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Students' Attitudes and Behavior towards Academic Dishonesty during Online Learning †

Amirun Hasri, Rafidah Supar *, Nurul Dizyana Nor Azman, Hairenanorashikin Sharip and Lyana Shahirah Mohamad Yamin

Faculty of Health Sciences, Universiti Teknologi MARA, Bandar Puncak Alam 42300, Malaysia
* Correspondence: rafidah5575@uitm.edu.my
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Abstract: Online learning has been an integral part of the educational process in universities, particularly during the COVID-19 pandemic. Despite the popularity of online learning, concerns exist over their level of academic integrity. The aim of this study is to investigate students' attitudes and behavior towards academic dishonesty during online learning. In total, 319 undergraduate health sciences students at a public university took part in the survey. The online self-administered questionnaire was distributed through a social media platform. Data collected were analyzed using the Statistical Package for Social Sciences (SPSS) Version 25.0. Majority of the respondents perceived the indicated behavior as serious cheating. However, most respondents (86.2%) self-report that they have engaged in academically dishonest behaviour at least once for the past one year. Furthermore, approximately 77% (n = 246) of respondent has witnessed act of academic dishonesty among their friends for the past one year. Spearman correlation test revealed no association between students' attitudes and behavior towards academic dishonesty during online learning. The result of this study, in summary, is that students perceive the indicated behaviors as serious cheating and have engaged in academically dishonest behaviors less frequently.

Keywords: academic dishonesty; academic integrity; attitude and behavior

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1. Introduction

Academic integrity is an integral part of education that should be upheld by every member of an academic community to instill a good learning environment, allowing success and growth. Within tertiary education, acts of academic dishonesty are often used as a measure of lacking academic integrity. Academic dishonesty among students can be defined as academic behavior that does not conform with the university's policies, whereby the students perform acts of dishonesty to gain unjustified advantage in their assessment [1]. In addition, academic dishonesty is also defined as behavior such as plagiarism, unauthorized collaboration, violating examination's rules, cheating during examination and attending an exam in place of another individual [2–4].

Academic dishonesty is not a new phenomenon, as it has been a long-standing challenge, existing since the beginning of traditional learning. Various studies have reported the occurrence of academic dishonesty, indicating that it can occur in various events such as academic assignments, tests or final examinations [5]. It was reported that 75% of students had engaged in one form or another of academic dishonesty [6]. Additionally, it was reported that the prevalence of academic dishonesty among students in medical school ranges from 0% to 58% [7]. Similarly, it was found that about 20% of medical and health sciences students cheated at least once during their undergraduate studies [8]. In recent years, the prevalence of students that self-report on acts of academic dishonesty has increased tremendously, especially in regards to cheating during tests [9,10].

With the advancement of technology, many institutions have shifted from traditional on-campus education to hybrid (online and face-to-face) or entirely online. Online learning

has become more prominent especially during the COVID-19 pandemic, in that most universities have shifted to online learning to ensure continuation of the learning process. In spite of its great advantages, online learning has further raised concern, particularly regarding new methods of academic dishonesty. One study found that the majority of students believe that cheating is easier in online learning as compared to traditional learning [11].

To effectively address academic dishonesty, understanding of various factors such as the cause of engaging in such activity is needed. Students' perceptions of what are acceptable and unacceptable acts related to dishonest practices might affect their behaviors [12].

Therefore, to further understand academic dishonesty among health sciences students, this study aimed to examine students' attitudes and behavior towards academic dishonesty.

2. Methods

2.1. Study Design and Data Collection

This cross-sectional survey study was conducted among undergraduate health sciences students at a public university. A total of 319 respondents were recruited in this study by using convenience sampling. The questionnaire was distributed online. Respondents were assured of the data confidentiality and their participation were kept anonymous.

2.2. Instrument

This survey study used self-administered questionnaires. The questionnaire consisted of 75 questions that was adapted from previous studies [13,14]. The questionnaire included three sections. Section A consisted of demographic information. Section B was used to identify students' attitude towards academic dishonesty. It consisted of 23 questions, which asked the respondents to identify how serious they believe each of the behaviors to be by using a scale of "Not Cheating", "Trivial Cheating", "Moderate Cheating" and "Serious Cheating". Section C was used to identify students' behaviors towards academic dishonesty. It consisted of 23 questions, which asked the respondents to indicate how often within the past year they (own self) and their friends (friends/classmates) had engaged in a set of behaviors.

2.3. Scoring of Instrument's Items

The responses to Section B and C were scored individually per respondent. For Section B, the responses were scored as 1 (Not Cheating), 2 (Trivial Cheating), 3 (Moderate Cheating) and 4 (Serious Cheating). An average score for each respondent was calculated with a value ranging from 1 to 4. Lower average value suggested that the respondent does not perceive the indicated behaviors as cheating, whereas higher average value indicated that the respondent perceived the behaviors as serious cheating. For Section C, responses were scored as 1 for "I never did it", scored 2 for "I've done it once" and scored 3 for "I have done it more than once". Responses of "Not Relevant" were scored as zero (0). An average score for each respondent was calculated with a value ranging from 1 to 3. Higher average value suggested that the students had engaged in academically dishonest behaviors more frequently.

2.4. Reliability

A total of 30 students were recruited in a pilot study for questionnaire reliability testing. Reliability test was conducted using test–retest reliability method. Cohen's kappa coefficient was used to determine the reliability of the questionnaire using SPSS, and it yielded a value of 0.917, which reflected a substantial agreement of reliability.

2.5. Statistical Analysis

Both descriptive and inferential data analysis were performed using IBM SPSS Statistics for Windows, version 25.0, Armonk, NY, USA: IBM Corp, with a value of $p < 0.05$ being considered statistically significant. Normality test was performed, which showed

not-normally distributed data. Hence, Mann–Whitney, Kruskal–Wallis and Spearman's correlation tests were performed for data analysis.

3. Results

3.1. Demographic of Study Population

A total of 260 (81.5%) female and 59 (18.5%) male students participated in this study. The age of the respondents ranges from 19 to 26 years old, with 69% (N = 220) of the respondents being bachelor's degree students. A higher number of semester two students participated (N = 87, 27.3%), while semester six students recorded the least participation (N = 60, 19.1%). According to the findings, the majority of the respondents have CGPA of '3.01 to 3.50' (N = 167, 52.4%) whereas only 2 (0.6%) respondents are from those with CGPA of '2.00 to 2.50'.

3.2. Prevalence of Academic Dishonesty

A majority of respondent (86.2%, n = 264) self-report that they have committed academic dishonesty behaviour at least once for the past one year. Furthermore, study revealed that about 89.8% (n = 53) male students self-report that they've performed academic misconduct at least once for the past one year; which is higher than female students (85.4%, n = 260). In addition, approximately 77.1% (n = 246) of respondent has witnessed act of academic dishonesty among their friends at least once for the past one year.

3.3. Student's Attitude and Behaviour towards Academic Dishonesty

Table 1 reveals the scores for students' attitudes and behavior towards academic dishonesty. For attitude, this study found a higher average mean score, which means that the respondent perceives the indicated behaviors as serious cheating. In addition, for behavior of own self and friends, a lower mean score shows that the students and their friends have engaged in academically dishonest behaviors less frequently.

Table 1. Students' attitudes and behavior towards academic dishonesty.

	N	Min.	Max.	Mean	SD
Attitude	319	1.00	4.00	2.76	1.06
Behavior (own self)	319	0.61	3.00	1.31	0.32
Behavior (friends)	319	0.87	3.00	1.45	0.45

3.4. Association of Demographic Factors and Student's Attitude and Behaviour towards Academic Dishonesty

In addition, Table 2 shows that the score for attitude towards academic dishonesty during online learning for female students (3.22) is higher compared to male students (2.96), whereas the scores for behavior toward academic dishonesty are higher among male students. These scores show that female students perceived the indicated behavior more seriously whereas male students engaged in dishonest behavior more frequently compared to female. A Mann–Whitney test was conducted, and it was found that there is no association between gender and attitude towards academic dishonesty. However, it was found that there is an association between gender and behavior towards academic dishonesty (p value < 0.01).

Table 2. Association between gender and students' attitudes and behavior towards academic dishonesty.

Variable	Male Median (IQR)	Female Median (IQR)	Z Statistics [a]	p Value [a]
Attitude	2.96 (1.57)	3.22 (2.26)	−0.863	0.388
Behavior (own self)	1.39 (0.65)	1.22 (0.26)	−3.600	0.000 [a]*

[a] Mann–Whitney test. * Statistically significant, $p < 0.01$.

Furthermore, it was found that the scores of students' attitudes toward academic dishonesty are highest among students aged 'more than 25 years old' (Table 3). These scores show that older students perceived the indicated behavior more seriously but had engaged in academic dishonesty more frequently. A Kruskal–Wallis test was conducted and reported no association between age and attitude toward academic dishonesty. However, there is an association between age and behaviors toward academic dishonesty (p-value < 0.01).

Table 3. Association between age and students' attitudes and behavior towards academic dishonesty during online learning.

Variable	Age	N	Median (IQR)	X2 Statistic (df) [b]	p Value [b]
Attitude	19–21	145	3.17 (2.20)	0.470 (2)	0.791
	22–24	141	3.17 (2.26)		
	>25	33	3.30 (2.04)		
Behavior (own self)	19–21	145	1.17 (0.28)	12.737 (2)	0.002 [b]*
	22–24	141	1.26 (0.41)		
	>25	33	1.48 (0.57)		

[b] Kruskal–Wallis test. * Statistically significant, $p < 0.01$.

Table 4 shows that the scores of students' attitudes and behavior toward academic dishonesty are the highest among students in semester 4 and 8 respectively. These scores show that second year students perceived the indicated behavior more seriously whereas final year students had engaged in academic dishonesty more frequently compared to others. A Kruskal–Wallis test was conducted and showed no association between year of study and attitude towards academic dishonesty. Nevertheless, there is an association between year of study and behavior towards academic dishonesty (p-value < 0.01).

Table 4. Results for students' attitudes and behavior towards academic dishonesty during online learning among respondents in association with semester.

Variable	Semester	N	Median (IQR)	X2 Statistic (df) [b]	p Value [b]
Attitude	2	87	3.00 (2.35)	5.534 (3)	0.137
	4	84	3.35 (0.95)		
	6	61	3.17 (2.39)		
	8	87	3.30 (2.04)		
Behavior (own self)	2	87	1.17 (0.30)	24.915 (3)	0.000 [b]*
	4	84	1.21 (0.34)		
	6	61	1.26 (0.35)		
	8	87	1.35 (0.52)		

[b] Kruskal–Wallis test. * Statistically significant, $p < 0.01$.

In addition, Table 5 shows that the scores for students' attitudes towards academic dishonesty during online learning are higher among students with CGPA of '2.00–2.50' as compared to others. On the other hand, for behavior of own self towards academic dishonesty, students with CGPA of '3.51 to 4.00' recorded higher scores compared to others. These scores show that students with lower CGPA perceived the indicated behavior more seriously and had engaged in academic dishonesty less frequently. A Kruskal–Wallis test was conducted, which showed that there is an association between CGPA and attitude towards academic dishonesty (p-value < 0.05). However, there is no association between CGPA and behavior towards academic dishonesty.

Table 5. Results for students' attitudes and behavior towards academic dishonesty during online learning in association with CGPA.

Variable	CGPA	N	Median (IQR)	X2 Statistic (df) [b]	*p* Value [b]
Attitude	2.00–2.50	2	3.65 (0.00)	9.254 (3)	0.026 [b]*
	2.51–3.00	45	2.39 (2.41)		
	3.01–3.50	167	3.30 (2.00)		
	3.51–4.00	105	3.13 (1.70)		
Behavior (own self)	2.00–2.50	2	1.02 (0.00)	7.732 (3)	0.052
	2.51–3.00	45	1.17 (0.30)		
	3.01–3.50	167	1.22 (0.43)		
	3.51–4.00	105	1.26 (0.35)		

[b] Kruskal–Wallis test. * Statistically significant, $p < 0.05$.

3.5. Association between Student's Attitude and Behaviour towards Academic Dishonesty

Spearman's correlation test was conducted to determine association between students' attitudes and behavior of own self towards academic dishonesty. However, it was found that there is no association between students' attitudes and behavior towards academic dishonesty, as shown in Table 6.

Table 6. Results of association between students' attitudes and behavior (own self) towards academic dishonesty during online learning.

Independent Variable	rs	*p* Value
Attitude	0.047	0.406
Behavior (own self)	0.047	0.406

Spearman's rho.

4. Discussion

The results of this study reflect a positive attitude of health sciences students towards academic dishonesty during online learning amid COVID-19 pandemic. Higher average scores show that the respondents perceived the indicated behaviors as serious cheating. Respondent perceived cheating behaviours such as turning in work done by someone else, copying from other students during test; and copying other student's homework to be a serious cheating behaviour. This finding is in agreement with previous studies [15,16]. However, despite their positive perception, a majority (86.2%) of the respondents reported that they have engaged in cheating behaviour at least once for the past one year. In other words, despite the fact that students perceive academic dishonesty as serious problem and unethical, they couldn't dissuade from doing it. Various researches have reported cheating behaviours among medical and health sciences student [7,8,13]. Besides, 77% of students reported that they witnessed their friends engaged in academically dishonest behaviour. This is in line with previous study who reported that students cheat because they believe their friends do the same [17]. Additionally, they discover that their fellow friends engage in cheating behaviour more frequently than they do, which is viewed as "a justification for their behaviour" [18].

In addition, it is found that female students have higher scores of attitudes as compared to male students. However, statistically, the results of this study indicate that gender does not influence students' attitudes towards online learning. This is in contrast with study that reported significant difference in male and female students with female students perceive academic cheating behaviours as more serious [15]. The irony in this situation is that, despite the fact that most indicated behaviours were perceive by female students as serious, the study revealed that they got engaged in dishonest behaviour (85%) similar like male student. Although the scores on behaviour is low for both male and female respondents (less frequent of engaging in dishonest behaviour), male respondent reported

to engage more frequently in dishonest behaviour compared to female respondent. This is similar with previous study which found that male students were more likely to believe a cheating culture is more prevalent [13]. Besides, it is found that there is an association between gender and cheating behaviour. This is in contrast with various studies whereby most researchers have found that gender does not have a significant impact on a student's decision to engage in acts of academic dishonesty [8,14,19]. The possible cause of outcome variation may be the difference in the number of male and female students in this research compared to other studies.

This study also shows that there's no statistically significant difference in student's attitudes towards academic dishonesty based on study level. However, it was found that their study level might have impact on the likelihood of engaging in the academically dishonest behaviour, with final year students engaged more frequently compared to other students. Previous studies stated that student's focus on academic is likely to diminish as they get older, which may affect how they perceive academic dishonesty and how likely they are to do it [14,19]. Furthermore, this study found that CGPA may have impact on the attitude but not likelihood of academic dishonesty. Interestingly, students with lower CGPA (2.00 to 2.50) perceive the indicated behaviour as serious cheating compared to higher achievers. This is in contrast with previous literature [16,19]. Besides, this study shows that students with CGPA of "3.51 to 4.00" engaged in dishonest act more frequently compared to other students. This result also suggests that as a student's cumulative GPA increases, their self-reported cheating behavior increased. This might be due to the fact that these students might feel the need to maintain their academic performance or for scholarship purposes. However, this is contradicted with study that suggested as student's CGPA increases, their self-reported cheating behaviour decreased [14,20]. The possible cause of outcome variation may be the difference in the number of respondents among lower and higher achievers in this research compared to other studies.

In addition, this study found that there is no association between students' attitude and behaviour towards academic dishonesty. It suggested that though students perceive the indicated behaviours as serious dishonesty act, it does not have an impact on their self-reported behaviour. In contrast, previous studies reported significant correlation between students' attitudes towards academic dishonesty and their self-reported cheating behaviours [14,21]. The absence of significant results in relation to individual components of sociodemographic data suggests that additional study into other possible elements, such as moral growth and institutional culture, that influence students' attitudes and behaviors is required.

This study presented some limitations. First, since students were asked to recollect actions that may have been conducted or observed for the past one year, recall bias may have affected the data. Besides, the data are relied on self-reports, which could make them vulnerable to social response bias due to sensitive subject matter. However, it was mitigated because the researcher guaranteed complete anonymity and stressing the importance of honest responses to the questions. Despite the limitation, this study has provided some insight into how university students perceived and act with regards to academic dishonesty.

5. Conclusions

Finally, this study revealed students' attitudes and behavior regarding academic dishonesty during online learning. The researcher achieved the overall goal of this study, which was to evaluate students' attitudes and behavior regarding academic dishonesty during online learning. Furthermore, the particular aim of determining the relationship between sociodemographic data and attitudes and behavior towards academic dishonesty during online learning has been effectively achieved.

A descriptive statistic has been administered to define the frequency of students' attitudes and behavior. Hence, it is helpful to determine the total students who experienced different attitudes and behavior based on this study. The analysis revealed that there is no association regarding both attitudes and behavior.

Lastly, the results of this study are, in summary, that the majority of students perceived the indicated behaviors as serious cheating and have engaged in academically dishonest behaviors less frequently. Serious attention and effective mechanism should be continuously implemented and monitored to ensure quality education as cheating can give unfair advantage to the cheater and it may falsify data about what students have truly learned.

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