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The Impact of Honor Codes and Perceptions of Cheating on Academic Cheating Behaviors, Especially for MBA Bound Undergraduates

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Abstract

Researchers studying academic dishonesty in college often focus on demographic characteristics of cheaters and discuss changes in cheating trends over time. To predict cheating behavior, some researchers examine the costs and benefits of academic cheating, while others view campus culture and the role honor codes play in affecting behavior. This paper develops a model of academic cheating based on three sets of incentives - moral, social and economic – and how they affect cheating behaviors. An on-line survey of 61 questions administered to students from three liberal arts colleges in spring 2008 yielded 700 responses, with half from colleges with honor codes. Econometric modeling indicates students ultimately seeking MBA degrees and those who lack a perception of what constitutes cheating undertake more cheating, regardless of whether an honor code is in place. Additionally, unless an honor code is embraced by the college community, the honor code independently will not abate cheating.

Introduction

Academic dishonesty remains a pervasive occurrence on college and university campuses at both the undergraduate and graduate school levels. Analyzing the acts of cheating as reactions to three types of incentives – economic, moral and social – one can attempt to divine the determinants of cheating behavior. For example, negative economic incentives, such as a higher likelihood of being caught or a more severe consequence of such, imply a higher marginal cost to cheating and therefore less cheating occurring. Morally speaking, students are reluctant to engage in academic cheating if they believe it is ethically unacceptable. Student perceptions of what behaviors constitute cheating interact with students' moral compasses, thereby affecting their actions. Additionally, if students believe cheating is disapproved socially, it leads to shame, and less cheating will occur. This paper examines these three types of incentives and their impact on self-reported academic cheating at three selective liberal arts college campuses in the US. The results of the study should prove useful to undergraduate and graduate schools determined to reduce academic dishonesty.

Some colleges have honor codes in place, which are believed to reduce the incidence of cheating. Whether this is the case is one thrust of our study. For colleges entertaining the idea of the creation of an honor code, the answer to this question is paramount, since the creation of an ineffective honor code seems unwise.

Three selective undergraduate liberal arts colleges in the US are investigated. They differ in their campus culture toward academic dishonesty by having different stated policies regarding academic integrity. The first school has a long-standing, nationally regarded honor code in place. The second recently introduced an honor code, but it is not as well entrenched in the campus culture. The third college is currently engaged in discussions to institute an honor code, although

a documented academic standards policy is made available to students. This paper seeks to quantify econometrically the impact of having an honor code on cheating behaviors while taking into account student demographics, student perceptions of cheating, and other incentives facing students. Special attention is drawn to undergraduates intending to attend an MBA program in the future to see if cheaters at the undergraduate level tend to be those aspiring to MBA programs.

Literature Review

In 1963, Bowers (1968) administered a survey to more than five thousand American college and university students and produced a dissertation on his findings the following year. This breakthrough study was one of the earliest academic studies on college cheating behavior in America. Later research by Don McCabe, Professor of Organization Management at Rutgers University, studied various categories of cheating, examining the relative levels of increase within each grouping. He found cheating on tests and examinations had grown from 39% in the 1963 survey to 64% in 1990. Cheating on written assignments had remained fairly steady, increasing only by a single percentage point, from 65% to 66%. Younger generations, however, had a decreased understanding of what constituted plagiarism and how to define cheating behavior (McCabe, 2005).

Numerous studies focus on student demographic indicators of cheating behaviors. Earlier studies suggest males were more likely to cheat than females, but recent studies say the gap has narrowed, if not disappeared (Jones et al, 1999; McCabe and Trevino, 1993). Higher student GPAs have been shown to have a negative correlation with the cheating behaviors of college

students (Burrus et al, 2007; Crown and Spiller, 1998; Levy and Rakovski, 2007; McCabe and Trevino, 1993). This has been attributed to the high cost of penalties associated with cheating for high performing students; students with high GPAs have a lot to lose if they are caught cheating. Participation in extracurricular sports has been shown to increase a student's tendency to cheat since student athletes are more pressed for time for their academics due to the time commitments inherent in playing a sport. Pressed for time, they are more apt to cheat (Burrus et al., 2007; Butterfield et al, 1999).

If certain types of academic dishonesty are more prevalent among friends, then social connections through membership lead to more cheating. This provides an additional reason why student athletes cheat more often than others. Membership in a fraternity or sorority social organization, commonly known as Greek organizations, has also been linked to an increased tendency to cheat (Burrus et al, 2007; Butterfield et al, 1999). Older research has suggests that Greek organizations facilitated cheating as members kept files with old papers, assignments, and tests for members to use (Hamalian, 1959; Drake, 1941). More recently, however, it has been shown that this increased tendency to cheat comes more out of the social nature of these groups. In *Self Reports of Student Cheating: Does a Definition of Cheating Matter?*, it seems that the reasoning for this is that these organizations allow for the development of tightly knit friendships and communities and that most cheating occurs between friends (Burrus et al, 2007). Because fraternity and sorority organizations foster these friendships, they have been associated with higher incidences of cheating.

Recently, MBA programs have scrutinized their reported cheating behavior (Mangan, 2006; Sharda, 2006; Sachar, 2006). Graduate schools have been noted for their competitive environments and for the "type A" personalities attracted to such environments. Graduate

students who reported little cheating during their undergraduate days often report higher rates of cheating at the graduate school level (Willin, 2004). This could show there is a significant difference in culture between undergraduate and graduate institutions or indicate that top performing students are less likely to report their cheating behavior in their undergraduate work and are more candid when they reach the graduate level. Additionally, there are external factors that can influence graduate student behavior, such as the need to obtain high grades to secure a higher paying or more prestigious job upon graduation (Sharda, 2006). It is also possible publicity surrounding dishonorable corporate flare-ups deaden MBA students' perceptions of right from wrong (Sachar, 2006). Mangan (2006) cites a research study of 32 MBA programs that showed 56% of MBA students reported cheating in graduate school compared to 47% of non-MBA graduate students cheating. Deans at graduate business schools with honor codes, however, contend cheating is extremely rare, as evidenced by very few cheating cases brought to honor boards (Sachar, 2006). Perhaps these schools' honor codes do dampen academic dishonesty.

In light of major Wall Street scandals, such as Enron and WorldCom, attributable to cheating by accountants and financial officers, questions surface regarding academic dishonesty amongst accounting students. If accounting students lack academic integrity, then accounting scandals are not surprising. Morris et al (2006) find undergraduate accounting majors and business majors from seven US universities report similar frequencies of cheating of 54% and 52%, respectively. Elias and Farag (2010) contend accounting students with a love of money do not perceive certain cheating behaviors as unethical, and are therefore more likely to cheat. They suggest appropriate training in ethics is necessary for accounting students, especially those who crave money.

Knowledge of punishment for cheating behavior can also form an important contextual factor in ethical decision making. The severity of punishment for cheating thus becomes the value which a student must weigh against the benefits he/she will gain from not being caught. It has been found that as the perceived severity of punishments increases, the levels of individual cheating are lower (Burrus, et al., 2007; Butterfield et al, 2001). While some schools have protocols for students to receive an academic warning for cheating, others simply expel cheaters. When there are no standardized repercussions for cheating or when current rules are not enforced, a cheating culture develops (Callahan, 2006). Thus, a cheating culture absorbs into it a wide array of variables creating a collective environment that can either abate or encourage academic integrity.

Several researchers have studied the subject of collegiate cheating in relation to honor codes, specifically how effective codes are in reducing cheating (Arnold et al, 2007; Burrus et al, 2007; Butterfield et al, 2001; Butterfield et al, 1999; McCabe and Trevino, 1993). McCabe and Trevino (1999) note three reasons why honor codes are expected to reduce academic dishonesty: 1) the academic integrity of activities are clearly delineated, 2) students' moral compasses are more likely to be aroused and 3) honor codes come with highly desired liberties, which would be unfortunately abolished if cheating were to occur. Their results generally indicate that for an honor code to invoke less cheating behavior, the code must be well understood, respected, and strongly abided by faculty and students. The honor code must be embedded in the campus culture. Butterfield et al (1993) concentrate on student perceptions concerning cheating and their impacts on cheating. They find higher incidences of cheating when students perceive their peers are cheating and that this impact swamps the other significant factors: the perceived understanding of honor codes, the certainty of being caught, and the severity of the punishment.

Other research links the perception of what signifies cheating to cheating behaviors (Bisping, Patron and Roskelley, 2008; Callahan, 2006; Hard et al, 2006; McCabe et al, 2002). Ranking activities in terms of their degree of cheating severity shows a negative correlation with both the frequency and likelihood of the activity relative to the perceived heightened severity of the action. For example, one of the most severe forms of cheating, purchasing a term paper and handing it in as one's own work, would occur very infrequently. In comparison, if students believe seeking help from peers on homework is trivial cheating, greater frequency of this activity would be reported. Moreover, they find confusion among accounting students as to what constitutes cheating. Morris et al (2006) note this disconnect between cheating perceptions and cheating behaviors helps explain why accounting students are so likely to cheat.

Methodology and Data

During the spring semester of 2008, a web-based survey distributed through Survey Monkey was sent to the student body of three small liberal arts colleges in the US. (See the Appendix for a visual of some pertinent questions.) Student participation in this survey was voluntary and completely anonymous. All three colleges stress the importance of academic honesty on their respective websites and within their mission statements.

Two of the schools currently use honor codes that fit into Mendelez's (1985) definition of traditional honor codes, meaning both have written pledges of honor that must be signed by students upon enrollment and students are expected to write an honor pledge on any graded assignment given to a professor. The schools' honor boards comprise students who work with faculty advisors to ensure that code violations are adjudicated. Both codes extend beyond the

academic realm and into the social sphere and outline acceptable conduct while on campus. Each school recognizes people make mistakes, thus offer grace periods for people to consider offensive actions and turn themselves in if appropriate. Doing so can lead to lesser punishments. Each school also encourages students who observe misconduct to confront the problem first with the alleged student violator, and if the issue cannot be resolved, to then take it to the honor board.

The first school, HONCOL1, established its honor code in 1896, making it one of the oldest in the US. This code is voted upon each spring by all students, enabling the code to change as the times change. Yearly affirmation clearly demonstrates the seriousness of purpose and credibility the code lends to the campus culture. Moreover, visiting the school's website looking for a general overview of the college leads one immediately to the pronouncement of the school's honor code. The second college's honor code was originally initiated by student and faculty votes in 1976 to cover academic issues. It was extended to social norms in 1994. A list of five common academic infractions and the definitions of such, including plagiarism, copying other student's work while submitting it as one's own, falsifying laboratory results, etc., are delineated for students. The code is not advertised overtly on the college's website, although it can be found by using the search option, which leads one to the code within the academic catalog. This second school is referred to as HONCOL2. The third college, NOCODECOL, does not have an honor code, although discussions regarding one have taken place. The student handbook lists the school's statement on academic honesty and clearly delineating examples of academic dishonesty. Like the second college, it takes some searching on-line to find the statement on academic honesty. According to all three schools' faculty handbooks, all professors in all schools are expected to discuss academic honesty in the classroom and state such policies on syllabi.

Cheating Behaviors

Of the total 3,992 undergraduate students who received an e-mail containing a link to the survey, 686 students participated for a 17% response rate. The sample sizes at the three colleges varied with 312 responses from HONCOL1, 127 responses from HONCOL2, and 247 responses from NOCODECOL. The response rates per each school's population were 26.7%, 10% and 15.7 % for HONCOL1, HONCOL2, and NOCODECOL, respectively.

The survey comprised 61 questions intended to extract student demographic information, a sense of the campus culture regarding cheating, perceptions of cheating, and incidences of self-reported cheating from the students. A matrix of fifteen potential cheating behaviors, drawn largely from McCabe's 2003 index of academic integrity, was created (McCabe et al, 2003). Students were asked to indicate how often they had undertaken a particular action and the degree to which the perceived the action was considered academically dishonest. Table 1 lists the fifteen behaviors. Question five, marking the same letter answer for all questions in a multiple choice assignment, was included as a ruse since it is not considered cheating by anyone, implying there were actually only fourteen cheating behaviors.

The percent of students responding as undertaking a stated behavior once or more is presented in parentheses in Table 1. Using technology to procure answers on exams recorded the lowest frequency at 2.8%, followed by purchasing a paper or handing in someone else's paper as one's own at 3.5%, and copying another student's work as one's own at 4.7%. Unauthorized use of a crib sheet, copying another person's answers on an exam, and allowing someone to copy one's own exam answers yielded percentages of 13, 14.4 and 16.8, respectively. Hereafter these six behaviors are referred to as the most egregious forms of cheating and they are shown in

italics. The highest frequency occurred with 47.2% of students saying they had worked with a group when individual work was assigned.

The percentage of respondents who contend the behavior indicated either moderate to severe cheating is in bold brackets in Table 1. The most egregious cheating behaviors are in the 90 percent and above range and they are the six behaviors with the lowest use frequencies as noted above. Not surprisingly, there is a strong negative correlation (p=.72) between the percent of students admitting cheating once or more and the percent who believe the action is more than trivially dishonest.

Table 1: Cheating Behavior Frequency and Perceived Severity

Behavior (% doing once or more) [% who believe it's moderate or serious cheating]
1. Doing less than your fair share of work on a group project (28.4%) [21.3%]
2. Fabricating or falsifying a bibliography, lab, or research data (27.1%) [69.1]
3. Paraphrasing a few lines from an online or print source without citing it (40.2%) [65.6%]
4. Using a false excuse to get an extension on a class assignment (27%) [60.1%]
5. Marking all the same letter when answering Scantron multiple choice examination questions
6. Copying homework from another student (41.4%) [70.7%]
7. Seeking help from other students in your class on a take home exam (28.1%) [78.9%]
8. Working as a group when individual work is assigned (47.2%) [51.9%]
9. Working with someone over e-mail or instant messaging on an individual assignment (31.9%) [49.6%]
10. *Copy and pasting another student's work and turning in as own work* (4.7%) [98.2%]
11. *Using text messaging or other technology to get answers on test* (2.8%) [99%]
12. *Copying off another student during a test or examination* (14.4%) [98.2%]
13. *Allowing someone to copy your answers during a test or examination* (16.8%) [99%]
14. *Using crib notes (unauthorized by a professor) to answer test questions* (13%) [92.9]
15. *Buying or obtaining a paper online or from peer and turning it in as own* (3.5%) [99.8%]

Descriptive Statistics

Table 2 presents descriptive statistics from the survey. Thirty seven percent of the respondents are male, which is less than the approximate average of 45% males in the three colleges. Although not shown in the table, the respondents are fairly evenly dispersed across the four class years. The overall mean GPA for respondents is 3.4 on a 4.0 grade scale with little disparity across school: HONCOL1 (3.44), HONCOL2 (3.43), and NOCODECOL (3.37). This is roughly an A- average on the four point scale, indicating students with higher GPA scores were more likely to take the survey and/or respondents inflated their GPAs if each school's average GPA fell below these levels. The Academic Deans and Institutional Research Directors at all three schools were contacted and asked for the average GPA (and household income) for their student bodies. Not surprisingly, none were forthcoming with answers. Informal questions of faculty members from each school suggest the colleges' overall GPA's are below the sample ones, perhaps closer to 3.1. We can only surmise some upward bias in the grades.

The average verbal and math SAT scores are 665 and 647 out of top scores of 800, respectively. For HONCOL1, the interquartile range for the SAT Math score from the sample is 670-750, which is within the accepted student's middle 50% scores of 650-750 noted on the college's website. The SAT verbal sample interquartile range is 680-770, which is higher than the accepted student middle 50% range of 660-750. HONCOL2's website indicates the combined SAT Math and Verbal scores have an accepted student middle 50% range of 1050-1250, whereas the sample interquartile range for combined SAT scores is 1100-1300. The non-honor code school's accepted student interquartile range for the SAT Math and Verbal scores are 570-670 and 570-680, respectively, according to its website. The sample interquartile ranges mimic them at 570-680 for the SAT Math score and 572-680 for the SAT Verbal score. These

results suggest the sample observations are generally consistent with accepted student SAT profiles for HONCOL1 and NOCODECOL, although the 127 students responding from HONCOL1 have somewhat higher combined SAT scores than the middle 50% accepted students. As such, there may be a slight selection bias in the overall sample of 663 students toward higher SAT scores than from the representative student bodies.

Eighty percent of the respondents' fathers attended college and 82% of their mothers did. The percent of students participating in college athletics is 35%. HONCOL1 does not have Greek social organizations, thus the 13% from the survey who are Greek members come from the other two schools. Twelve percent are business or economics majors and 86% intend to go to graduate school in the future with 25% seeking an MBA. Twenty nine percent had an honor code in high school. Some variables were coded as ranges. Using midpoints of the ranges to establish means led to an average annual family income of $179,307, a mean of 5.53 hours spent working for pay per week, and an average of 14.9 hours per week studying outside the classroom.

Four of the survey questions deal with reactions to cheating. When asked about the punishment for those caught cheating on their campus, 83% reported the severity of consequences either fit the crime or were too severe, suggesting sufficiently harsh punishment exists. Asked how disappointed parents or peers would be if the respondent were caught cheating, 79% indicated their parents would be extremely disappointed while 42% expressed the same level of disappoint coming from peers. Adverse peer reaction was 67% at HONCOL1, and 26% and 40% at HONCOL2 and NOCODECOL, respectively. Lastly, the percent of students who answered yes to the phrase regarding cheating on campus, "Everyone does it, so it's ok", was 25%. This varied from a low of 5% from HONCOL1 to 43% at HONCOL2 and 81% at NOCODECOL.

Cheating Indices: Reported and Perceived

Two cheating indices are created. The first, egregious cheating frequency, concerns the aforementioned six cheating behaviors. Students who do not engage in a behavior are given a value of zero, whereas those saying they have engaged in it once or more are given a score of 1. The sum of these six dummy variables per student forms the egregious cheating frequency per student. Its mean is .55, suggesting less than one of the egregious forms is undertaken on average. In fact, 71% indicated they do engage in any of the six, 15% admitted to one of the infractions, and 12% accounted for 2-3 misconducts. Only eighteen students report 4-6 occurrences.

The second index is more encompassing, using the summation of dummy variable scores for the fourteen cheating behaviors. The mean is 3.26 with 20% reporting no instances of cheating, and 15% reporting engagement in one or two forms. Fifteen percent admitted to 6 or more forms of cheating at least once or more from the fourteen listed activities. The mean of 3.26 implies little cheating, akin to cheating in just three of fourteen categories. As one can see, both indices are skewed right, reiterating relatively few reported instances of cheating per student.

Likewise, two cheating perception indices are created, each measuring whether students perceive activities to be no, trivial, moderate or severe forms of cheating. These answers are scored 0-3, respectively. A maximum score of 42 is conceivable if a student states all fourteen conducts are severe forms of cheating. The minimum score of zero would occur for any student who did not believe any activities denote cheating. The cheating perception index yielded a mean of 30.28 with a minimum of seven and maximum of 22. The mean suggests an average between trivial and moderate cheating for the fourteen categories. Across the campuses, the

indices ranged from 33.2 from HONCOL1 to 29.3 for HONCOL2 and 27.0 for NOCODECOL. The mean for the six egregious cheating behavior's perception index is 16.87, implying moderate to severe responses for the six activities. Indeed, 52.5% of respondents indicated all six forms were severe. The scores were virtually the same across the campuses.

Table 2: Descriptive Statistics from Survey

Demographic Variables	N	Mean	Std. Dev.	Min	Max	H_0
GENDER	686	0.37	0.48	0	1	?
HIGH SCHOOL HONOR CODE	686	0.29	0.45	0	1	+
GPA	660	3.4	0.45	0	4	-
SAT VERBAL	663	665	96	0	800	0
SAT MATH	668	647	98	0	800	0
MBA INTENTION	686	0.25	0.43	0	1	+
GRAD SCHOOL INTENTION	686	.86	0.34	0	1	0
COLLEGE ATHLETE	684	0.35	0.48	0	1	+
GREEK MEMBER	684	0.13	0.33	0	1	+
DAD COLLEGE	686	.80	0.39	0	1	0
MOM COLLEGE	686	.82	0.38	0	1	0
FAMILY INCOME	650	179,307	176,685	25,000	750,000	0
WORK FOR PAY HOURS/WEEK	686	6.51	5.53	2.5	28	+
Moral, Social and Economic Incentives						
BAD PARENT REACTION	686	0.79	0.41	0	1	-
BAD PEER REACTION	686	0.42	0.49	0	1	-
EVERY ONE DOES IT	686	0.25	0.43	0	1	+
HARSH PUNISHMENT	686	0.83	0.38	0	1	-
ALL 14 CHEATING PERCEPTION	633	30.28	5.65	7	42	-
EGREGIOUS SIX PERCEPTION	667	16.87	1.85	1	18	-
Dependent Variables						
ALL 14 CHEATING BEHAVIORS	686	3.26	2.96	0	14	
EGREGIOUS SIX CHEATING FREQUENCY	686	0.55	0.12	0	6	

Model of Cheating Behavior

Based on previous literature, college cheating is determined by student demographics, incentives and the existence of an honor code. Equation (1) represents a multiple regression model for cheating with these three vectors of determinants. The dependent variable is a cheating index for either six or fourteen activities.

$$CHEATINDEX_i = \beta_0 + \beta d * DEMOGRAPHICS_i + \beta c * INCENTIVES_i + \beta_h * HONCOL_t + \epsilon_i \quad (1)$$

* where i = student, t=school, and ϵ_i represents the stochastic error

Demographic Variables

The right hand column of Table 2 shows the expected sign of the coefficient in the regression model based on previous literature. For example, students wishing to pursue an MBA are more likely to engage in cheating behavior, thus the positive sign. Gender contains a question mark because the literature shows mixed results. Traditionally, males have been more inclined to cheat, but recent literature maintains there is no longer a greater proclivity for males. The negative sign on GPA means the higher a student's GPA, the less cheating they will undertake since the student has more to lose if ultimately caught. Signs of zero appear when the literature has not studied the factor's impact on cheating and the variables serve as control variables. Lastly, although the literature does not address the number of hours worked for pay on cheating behaviors, the expected sign is positive. The more hours spent working, the less time available for studying, thus an added pressure to find a shortcut to get things done.

Incentive Variables

Two social incentives expected to reduce cheating behavior are the adverse reactions from parents and peers if one is caught cheating. Negative social stigmas should reduce cheating. Conversely, if there is a sense that cheating is pervasive on a campus and everyone

does it, there is no social stigma, and in fact its pervasiveness will encourage cheating so students can remain competitive. The harsher the consequence of being caught cheating, less cheating behavior is expected, according to the economics of crime literature. Morally, if one perceives an act as cheating, one's moral compass would lead one to cheat less. The expected signs on the two cheating perception indices are therefore negative.

Honor Code Presence

While the above variables' impacts on cheating are interesting, the most salient question we raise concerns the impact of an honor code on cheating, ceteris paribus. Rather than using the existence of an honor code as a single dummy variable in the regression equation, the schools are entered separately. HONCOL1 embraces and advertises it code, and its code is nationally renowned. The same rigor and enthusiasm is not apparent in the second honor code college, HONCOL2, thus the desire to separate their inclusion. Additionally, the peer perception of cheating being okay, what students perceive to be cheating behaviors, and shame brought on by peers when cheating occurs yield different means for two honor code colleges, further demonstrating HONCOL1 has a more venerable and embedded code. Differences in projected cheating behaviors can be examined across the three campuses.

One can argue that choosing a college with an honor code is endogenous with cheating activities, since attendance at an honors college may be more likely for students who do not intend to cheat, and thus report little cheating. If so, the OLS estimate β_h is biased downward. In this case a two stage least squares estimation is appropriate and a Hausman test (1978) will provide insight into potential endogeniety.

Results

Cheat Index with 14 Behaviors

Two models using ordinary least squares are estimated with results in Table 3. White's test for homoscedasticity indicated no presence of heteroscedasticity, thus the OLS estimates and standard errors are used for p-value calculations. The dependent variables are in level form, rather than logarithmic form, because the sample sizes falls dramatically when the logarithm of cheating behaviors is used, since they are numerous students who report zero cheating instances. Bolded estimates indicate statistical significance levels of .05 or less for one-tailed tests. Model One estimates the cheating index for all fourteen activities. Due to missing values, the sample size is 608. The adjusted R-square is .379 suggests 37.9% of the variation in cheating index is explained by the model.

Two demographic measures are statistically significant. GPA, impacts the cheating index in the suspected quadratic fashion. Increases in GPAs above 2.11 reduce the cheating index. Since nearly all of the students have GPAs in excess of this threshold, cheating occurrences are falling as GPAs increase, a finding similar to previous research. Having attended a high school with an honor code unsurprisingly reduced the cheating index by .355, an 11% reduction from the mean. Contrary to expectations, being an athlete, male or a member of a Greek organization has no statistically significant effect on the all-inclusive cheating index.

The social incentives of peer and parental disappointment do not affect cheating behavior, contrary to expectations. Although these two social incentives are not significant, a third one is. If students believe cheating is rampant as "everyone does it", they increase their cheating frequency by .568 or 18% of the mean frequency. This occurs holding other factors constant, including attending an honor code college. The two economics incentive variables affecting the marginal cost of cheating – the severity of punishment and spending additional time working for pay - are not statistically significant.

Table 3: Cheating Determinants for Two Cheating Indices

MODEL ONE			MODEL TWO	
Dependent Variable= CHEAT INDEX 14			Dependent Variable= CHEAT INDEX 6	
Dependent Mean=3.22			Dependent Mean=.55	
Adjusted R^2=.379 N=608			Adjusted R^2=.175 N=641	
Variable	Estimate	Pr > |t|	Estimate	Pr > |t|
INTERCEPT	**7.891**	**<.0001**	**2.766**	**<.0001**
HONCOL2	0.267	0.3807	-0.064	0.5773
HONCOL1	**-1.183**	**0.0001**	**-0.245**	**0.0318**
GENDER	0.149	0.4439	**0.299**	**0.0006**
HS CODE	**-0.355**	**0.0845**	0.008	0.9313
GPA	**1.914**	**0.0460**	0.492	0.1832
GPA2	**-0.452**	**0.0052**	**-0.134**	**0.0371**
MBA	**0.7840**	**0.0003**	**0.304**	**0.0014**
ATHLETE	0.190	0.3278	0.138	0.1078
GREEK	0.097	0.7405	0.059	0.6543
PERCEPTION INDEX	**-0.182**	**<.0001**	**-0.135**	**<.0001**
BAD PARENT REACT	-0.004	0.9376	**-0.196**	**0.0594**
BAD PEER REACT	-0.205	0.3604	0.005	0.9590
EVERYONE DOES IT	**0.586**	**0.0122**	**0.197**	**0.0544**
HARSH PUNISH	-0.259	0.2849	-0.098	0.3611
WORK FOR PAY	0.026	0.1286	0.005	0.5142

Our attention focuses on three of the independent variables: honor code colleges, MBA, and the cheating perception index. The honor colleges are compared to the base, NOCODECOL. The predicted impact on the cheating index is statistically significantly less for the college with the renowned honor code, HONCOL1, relative to the non-code school, ceteris paribus. Attending that honor code school compared to the non-honor code college, ceteris paribus, suggests a 1.18 point decrease in the index, which is quantitatively large relative to the index mean of 3.22, representing 36% of the mean. On the other hand, there is no statistically significant difference in the cheating index for the second honor code school, HONCOL2, relative to the non-code school. We contend the veracity, cultural embracement and institutional

emphasis inherent in a strong honor code is necessary to ensure an honor code's success in reducing academic dishonesty.

The cheating perception index, an indicator of the moral incentive, is also highly statistically significant, showing the greater the perception of the severity of behaviors considered as cheating, the lower the cheating index. A one point increase in the perception index, which is akin to raising the severity level by one notch for one behavior, yields a predicted decrease of .18 in the cheating index or a 5.5% drop from the mean. This demonstrates that if students can be educated as to what constitutes cheating and their perceptions change accordingly, less cheating will occur.

The MBA coefficient implies students wishing to attend an MBA program in the future have an expected cheating index .784 higher than those not intending to attend an MBA program. This is a 24% hike relative to the mean. It is noted, though not shown in Table 3,that those intending to go to graduate school other than for an MBA have a .697 (p=.0003) lower expected cheating index relative to those not intending to pursue graduate school or an MBA program, while all the other significant coefficients remain relatively unchanged. Thus, not only do graduate school bound students seeking an MBA engage in more self-reported cheating, but others looking toward non-MBA graduate degrees report significantly less cheating. Since previous research on graduate students reports cheating amongst MBA and non-MBA graduate students, wherein the former effect exceeds the latter effect, our result is surprising. We surmised both groups would cheat more, though the MBA bound crowd more so.

Additional models incorporating combinations of the following explanatory variables were tested but did not improve the adjusted R-square or materially alter the level of significance or coefficient magnitudes from those in Model One. The additional explanatory variables tested

were: parental education, annual family income, SAT scores, whether having an honor code affected college choice, whether the student and/or student body understood the college's academic integrity policies, and whether honor codes were thought to deter cheating.

The model was also tested using two stage least squares to allow for endogeniety between the honor college choice and frequency of cheating. Testing for endogeniety using the Hausman (1978) test indicated a lack of evidence to support endogeniety for HONCOL1. For HONCOL2, endogeniety held, but the structural model's estimate for HONCOL2 of 1.49 was still highly insignificant (p=.55), again suggesting no impact on cheating behavior from HONCOL2. Moreover, the statistically significant variables from the OLS equation remained significant and their coefficients maintained the same signs in the two stage least squares estimation. No additional variables became significant. As such, the OLS results are presented in Table 3.

Cheat Index with Six Egregious Behaviors

Model Two concentrates on the six most egregious forms of cheating and the regression results differ in some cases from Model One. The dependent mean is .55 and any predicted impacts should be compared to this small number. As in Model One, GPA is quadratically significant with the GPA threshold of 1.83, suggesting increases in GPAs above 1.83 lead to decreased cheating. The social norm of "Every One Does It" also remains a strong instigator to cheating.

Interesting differences in significance appear between Model Two and Model One. In Model Two, being male is highly statistically significant (p-value=.0006) and it increases the predicted cheating index by .299 or 55% of the mean. Gender did not impact cheating in Model One. In Model Two, students intending to pursue an MBA show the virtually the same increase in the index at .30 as males, ceteris paribus. These equal impacts on cheating suggest males

headed to MBA programs exhibit cheating behaviors twice as high as the average, ceteris paribus. From a percentage change from the mean, the intention to pursue an MBA has a much stronger impact on egregious cheating behavior (55%) compared to the all-inclusive cheating frequency (24%), regardless of gender or honor code. Though not shown in the Table 3, those intending to attend a non-MBA graduate program exhibit a .29 decline (p-value=.0005) in egregious cheating, consistent with the decline in overall cheating behaviors, while the other significant coefficients are little changed. Adverse parental reaction is statistically significant in Model Two with a predicted drop in the egregious cheating index of .195 (35% of mean), ceteris paribus.

Model Two's results regarding cheating perception and honor codes reiterate Model One's findings. The quantitative impact from HONCOL1 is even greater in percentage terms (45%) from the mean with the .249 predicted declines in the cheating index. The cheating perception index is built from the six cheating behaviors incorporated in Model Two. A unit increase in the perception index is expected to decrease egregious cheating behavior by .135 points, which represents 24.5% decline from the mean. Additionally, endogeniety of honor code school was not supported by the Hausman test (1978) in the two stage least squares model, suggesting the OLS results for Model Two in Table 3 are pertinent.

Conclusion

Preliminary results from this rich data set provide evidence that perceptions of the severity of academic cheating behaviors and the existence of honor codes play a role in academic dishonesty at these liberal arts colleges. Specifically, the more severe a student perceives an academic cheating behavior to be, the less cheating behavior will be undertaken, suggesting schools can reduce cheating behavior through actions that raise awareness of what constitutes

cheating. This result is consistent with earlier research. We find this is true for colleges with or without an honor code.

Having an honor code, in and of itself, is not sufficient to thwart cheating. Unless the code is embedded and embraced by the college community, a code will not abate cheating. This claim is supported by peer perceptions of how rampant cheating is on campus. If students perceive cheating occurs and it is okay, this pervades the campus culture and leads to more (self-reported) cheating. This holds for schools with honor codes and those without and is consistent with previous research. Again, it is incumbent upon schools with honor codes to elevate them to a level wherein the faculty, students and administration revere them. Schools entertaining the idea to institute a code need to be mindful of this connection as well.

Students desiring an MBA in the future are predicted to cheat more, as are students with low GPAs. Having attended a high school with an honor code reduces cheating behaviors in college. Much like the problems of underage drinking on campuses, propensities learned in high school bubble up to the college level. The same holds true for the move from college to MBA programs. For whatever reason, the traits inherent in future MBA students and/or the undergraduate education they are receiving lead them to engage in significantly more academic dishonesty. Interestingly, graduate school bound students in non-MBA fields show significantly less cheating. The MBA programs face a tougher challenge to thwart cheating as they are barraged by these students. A venerable honor code at the MBA level, coupled with educational programming that clearly defines cheating and that MBA students ultimately embrace, stands a chance of reducing cheating in MBA programs. Moreover, as previous literature implies, since accounting students appear similar to non-accounting business majors in their cheating

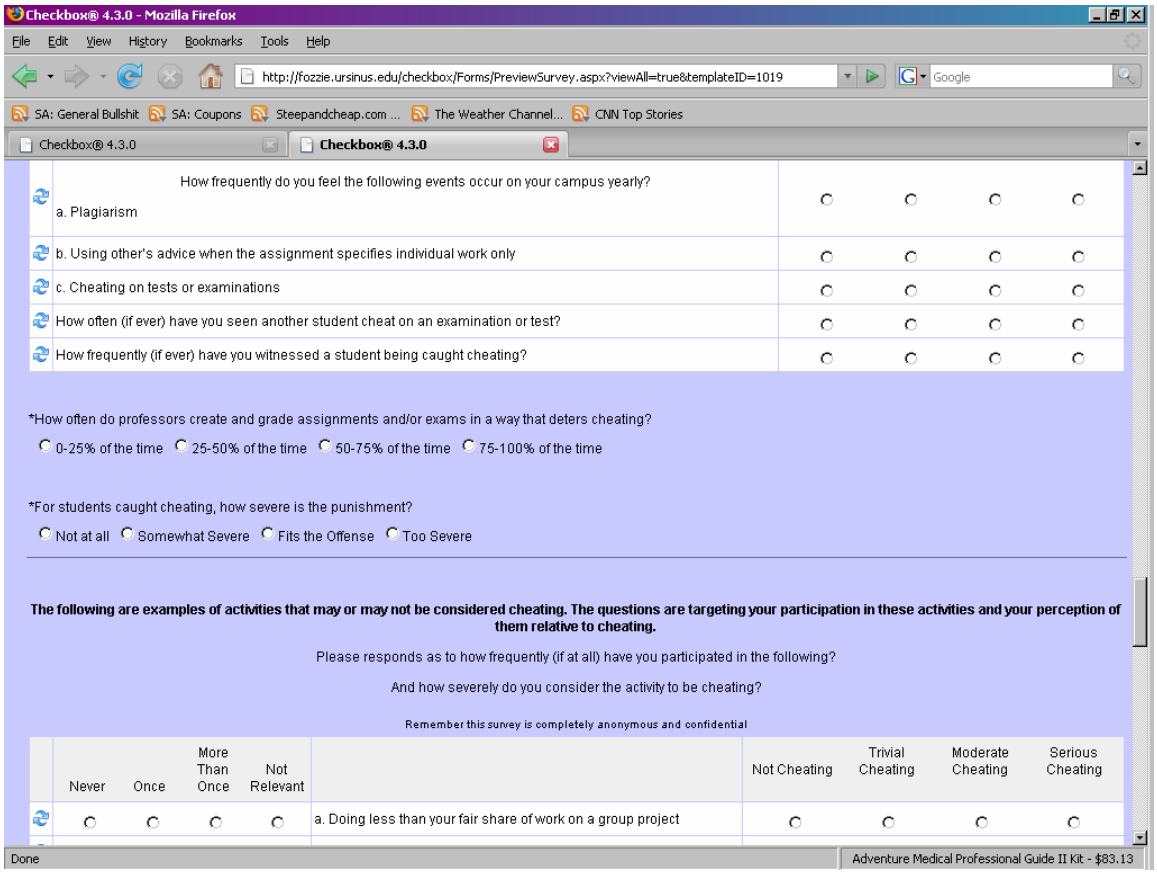
behaviors, enforcing an honor code within accounting programs can reduce academic dishonesty and accounting scandals.

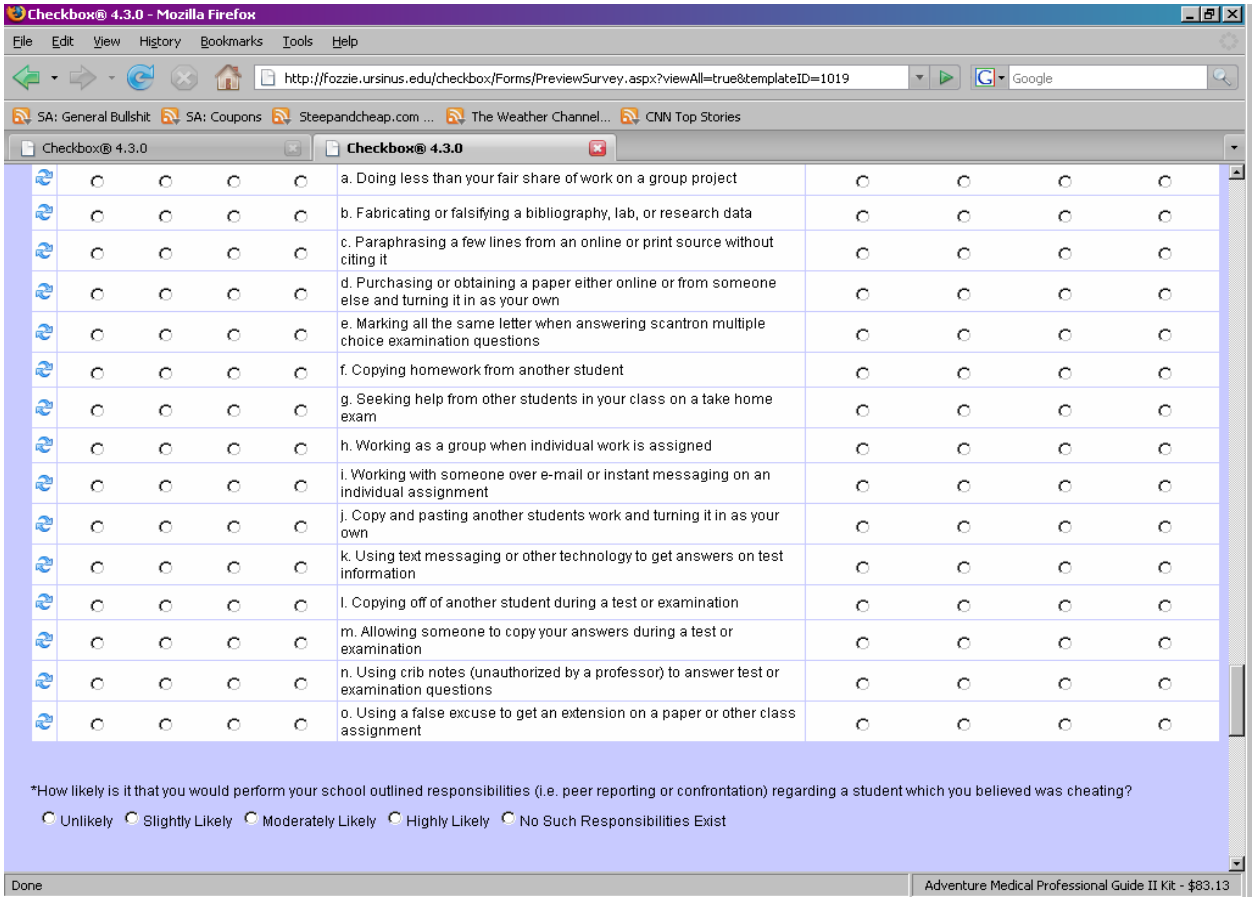
In conclusion, given the self-reported nature of cheating behaviors, the element of measurement error is real. Simply put, cheaters are liars and liars cheat, suggesting cheating behaviors are probably underreported. As long as the measurement error is uncorrelated with the independent variables, unbiased results still hold. Perusing the list of independent variables, there may be such correlations with student demographic variables such as reported GPA, gender, etc., leading to biased estimators. If, however, underreported cheating behaviors are similar across all campuses, the bias is similar across campuses. Self selection of who responded to the survey can also bias results, but fixing that problem is not possible. Both of these data issues have affected other researchers, so at least we are all comparing one set of biased results to another with similar biases. Burns et al (2007) found no difference in the likelihood of cheating between two schools, one with an honor code and one without, ceteris paribus, unless the definitions of cheating were presented to students. We find differences in the amount of cheating occur across honor codes without defining cheating. We find the perception of the severity of cheating, rather than the definition of it, affects the amount of cheating occurring.

Some future research questions center around why MBA bound undergraduates appear more likely to cheat relative to others, especially compared to those wishing to attend non-MBA graduate programs. Are the classroom cultures and means of academic assessment for future MBA students complicit in promulgating cheating? Given the ever-present examples of cheating in the corporate world, are MBA bound students less dismayed by cheating and able to rationalize more of it? Given the high degree of collaboration in project work in business settings, is the perception of what constitutes cheating lost in translation at the corporate level

and therefore, not surprisingly, at the classroom level? Are the field interests at the MBA level - accounting, finance, management, marketing, etc. - indicators of where the cheating resides? Answers to these questions will provide information necessary to reduce cheating at the undergraduate level. Moreover, additional research in learning how and why students embrace and act honestly when facing certain honor codes would prove useful in forming efficacious honor codes at the undergraduate and graduate school levels.

Appendix




Checkbox® 4.3.0 - Mozilla Firefox
File Edit View History Bookmarks Tools Help
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Google
SA: General Bullshit
SA: Coupons
Steepandcheap.com ...
The Weather Channel...
CNN Top Stories
Checkbox® 4.3.0
Checkbox® 4.3.0
a. Doing less than your fair share of work on a group project
b. Fabricating or falsifying a bibliography, lab, or research data
c. Paraphrasing a few lines from an online or print source without citing it
d. Purchasing or obtaining a paper either online or from someone else and turning it in as your own
e. Marking all the same letter when answering scantron multiple choice examination questions
f. Copying homework from another student
g. Seeking help from other students in your class on a take home exam
h. Working as a group when individual work is assigned
i. Working with someone over e-mail or instant messaging on an individual assignment
j. Copy and pasting another students work and turning it in as your own
k. Using text messaging or other technology to get answers on test information
l. Copying off of another student during a test or examination
m. Allowing someone to copy your answers during a test or examination
n. Using crib notes (unauthorized by a professor) to answer test or examination questions
o. Using a false excuse to get an extension on a paper or other class assignment
*How likely is it that you would perform your school outlined responsibilities (i.e. peer reporting or confrontation) regarding a student which you believed was cheating?
Unlikely
Slightly Likely
Moderately Likely
Highly Likely
No Such Responsibilities Exist
Done
Adventure Medical Professional Guide II Kit - $83.13

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