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Is penalty for academic cheating an incredible threat?

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ABSTRACT

Despite the severe penalty, multiple studies revealed that academic dishonesty among undergraduate students has been a chronic problem. This contradicts Becker Proposition that states that the most efficient mean to deter crime is to impose the severest penalty with the lowest probability. This study proposes an explanation for Becker Paradox in academic dishonesty. When the penalty is severe, teachers are more likely to feel empathy and choose not to report the dishonest students. This would make the severe penalty an incredible threat and does not effectively deter dishonest behavior. Consistent with the hypothesis, the results showed a strong negative relationship between the severity of penalty and the probability to report cheating. In addition, the study also found a strong positive relationship between the present of evidence and the probability to report cheating.

Keywords: Academic cheating, Becker paradox, Empathy

JEL Classification: D03

1. Introduction

Academic dishonesty is to claim someone else's work as one's own. Examples include plagiarism, copying test answers, sneaking crib notes into exams and collaborating on homework without approval. Multiple studies have been done and revealed that academic dishonesty among undergraduate students has been a severe and chronic problem. The losses due to the problem are in two aspects. First, exam cheating benefits the cheater as it brings about higher scores. If the expected penalty is not severe enough, students would have an incentive to cheat and fail to knowledge and necessary skills. Second, students who benefit from cheating in college may develop a false habit and this could cause a long-term harm to the society. Academic dishonesty is an impediment to development and should be considered as

Focused in this study is the exam cheating. Penalties for exam cheating are usually severe and, more importantly, a record of academic misconduct incurs severe risk to students' future career. However, exam cheating still persists. Consistent with literatures in other areas, severe penalty by itself may not be enough to induce deterrence. Becker (1968) proposed that the most efficient mean to deter crime is to impose the severest penalty with the lowest probability. This study proposes an explanation for Becker Paradox in academic dishonesty. When the penalty is severe, teachers are more likely to feel empathy for their students and choose not to report their dishonest behavior. This would make the severe penalty an incredible threat and not effectively deter crime.

Therefore, the objective of this study is to examine teachers' decision to report cheating given different levels of the severity of penalty and the present of cheating evidence. The key contribution of the study lies in a better picture of teachers' decision to report cheating and further policy recommendations to deter academic misconducts. To better capture the distinctive nature of the academic dishonesty, this study inserts the empathy effect into the rational choice model of teacher's decision to report cheating. The comparative statics then suggest that an increase in the severity of penalty induces empathy and, thus, teachers are less likely to report cheating. The academic misconducts are still pervasive and the current academic dishonesty policy with severe penalty may not be optimal. Solutions to alleviate the academic dishonesty problem are either to balance the severity of penalty to develop a credible threat or lessen the empathy effect. If the coefficient of empathy is zero, then teacher's decision would no longer depend on the severity of penalty.

As for the research methodology, this study conducted a stated preference survey. While traditional revealed preference studies actual behavioral data, stated preference studies expressing preferences on hypothetical scenarios. The revealed preference approach is more reliable as it reflects respondents' optimized choices. However, the constraint of the revealed preference approach is the limited range of choice sets. If the choice does not exist, the revealed preference is inapplicable. Moreover, as the stated preference approach relies on hypothetical scenarios, an advantage is a better ability to control for other variables outside the model.

The results show heterogeneities in cheating report behavior. Some respondents always reported the cheating regardless of the evidence and the penalty, some reported when the penalty was not severe, some only reported when there existed evidence, some reported if students copy classmate's answer and some never reported. Despite the heterogeneity of the reporting behavior, the second and fifth groups dominated the sample and reflected the significance of the empathy effect. Moreover, the overall results showed a strong negative relationship between the severity of penalty and the probability to report cheating and a strong positive relationship between the present of evidence and the probability to report cheating.

2. Literature review

Multiple studies have been done and revealed that academic dishonesty among undergraduate students has been a severe and chronic problem. Bowers (1964) surveyed 5,000 students on 99 campuses and found that 75 percent of the students admitted to academic dishonesty. McCabe and Trevino (1993) surveyed 6,000 students on 31 campuses and found that more than 60 percent had engaged in academic dishonesty. Most recently, McCabe (2005) surveyed 50,000 students on 60 campuses and found that 70 percent of the students reported cheating. In Thailand, research literatures on academic dishonesty are quite limited. Smithpreecha (2011) studied academic dishonesty behavior at Rajamangala University of Technology Phra Nakhon and found that approximately 56.96 percent of the respondents self-reported that they conducted at least one type of academic dishonesty.

Penalties for academic dishonesty are usually severe. Besides the official penalty, there is a record of academic misconduct which certainly incurs severe risk to students'future career. Consistent with literatures in other areas, severe penalty by itself may not be enough to induce deterrence. Becker (1968) was the first to apply expected utility framework to describe criminal behavior. A proposition from his model, later called Becker Proposition, stated that the most efficient mean to deter crime is to impose the severest penalty with the lowest probability. His explanation was that there is a high cost in monitoring and enforcing the penalty. As long as the penalty is severe enough, people will not commit crime no matter how small the probability to be caught is. However, empirical evidence does not support Becker proposition. Dhami and al-Nowaihi (2006) summarized explanations for Becker Paradox, the phenomenon in which a severe penalty does not efficiently deter crime. The explanations are such as risk seeking behavior, the ability to avoid penalty, the possibility to punish the innocent and the need for differential punishments. Crime behaviors are not homogenous. The nature of academic dishonesty is different by nature. This study proposes an explanation for Becker Paradox in academic dishonesty. When the penalty is severe, it is not unexpected if teachers feel empathy for their students and choose not to report their dishonest behavior. This would make the severe penalty an incredible threat and not effectively deter crime.

A small number of studies on teachers' failure to report student misconduct have been done and the studies do not emphasize on the empathy effect. Jacob and Levitt (2003) provide evidence that, in some cases, teachers gain benefit from their students' test performance. Therefore, those teachers have an incentive to facilitate the cheating. Staats, Hupp, Wallace and Gresley (2009) conducted a survey to compare professors and college students' opinions why professors do not report academic misconducts. The results showed several explanations concerning both costs and benefits of not reporting. Factors with highest ranks were those involving insufficient evidence and high cost of reporting. Other factors included the belief to be outside of teacher's main responsibility, reluctance to harm students' future and possible retaliation. Among all factors, this study focuses only on an emotional incentive which is the empathy effects as it directly affects the probability to report cheating which should affect students' decision to cheat.

Sugden (2002) analyzed the concepts of sympathy and empathy. Sugden suggested that one of the two main reasons why sympathy and empathy were introduced into rational choice theory was to explain non-selfish behavior. Binmore (1998) explained the distinction between the terms sympathy and empathy. Sympathy involves caring like a mother cares for her child. Empathy, on the other hand, involves ethical preferences. A person feels empathy for another person when she can understand the other person feeling. The distinction between the two words is that a teacher can feel empathy for her student without knowing the student personally at all. This study inserted the empathy effect into the rational choice model of teacher's decision to report cheating. The reason to focus on the empathy effect is that it can be more generally applied. Teachers, especially when the classes are big, do not know every student personally. To exclude the sympathy effect, the survey asked for teachers' decision if a hypothetical student cheated. Moreover, the empathy hypothesis was confirmed by comments after the survey. Despite the emphasis on the empathy, it should be noted that sympathetic feeling would only amplify the negative relationship between the severity of penalty and the cheating report rate.

In addition to the relationship between severity of penalty and teachers' decision to report cheating, this study also examined the effect of the present of cheating evidence on teacher's decision to report. The present of evidence eases the conviction process and reduces the cost of cheating report. As suggested by Staats, Hupp, Wallace and Gresley (2009), cost factors affected the decision to report cheating more significantly than other factors did and the present of evidence was reported the most crucial factor. Therefore, the factor cannot be ignored.

3. The Model

Adopting Becker's rational choice model, a teacher makes the decision to report cheating to maximize her utility. That is, teacher will report cheating if and only if reporting gives higher utility than not reporting. This section is separated into three parts. The first part discusses the teacher's utility function. The second part discusses the teacher's decision to report cheating and the third part discusses comparative statics.

The Teacher's Utility:

The teacher's utility depends on costs and benefits of reporting cheaters. Consider a scenario where the teacher has only one student. This model considers two types of reporting costs—direct and indirect costs. The direct costs involve those affecting the teacher directly and the indirect costs involve those affecting the teacher via the student's utility. Using examples from Staats, Hupp, Wallace and Gresley (2009), direct costs of reporting are such as anxiety involved in accusing time to try to track down source, possible legal action brought by the student, insufficient evidence and the possibility that the student denies the charge. Moreover, the direct of cost of reporting include the foregone rewards that the teacher gets when students perform well as suggested by Jacob and Levitt (2003). Indirect costs of reporting may come from the *empathy* or *caring* effects. While the caring effect relies on the teacher's relationship with the student, the empathy effect reflects human nature and does not involve personal relationship. As this study controlled for the caring effect, this model only focuses on the empathy effect. The teacher feels empathy when the student is punished and, therefore, the teacher's utility depends on the student's utility. The benefits from reporting are such as job integrity, the absence of anxiety involved in the job deficiency and lower student's cheating rate in the future.

Following Stark and Falk (1988)'s specification, a teacher's utility function can be written as:

$$\mathrm{U^T} = \mathrm{E}[(1-\alpha)\mathrm{u^T} + \alpha \mathrm{u^S}], \tag{1}$$

where U^Tdenotes the expectation of the teacher's total utility, u^T denotes the teacher's direct utility, u^Sdenotes the student's utility and α denotes empathy coefficient. The empathy coefficient takes a value between 0 and 1 depending on the strength of the empathy effect.

The Teacher's direct utility:

$$\mathrm{u^T} = \mathrm{u}(\mathrm{B}, \mathrm{C}), \tag{2}$$

where B denotes benefit from reporting cheating and C denotes costs of reporting cheating.

The Student's Utility:

For simplicity, let the student has a utility that depends only on her academic performance as follows:

$$u^S = A, \tag{3}$$

where u^S is the student's utility and A is the student's academic performance. If the student does not cheat, $u^s = A_0 = Y_0$. If the student cheats and is reported, $u^s = A_1 = Y_0 + Y_B - F$. If the student cheats but is not reported, $u^s = A_2 = Y_0 + Y_B$. In this model, Y_0 is the student 's true ability, Y_B is the student's benefit from cheating and F is the penalty if being reported.

The Teacher's Decision to Report Cheating:

Consider a pair of teacher and student, pair i, which composes of teacher i and student i. When the student does not cheat, the teacher has no decision to make. However, when the student cheats, the teacher will have to make the decision whether to report. Given that the student cheats, her utility function is $u_1^S = Y_0 + Y_B - F$. The teacher will report cheating if and only if the utility that she gets from reporting is higher than the utility that she gets from not reporting.

$$\mathrm{V_i^T(B_i, C_i, \alpha_i, Y_{0i}, Y_{Bi}, F) = U_{1i}^T(B_i, C_i, \alpha_i, Y_{0i}, Y_{Bi}, F) - U_{2i}^T(B_i, C_i, \alpha_i, Y_{0i}, Y_{Bi}) > 0,} \tag{4}$$

where V_i^T denotes the teacher's value function of the decision to report cheating, U_{1i}^T denotes the teacher's utility if reporting and U_{2i}^T denotes the teacher's utility if not reporting.

Comparative Statics: Probability to report given different levels of penalty

For a teacher i, the probably to report cheating is the probability that $V_i^T > 0$ and V_i^T is a function of the cheating penalty F.

$$\frac{\partial \mathrm{Pr}\{Report_i = 1\}}{\partial \mathrm{F}} = \frac{\partial \mathrm{Pr}\{V_i^T > 0\}}{\partial \mathrm{F}}. \tag{5}$$

As the cumulative probability function of V_i^T is an increasing function in V_i^T; therefore,

$$sign\left(\frac{\partial \mathrm{Pr}\{V_i^T > 0\}}{\partial F}\right) = sign\left(\frac{\partial V_i^T}{\partial F}\right). \tag{6}$$

Equation (4) suggests that

$$\frac{\partial V_i^T}{\partial F} = \frac{\partial U_{1i}^T}{\partial F} = \alpha_i . \frac{\partial E[u_{1i}^S]}{\partial F}. \tag{7}$$

The empathy coefficient α_i is positive but $\frac{\partial E[u_{1i}^S]}{\partial F}$ is negative because the student would not prefer a severe penalty. As a result,

$$\frac{\partial V_i^T}{\partial F} < 0 \text{ and } \frac{\partial \Pr\{Report_i = 1\}}{\partial \mathrm{F}} < 0. \tag{8}$$

Therefore, when there exist an empathy effect or $\alpha_i > 0$, the teacher i's probability to report cheating is negatively related to the severity of the penalty.

4. Methodology

The Survey

The survey utilized the stated preference approach. While traditional revealed preference studies actual behavioral data, stated preference studies expressing preferences on hypothetical scenarios. The revealed preference approach is more reliable as it reflects respondents' optimized choices. However, the constraint of the revealed preference approach is the limited range of choice sets and situations. If the choice or situation does not exist, the revealed preference is inapplicable.

To examine teacher's decision to report cheating given the present of cheating evidence and different levels of penalty, this study mainly used the stated preference approach. Respondents were asked to choose whether to report cheating, give a warning or ignore the cheating given 10 different scenarios shown in TABLE 1. The case with obvious evidence was represented by using crib note and the case without obvious evidence is represented by peaking.

TABLE 1. Ten cheating scenarios

Penalty	Crib note	Peaking
F for one class	Case 1	Case 6
F for all classes	Case 2	Case 7
F for one class and suspension	Case 3	Case 8
F for all classes and suspension	Case 4	Case 9
Dismissal	Case 5	Case 10

In addition to the stated preference approach, the survey also applied the revealed preference approach by asking respondents whether they had caught students cheating before.

Sampling Method

The study was conducted in the Suan Sak campus, the main campus of Chiang Mai University. At Chiang Mai University, personnel responsible for proctoring midterm and final exams include not only teachers, but also other officers. To capture a complete picture, the questionnaires were randomly distributed to all personnel responsible for exam proctoring in Suan Sak campus, Chiang Mai University.

Both accuracy and survey cost must be considered in sampling method. The study uses cluster sampling method. Out of 16 faculties (and teaching institutions), 8 faculties or clusters were randomly selected using simple sampling method. The study then randomly distributed 20 questionnaires to exam proctoring personnel in each cluster.

The total expected sample size in this study was 160 personnel. However, only 104 questionnaires were returned. Based on Yamane (1967), the sample size yielded 95% confidence interval and 10% degree of accuracy. However, for the stated preference part, each respondent answered questions for 10 different scenarios. Therefore, the stated preference analysis had the total of 1040 observations.

Data Analysis

Following Skrondal and Rabe-Hesketh (2003), the stated preference data were analyzed using multilevel logistic regression. The data are arranged in three levels where the first level is faculty (k level), the second level is individual respondent (j level) and the third level is cheating scenario (i level). The multilevel regression allows correlation of residuals within groups in each level. From Equation (4), the multilevel logistic regression can be specified as follow:

$$\begin{aligned}\Pr\left\{Y_{ijk}=1|F1_{ijk},F2_{ijk},F3_{ijk},F4_{ijk},D_{E_{ijk}},\zeta_{jk},\zeta_{\mathrm{k}}\right\} \\ = L(\beta_0+\beta_1F1_{ijk}+\beta_2F2_{ijk}+\beta_3F3_{ijk}+\beta_4F4_{ijk} \\ +\beta_5D_{E_{ijk}}+\zeta_{jk}^{(2)}+\zeta_{\mathrm{k}}^{(3)}).\end{aligned} \tag{9}$$

The dependent variable Y_{ijk} is the respondent j's decision whether to report cheating in scenario i where $Y_{ijk}=1$ when the respondent chooses to report cheating to the university and $Y_{ijk}=0$ when the respondent only gives a warning or ignore the cheating. Independent variables include a dummy variable for present of evidence D_E and dummy variables for 4 levels of penalty.

TABLE 2. Summery of dependent and independent variables

Variables	Description
Dependent variable:	
Y_{ijk}	Dummy for cheating report
Independent variables:	
$D_{E_{ijk}}$	Dummy for present of cheating evidence
$F1_{ijk}$	Dummy for penalty = F for one class
$F2_{ijk}$	Dummy for penalty = F for all classes
$F3_{ijk}$	Dummy for penalty = F for one class and suspension
$F4_{ijk}$	Dummy for penalty = F for all classes and suspension

The function L is the cumulative logistic distribution. $\zeta_{jk}^{(2)} \sim N(0, \psi^{(2)})$ is the random intercept for respondents and $\psi^{(2)}$ is residual between-respondent, within-faculty variance. $\zeta_{\mathrm{k}}^{(3)} \sim N(0, \psi^{(3)})$ is the random intercept for faculties and and $\psi^{(3)}$ is residual between-faculty variance.

5. Data

Data used in this study are primary data from the survey conducted in the main campus of Chiang Mai University. The data consist of three main parts—demographic of respondents, stated preference and revealed preference questions. The demographics include gender, faculty and position. The stated preference data include exam cheating report in each hypothetical scenario shown in TABLE 1. The revealed preference data include exam cheating report experience.

6. Results

Demographics of respondents

The sample composes of 104 observations. As shown in TABLE 1, 51 respondents are lecturers and 51 are other personnel with exam proctoring experience. 67 respondents are female and only 35 are male. There are 2 missing data on gender and 1 missing data on job type.

TABLE 3. Demographics of respondents

	Female	Male	Total
Lecturer	25	26	51
Officer	42	9	51
Total	67	35	102

Revealed preference on exam cheating report

With 11 missing data, only 19 out of 93 personnel have reported cheating. This result does not suggest 20.43 percent report rate because the survey question asks for the reporting experience over respondents' entire career. Therefore, the cheating report rate should be significantly below 20.43 percent.

TABLE 4. Revealed preference on exam cheating report

	Report		Never Report		Total	
	Frequency	%	Frequency	%	Frequency	%
Female	14	23.73	45	76.27	59	100.00
Male	4	12.50	28	87.50	32	100.00
Lecturer	7	15.22	39	84.78	46	100.00
Officer	12	26.09	34	73.91	46	100.00
Total	19	20.43	74	79.57	93	100.00

To learn whether the decision to report cheating differs between gender or job type, the study examined the issue using a fixed effect logistic model. The results shown in TABLE 5 demonstrate insignificant coefficients for both female and lecturer. It can be concluded that the decision to report cheating does not significantly differ between genders or job types.

TABLE 5: Fixed effect logistic model

	Coefficient	Std. Err.	Z-statistics	P-value
Female	0.4022	0.6707	0.60	0.549
Lecturer	0.3819	0.6541	0.58	0.559

Note: LR chi2(2) = 0.57
Log likelihood = -29.9953
Prob > chi^2 = 0.7524

Stated Preference

As shown in TABLE 6, only 4 respondents chose to ignore the cheating in 2 different scenarios. More than 50 percent of the respondents chose to give a warning in all scenarios except when there existed cheating evidence and the penalty was only to receive an F for the cheating class. It should be noticed that the number of cheating report reduced with the severity of penalty and increased with the present of the evidence.

TABLE 6. Respondents' stated preference on exam cheating report

Penalty	Ignore		Give a warning		Report	
	Frequency	%	Frequency	%	Frequency	%
Crib note						
F for one class	0	0.00	49	47.12	55	52.88
F for all classes	0	0.00	73	70.19	31	29.81
F for one class and suspension	0	0.00	72	69.23	32	30.77
F for all classes and suspension	0	0.00	78	75.00	26	25.00
Dismissal	3	2.88	79	75.96	22	21.15
Peaking						
F for one class	0	0.00	73	70.19	31	29.81
F for all classes	0	0.00	82	78.85	22	21.15
F for one class and suspension	1	0.96	83	79.81	20	19.23
F for all classes and suspension	0	0.00	86	82.69	18	17.31
Dismissal	0	0.00	90	86.54	14	13.46

To prove the significance of the relationship between probability to report cheating and severity of penalty and the present of evidence, the multilevel logistic regression was carried out. The results from TABLE 7 show significant relationship between decision to report and the dummies $D_E, F1, F2$ and $F3$. That is, the present of evidence significantly affect the decision to report cheating. In addition, comparing to the scenarios where the penalty is dismissal, the probability to report is significantly higher when the penalties are F for one class, F for all classes and F for one class and suspension.

TABLE 7. Multilevel Logistic Regression

	Coefficient	Std. Err.	Z-statistics	P-value
Present of cheating evidence	1.5104	0.2448	6.17	0.000
F for one class	2.9238	0.4016	7.28	0.000
F for all classes	1.1728	0.3833	3.06	0.002
F for one class and suspension	1.1118	0.3835	2.90	0.004
F for all classes and suspension	0.5926	0.3882	1.53	0.127
Constant	-4.7538	1.2664	-3.75	0.000

Note: Log likelihood = -357.11811

Variances and covariances of random effects

level 2 (respondent): var(1): 9.7910239 (2.4678478)

level 3 (faculty): var(1): 4.3136745 (3.6965391)

Given that a student cheats and the teacher can detect, from the odd ratio reported in TABLE 8, the odds of reporting the misconduct are 4.5285 times larger when there exists cheating evidence than when there exists no evidence. Comparing to the most severe penalty of dismissal, the odds of reporting are 18.6112 times larger when the penalty is F for one class. The odds of reporting are 3.2312 times larger when the penalty is F for all classes and are 3.0399 times larger when the penalty is F for one class and suspension. For the case where the penalty is F for all classes and suspension, the statistics shows insignificant difference of the odd ratio.

TABLE 8. Odds ratio of the multilevel logistic regression

	Coefficient	Std. Err.	Z-statistics	P-value
Present of cheating evidence	4.5285	1.1084	6.17	0.000
F for one class	18.6112	7.4748	7.28	0.000
F for all classes	3.2312	1.2384	3.06	0.002
F for one class and suspension	3.0399	1.1658	2.90	0.004
F for all classes and suspension	1.8087	0.7022	1.53	0.127
Constant	0.0086	0.0109	-3.75	0.000

Note: log likelihood = -357.11811
Variances and covariances of random effects
level 2 (respondent): var(1): 9.7910239 (2.4678478)
level 3 (faculty): var(1): 4.3136745 (3.6965391)

From the multilevel logistic regression, predicted probabilities to report cheating in each of the 10 scenarios are illustrated in TABLE 10 and Figure 1. Consistent with the hypothesis, the probability is higher when there exists evidence and the penalty is less severe. It should be noted that the predicted probability should not be considered in absolute term because the stated preference questions were designed to capture the empathy effect. Therefore, the probability represents the probability of reporting a student's first misconduct given that the student cheats and the teacher can detect.

TABLE 9: Predicted probability to report cheating

Penalty	**Crib Note**	**Peaking**
F for one class	0.49	0.34
F for all classes	0.32	0.19
F for one class and suspension	0.31	0.19
F for all classes and suspension	0.26	0.16
Dismissal	0.22	0.13

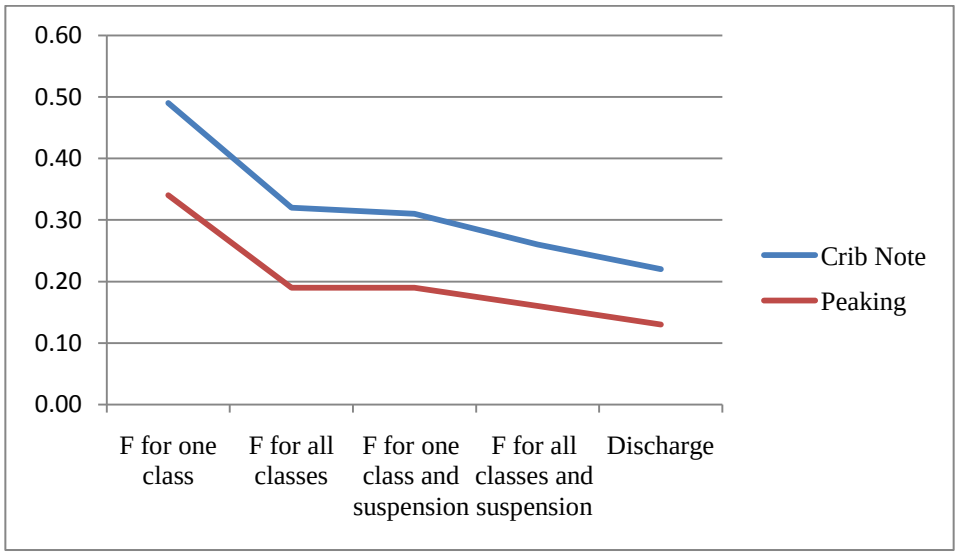

Figure 1. Predicted probability to report cheating

7. Discussions

There are heterogeneities in cheating report behavior. From the survey results, respondents can be classified into 5 main groups as shown in TABLE 10. The first group always reported the cheating regardless of the evidence and the penalty. This group was likely to have high benefit from reporting since both the cost factor and the empathy factor do not affect their decision. Since the survey controlled for any monetary benefit, the benefit must have come from emotional factors such as job integrity. This group tended to comment that the survey was not sensible and no one should compromise on cheating. The second group was those who reported when the penalty was not severe. This group showed the empathy effect. Although, the survey results could not directly separately identified the empathy effect from other effects that may cause a correlation between the probability to report cheating and the severity of penalty, comments from several respondents reflected the effect. Many respondents commented that the penalties were too severe for the crime and it could harm students' future career. The third group was those who only reported when there existed evidence. This group seemed to worry about the conviction process. The fourth group reported if students copy classmate's answer. A comment in this case was that peaking took no effort while producing crib notes still required some effort. Therefore, peaking was a more severe crime. The fifth group was those who never reported. This group exhibited a higher level of empathy and perceived that all the penalties listed in the survey were too severe. The severity of the penalty does not necessary come directly from the penalty itself but from the public knowledge of the crime and the record of the misconduct. This could potentially affect students' future career.

It should be noted that all respondents who chose to give a warning for the first mistake might report later if the cheaters did not stop cheating. From the survey, 14.63 percent of those who chose to always give a warning self-reported that they had reported cheating before. Despite the heterogeneity of the reporting behavior, the

second and fifth groups dominated the sample and reflected the significance of the empathy effect.

TABLE 10: Types of respondents

Group	Number of observations
Always report	8
Report if low F	33
Report if Crib note	9
Report if peaking	2
Never report	41

8. Concluding remarks

Despite the heterogeneity in teacher's behavior in cheating report, the overall results showed a strong negative relationship between the severity of penalty and the probability to report cheating and a strong positive relationship between the present of evidence and the probability to report cheating.

Learned from this study is that good intention can cause a chronic and severe problem and the effect of the severe cheating penalty can be undermined due to the low report rate. This finding does not necessarily suggest that all institutions should lower the cheating penalty. The severity of penalty affects student's decision to cheat in two ways—direct and indirect effects. The direct effect refers to the student direct disutility from the penalty and the indirect effect refers to the decrease in the probability to be caught. The two effects go in different directions. As long as the direct effect is higher than the indirect effect, regulators should increase the severity of penalty and vice versa. Adjusting the level of penalty is a solution but is not a sole solution. Another possible solution is to demolish the linkage of the indirect effect. If the coefficient of empathy α is zero, then teacher's decision would no longer depend on the severity of penalty. All personnel must be informed the effects and seriousness of the compromise. Moreover, evidence matters. Academic cheating takes many forms and many forms of cheating leave no evidence. This complicates the conviction process and discourages teachers to report.

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