RESEARCH

Pharmacy Students' Interpretation of Academic Integrity

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Objective. To explore pharmacy students' recognition and interpretation of situations constituting breaches of academic integrity.

Methods. A survey instrument comprising 10 hypothetical student(s) scenarios was completed by 852 students in the bachelor of pharmacy program at an Australian university. The scenarios were relevant to current modes of assessment and presented degrees of ambiguity around academic integrity.

Results. Identification of the hypothetical student(s) at fault, particularly in the deliberately ambiguous scenarios, was not related to the respondents' year of study or sex. Students with fewer years of postsecondary education were more definitive in their interpretation of contentious cases. Respondents from all 4 years of study reported witnessing many of these behaviors among their peers.

Conclusion. This study provided novel insight into the ambiguity surrounding academic integrity and students' perceptions relating to the deliberate or inadvertent involvement of other parties.

Keywords: academic integrity, assessment, cheating, pharmacy, plagiarism, students

INTRODUCTION

Academic integrity is a fundamental expectation of university students as reflected in student charters and similar documents. While the concept is of paramount importance in all university programs, it is of particular interest in professional degree programs such as medicine, pharmacy, nursing, or law, as students of these disciplines should have high levels of ethical principles in readiness for their membership in professions guided by codes of ethics/conduct and professional practice standards.¹

The incidence of and demographic factors associated with academic misconduct in postsecondary students, predominantly cheating in assessments and plagiarism, have been extensively studied by academic researchers.²⁻¹¹ Factors including age, sex, and experience with postsecondary study are still debated in the literature.¹² Some studies have found that male students are more likely than female students to commit plagiarism,¹³⁻¹⁵ although this has been contradicted.^{4,16,17} Studies in which postgraduate and undergraduate students self-reported their behavior suggested lower rates of academic dishonesty among postgraduate students,^{3,4,8,18-21} and this was attributed to these students' maturity and commitment to their future

careers. The majority of students acknowledge the existence of plagiarism rules, but may be unsure of how to apply them.² Because most international students cope with more stress socially and academically than domestic students, studies have found that they are more prone to cheat.⁶ Use of the Internet and other electronic media for plagiarism has been widely reported.^{2,5-8,10,22-25} Other factors such as a publicized honor code, academic pressure, and students' morals/beliefs have also been researched in terms of students' academic behavior; however, there has been a lack of consensus in the findings.^{4,11,19,21-23,26,27}

Presumably because of the challenges surrounding self-reporting of academic misconduct and inaccurate detection of such cases, research has extended to students' perceptions or interpretation of academic misconduct as a proxy for their behavior. Studies have found that "mature" students are less likely to recognize acts of academic misconduct and report cheating compared with younger students.^{4,15,17,28} A Scottish cross-sectional study, however, tested students' ability to "recognize foul academic behaviors" and found that most first-year students considered numerous acts of plagiarism reasonable, perhaps because of lack of experience in dealing with such situations.²⁹ Other researchers have characterized students' justifications for cheating, which first required recognition of these behaviors, and then focused on "neutralization" and excuses, and recognition of the "shades of grey" in condemned behaviors.³⁰ The overall paucity of

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published research on the psychological aspects of breaching academic integrity implies a need for further study, and this should begin by exploring students' interpretation of academic integrity.

Two studies of the plagiaristic behaviors of medical students in Croatia,^{31,32} which compared groups of students who were not warned about plagiarism, those issued a minor warning, and those issued a strong message about plagiaristic activity, produced inconsistent findings. These studies focused on particular behaviors rather than on the students' ability to discern appropriate and inappropriate conduct.

Behavioral research in the nursing discipline revealed a higher rate of academic misconduct in undergraduate nursing students compared with postgraduate nursing students and non-nursing undergraduate students. Additionally, the undergraduate nursing students were also less likely to identify moderate or serious cheating.⁵

An Australian study published by University of Sydney researchers explored pharmacy students' knowledge, attitudes, and behaviors relating to academic honesty, and evaluated the influences of students' age, education experience, morals/beliefs, and understanding of plagiarism. Approximately 90% of the undergraduate students surveyed felt that it was acceptable to have someone else write their assignment, invent references because they had forgotten to note the source details, and include someone else's words in their assignment without properly referencing the source.²⁰ While examining relevant demographic variables, the study omitted some variables reported by other authors and could have provided deeper insight if the proposed behaviors had been more detailed. Our study attempted to build on this published research²⁰ by applying a scenario-based approach to determine pharmacy students' interpretation of academic misconduct, thereby identifying areas of ambiguity and training needs in academic integrity. Whether examining students' interpretation of academic misconduct in a fictional scenario is a valid proxy for assessing students' views regarding their own behavior is beyond the scope of this paper. Our supposition was that if students can identify appropriate and inappropriate behavior, this might improve self-awareness of their own behavior and, thus, influence their conduct.

The aim of our research was to elucidate students' ability to identify appropriate and inappropriate academic conduct using scenarios depicting potential cases of plagiarism and other forms of cheating in order to highlight areas of ambiguity in students' understanding of appropriate academic conduct. One hypothesis of interest was that students' ability to correctly identify plagiarism would be greater among more senior students in the program.

METHODS

The survey instrument, designed for all 4 years of the undergraduate bachelor of pharmacy program at The University of Queensland, Australia, comprised 2 sections. The first section requested demographic data: age, sex, years of university completed, number of years in Australia, English as first language, and whether the student had completed the university's online academic integrity tutorial that year. The second section comprised 10 scenarios in a format reported in previous research,²⁹ each depicting misconduct issues involving fictitious students named Mary and John, and asked respondents to indicate whether Mary or John, or both, were at fault. Options for "not sure" were included for each character in recognition of ambiguity that could be perceived in each case. Further to the originally published question format,²⁹ respondents also were asked to indicate whether they had witnessed and/or been involved in a similar scenario. The authors believed that by requiring respondents to judge the actions of third parties, the students' responses would be less impacted by guilt and fear relating to their own behaviors. Scenarios 1 and 2 purposely described stereotypical cheating situations and were used as control items, with the expectation that almost all students would correctly identify the student in the scenario who was depicting, or involved in, misconduct. All scenarios represented situations that students might or may already have encountered during their studies and reflected modes of assessment in this degree program. Scenarios 1 and 6 reflected potential technology-related plagiarism. Prior to administering the survey, the researchers determined the correct response to questions on each scenario via consensus and based on published academic best practice guidelines.

The School of Pharmacy Human Research Ethics Committee, The University of Queensland, approved the study. The study was conducted with students from all 4 years of the bachelor of pharmacy program (N=1,058). As per the University of Sydney study,²⁰ hard copies of the survey instrument were distributed during class sessions after first obtaining the permission of the academic staff. The survey was conducted in the middle of semester 1 in 2011, by which time all first-year students should have completed the online academic integrity module introduced university wide. Students were informed about the purpose of the study and the anonymity of their responses. They completed the survey instrument in 10 to 15 minutes and then folded the form to hide their responses. As the survey instrument was anonymous, there was no follow up for absent students. Data were entered into Excel, and screened and descriptively analyzed using SPSS, version 19 (IBM, Armonk, New York).

RESULTS

Of the 849 respondents (an 80% overall response rate), 33% were first-year students and just over half of all respondents spoke English as their first language (Table 1). Only 38% of respondents had completed the university's online academic integrity tutorial earlier in the academic year, with the majority being first-year students. The most common age group represented in the sample was 18 to 19 years, corresponding with 1 to 2 years of postsecondary study.

The 2 control scenarios depicting stereotypical cases of cheating were correctly identified by 96% and 97% of students, respectively (Table 2). First-year students were the most certain about John's unacceptable actions, although no trend was obvious with advancing years of study.

Several scenarios designed to be ambiguous prompted first-year students to identify both John's and Mary's actions as academically unacceptable. However, first-year students failed to differentiate ethically unacceptable actions from other actions, as evident in scenario 7, where the researchers deemed neither of the characters to have committed an obvious act of academic misconduct. Ethical dilemmas posed in scenarios 6 and 10 also showed similar findings. In scenario 8, Mary's actions had not breached academic conduct, but were still perceived as wrong by 21% of the first-year students.

There was an inverse trend between the cohort years relating to whether Mary was wrong in not reporting John's purchase of his essay online (scenario 6) in that first-year students were more likely to perceive Mary's action as unethical. This trend was mirrored in scenario 9, another case that highlighted contention related to facilitating plagiarism.

In the scenarios related to the use of information technology (scenarios 1 and 6), no clear trends were evident. Students in later years of study appeared to increasingly recognize certain acts of technological cheating such as essay purchasing, although other scenarios did not support this trend.

Cross tabulation of response categories by sex revealed no significant variation in interpretation of the

scenarios between male and female students. Respondents from all 4 years of study reported low rates of involvement across the 10 scenarios (Table 3), albeit with awareness of some of these behaviors among peers in up to 43% of fourth-year students. Awareness of these behaviors and self-reported involvement generally increased with the cohort year. The more common self-reported behaviors reflected students' lack of effort to complete assessments, such as copying answers to pretutorial questions (19%).

DISCUSSION

Numerous studies have used brief scenarios or statements to depict examples of academic misconduct^{9,29,33-35} in which students were presented with between 9 and 24 scenarios. Compared with the first-person approach,⁹ our reference to fictitious characters was arguably more likely to depersonalize the situation and enable exploration of students' perceptions in cases of ambiguity. Other authors have reported using a fictitious student in their 9 scenarios.³³ While this enabled depersonalization, their scenarios involved a single person, so they were unable to explore ambiguity around collusion or involvement of an innocent party. Our findings, while not intended to be a primary measure of the prevalence of academic misconduct, have facilitated understanding of "grey areas" of such breaches from the student perspective. This supports findings from focus group research, in which students perceived some punishable behavior as acceptable, and the authors called for academics to more clearly articulate "appropriate norms."³⁶ Ambiguity usually exists in all but the most obvious cases of cheating, which merits guidance/guidelines to assist students in their recognition of and appropriate behavior when faced with potential breaches of academic integrity, as well as for strategies to help students manage identified cases.

The majority of studies on academic integrity have requested participants to self-report their unethical behaviors, which is likely to generate responses that are socially acceptable. A study of medical students' breaches of

Table 1. Demographics of Students in the Bachelor of Pharmacy Program at The University of Queensland, Australia, No. (%)

Year of Study	Students, No. (%)	Gender (n=849)		English as First Language (n=847)		Completed Online Academic Integrity Tutorial (n=846)	
		Male (n=329)	Female (n=520)	Yes (n=472)	No (n=375)	Yes (n=326)	No (n=520)
First year	278 (83.0) ^a	113 (40.6)	165 (59.4)	165 (59.4)	111 (39.9)	242 (87.1)	36 (12.9)
Second year	154 (58.6)	59 (38.3)	95 (61.7)	77 (50.0)	77 (50.0)	48 (31.2)	106 (68.8)
Third year	235 (92.5)	82 (34.9)	153 (65.1)	138 (58.7)	96 (40.9)	19 (8.1)	214 (91.5)
Fourth year	183 (88.8)	75 (41.2)	107 (58.8)	92 (50.3)	91 (49.7)	17 (9.3)	164 (0.1)

^a Response rate, calculated as the percentage of the number of students enrolled in each year group.

Table 2. Responses to Scenarios by Students in the Bachelor of Pharmacy Program at The University of Queensland, Australia

Scenario	John Was Wrong, No. (%)	Not Sure About John, No. (%)	Mary Was Wrong, No. (%)	Not Sure About Mary, No. (%)	Total, No.
(1) Mary told John about a good website. John copied a sentence from the website into this assignment without referencing. ^a					
Year 1	271 (93.4) ^b	2 (0.7)	5 (1.7)	12 (4.1)	290
Year 2	149 (93.7) ^b	4 (2.5)	2 (1.3)	4 (2.5)	159
Year 3	222 (91.4) ^b	10 (4.1)	0	11 (4.5)	243
Year 4	174 (92.6) ^b	2 (1.1)	2 (1.1)	10 (5.3)	188
(2) John copied Mary's answers in a written exam without Mary knowing. ^a					
Year 1	275 (94.2) ^b	0	6 (2.1)	11 (3.8)	292
Year 2	148 (96.1) ^b	1 (0.6)	3 (1.9)	2 (1.3)	154
Year 3	224 (90.7) ^b	6 (2.4)	4 (1.6)	13 (5.3)	247
Year 4	177 (91.2) ^b	2 (1.0)	1 (0.5)	14 (7.2)	194
(3) After his lab experiment failed, Mary gave John a copy of results to use. John used her results for his report.					
Year 1	194 (45.0) ^b	41 (9.5)	157 (36.4) ^b	39 (9.0)	431
Year 2	82 (43.2) ^b	25 (13.2)	56 (29.5) ^b	27 (14.2)	190
Year 3	105 (37.8) ^b	58 (20.9)	68 (24.5) ^b	47 (16.9)	278
Year 4	127 (47.6) ^b	25 (9.4)	79 (29.6) ^b	36 (13.5)	267
(4) In a group assignment, John let Mary do his part of the work.					
Year 1	235 (54.4)	10 (2.3)	159 (36.8)	28 (6.5)	432
Year 2	116 (56.0)	17 (8.2)	60 (29.0)	14 (6.8)	207
Year 3	160 (55.7)	25 (8.7)	60 (20.9)	42 (14.6)	287
Year 4	136 (52.3)	21 (8.1)	64 (24.6)	39 (15.0)	260
(5) In an individual assignment, John and Mary did half the work each. They then swapped to complete their own assignment.					
Year 1	249 (47.6) ^b	16 (3.1)	243 (46.5) ^b	15 (2.9)	523
Year 2	110 (43.0) ^b	22 (8.6)	105 (41.0) ^b	19 (7.4)	256
Year 3	163 (39.9) ^b	45 (11.0)	158 (38.6) ^b	43 (10.5)	409
Year 4	147 (44.0) ^b	24 (7.2)	142 (42.5) ^b	21 (6.3)	334
(6) John purchased his essay online. Mary knew about it, but did not report it to the teacher.					
Year 1	264 (51.4) ^b	6 (1.2)	192 (37.4)	52 (10.1)	514
Year 2	142 (53.4) ^b	5 (1.9)	77 (28.9)	42 (15.8)	266
Year 3	209 (53.9) ^b	7 (1.8)	90 (23.2)	82 (21.1)	388
Year 4	164 (55.8) ^b	3 (1.0)	65 (22.1)	62 (21.1)	294
(7) John completed his exam during the usual exam period. Mary had a deferred exam two weeks later. She asked John about the questions in his exam and what he wrote for the answers.					
Year 1	121 (28.9)	42 (10.0)	238 (56.8)	18 (4.3)	419

(Continued)

Table 2. (Continued)

Scenario	John Was Wrong, No. (%)	Not Sure About John, No. (%)	Mary Was Wrong, No. (%)	Not Sure About Mary, No. (%)	Total, No.
Year 2	38 (19.1)	40 (20.1)	90 (45.2)	31 (15.6)	199
Year 3	33 (12.8)	62 (24.0)	101 (39.1)	62 (24.0)	258
Year 4	39 (17.7)	55 (25.0)	68 (30.9)	58 (26.4)	220
(8) Mary gave John her placement report to get a general idea of the requirements. John used one of Mary's cases and submitted it as his own.					
Year 1	264 (63.3) ^b	7 (1.7)	89 (21.3)	57 (13.7)	417
Year 2	137 (67.5) ^b	9 (4.4)	36 (17.7)	21 (10.3)	203
Year 3	204 (70.1) ^b	14 (4.8)	32 (11.0)	41 (14.1)	291
Year 4	165 (67.1) ^b	7 (2.8)	31 (12.6)	43 (17.5)	246
(9) Mary allowed John to copy her pre-tutorial questions 10 minutes before class.					
Year 1	229 (45.8) ^b	12 (2.4)	240 (48.0) ^b	19 (3.8)	500
Year 2	100 (42.9) ^b	19 (8.2)	83 (35.6) ^b	31 (13.3)	233
Year 3	104 (39.1) ^b	34 (12.8)	90 (33.8) ^b	38 (14.3)	266
Year 4	93 (39.7) ^b	30 (12.8)	73 (31.2) ^b	38 (16.2)	234
(10) Mary obtained a medical certificate to apply for special exams when she wasn't sick. John knew but did nothing.					
Year 1	162 (32.7)	69 (13.9)	257 (51.8) ^b	8 (1.6)	496
Year 2	60 (25.4)	42 (17.8)	123 (52.1) ^b	11 (4.7)	236
Year 3	58 (17.9)	66 (20.4)	178 (54.9) ^b	22 (6.8)	324
Year 4	46 (18.0)	64 (25.0)	128 (50.0) ^b	18 (7.0)	256

^a Scenarios intended as controls depicting obvious breaches of academic integrity.

^b Responses indicate the correct answer determined by the researchers, ie, in scenario 1, John was wrong.

academic integrity acknowledged the sensitivities around asking students directly about their involvement in various behaviors and applied a randomization technique in the survey instrument to reduce the perceived sensitivity of the data.³⁵ The effectiveness of such a technique may be reduced if the students who commit plagiaristic behaviors are also more likely to falsify their survey responses. By asking students if they had been "involved with" each scenario, our approach implied that the respondent could have been an innocent party exposed to or inadvertently brought into the misconduct, and thus it may have more accurately determined the prevalence of these behaviors. There is no "gold standard" for reporting the prevalence of academic misconduct; ideal detection methods depend on the mode of assessment.

An increase in correct identification of plagiarism scenarios from the first year to the fourth year of study was not confirmed. In particular, third-year students displayed higher levels of uncertainty regarding John's and Mary's actions in both control questions compared with first-year students.

First-year students applied definitive judgement in several of the scenarios and their perceptions were somewhat conservative. The majority of students who had completed the online module on academic integrity were first-year students, and this could account, at least to some degree, for their conservatism in more contentious cases. This contradicts the findings of several other studies^{15,17,36} that suggest older students typically have a more conservative attitude towards cheating.

Students in later years of the academic program demonstrated more lenience towards shared workload in group assignments. This may be attributable to their familiarity with the academic system, knowing (or believing to know) what will be undetectable, and reliance on friendships formed through their years of study. Similarly, sharing of laboratory data and answers prior to class was identified as the most commonly admitted unethical behavior. We had deemed that both the donor and recipient student were guilty of misconduct in these latter cases (and neither student was guilty in the case of unequal workload in group assignments); however, these rulings

Table 3. Students' Knowledge and Involvement in Situations Similar to Given Scenarios

Scenarios	Other Students Have Told Me This Happens, No. (%)	I Have Been Involved With This (at This University), No. (%)
(1) Mary told John about a good website. John copied a sentence from the website into this assignment without referencing.		
Year 1	13 (4.7)	0 (0.0)
Year 2	22 (14.3)	3 (1.9)
Year 3	34 (14.6)	5 (2.1)
Year 4	25 (13.7)	3 (1.6)
(2) John copied Mary's answers in a written exam without Mary knowing.		
Year 1	10 (3.6)	1 (0.4)
Year 2	14 (9.1)	1 (0.6)
Year 3	31 (13.3)	9 (3.9)
Year 4	20 (11.0)	0 (0.0)
(3) After his lab experiment failed, Mary gave John a copy of results to use. John used her results for his report.		
Year 1	35 (12.6)	15 (5.4)
Year 2	48 (31.2)	29 (18.8)
Year 3	76 (32.6)	60 (25.8)
Year 4	42 (23.1)	26 (14.3)
(4) In a group assignment, John let Mary do his part of the work.		
Year 1	18 (6.5)	4 (1.4)
Year 2	27 (17.5)	14 (9.1)
Year 3	58 (25.0)	32 (13.7)
Year 4	51 (28.0)	16 (8.8)
(5) In an individual assignment, John and Mary did half the work each. They then swapped to complete their own assignment.		
Year 1	21 (7.6)	1 (0.4)
Year 2	10 (6.5)	5 (3.2)
Year 3	27 (11.6)	7 (3.0)
Year 4	18 (10.0)	2 (1.1)
(6) John purchased his essay online. Mary knew about it, but did not report it to the teacher.		
Year 1	7 (2.5)	0 (0.0)
Year 2	4 (2.6)	1 (0.6)
Year 3	15 (6.4)	1 (0.4)
Year 4	16 (8.8)	1 (0.5)
(7) John completed his exam during the usual exam period. Mary had a deferred exam two weeks later. She asked John about the questions in his exam and what he wrote for the answers.		
Year 1	29 (10.4)	3 (1.1)
Year 2	44 (28.6)	10 (6.5)
Year 3	100 (42.9)	30 (12.9)
Year 4	76 (41.8)	32 (17.6)

(Continued)

Table 3. (Continued)

Scenarios	Other Students Have Told Me This Happens, No. (%)	I Have Been Involved With This (at This University), No. (%)
(8) Mary gave John her placement report to get a general idea of the requirements. John used one of Mary's cases and submitted it as his own.		
Year 1	6 (2.2)	1 (0.4)
Year 2	9 (5.8)	1 (0.6)
Year 3	36 (15.5)	15 (6.4)
Year 4	27 (14.8)	10 (5.5)
(9) Mary allowed John to copy her pre-tutorial questions 10 minutes before class.		
Year 1	20 (7.2)	7 (2.5)
Year 2	37 (24.0)	22 (14.3)
Year 3	79 (34.0)	80 (34.3)
Year 4	55 (30.2)	56 (30.8)
(10) Mary obtained a medical certificate to apply for special exams when she wasn't sick. John knew but did nothing.		
Year 1	13 (4.7)	2 (0.7)
Year 2	28 (18.2)	4 (2.6)
Year 3	87 (37.3)	10 (4.3)
Year 4	78 (42.9)	12 (6.6)

are open to debate, depending on the weighting of the assessment and the instructions articulated.

There were no notable trends in the responses between male and female students. As established above, the literature is divided, with some authors reporting no substantive difference in behavior between genders^{4,5,8,19,21} and others reporting a higher rate of male students committing acts of plagiarism.¹³⁻¹⁵

Our data did not identify any significant trends relating to the assessment format, suggesting that students formed judgements about right and wrong based on other factors. This provides an interesting extension to the nursing research in which the Internet was a primary source of students' plagiaristic behaviors⁵ and may, therefore, be perceived as more innocuous than cheating on examinations. This presents an interesting topic for further exploration as the wealth of online information expands and powerful technology for detection of such behaviors becomes even more crucial.

Most of our respondents were aware of unethical behaviors by peers, most commonly, copying of laboratory data and homework answers. By contrast, in a 1995 British survey listing 22 peer group behaviors, the most common perceived behavior by students was paraphrasing without referencing (57%).³⁴ It is unclear whether these findings would be reproducible in the current academic environment. As expected, the incidence of witnessed unethical practices in our study generally increased from first- to fourth-year students. Our findings confirmed an American

study that asserted, "Students are more likely to have direct knowledge of a behavior than to have engaged in it themselves."⁹ This study also claimed that students appeared to consider plagiarism easier to accomplish or less serious than cheating in examinations. While the rationale for these behaviors appears obvious, ongoing research is warranted to monitor the temptations and influence posed by the ever-increasing availability of online resources and trends towards online assessment, which are likely to give rise to further "grey areas" in coming years. Additionally, the awareness of a wrong committed by a peer creates an ethical dilemma for the witness regarding whether to report the action. For students in registrable professions, this could be adapted into a learning exercise; for example, an in-class debate on reportable misconduct of a registered health professional.

The strengths of this study were the large sample size (n=852) and acceptable response rates (80% for 3 of the 4 cohorts of students; the 59% response rate for second-year students was from low attendance in the timetabled classes), especially given that the survey was anonymous so we were not able to contact students who were absent from the class in which the survey was conducted. The scenarios were designed to accommodate, if not encourage, students' identification of "shades of grey," which elucidated findings worthy of further study, and suggested topics for further training in appropriate academic behavior. Additionally, despite the first-year students' inexperience

with university assessments, they still managed to give conclusive opinions about inappropriate behaviors, evidenced in the low percentage of “unsure” responses. The main limitation was that this method was unlikely to accurately reveal the prevalence of academic misconduct, despite the use of the phrase “involved with” to not necessarily implicate the respondent as the perpetrator, along with anonymity of the survey and lack of repercussion for the respondents’ reported actions. Given that we have identified ambiguity in academic integrity, the investment in time and resources required to accurately report the prevalence of academic misconduct may be better directed to proactive approaches, such as academic integrity workshops, to prevent these behaviors.

While our data cannot be generalized to other universities, we welcome other researchers to replicate this survey. Schools of pharmacy in Australia and New Zealand operate similar types of assessments in order to meet national accreditation standards for pharmacy programs. Given this consistency, replication of this study in other Australian and New Zealand schools of pharmacy would be appropriate. Scenarios of particular interest or relevant to assessments in particular courses could be further studied qualitatively to explore students’ moral reasoning.

CONCLUSION

This study identified pharmacy students’ uncertainty around culpability in a series of 10 scenarios depicting academic misconduct. The uncertainty was particularly evident in cases involving collusion or a seemingly innocent party. Of the numerous factors that may affect perceptions of university students towards academic integrity, this study investigated the influence of year of study, sex, and technology-based sources on responses of Australian students from all 4 years of a bachelor of pharmacy program. None of these variables demonstrated any apparent relationship with students’ correct identification of the at-fault party or parties in the scenarios. Training students to recognize and manage ambiguity should strengthen their ethical and professional judgement. There is potential to apply this method in cohorts in other disciplines, in other institutions (tailored to their assessment modes and policy), and repeatedly within an institution, to accommodate new modes of assessment and the increasing influences and temptations around information technology.

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