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#### THE IMPACT OF HONOR CODES ON ACADEMIC CHEATING WITHIN LIBERAL ARTS COLLEGES

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#### **ABSTRACT**

Many researchers study the subject of collegiate cheating by focusing on demographic characteristics of cheaters at schools of varying sizes. Other researchers examine whether collegiate honor codes can abate rampant cheating. A third group studies whether perceptions of what students believe to be cheating behaviors affects actual cheating. This paper incorporates previous research and develops of a model of academic cheating based on three sets of incentives - moral, social and economic - and how they affect self-reported cheating behaviors at liberal arts colleges. An on-line survey was administered to students from three liberal arts colleges in spring 2008. The nearly 700 respondents provide a robust data set with nearly half of the respondents coming from institutions with honor codes in place. Econometric models using ordinary least squares highlight the determinants of cheating and whether honor codes are efficacious. The results will be useful in the national dialogue regarding college cheating.

#### INTRODUCTION

Academic dishonesty remains a pervasive occurrence on college campuses across the nation. 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. 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. Additionally, if students believe cheating is disapproved socially and leading to shame, less cheating will occur. This paper examines these three types of incentives and their impact on academic cheating on selective liberal arts college campuses.

Some colleges have honor codes in place, which are believed to reduce the incidence of cheating. Whether this is the case, is the thrust of this paper. For colleges entertaining the idea of the creation of an honor code, the answer to this question is paramount. The creation of an ineffective code is useless. This paper examines how the effectiveness of honor codes at liberal arts colleges affects academic cheating behaviors. Three selective liberal arts

colleges 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 honor codes on cheating behaviors by concentrating on the incentives inherent in honor codes.

#### LITERATURE REVIEW

In 1963. Bowers 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, took this further and broke student behavior down into 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. Also, cheating on written assignments had remained 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 (Becker, Ulstad, 2007; Jones, Bichlmeier, & Whitley, 1999; McCabe & Trevino, 1993). Higher student GPAs have been shown to have a negative correlation with the cheating behaviors of college students (Burrus, McGoldrick, & Schuchmann, 2007; Crown & Spiller, 1998; Levy & Rakovski, 2007; McCabe & 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. Extracurricular activities such as sports have been shown to influence a student's tendency to cheat

(Burrus et al., 2007; Butterfield, McCabe, & Trevino, 1999). Sports participation understandably puts excess pressure on students because of the amount of time they require on a regular basis. This pressure exists because there is then less time for student-athletes to pursue their course obligations. which leads to more academic cheating. Participation in a fraternity or sorority has also been linked to an increased tendency to cheat (Burrus et al, 2007; (Butterfield, McCabe ,& Trevino, 1999). Older research has suggests that Greek organizations encourage cheating by keeping files with old papers, assignments, and tests for brothers/sisters 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 most cheating occurs between friends (Burrus et al, 2007). Because Greek organizations foster these friendships they have been associated with higher incidences of cheating.

Recently MBA programs have become scrutinized their reported cheating behavior (Mangan, 2006; Sharda, 2006). Graduate schools have been noted for their competitive nature and also for the "type A" personalities that such environments attract. Competitive undergraduates apply to these schools and often exemplify cheating behaviors in graduate school at a higher rate because of their focus on results (Willin, 2004). This could indicate one of two things. It could show that there is a significant difference in culture between undergraduate and graduate institutions. At the same time, such results could also indicate that top performing students are less likely to report their cheating behavior in their undergraduate work, and more candid when they reach the graduate level. In addition to this, there are also external factors that can influence graduate behavior such as pressure which "type A" students are willing to accept from a current employer or the anxiety to obtain a high paying job upon graduation (Sharda, 2006).

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, McCabe, & Trevino, 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 and 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, Martin, Jinks, Bigby, 2007; Burrus et al, 2007; Butterfield, McCabe, Trevino, 2001; Butterfield, McCabe, Trevino, 1999; McCabe & Trevino, 1993). Their results generally indicate that for an honor code to witness less cheating behavior, the code must be well understood, respected and strongly abided by faculty and students, i.e., embedded in the campus culture. McCabe and Trevino 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 that would be abolished if the code or cheating were to occur (1999).

Other research links the perception of what signifies cheating to cheating behaviors (Bisping, Patron, Roskelley, 2008; Callahan, 2006; Hard, Conway, Moran, 2006; McCabe, Trevino, Butterfield, 2002). Ranking activities in terms of their degree of cheating severity is used to show a negative correlation with both the frequency and likelihood of the activities. 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 believed seeking help from peers on homework was trivial cheating at best, greater frequency of this activity would be reported.

#### METHODOLOGY AND DATA

During the spring semester of 2008, a web-based survey was sent to the student body of three small liberal arts colleges. 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 definition of traditional honor codes (1985). 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 honor code of one school, HONCOL1, was established in 1896, making it one of the oldest in the US. This code is voted upon each spring by all students, which enables it to change as the times change and clearly demonstrates the seriousness of purpose and credibility the code lends to the campus culture. Moreover, visiting the school's website looking for the generic overview of the college leads one to a pronouncement of the school's honor code. The second college's honor code, HONCOL2, 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. The third college, NOCOCECOL, does not have an honor code, although discussions regarding one have taken place, but it does list the school's statement on academic honesty while clearly delineating examples of academic dishonesty in the student handbook. Like the second college, it takes some searching to find the statement on academic honesty. According to the schools" faculty handbooks, all professors in all schools are expected to discuss academic honesty in the classroom and state policies on syllabi.

Of the total 3,992 undergraduate students who received an email 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 were at 26.7%, 10% and 15.7 % for HONCOL1, HONCOL2, and NOCODECOL, respectively.

The survey comprised 61 questions intended to extract demographic, campus culture, perceptions of cheating and incidences of cheating from the students. A matrix of fifteen potential cheating behaviors, drawn largely from McCabe's 2003 index of academic integrity, was created (McCabe, Trevino, Butterfield, 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 One lists the fifteen behaviors, although question five was included as a ruse, since it is not considered cheating by anyone.

The percent of students responding as undertaking a stated behavior once or more is presented in parentheses in Table One. Using technology to procure answers on exam 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. The highest frequency occurred with 47.2% of students saying they had worked as a group when individual work was assigned.

The percentage of respondents who contended a behavior indicated either moderate to severe cheating is in bold brackets in Table One. 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 cheating once or more and the percent who believe the action is more than trivially dishonest.

Table Two presents descriptive statistics from the survey. Thirty seven percent of the respondents were male, 29% had an honor code in high school, and although not shown in the table, the respondents were fairly evenly dispersed across the four class years. The percent of students participating in college athletics was 35%. HONCOL1 does not have Greek social organizations, thus the 13% from the survey who are such 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 (35% for an MBA.) Eighty percent of the respondent statement college and 82% of their mothers did.

The overall mean GPA for respondents was 3.4on 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 survey, which may bias the results. The average verbal and math SAT scores were 665 and 647, respectively.

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. Eighty three percent of those surveyed said the severity of consequences either fit the crime or were too severe, suggesting harsh punishment exists.

Two cheating indices were 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. Its mean is .55, suggesting less than one of the egregious forms is undertaken on average. In fact, 71% indicated they did not engage in any of the six, 15%

admitted to one of the infractions, and 12% accounted for 2-3 misconducts. Only eighteen students reported 4-6 occurrences. The second index is more encompassing, using the summation of dummy variable scores for the fourteen 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 very 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 were 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. The egregious cheating perception index for the six noted behaviors is 16.87, implying moderate to severe responses for the six activities. Indeed, 52.5% of respondents indicated all six forms were severe.

#### 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.

$$\begin{aligned} & \text{CHEATINDEX}_i = \beta_0 + \beta d_* \text{DEMOGRAPHICS}_i + \beta c_* INCENTIVES_i \\ & + \beta_{h^*} HONCOL_t + \varepsilon_i \end{aligned} \tag{1}$$

\* where i = student, t = school, and  $C_i$  represents the stochastic error

#### **Demographic Variables**

The right hand column of Table Two 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. These can be thought of as control variables. Lastly, although the literature does not address the number of hours worked 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 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 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. HONCOL2 is the dummy variable for the second code school. The same rigor and enthusiasm is not apparent in the second honor code college, thus the desire to separate their inclusion. Differences in projected reductions in cheating behaviors relative to the non-honor-code college can be examined.

#### **RESULTS**

Two models using ordinary least squares were estimated, as shown in Table Three. Model One estimates the cheating index for all fourteen activities. Due to missing values, the sample size fell to 607. The statistically significant demographic factors are having an honor code in high school, a quadratic form of GPA, and the intention of attending an MBA program in the future. According to the predicted quadratic results for GPAs suggests increases in GPAs above 2.15 reduce the cheating index. Being an athlete, male or a member of a Greek organization has no effect on the index.

Peer of parental disappointment do not affect cheating behavior, contrary to expectations. Although these two social norms are not significant, the third one is. If students believe cheating is rampant and everyone does it, they too will cheat. This occurs holding other factors constant, including attending an honor code college. The severity of punishment is also not significant in Model One.

Our attention is focused on two of the independent variables: honor code and the cheating perception index. The predicted impact on the cheating index is statistically significantly less for the college with the renowned honor code relative to the non-code school. Coming from that honor code school, ceteris paribus, suggests a 1.18 point decrease in the index, which is quantitatively large relative to the index mean of 3.22. On the other hand, there is no statistically significant difference in the index for the second code school relative to the non-code school. The perception index is also highly statistically significant in Model One, implying the greater the severity of a behaviors being considered cheating, the lower the cheating index. For Model One, the impact is a predicted decrease of .18 or a 5.5% drop from the mean.

Model Two concentrates on the six most egregious forms of cheating and the results differ in some cases from Model One. Being male, having a lower GPA, the intention of obtaining an MBA and being an athlete are associated with higher egregious cheating behaviors. Adverse parental reaction is now statistically significant with a predicted drop in the index of .195, while the other social norm of "Every One Does It" remains a strong instigator to cheating.

Model Two's results regarding cheating perception and honor codes reiterate Model One's findings. The quantitative impact from HONCOL1 is even greater, a .249 predicted decline in the cheating index relative to the mean of .55. The perception index is only built from the six cheating behaviors in Model Two. A unit increase in the index is expected to decrease egregious cheating behavior by .135 points, which represents 24.5% decline from the mean.

#### CONCLUSION

Preliminary results from this rich data set provide initial evidence that perceptions of the severity of academic cheating behaviors and the existence of honor codes play a role in academic dishonesty at liberal arts colleges. Specifically, the more severe a student perceives an academic cheating behavior to be, the less cheating behavior will be undertaken. This is true regardless of whether the college has an honor code or not. This suggests schools can reduce cheating behavior through actions that raise awareness of what constitutes cheating.

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 rectify cheating. 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.

Given the self-reported nature of cheating behaviors, the element of measurement error is real. Simply put, cheaters are liars, suggesting cheating behaviors are underreported. If they are, however, underreported across all campuses, the bias is not as bad. Self selection of who responded to the survey can also bias results, but fixing that problem is not possible. Both of these data issues affected other researchers, so at least we are all comparing one set of biased results to another with similar biases.

Lastly, the study would benefit by having more colleges involved in it. Originally, ten schools within the same athletic conference were approached to allow the on-line survey to be administered anonymously. These schools are similar in many ways and compete for the many of the same students. Unfortunately, only three colleges were willing to participate. While extremely grateful to those schools, we find it upsetting that others were unwilling to have their students represented. For some school administrators, there seemed to be a fear of what the results might show. Leading without sufficient information is not generally the road to success.

## **Table One**

Behavior (percent doing once or more) [percent who believe it's moderate or serious cheating]							
Q1	Doing less than your fair share of work on a group project (28.4%) [21.3%]						
Q2	Fabricating or falsifying a bibliography, lab, or research data (27.1%) [69.1]						
Q3	Paraphrasing a few lines from an online or print source without citing it (40.2%) [65.6%]						
Q4	Purchasing or obtaining a paper either online or from someone else and turning it in as your own (3.5%) [99.8%]						
Q5	Marking all the same letter when answering Scantron multiple choice examination questions						
Q6	Copying homework from another student (41.4%) [70.7%]						
Q7	Seeking help from other students in your class on a take home exam (28.1%) [78.9%]						
Q8	Working as a group when individual work is assigned (47.2%) [51.9%]						
Q9	Working with someone over e-mail or instant messaging on an individual assignment (31.9%) [49.6%]						
Q10	Copy and pasting another student's work and turning it in as your own (4.7%) [98.2%]						
Q11	Using text messaging or other technology to get answers on test information (2.8%) [99%]						
Q12	Copying off of another student during a test or examination (14.4%) [98.2%]						
Q13	Allowing someone to copy your answers during a test or examination (16.8%) [99%]						
Q14	Using crib notes (unauthorized by a professor) to answer test or examination questions (13%) [92.9]						
Q15	Using a false excuse to get an extension on a paper or other class assignment (27%) [60.1%]						

Table Two								
Demographic Variables		Mean	Std. Dev.	Min	Max	$\mathbf{H}_{0}$		
GENDER		0.37	0.48	0	1	?		
HIGH SCHOOL HONOR CODE		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		.82	0.38	0	1	0		
FAMILY INCOME		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		0.83	0.38	0	1	-		
ALL 14 CHEATING PERCEPTION		30.28	5.65	7	42	-		
EGREGIOUS SIX PERCEPTION		16.87	1.85	1	18	-		
Dependent Variables								
ALL 14 CHEATING BEHAVIORS	686	3.26	2.96	0	14			
EGREGIOUS SIX CHEATING FREQUENCY		0.55	0.12	0	6			

## **Table Three**

1.500.00			1.500.000.000			
MODEL ONE			MODEL TWO			
Dependent Variable= CH	EAT IND	EX 14	Dependent Variable= CHEAT INDEX 6			
Dependent Mean=3.22			Dependent Mean=.55			
Adjusted $R^2$ =.379 N=60	7		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	-0.067	0.5642		
HONCOL1	-1.183	0.0001	-0.249	0.0288		
GENDER	0.149	0.4439	0.290	0.0006		
HS CODE	-0.355	0.0845	0.304	0.0014		
ATHLETE	0.190	0.3278	0.168	0.1069		
GREEK	0.097	0.7405	0.042	0.7423		
PERCEPTION INDEX	-0.182	<.0001	-0.135	<.0001		
BAD PARENT REACT	-0.004	0.9376	-0.195	0.0606		
BAD PEER REACT	-0.205	0.3604	0.005	0.9621		
EVERY ONE DOES	0.586	0.0122	0.197	0.0551		
HARSH PUNISH	-0.259	0.2849	-0.099	0.3590		
WORK FOR PAY	0.026	0.1286	0.005	0.5152		

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