours in the last two scenarios discussed above. Students rarely submitted a fake medical certificate or bribed a teacher (odds ratios = 18.8 and 13.8, respectively).

Even the scenarios where students were uncertain whether they were wrong or not (items 3, 12, 14, 16, and 17), there still were significant associations between attitudes and behaviour. However, after excluding items 18 –21, there were six items (5, 6, 7, 9, 13, and 22) where the relationship between reported attitudes and behaviours did not show statistical significance. No scenario showed a negative relationship between the two.

Discussion

The questionnaire survey reported is part of a larger study of medical students' attitudes and behaviour regarding academic misconduct at the Faculty of Medicine, Chulalongkorn University. This study describes the attitudes and behaviour of first year students who have been attending medical school for only a few months. The results may reflect attitudes and behaviours acquired from their high schools, rather than from medical school.

The response rate in this study was 84.9% which was high. Similar to previous studies (Rennie & Crosby, 2001; Elzubeir & Rizk, 2003), this study revealed that the majority of the first year medical students considered academic misconduct to be wrong and would not engage in it. However, a number of them still reported performing such behaviours. Moreover, many students did not consider some scenarios as academic misconduct. For instance, 49.6% of the students felt that it was alright not to attend class because of a friend's birthday party and 48.8% of them felt it was not wrong if they did not inform the examiner if they witnessed cheating. About 41% considered submitting a piece of work that had been previously submitted was acceptable. This may reflect pitfalls in the education system that failed to encourage appropriate attitudes and behaviour regarding academic integrity.

There was no scenario the students had not conducted or been engaged in. The level of

misconduct discussed in the scenarios is not equal in terms of seriousness. The two scenarios reported as being seldom performed were submitting a fake sick medical certificate and bribing a teacher, which are classified as very serious misconduct. On the contrary, many scenarios students admitted to performing were less serious. Some showed concern and loyalty to their friends, such as forging their friend's name in a class attendance list, or seeing a friend copying answers from another student during an examination, and not informing the examiner. Thus, the faculty may need to take action according to the degrees of academic misconduct. As mentioned, the first year students have started their study in the medical school for only a few months when this survey was conducted and their responses more likely reflect the behaviours carried from their high schools. Baldwin, *et al* (1996) reported that 82% of students who cheated in medical school admitted to prior cheating. This suggests that the reduction in academic misconduct in medical school may need to be initiated since the admission process. Furthermore, positive attitudes about learning should be instilled among first year medical students.

Behaviour usually, but not always, reflects established beliefs and attitudes. The relationship between attitudes and behaviour has been researched extensively in social science. In this study, 14 out of 22 items showed significant association between attitudes and behaviour. Four out of the six items (6, 7, 9, and 22) that showed no significant association between attitudes and behaviour reflect that students nowadays may feel more loyalty to their friends rather than to the academic integrity and their profession.

Several limitations of the study that should be mentioned are the nature of a self-reported and cross-sectional study. The percentages shown in our study may be incorrect because some students were absent on the day of the survey and some may wish to present themselves in a socially desirable manner. The cross-sectional design itself does not allow us to establish any cause and effect relationship from the survey data. Nevertheless, the study clearly illustrates an alarming prevalence of academic misconduct in our institution. A further study as a longitudinal survey may be useful for detecting more meaningful information. We may be able to discover the cause-effect between various factors and the students' attitudes and behaviours regarding academic misconduct and

develop a more appropriate environment, curriculum and regulations aimed at minimising academic misconduct.

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