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Combating Academic Fraud: Are Students Reticent about Uncovering the Covert?

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Abstract This study links Cressey's established fraud triangle theory to a recently developed academic fraud risk triangle as a platform for identifying the determinants of academic fraud risk factors. The study then evaluates the magnitude and extent to which students are willing to confront the realities of academic fraud and move towards a culture of academic integrity. Most of the studies pertaining to combating academic fraud have primarily been the opinions of the researchers, namely, the faculty. Although students may not be expected to police the fight against academic fraud, their opinions as to what would work and what would not, have not been sufficiently examined, and this study contributes to filling that void. We explore the agreement among students and groups of students concerning specific deterrent strategies. We find two types of strategies, *student action* and *faculty/administration action*. Results from 740 students surveyed found that the most widely supported strategies are stronger penalties, parental notification, an anonymous tip line, and administering a uniform policy. The least supported strategies were academic honor code, no strategy at all, requiring an ethics course, and leaving individual instructors to determine penalties. Further, full time, domestic, undergraduate, and male students favor student action strategies, which are more reactionary and less punitive.

Keywords Academic fraud · Cheating and dishonesty · Deterrence · Plagiarism · Prevention

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Introduction

This study is a follow-up to an earlier research that evaluated academic fraud risk factors (Malgwi and Rakovski 2008). It was determined in that research that the analytical hierarchy process identified and ranked "perceived pressure" as the most important element of a newly[1] designed academic fraud triangle, by a score of 70% of all respondents. This was followed by perceived opportunity (20%), while rationalization was only chosen by about 10% as the most influential of the three elements. Further, the support of three factors was not different by gender or domestic or international status, but was different by class standing. Specifically, factor analysis relating to financial, job and social pressures were ranked of differing importance by students across undergraduate and graduate levels. Given the result of pressure as the main determinant of academic fraud, the current research question is what respondents would offer as effective strategies to promote a culture of academic integrity and the deterrence of academic fraud.

Perceived pressure, by its very nature, and as embodied in the fraud triangle theory (Cressey 1973), is one of the three elements of the fraud triangle that posits why fraud occurs. Cressey's fraud theory suggests that fraud can occur when individuals who are in a position of trust perceive themselves as having non-shareable financial pressure. Therefore, the remedy for this pressure can be resolved through the violation of the individuals' financial trust. Relating financial pressure to academic fraud, such individuals' most likely position of trust is codified in the students' handbook and/or any other signed honor code, which is presumed to be the binding element between students and the school. The position of trust also is violated when students perceive themselves as having non-shareable academic pressure, which can be resolved through the violation of the binding contract. In this context, and for the purpose of this study, we refer to academic fraud as all the conceivable means and ways of illegally and unethically receiving or obtaining education and training by way of plagiarizing, cheating, stealing or misrepresentation.

We conjecture that the creation of an effectively ethical academic environment, devoid of academic fraud, requires a shared responsibility between faculty, staff and students. We also infer that deterrence is reactionary and a measure which is often taken after the damage has been done. Prevention, on the other hand, is more proactive; a measure employed prior to the occurrence of the event. The proactive approach is, perhaps, preferred to the former as it is more effective and less costly. It should be pointed out that deterrence is not the same as punishment. If someone is punished and the nature and extent of the action is well publicized, it may have a deterrent effect. It should send a clear message to those who may be contemplating on committing such act. Such an effect is supposed to be preventative with regard to future cases.

The responsibility of faculty and staff in combating academic fraud tends to resonate well with two elements of the fraud triangle, perceived academic opportunity and rationalization. This is because these two elements, opportunity and rationalization, are

[1] Figure 1 shows the academic fraud risk factor triangle designed by Malgwi and Rakovski (2008). We applied the Analytic Hierarchy Process model (Saaty 1986, 1988, 1994) to conceptualize the relative importance of the academic fraud risk factors to students. This consists of three levels. Level one, the most general, is the goal of the hierarchy, which is the decision to commit academic fraud. Level two consists of the three categories of the fraud triangle elements: perceived pressure, perceived opportunity, and rationalization. Level three reflects the specific 35 academic fraud risk factors within the respective category of the fraud triangle elements. The 35 risk factors were derived through interviews and pilot surveys with students in conjunction with the Student Government Association.

more likely to be within the control of faculty and staff rather than that of the students. However, with regards to perceived pressure or motive, responsibility appears more likely to be within the control domain of the students rather than the faculty or staff. Coordinated efforts from the three bodies, faculty, staff, and students are, therefore, believed to be more effective. However, since academic pressure is the main determining factor of academic fraud (Malgwi and Rakovski 2008), and since pressure is a factor that is within the control of students, the success of achieving a sound culture of academic integrity depends largely on the degree of students' willingness to actively take part in addressing the non-sharable academic pressure.

The remainder of this paper is organized into three sections. The first section reviews related literature, which is followed by the development of hypotheses. The second section focuses on the methodology used in gathering the data, analysis and presentation of the results. The last section discusses the conclusions and implications of the results.

Background and Prior Research

The State of Academic Fraud

Academic fraud has, over the years, grown both in number and in sophistication. Prior studies document not only a large evidence of academic fraud in institutions of higher learning, but also express concern for its prevalence, which permeates educational institutions at all levels (Abdolmohammadi and Baker 2007; Girard 2004; Finn and Frone 2004; Bay and Greenberg 2001; Maramark and Maline 1993; Collison 1990). In other studies, the estimates of rising academic fraud ranges from 14 to 54% of students in the 1990s compared to 68% from large-sized major state universities currently (Dawkins 2004; Murphy 2002). Whitley (1998) reported in a similar study that the rate of academic fraud is as high as 82%. Whitley's study is consistent with McCabe and Trevino (1997), who found that, even with conservative estimates of cheating, the rates were significantly higher (82%) than in prior studies. Longitudinal and cross-sectional studies confirmed the reality of the prevalence and magnitude of academic fraud (see McCabe et al. 2001a, b; McCabe and Trevino 2002; Dawkins 2004; Callahan 2004).

The magnitude of some of these academic fraud findings is alarming. For example, Newberger (2003) made reference in his book about the survey conducted and reported in Who's Who Among American High School Students, that 88% of the "high achievers" considered cheating to be "common" among their peers. The same survey reported that 76% of the respondents confessed to taking part in academic fraud. This statistic is much higher compared to only 20% from an anonymous national sample of college students, which was conducted in the 1940s. The surprising observation is that, such findings are being supported by students, suggesting that academic fraud is, indeed, prevalent and thriving (Loewinsohn and Zuidema 1999).

Related studies in this field regard academic fraud as a way of life for many students, including universities with honor systems (McLafferty and Foust 2004). Newberger (2003) noted that a parent was defending her son who was accused of aiding someone to cheat. Accusing the instructor of pursuing a vendetta against her son, she argued that there is nothing wrong with providing assistance to someone, especially when no benefit was received by her son in return. Correlations also exist between demographic variables and academic fraud, which suggests that attitudes and student beliefs concerning academic dishonesty are closely related (Caruana et al. 2000; Rezaee et al. 2001; Bernardi et al. 2004;

Harding et al. 2004; Levy and Rakovski 2006). Several other studies focused on students' perceptions of academic dishonesty and found alarming unethical behavior (Whitley and Kost 1999; Pincus and Schmelkin 2003; Smyth and Davis 2004).

Defense for Committing Academic Fraud

Cultural, situational, and social differences play a part in why students commit academic fraud. Some studies delve into the factors that influence academic fraud (Aiken 1991; Davis et al. 1992; Roberts and Rabinowitz 1992). However, extant research show that lack of coherent guidance and haphazardly applying different deterrence measures to combat academic fraud, not only thwarts the purpose, but also exacerbates academic dishonesty (Stevens and Stevens 1987; Kerkvliet and Sigmund 1999; Garred et al. 1991). Others argue that the behavior of students mirrors the general decline in public morality (Michaels and Miethe 1989; Fass 1990; Moffatt 1990). It is possible, therefore, to associate the above arguments with that of Malgwi and Rakovski's (2008) study, that academic fraud is driven by perceived academic pressure.

Students' defense of any academic dishonesty can take a variety of forms. For example, some students believe that anything on the internet is public domain and therefore a free for all (Moeck 2002). Others fail to see the connection between getting a degree or certificate and the ideals of moral vision, honesty, and integrity with the "real" world where dishonesty is the norm (Goodlad et al. 1990), while others play the odds of not being caught. Failure to punish perpetrators or when students learn that an instructor is "soft" on cheaters creates recipes for academic fraud perpetuity. Alternatively, when the instructor is found to be harsh, it could also backfire, because students could justify their unethical behavior under rationalization (Levy and Rakovski 2006). At times, faculty could be punished with bad evaluations when they are seen to be unduly harsh and risking confrontation (Moeck 2002).

The motives behind academic cheating expressed in the preceding analysis are consistent with the academic pressure risk factors enumerated in Malgwi and Rakovski (2008). That is, students who indulge in unethical and dishonest behavior, do so largely because of twelve pressure factors. These include the danger of failing the course; loss of financial aid; fear of parents cutting financial and other support; risk of being dropped from Dean's list; and avoidance of embarrassment. Other popular reasons are the desire to impress friends or peers; high grade for grad school; the desire to land a good paying job; to be competitive with others; dependence by family members; competition on job market; and the risk of losing a job (Malgwi and Rakovski 2008).

Deterrence Mechanisms from Faculty

Like fighting financial fraud, it is difficult and costly to detect. By its very nature, detection of academic fraud can be an arduous task whose outcome is not certain. Most of the studies regarding deterrence and prevention of academic fraud have explored the views of faculty and staff, many of whom see it as fighting an unending war (McLafferty and Foust 2004). For deterrence to take place, one needs to know the nature of the fraud. The study conducted by Malgwi and Rakovski (2008) indicated the nature of academic fraud to be primarily derived from perceived pressure, as described in Fig. 1.

There may not be a single strategy that is a successful deterrent to combating academic fraud. In response to whether academic cheating can be controlled in the classroom,

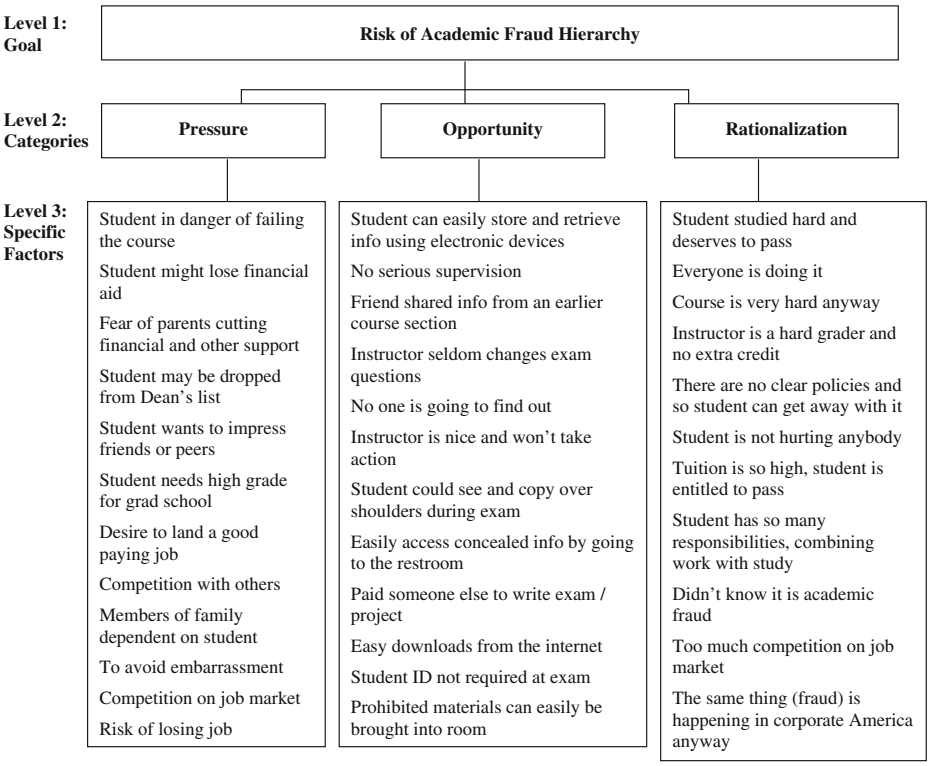

Fig. 1 Academic fraud hierarchy

Kerkvliet and Sigmund (1999) posit that it is unlikely, because of the varying procedures and demands professors require from their students. As a result, students may cheat more with some professors than with others. Also, not all of the factors that lead to academic dishonesty are under the control of instructors. Generally, increasing the perception of detection and responding swiftly with formal disciplinary measures will significantly deter academic fraud.

Prescriptions for combating academic fraud are many, most of which come from faculty. Many institutions have dedicated financial, human and other resources in fighting it. For example, Office of Academic Integrity, Office of Student Conduct, Alliance for Ethics and Social Responsibility, Civic Leaders for Tomorrow's Society, Honor Code Office, etc., are different initiatives that institutions have created to address academic dishonesty. Many of these programs develop comprehensive guidelines and policies relating to academic fraud. Such guidelines spell out what are acceptable and what are not ethical academic behavior and the consequences of violation. The policies and procedures also provide the channels to follow when academic dishonesty is determined to be present. While these are vital, they are coming usually from the perspective of faculty and administrators. Do students indorse such prescriptions for violations or deterrence, if they are to participate in the fight against this problem? It is unclear whether students agree with Newberger that "cheating undermines integrity and fairness at all levels. It leads to weak life performance and corrodes the merit basis of

our society" (2003). The current study prescribed some measures against academic fraud and tested their endorsement by students.

Hypothesis Development

The success of deterrence efforts depends largely upon the nature and controllability of the elements of the fraud. Perceived pressure can be generated either internally or externally, and both could cause a student to commit academic fraud. Therefore, the controllability of such an element is, to some extent, outside the domain of both faculty and staff. The review of prior studies above indicates that the bulk of academic fraud deterrence and prevention suggestions were primarily those of the researchers, namely, the faculty. Although students may not be expected to police the fight against academic fraud for reasons of conflict of interest, their opinions as to what would work and what would not, have not been sufficiently examined. Students may be reticent in offering useful suggestions in combating academic fraud. Given the growing trend of academic fraud, and the evidence linking it to pressure risk factors as shown in Figure 1, the following hypotheses are developed.

We anticipated that students would be concerned when they discover that some academic dishonesty is being perpetrated, especially by their peers. They have worked hard and legitimately earned their grades and would therefore not want to be cheated by unethical peers. However, they may not want to volunteer turning in suspected students to the authority for several reasons, such as the social norm of student solidarity, the social stigma of telling on a peer, or the fear of school disciplinary procedures. Therefore, we anticipate that while most students do not condone academic fraud, they are not likely to blow the whistle. We propose H1 as follows:

H1a: Students are likely to be concerned about academic fraud.
H1b: Students are not likely to report anyone who commits academic fraud.

Honest students may perceive that dishonest students, when successful, may have an adverse effect on their grades. For example, a number of factors may be considered by an instructor in determining exam grades for students. The instructor may raise the bar by providing challenging exam questions when presented with an intelligent group of students. When students commit academic fraud, they are more likely to score very high. This may, in turn, affect subsequent exam questions where the instructor may make it more challenging due to the inflated fraudulent grades. Therefore, students are more likely to agree when severe deterrence measures are proposed than less severe ones. Hence, H2 is given as follows:

H2: Students are more likely to agree with the following preventive measures:

a. Stronger penalties
b. Use of anonymous tip line
c. Pledge and sign academic honor code
d. Involved in the determination of appropriate penalty
e. Take mandatory ethics/integrity course and seminars
f. Parental notification
g. Uniform penalty across all departments

The variety of initiatives and programs developed by institutions to create comprehensive guidelines and policies relating to academic fraud, notwithstanding, students who

commit academic fraud are likely to employ beliefs that center on rationalization principles. H3 is therefore given as follows:

H3: Students are likely to agree and use rationalization as a defense that:

a. Exams do not reasonably measure performance, and therefore institutions should use other criteria.
b. Let individual instructor determine the appropriate penalty.
c. Kids will be kids, a fraudster will be a fraudster no matter what.

Given the same environment, class standing, instructor, and course program, we do not anticipate any significant gender differences. That is, no particular gender would agree or disagree more (or less) when it comes to recommending measures that would ensure an effective academic environment that is free from unethical learning behavior. Also, prior study in ethics, business, and psychology literature found that there were no differences in the ethical reasoning among men and women (see Ponemon and Gabhart 1993). We therefore state H4 as follows:

H4: There are no significant differences by gender relating to H2 above.

As students progress in their class standing, they are also expected to develop mentally, ethically, morally, and intellectually. This would help them decipher more accurately when faced with ethical dilemma. Similarly, earlier studies (see McCabe et al. 2001a; Whitley 1998) show that demographic variables, such as age, class standing, employment, and peer influence were consistently found to be related to academic dishonesty. Therefore, we state H5 as follows:

H5: The more mature students are, based on class standing (undergraduate–graduates), the less likely they will disagree with the preventative measures listed in H2.

We anticipate that students in general, value their education and would commit time, money and other resources to making sure that they succeed. Therefore, irrespective of their academic program (full or part-time), we hypothesize H6 as:

H6: There are no significant differences in students' perceptions regarding H2 (preventative measures), whether they are full or part-time.

For fear of the unknown, international students may be more careful not to violate any unethical rules or behavior, since doing so could jeopardize or even prevent them from completing their studies. On the other hand, domestic students may be complacent, because they may think they know the system and how it works or are being influenced by their domestic peers who may claim to have some experience. Thus, H7 is stated as follows:

H7: International students, who are likely to be cautious studying in a new environment, are likely to agree with the preventative measures in H2 than domestic students.

Data and Methods

Sample Selection

Data for this study is obtained from a university in the northeast region of the United States. An electronic survey instrument was disseminated to a total of 5,500 students where 740

responded (about 12% response rate). The instrument was pilot-tested prior to distribution. Table 1 provides sample characteristics of the respondents. From the sample of 740 respondents, 77% are undergraduates, 81% full-time students, 55% female, and 92% domestic students. The demographics indicate a normal representation of the composition of students at the university in general. The only exception is the higher response rate from female students. The gender distribution in the sample differs from the general student population which has slightly more males than females.

Prior to the administration of the instrument for data collection, 35 students from a fraud examination class helped with the identification of the eight preventive measures. Principal components factor analysis was performed to examine whether subsets existed among the 8 strategies. Frequency distributions were calculated for each strategy to determine overall student support of each strategy. Then Chi-square tests were used to test differences across the frequencies for each of the student groups outlined in the hypotheses.

Results

Our first hypothesis was to determine whether students would be concerned and report anyone who commits academic fraud. Figure 2 indicates that students are, indeed, concerned (55%) when academic fraud takes place. Also, a significant number of students sometimes feel concerned about it (36%). However, students are reticent when it comes to reporting anyone perpetrating fraud. Only a few (15%) would take a definitive initiative to report it. These results support H1b, but not H1a.

Table 2 presents the eight preventive/deterrent measures. These measures were classified into two factors by the exploratory principal components analysis. The *student action* factor included those strategies that are student-oriented action initiatives expected to deter academic fraud. The *faculty/admin* factor included strategies that are faculty/administration-oriented action initiatives.

As indicated in Table 2, there are three strategies where students can play a role in the deterrence of academic fraud. These are providing an anonymous tip line, pledging and signing honor code, and the involvement of students in the determination of the nature and extent of penalty to administer. On the faculty/admin factor, there are five strategies where

Table 1 Sample characteristics ($N = 740$)

Degree classification	Frequency	Percentage
Undergraduate	573	77
Graduate	167	23
Degree Status		
Full-time	596	81
Part-time	133	19
Gender		
Male	329	45
Female	399	55
Student Domain		
Domestic	669	90
International	61	8

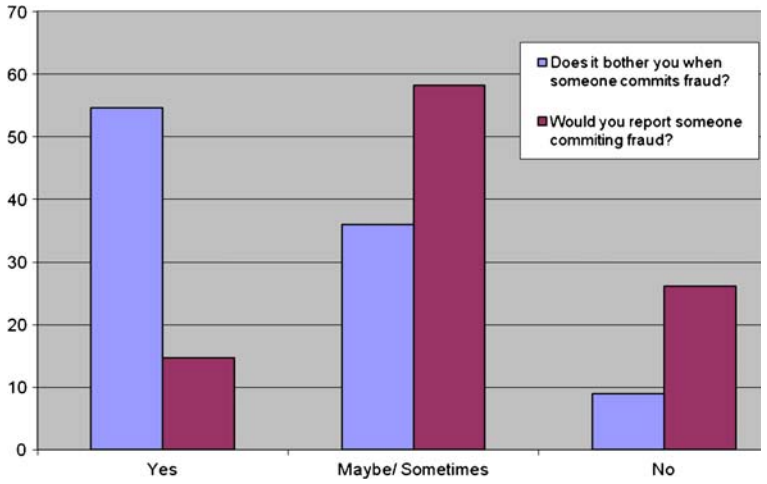

Fig. 2 Student reaction to academic fraud

faculty and/or administration can help combat academic fraud. These are administering a strong message through strong penalties, requiring students of interest to undergo mandatory ethics course, parental notification, administering uniform penalty, and allowing individual instructors to determine the nature and extent of penalty.

Table 3 presents a summary of H2a-g and H3. There are four preventive measures that stand out as the most supported. These are stronger penalties, parental notification, anonymous tips, and administering a uniform penalty. H2a asserts that students are more likely to disagree with stronger penalties, such as suspension and expulsion from college. However, we found the majority of students to be in support of such measures (64%). Only about 16% either strongly disagree or disagree with such measures. On the basis of this, H2a is not supported.

Table 2 Factor classification of preventive measures

Preventive measures	Faculty/Admin strategies	Student action strategies
Strong penalties[a]	X	
Anonymous tip line	X	
Pledge and sign academic honor code		X
Involve students in determination of appropriate penalty		X
Require a mandatory ethics course[b]		
Parental notification	X	
Administer uniform penalty	X	
Let individual instructor determine penalty		X
A fraudster will be a fraudster no matter what		X
Exams do not measure students' performance, schools should use other criteria		X

Factor 1, Chronbach's alpha = 0.45. Factor 2, Chronbach's alpha = 0.64

[a] Penalty ranges from suspension to expulsion from college

[b] This is a strategy that loaded on both categories

Table 3 Student support of deterrence strategies for academic fraud ($N = 732$[a])

Strategy will deter fraud	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Faculty/Admin Strategies					
Stronger penalties	26.7	36.9	20.4	11.6	4.4
Anonymous tip line	18.8	33.1	22.7	17.0	8.0
Parental notification	24.3	36.2	20.9	12.3	6.1
Administer uniform penalty	17.8	37.2	26.1	13.0	5.9
Require a mandatory ethics course	6.1	19.9	26.1	27.1	20.9
Student Action Strategies					
Pledge and sign academic honor code	5.5	19.1	28.9	29.7	16.0
Involve students in determination of appropriate penalty	10.1	40.6	27.1	16.3	5.7
Let individual instructor determine penalty	8.7	26.5	24.9	27.6	12.0
A fraudster will be a fraudster no matter what	5.8	13.5	24.0	29.4	26.9
Exams do not measure students' performance, schools should use other criteria	18.8	29.4	27.1	16.2	8.0

The most supported strategies were stronger penalties, parental notification, anonymous tip line, and administering a uniform policy. The least supported strategies were academic honor code, no strategy at all, requiring an ethics course, and leaving individual instructors to determine penalties

[a] Eight respondents had incomplete survey and were eliminated from the analysis

Parental notification was the second most supported preventive measure. That is, about 61% of respondents either strongly agree or agree with this measure. A modest number (21%), are indifferent whether parents should be notified or not. Comparatively, about 18% felt against or strongly against parental notification. These results similarly do not support the hypothesis of H2f. The third most supported preventive measure, anonymous tip line, won the approval of the majority of students (52%), who either agreed or strongly agreed with it. However, a substantial number of students, 25%, were opposed to this idea, while a similar number (23%) were neutral.

Again, the majority of students, 55%, supported administering a uniform penalty across the board. About a quarter of respondents were not sure if this should be employed as a deterrent. Only about 6% were vehemently against it (strongly disagree), while about 13% of the sample disagreed. Consistent with the preceding hypotheses H2a, b, and f, this hypothesis (H2g) is not supported. The other strategies were not widely supported in the prevention of academic fraud. These strategies were requiring students to sign an academic honor code, requiring an ethics course, and leaving individual faculty to determine the appropriate penalty to administer. The fourth most supported strategy was that schools should use criteria other than exams to measure student performance.

Table 4 presents the descriptive analyses of the tests relating to hypotheses 4 through 7. There are two action deterrent strategies (faculty/admin and student action), each containing five outcomes of dependent variables where we tested the significance of the four groups of independent variables (gender, class standing, part-time/full-time status, and international/domestic status). The faculty/admin strategies were more proactive and more punitive than the student action strategies. The student action strategies were more reactionary, predicated on rationalization and less punitive.

Table 4 Student support of deterrence strategies for academic fraud ($N = 732$[a])

Group that is listed first agrees more than the other group that strategy will deter fraud	Female Male	International Domestic	Part time Full time	Grad Undergrad
Faculty/Admin Strategies				
Stronger penalties	**[b]	ns	**	*
Anonymous tip line	**	ns	**	ns
Parental notification	*	ns	ns	ns
Administer uniform penalty	#	ns	ns	#
Require a mandatory ethics course	ns	ns	*	***
Student Action Strategies				
Pledge and sign academic honor code	ns	*	ns	ns
Involve students in determination of appropriate penalty	ns	*	ns	(*) [c]
Let individual instructor determine penalty	(**)	*	(**)	(**)
A fraudster will be a fraudster no matter what	(***)	ns	(***)	(**)
Exams do not measure students' performance, schools should use other criteria	ns	ns	(***)	(*)

[a] Some comparisons are based on fewer cases due to missing data on some questions

[b] #$p<0.10$, *$p<0.05$, **$p<0.01$, ***$p<0.001$, for Chi-square tests of significances on cross tabulation tables of strategy (5 outcomes) by student characteristic (2 groups)

[c] Parentheses indicate that the group listed second agreed more with the strategy statement than the group listed first. In other words, for the female/male comparison, females were more likely to agree with the faculty/admin strategies (significant where indicated), but males were more likely to agree with the student action strategies (significant where indicated)

Hypothesis 4 predicted no significant differences by gender regarding support of the preventive measures. However, there are significant gender differences. Female students were more likely to agree with the faculty/admin strategies than with student action strategies ($p<0.01$ for both strong penalties and anonymous tip line, and $p<0.05$ for parental notification, and $p<0.10$ for uniform penalty). Male students, on the other hand, were more likely to agree with the student action strategies ($p<0.01$ for agreeing with individual instructor to determine penalty and $p<0.001$ for dismissing the fact that a fraudster will be a fraudster no matter what).

With regards to class standing, Hypothesis 5 states the more mature students are, the more likely they are to support the strategies. This hypothesis was supported. Graduate students are more likely than undergraduate students to agree with faculty/admin strategies in terms of stronger penalties, uniform penalties, and the requirement of mandatory ethics courses ($p<0.05$, $p<0.10$, and $p<0.001$, respectively). Undergraduate students, however, are more likely to agree with student action strategies (less punitive). This was significant across each of the four outcomes.

In testing the significance of part-time and full-time status, Hypothesis 6 predicts no significant differences in students' perceptions regarding strategies. The results show that part-time students are more likely to agree with faculty/admin strategies, especially with regards to stronger penalties, providing anonymous tip line, and requiring mandatory ethics courses. Full-time students, however, are less likely to agree with the faculty/admin strategies, but more likely to agree with the student action strategies, especially regarding allowing individual instructors to determine penalty, a fraudster will be a fraudster, and requiring school to use other criteria in determining performance assessments.

Hypothesis 7 predicts that international students will be more likely to agree with the preventative strategies, because they will be cautious studying in a new environment. International students were more likely to agree with three of the student action strategies, but there were no significant differences in support of the faculty/admin strategies between the two groups. Overall, we found that students who are male, full-time, or undergraduates in class standing, tend to favor student action strategies. These strategies are either predicated on rationalization or less punitive compared to the faculty/admin strategies. Further, students who are female, graduate or part-time are more likely to agree with punitive penalties and do not justify or provide any excuse for fraud.

Summary and Conclusion

In this study, we obtained responses from 740 university students about the nature and relative importance of preventive measures of academic fraud. The study indicates interesting findings, which supports previous research, specifically the results from the factor analyses. The strategies were classified into two factors, which may be considered active and passive. The active factors are strategies within the domain of students to carry out. These are utilizing an anonymous tip line, pledging and signing an honor code, and involving students to participate in the determination of the appropriate penalty to administer. The passive factors, on the other hand, are within the domain of faculty and administrators. These include administering stronger penalties, notifying parents, requiring perpetrators to take a mandatory ethics course, and administering a uniform penalty across the board.

Results of the study also provide further important strategies that would be helpful to both faculty and students in the academic fraud prevention efforts. We found that although students are concerned about the prevalence of academic fraud, they are not likely to report perpetrators to the authority themselves. Instead, they identified with a number of other important effective strategies, which include stronger penalties, parental notification, implementing an anonymous tip line, and administering a uniform penalty across the university, irrespective of course and class standing. Similarly important is the strategy of involving students in the determination of the nature of penalty to be administered. Among the least supported strategies of combating academic fraud were an academic honor code, taking an ethics course, and allowing individual instructors to determine the appropriate nature of penalty to administer.

Regarding the least supported strategies, our findings are consistent with studies showing that lack of coherent guidance and haphazardly applying different deterrence measures to combat academic fraud, not only thwarts the purpose, but also exacerbates academic dishonesty (Stevens and Stevens 1987; Kerkvliet and Sigmund 1999; Garred et al. 1991). It is not surprising, however, to note that our results show the majority of students supported both stronger penalties and the administration of a uniform policy. One of the plausible reasons for their strong support for harsher penalties is the notion that most students worked hard to earn their grades and, therefore, felt that they were being cheated when other students simply got good grades without merit. Similarly, as much as these hard working students would want to see better policing, and an academic environment that is free from dishonesty, they would rather not turn in someone they found to be cheating. This might also explain why letting individual instructors determine penalties was among the least supported strategy.

The latent variables—active and passive—have some precedent in previous research. Both Whitley and Kost (1999) and Levy and Rakovski (2006) found a dichotomy of

passive and active acts of academic dishonesty. Students interpret passive acts, which contain little or no premeditation and fewer advantages for the student, as less serious and more frequently engage in those acts. A passive act is allowing someone to copy from your exam while an active act is copying from someone else's exam. The opposite is true when it comes to identifying the effective methods of preventing academic fraud.

The net outcome of the hypothesis tests, especially H4 through 7, suggests that students in the following categories, male, full-time, undergraduate, tended to favor student action strategies over faculty/admin strategies. These strategies are largely predicated on rationalization and also less punitive as a deterrent compared to faculty/admin strategies. Students identifying as either female, part-time, or graduate were more likely to support the faculty/admin strategies that were more punitive. Those students were also less supportive of statements justifying or rationalizing fraud. The support of these strategies by these student groups may correspond to the amount of fraudulent acts committed by the groups (Levy and Rakovski 2006).

Given the prevalence and pervasive nature of academic fraud in higher education as revealed in the literature, this study sought to ascertain the corresponding strategies necessary in combating it. It is possible for one to conclude from the results of this study that once a system of strong internal control is in place, fraud will be prevented. While this assertion may be true, the reality is that there is no academic environment that is absolutely free from academic fraud. Therefore, the need to reduce the incidence and likelihood of occurrence is important. In addition to a system of strong internal controls, and the implementation of preventive strategies, academic resources may also be channeled towards counseling and ethics courses.

A carefully coordinated effort by faculty in some areas could significantly reduce the incidence of academic fraud. For example, where students are uncertain as to what is considered an academic fraud and what is not, faculty can ensure that clearly written policies are communicated, read, and understood by students to avoid ambiguity. Secondly, where multiple instructors teach the same course, it may be helpful to have pedagogical uniformity and consistency in the delivery, testing and grading of students. This would reduce any rationalization concerns about difficulty of the course, exams, and hard graders. Although these findings will not necessarily be true for all university students because of the unique nature of academic environments, it sets a platform upon which further studies can be explored elsewhere across different environments.

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