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Is there a Relationship between Honor Codes and Academic Dishonesty?

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Abstract

This investigation compared "character building" colleges recognized by the John Templeton Foundation for their character development programs and with honor codes with those that did not have formalized character development programs (traditional colleges) or honor codes. The researcher administered a researcher-designed questionnaire (Academic Honesty Questionnaire) to 695 students representing six colleges and universities randomly selected. Of the six institutions, three colleges and universities of differing population sizes were selected that had incorporated honor code systems The three remaining institutions of differing sizes were considered traditional colleges and did not utilize honor code systems. The level of academic dishonesty was correlated to the presence of an honor code system to determine if possible relationships existed. In addition, the size of the institution and the gender of the student were also considered to determine if differences existed among the construct variables. Significance was found in various subscales for five of the six research questions. Even though no significance was found in the difference in the level of academic dishonesty between institutions with or without honor code systems, a significant difference was found in the perception of student cheating between the two types of institutions. Students from honor code institutions perceived that the amount of academic dishonesty at their institutions was lower. No significant difference was found in the level of student cheating regarding the size of the institution. However, the study found that students from the large-sized universities perceived that they were more likely to get away with cheating than students from the small and medium-sized institutions. Finally, while no significant difference was found in the level of academic dishonesty regarding student gender differences were perceived.

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Since the beginning of formalized education, student cheating has been a challenge for educators. By most accounts today, academic dishonesty is prevalent and growing on college campuses around the nation (Gerdeman, 2000; Hohlhardt, 2004; McCabe & Trevino, 2002). Various investigators have assessed the level of student cheating, and the measured severity of academic dishonesty varies from study to study. Bower's (1964) landmark study of college student cheating indicated that 75% of the 5,000 students from 99 campuses cheated in their undergraduate classes. Investigators from recent studies often compare results to Bowers, and many inquiries over decades have shown student cheating continues to exceed 70% (Baird, 1980; Collison, 1990; Davis, Grover, Becker & McGregor, 1992; McCabe & Trevino, 2002). Some researchers even have asserted that academic dishonesty is endemic to today's colleges and universities (Pulvers & Diekhoff, 1999). Nadelson (2006), along with several others (Chickering, Dalton, & Stamm, 2006; Chickering & Stamm, 2002), have argued that moral environments on campuses are changing. Murdock, Miller, and Hohlhardt (2004) found in their study that self reporting on cheating has increased along with the view that this cheating is acceptable. So what is it that causes a student to cheat in today's colleges and universities? Various reasons such as the desire to succeed and to make good grades, pressure from parents and peers, and the hope to beat the system have all been identified as contributors to students cheating (Crown & Spiller, 1998; McCabe & Trevino, 2002). In response, colleges and universities have incorporated various measures to curb the epidemic of academic dishonesty. Nadelson (2006) postulated that "developing students who behave ethically is an important mission for higher education. Unfortunately, there is not a comprehensive understanding of how to easily develop moral behaviors in students" (p. 7).

McCabe and Trevino (2002) argued that institutions of higher education need to recommit to a tradition of integrity and honor. Hendershott, Drinan and Cross (2000) affirmed that at every layer of an institution the development of increasing awareness of academic dishonesty must be embraced. Furthermore, Hendershott, Drinan and Cross (2000) concluded that the incorporation of a strategic plan that includes the mobilization of key facilitators and the destruction of barriers to promoting academic integrity would embed a new way of thinking about academic integrity throughout the institution. And McCabe and Trevino (2002) poignantly argued that the greatest benefit of a culture embracing integrity would not only be the reduction in student cheating, but the lifelong benefit of learning the value of living in a community of trust.

Today, a number of colleges and universities have taken additional steps to promote academic integrity by the use of an honor code that more often than not includes student responsibility for reporting known incidences of cheating (McCabe, Trevino & Butterfield, 2001). It appears that some of these honor code systems are successful in curtailing academic dishonesty (McCabe, Trevino and Butterfield (Ibid.). However, despite the popularity of such systems, these honor codes may not necessarily be addressing the issue of academic dishonesty at its source nor equally affecting all students. In fact, McCabe, Trevino, and Butterfield (2002) asserted that institutional leaders must place academic integrity as an institutional priority and establish comprehensive initiatives that promote a strong environment of honor. Using as the unit

of analyses "*character building"* colleges recognized by The *John Templeton Foundation* for their character development programs with those that did not have formalized character development programs (*traditional colleges*), the research questions guiding this inquiry were 1) Is there a difference in the level of academic dishonesty between colleges and universities that have incorporated an honor code system and those that have not? 2) Is there a difference in the level of student academic dishonesty between small, medium, and large-sized colleges and universities? 3) Is the presence of an honor code system a factor in the level of academic dishonesty as it relates to the student population size of the institution? 4) Is there a difference in the level of academic dishonesty regarding the gender of the student, the size of the institution, and the presence of an honor code system?

Conceptual Underpinnings

As noted earlier, McCabe, Trevino, and Battlefield (2002) found that an institutional use of an honor code system can be effective strategy in the reduction of academic dishonesty on college campuses. In general these policies explicitly articulate to students the expected behavior and results of such behavior, along with the consequences of not following the code. One of the results of such processes is increased responsibility and accountability of students for their own behavior and the behavior of others. Having an honor code system in turn results in students more likely to report classmates cheating and individually behaving with more honest actions (McCabe, Trevino, & Butterfield, 2002). The key to the effectiveness of the system, asserted McCabe and Trevino (1993), is how much of a living dynamic the honor code system is within the institutional culture. To be effective honor code systems must support academic integrity by promoting a positive and supportive campus culture aware of its importance (McCabe & Pavela, 1998). In fact a culture of academic integrity may be the single most determining factor regarding student cheating on a college campus (McCabe & Pavela). Matthews (1999) supported the significance of an honor code by arguing that examining honor codes revealed that they did have a direct influence on student attitudes and perceptions towards academic integrity. And in addition, to the impact on students, McCabe, Trevino, and Butterfield (2002) postulated that faculty who worked in universities with honor codes had enhanced beliefs about student academic behavior. In addition, they were more willing to allow the "system to take care of monitoring and disciplinary activities" (p. 397).

Another aspect of honor codes is the impact of peer pressure. McCabe and Trevino (1993) contended that academic dishonesty is most closely associated with the perception of peer behavior. Dalton (1985) supported this argument by claiming that the values prized by the peer culture have a significant influence on the values developed within the individual college student.

Additionally, institutions with an honor code system are typically small, private colleges with moderate enrollments (Kibler, 1994; McCabe & Pavela, 2000). Conversely, students from larger colleges and universities tend to report a higher rate of cheating than those from smaller sized post-secondary institutions (Collison, 1990). Since the presence of cheating may be pronounced at some larger institutions,

promoting a strong sense of campus community is more difficult to accomplish because the sense of community is such an important component of a successful honor code system (McCabe & Pavela, 2000). Pulvers and Dierkhoff (1999) went on to report that students who admitted to dishonest behavior argued that classes were "less personalized, less satisfying, and less individualized" (p. 496).

Furthermore, larger classrooms are typically found to be more impersonal, providing the opportunity for students to remain anonymous and viewed more as a "number" than a person to the professor (Hall & Kuh, 1998). By being in a less personalized environment, students are more apt to cheat and use the less personalized larger classroom as an excuse to justify cheating (Pulvers & Diekhoff, 1999), thus feeling no obligation to be accountable to the institution or to peers. Conversely, smaller colleges, especially those with honor code systems and a strong sense of loyalty to the institution, have generally had more success in curbing academic dishonesty (Tabor, 1987). This success is due in part to smaller classroom sizes, closer personal relationships with professors, and the level of convenience to promote a culture of academic integrity.

In addition to the need for honor codes being totally acculturated throughout the institution, research has revealed that overall, the results regarding the influence gender plays on academic dishonesty is inconsistent. While earlier studies argued that men tend to cheat more than women (Baird, 1980; Fakouri, 1972; Katz, 1966), others claimed that women cheat more than men (Antion & Michael, 1983; Houston, 1977; Leming, 1980). More recent studies indicated that female students are less likely to cheat than their counterparts (Grasmick & Bursik, 1993; Tibbetts, 1999). And through the sex-role socialization of women, several studies have implied that women show a greater respect for others (Hendershott, Drinan & Cross, 1999) and place a higher level of importance on one's personal code of honor than men (May & Loyd, 1993). Also women are more likely to justify their actions due to the psychological mechanism that deflected back to the internalization of sex role socialization (Ward & Beck, 1990). Other studies indicated that men are more likely to try to justify, or neutralize, their actions (Hall & Kuh, 1998). Hendershott, Drinan, and Cross (1999) articulated that women were more restrained from cheating than men due to the imposing sanctions surrounding academic dishonesty. Also, many studies indicated that women with higher levels of motivation tend to cheat less than men at the same motivational level (Johnson & Gormly, 1972) and were more likely to report another student found cheating (Jendrek, 1992), a key component to the traditional honor code system. However, this differentiation between men and women regarding academic dishonesty has become less significant over the last ten years (Crown & Spiller, 1998). Crown and Spiller went on to postulate that this convergence was based on the rationale that differences between the genders are not encouraged as much in recent years, leading to similar levels of neutralization for both genders. Consequently the literature on the issues of school size, gender and academic dishonesty is still inconclusive.

This inquiry examined the successfulness of today's honor code systems in colleges and universities relating particularly to academic dishonesty. Specifically, this investigation compared *"character building"* colleges recognized by the *John Templeton Foundation* for their character development programs with those that did not

have formalized character development programs (*traditional colleges*). The *John Templeton Foundation* is a national foundation that recognizes colleges and universities for their promotion of positive values such as honesty, self-discipline, and respect. The institutions selected for this inquiry were recognized by the *John Templeton Foundation* and also had an honor code system as a fundamental component of their overall initiative to promote academic integrity. Thus, the focus of the study was to examine the difference honor code systems made in academic dishonesty in colleges and universities located in the Midwest. Since the literature revealed that institutional size was a factor affecting the campus culture that promotes academic integrity, the intent of this study was to examine the difference campus size has on the overall successfulness of an honor code system. This inquiry also intended to assess the difference, if any, honor code systems have on academic dishonesty in relationship to the gender of the student. By exploring the relationships between these variables, college and university administrators can implement and adapt various strategies to reduce further the level of student cheating on college campuses.

Methods

Participants

A stratified random sample of higher education institutions from seven Midwestern states was selected for participation based on geographical location, institution size, and whether or not it was a "*character building*" college. The "*character building colleges"* were the colleges and universities recognized by the *John Templeton Foundation* for the promotion and development of personal character within the students of the institution (http://www.collegeandcharacter.org) and had an honor code. The "*traditional colleges*" were not involved with the *John Templeton Foundation*, nor was there a presence of an honor code on their campus.

A total of six colleges and universities participated in the study: one "*Character Building College"* and "*Traditional College"* from the small-sized category, one each from the medium-sized category, and one each from the large-sized category, for a sample of 695 undergraduate students. Of the respondents, 155 were freshmen students, 261 were sophomore level students, 145 were junior students, and the remaining 134 were seniors. The size of the institution was also a determining variable within the study. The 695 participants represented institutional size differences as follows: 222 students were from small-sized institutions, 249 students from medium-sized institutions, and 224 students from large-sized institutions. Finally, for the variable of gender the participants were equally represented, with 344 males and 353 females.

Data Collection and Instrumentation

The data were gathered through the *Academic Honesty Questionnaire (*AHQ). The AHQ was created by the researchers based on a review of related literature (Aiken, 1997; Breakwell, Hammond & Fife-Schaw, 1995; McCabe, 1993) on such variables as academic integrity issues and honesty. Three demographic items from the AHQ were included to ascertain participant's background data. The first demographic item, gender of the student, was an integral item to collect as a primary construct for many of the research questions in the study. Items related to the academic honesty focused on six

subscales found in the literature. The six subscales were the frequency of academic dishonesty, student reporting, personal responses, scenario assessment, factors that influence student cheating, and the level of academic dishonesty reported by the student.

The questionnaire was field tested on two separate occasions with focus groups of participants to address the validity and reliability of the instrument. Focus group participants posed clarifying questions, completed all items from the survey, and helped determine the time required to complete the survey. Three Professors who were identified as having expertise on academic integrity also reviewed the *Academic Honesty Questionnaire* to suggest revisions to further clarify the survey items.

By comparing the responses of the participants of the focus groups on the two separate occasions, reliability of the items was determined. To authenticate the test-retest reliability, correlations on the six subscale totals on the two administrations of the test were calculated. An item-total analysis, to assess the internal consistency of the data, was performed to discover items that correlated highly with the total of each subscale. Correlation for each item in the subscale was also calculated in order to determine the reliability of the individual item. These correlations were Pearson Product Moment Correlations between the two sets of scores.

The test-retest correlations for the six subscales ranged from a low of $r = .285$, the correlation for the student reporting subscale total, to $r = .841$, the correlation for the frequency of academic dishonesty subscale total. All correlations in the test-retest were significant, with a significance level of .041 for the student reporting subscale total and a significance of .001 for the other five subscale totals.

Cronbach's Alpha was also calculated for the *Academic Honesty Questionnaire* items. The first calculation was made on the first draft of the survey and a subsequent calculation computed after less reliable items, as determined by Pearson *r*, was removed. Cronbach's Alpha ranged from .4591 to .8724 on the initial survey that was developed. After removal of less desirable items, alpha ranged from .5220 to .8744. The transition to greater values of alpha reflects a greater internal consistency in the items chosen for the final form of the A*cademic Honesty Questionnaire*.

Data Analysis

For research questions one, independent *t*-tests were performed on each subscale of the questionnaire to determine if there were differences in the level of academic dishonesty between institutions with or without honor code systems. For questions 2-4 an analysis of variance (ANOVA) was use to determine if there were differences in the level of student academic dishonesty between small, medium, and large-sized universities. Significant differences were further investigated with a *post hoc* comparison. Several factorial analyses (ANOVA) were performed to (a) Determine if the presence of an honor code system was a factor in the level of academic dishonesty as it related to the size of the institution; (b) And to determine if a difference existed in the level of academic dishonesty in regard to the gender of the student, the presence of an honor code system, and the size of the institution.

Findings

Research question 1. Is there a difference in the level of academic dishonesty between colleges and universities that have incorporated an honor code system and those that have not?

The means of the six subscales were compared for the two types of institutions using a t-test analysis. Significance at the .05 level was found within the frequency of academic dishonesty (*t* (671) = -3.488, *p* = .001), student reporting (t (678) = 5.574, *p* < .001), personal response (t (670) = 5.330, *p* < .001), scenario assessment (*t* (676) = -2.689, *p* = .007), and cheating factors (*t* (673) = -2.972, *p* = .003) subscales. This difference in the frequency of academic dishonesty subscale indicates that students from "*Traditional Colleges"* perceive that student cheating is occurring more often on their campuses than students from *"Character Building Colleges."* For the student reporting subscale, students from *"Character Building Colleges"* indicate that they would more likely report students found cheating than students from *"Traditional Colleges."* Students from "*Character Building Colleges*" reported that they are more likely to refuse assistance in helping another student cheat than students from *"Traditional Colleges."* Students from "*Character Building Colleges"* also feel they are more likely to get caught cheating than students from "*Traditional Colleges."* Finally, students from "*Traditional Colleges"* reported that they are more influenced to cheat by certain factors than students from "*Character Building Colleges."* The *t*-test comparison chart is outlined in Table 1.

Table 1
t-Test Comparison of Character Building and Traditional Colleges (N=695)

Subscale	Type of Institution	N	Mean	Standard Deviation	Std. Error of Mean	*t*	df	Sig.*
Frequency of Academic Dishonesty	Character Building	344	10.01	3.402	.183	-3.488	671	.001
	Traditional	329	10.97	3.764	.208			
Student Reporting	Character Building	347	3.27	1.226	.066	5.574	678	.001
	Traditional	333	2.77	1.073	.059			
Personal Response	Character Building	343	14.83	3.614	.195	5.330	670	.001
	Traditional	329	13.31	3.769	.208			

Scenario Assessment	Character Building	346	7.65	2.423	.130	-2.689	676	.007
	Traditional	332	8.14	2.390	.131			
Cheating Factors	Character Building	345	15.15	6.298	.339	-2.972	673	.003
	Traditional	330	16.62	6.506	.358			
Level of Academic Dishonesty	Character Building	346	5.31	2.262	.122	-.911	676	.363
	Traditional	332	5.47	2.327	.128			

*Significance is based on a 2-tailed test. *t*-test statistics based on the assumption of equal variances.

Research question 2. Is there a difference in the level of student academic dishonesty between small, medium, and large-sized colleges and universities?

A one-way analysis of variance (ANOVA) was calculated examining the differences in the level of student cheating within the sizes of colleges and universities. Significance was found in the student reporting (F (2, 677) = 5.335, p <.05) and the scenario assessment (F (2, 675) = 5.667, p <.001) subscales. A summary of the one-way analyses of variance (ANOVA) comparing the level of academic dishonesty within institutional sizes are outlined in Table 2. A *post hoc* analysis was also performed to further compare individual differences within the sizes of the institutions. Significance was once again found in the student reporting and scenario assessment subscales. This significance specifically indicates that students from small-sized institutions are more likely to report another student found cheating than students from medium-sized institutions. For the scenario assessment subscale, the significance specifies that students from large-sized institutions perceive that they are more likely to get away with cheating than students from small and medium-sized colleges. The *post hoc* analyses outlining differences in the level of academic dishonesty in relation to the sizes of the higher education institutions are outlined in Table 3.

Table 2
Level of Academic Dishonesty by Size of Institution (N=695)

Subscale		Sum of Squares	df	Mean Square	F	Sig.
Frequency of Academic Dishonesty	Between Groups	63.494	2	31.747	2.442	.088
	Within Groups	8710.399	670	13.001		
	Total	8773.893	672			

					5.335	.005	*
Student Reporting	Between Groups	14.639	2	7.319			
	Within Groups	928.885	677	1.372			
	Total	943.524	679				
					.719	.488	
Personal Response	Between Groups	20.410	2	10.205			
	Within Groups	9494.089	669	14.191			
	Total	9514.499	671				
					11.679	.001	**
Scenario Assessment	Between Groups	132.385	2	66.192			
	Within Groups	3825.539	675	5.667			
	Total	3957.923	677				
Cheating Factors					.816	.443	
	Between Groups	67.649	2	33.824			
	Within Groups	27862.879	672	41.463			
	Total	27930.527	674				
					.191	.826	
Level of Academic Dishonesty	Between Groups	2.017	2	1.008			
	Within Groups	3560.510	675	5.275			
	Total	3562.527	677				

Note: * indicates a .05 level of significance
**indicates a .001 level of significance

Table 3
Post Hoc Multiple Comparison for Student Reporting and Scenario Assessment Subscales (N=695)

Dependent Variable	Size of Institution (A)	Size of Institution (B)	Mean Difference (A-B)	Standard Error	Significance	
Student Reporting	Small	Medium	.35	.109	.003	*
		Large	.22	.112	.127	
	Medium	Small	-.35	.109	.003	*
		Large	-.14	.109	.430	
	Large	Small	-.22	.112	.127	
		Medium	.14	.109	.430	
Scenario Assessment	Small	Medium	-.40	.222	.173	
		Large	-1.09	.229	.001	**
	Medium	Small	.40	.222	.173	
		Large	-.69	.223	.005	*
	Large	Small	1.09	.229	.001	**
		Medium	.69	.223	.005	*

Note: * indicates a .05 level of significance
**indicates a .001 level of significance

Outlined in Table 3 are the student reporting and scenario assessment subscales pertaining to research question two. The differences between the mean scores for each size of institution are specifically outlined along with the level of significance. A positive difference in the mean difference column indicates that the mean score for the size of institution in Column A is greater than that of the size of institution in Column B. For the student reporting subscale, a positive mean difference score represents that students from the Column A institution are more likely to report a student than students from the Column B institution. For the scenario assessment subscale, this would indicate that the perception of getting away with cheating is greater for students from institution (A) than students from institution (B).

Research question 3. Is the presence of an honor code system a factor in the level of academic dishonesty as it relates to the student population size of the institution?

Separate univariate analysis of variance (ANOVA) was calculated on each subscale examining the effect the presence of an honor code system had in relationship to the student population size of the institution. All six of the subscales indicated a significant interaction effect between the two independent variables. The six subscales, frequency of academic dishonesty ($F(2) = 15.125$, $p < .001$), student reporting ($F(2) = 20.367$, $p < .001$), personal response ($F(2) = 23.873$, $p < .001$), scenario assessment ($F(2) = 13.700$, $p < .001$), cheating factors ($F(2) = 3.712$, $p < .05$), and level of academic dishonesty ($F(2) = 7.367$, $p < .001$) returned a significance value less than the critical value of .05. Levels of significance for the univariate analyses of variance for each of the six subscales are outlined in Table 4.

Table 4
Univariate Analyses of Variance for Research Question 3 (N=695)

Subscale	Source	Sum of Squares	df	Mean Square	F	*p*	
Frequency of Academic Dishonesty	Size of Institution	66.373	2	33.186	2.703	.068	
	Type of Institution	153.291	1	153.291	12.484	.001	**
	Size*Type	371.439	2	185.719	15.125	.001	**
	Total	82,647.000	673				
Student Reporting	Size of Institution	11.870	2	5.935	4.777	.009	*
	Type of Institution	41.597	1	41.597	33.481	.001	**
	Size*Type	50.609	2	25.304	20.367	.001	**
	Total	7,172.000	680				
Personal Response	Size of Institution	37.505	2	18.752	1.470	.231	
	Type of Institution	399.078	1	399.078	31.293	.001	**
	Size*Type	608.903	2	304.452	23.873	.001	**
	Total	142,771.000	672				
Scenario Assessment	Size of Institution	118.930	2	59.465	10.973	.001	**
	Type of Institution	42.861	1	42.861	7.909	.005	*
	Size*Type	148.494	2	74.247	13.700	.001	**

	Total	46,174.000	678				
Cheating Factors	Size of Institution	47.459	2	23.775	.585	.558	
	Type of Institution	365.752	1	365.752	8.993	.003	*
	Size*Type	301.919	1	150.959	3.712	.025	*
	Total	197,926.000	675				
Level of Academic Dishonesty	Size of Institution	3.647	2	1.823	.352	.703	
	Type of Institution	6.827	1	6.827	1.319	.251	
	Size*Type	76.293	2	38.147	7.367	.001	**
	Total	23,223.000	678				

Note: * indicates a .05 level of significance
**indicates a .001 level of significance

Also outlined in Tables 5 and 6 are the mean scores for the six subscales. Illustrated in these tables are the differences that exist between the types and sizes of institutions.

Table 5
Mean Statistics for Type of Institution by Size of Institution (N=695)
For Frequency of Academic Dishonesty, Student Reporting, and Personal Response Subscales

Subscale	Size of Institution	Type of Institution	Mean	N
Frequency of Academic Dishonesty	Small	Character Building	9.11	114
		Traditional	12.15	103
	Medium	Character Building	9.92	128
		Traditional	10.29	114
	Large	Character Building	11.11	102
		Traditional	10.58	112
Student Reporting	Small	Character Building	3.81	117
		Traditional	2.55	103
	Medium	Character Building	3.00	128
		Traditional	2.72	116
	Large	Character Building	2.98	102
		Traditional	3.03	114
Personal Response	Small	Character Building	15.82	117
		Traditional	11.57	102
	Medium	Character Building	14.49	127
		Traditional	13.99	116

	Large	Character Building	14.08	99
		Traditional	14.19	111

Table 6
Mean Statistics for Type of Institution by Size of Institution (N=695) For Scenario Assessment, Cheating Factors, and Level of Academic Dishonesty Subscales

Subscale	Size of Institution	Type of Institution	Mean	N
Scenario Assessment	Small	Character Building	6.71	116
		Traditional	8.18	103
	Medium	Character Building	8.15	128
		Traditional	7.41	116
	Large	Character Building	8.09	102
		Traditional	8.86	113
Cheating Factors	Small	Character Building	13.83	116
		Traditional	17.22	102
	Medium	Character Building	15.79	127
		Traditional	16.35	116
	Large	Character Building	15.87	102
		Traditional	16.35	112
Level of Academic Dishonesty	Small	Character Building	5.13	117
		Traditional	5.84	103
	Medium	Character Building	5.70	128
		Traditional	4.97	116
	Large	Character Building	5.02	101
		Traditional	5.64	113

Research question 4. Is there a difference in the level of academic dishonesty regarding the gender of the student, the size of the institution, and the presence of an honor code system?

First a 2X2 univariate analysis of variance (ANOVA) was calculated for each subscale to examine the effect the presence of an honor code system had on the level of academic dishonesty between genders (See Table 7). For this research question, the main effect for each of the independent variables, type of institution and gender, was examined for each subscale. The interaction effect between the two independent variables for each subscale was also considered. Significance at the .05 level was found within various subscales. The subscales with significance in the interaction effect between the two independent variables were frequency of academic dishonesty ($F(1) = 7.032$, $p < .05$) and student reporting ($F(1) = 4.982$, $p < .05$). By evaluating the mean scores, this finding indicates that women at "*Traditional Colleges"* perceive that student cheating occurs more frequently at their institution than women at "*Character Building Colleges*." Also, men and women from "*Character Building Colleges*" are more likely to report a student found cheating than their counterparts at "Traditional Colleges."

Table 7
Univariate Analyses of Variance for Type of Institution by Gender (N=695)

Subscale	Source	Sum of Squares	df	Mean Square	F	*p*	
Frequency of Academic Dishonesty	Type	146.450	1	146.450	11.470	.001	**
	Gender	9.593	1	9.593	.751	.386	
	Type*Gender	89.787	1	89.787	7.032	.008	*
Student Reporting	Type	38.418	1	38.418	29.004	.001	*
	Gender	1.480	1	1.480	1.117	.291	
	Type*Gender	6.599	1	6.599	4.982	.026	*
Personal Response	Type	373.008	1	373.008	27.369	.001	**
	Gender	14.693	1	14.693	1.078	.299	
	Type*Gender	29.291	1	29.291	2.149	.143	
Scenario Assessment	Type	35.336	1	35.336	6.152	.013	*
	Gender	53.028	1	53.028	9.233	.002	*
	Type*Gender	1.781	1	1.781	.310	.578	
Cheating Factors	Type	367.373	1	367.373	8.955	.003	*
	Gender	1.6444	1	1.6444	.000	.984	
	Type*Gender	50.178	1	50.178	1.223	.269	
Level of Academic Dishonesty	Type	3.415	1	3.415	.649	.421	
	Gender	15.181	1	15.181	2.887	.090	
	Type*Gender	9.027	1	9.027	1.716	.191	

Note: * indicates a .05 level of significance
**indicates a .001 level of significance

Second, for each of the six subscales examined in this study, 2X3X2 factorial analyses of variance (ANOVA) were calculated to examine the change in the level of academic dishonesty as it interacted with the gender of the student, the size of the institution, and the presence of an honor code system. The main effect for each of the three independent variables, gender of the student, the size of the institution, and the presence of an honor code system, was examined. The interaction effect between the three independent variables for each subscale was also considered. For the interaction effect, significance at the .05 level was found in the scenario assessment subscale ($F(2) = 3.922$, $p < .05$). By investigating the comparative means chart in Table 8, the findings indicate that various interactions exist. In general, the data set reveals that both men and women at small "Character Building Colleges" feel they are more likely to be caught cheating than their counterparts in the other "Character Building Colleges" and the "Traditional Colleges" categories. The means are useful in evaluating and comparing the scores provided by specific groups of participants. These statistics outline the main effect and interaction effects for the variables in each subscale. The statistics are useful to assess where significant differences exist for further evaluation.

Table 8
Mean Statistics for the Scenario Assessment Subscale (N=695)

Type of Institution	Gender of Student	Size of Institution	Mean	Standard Deviation	N
Character Building	Male	Small	6.63	2.000	51
		Medium	8.83	3.111	52
		Large	8.20	2.131	54
		Total	7.90	2.615	157
	Female	Small	6.77	2.206	65
		Medium	7.68	2.112	76
		Large	7.96	2.297	48
		Total	7.44	2.237	189
	Total	Small	6.71	2.110	116
		Medium	8.15	2.615	128
		Large	8.09	2.203	102
		Total	7.65	2.423	346
Traditional	Male	Small	8.67	1.971	42
		Medium	8.13	2.207	46
		Large	8.53	2.073	86
		Total	8.46	2.084	174
	Female	Small	7.85	2.475	61
		Medium	6.94	2.455	69
		Large	9.92	2.497	26
		Total	7.79	2.666	156
	Total	Small	8.18	2.308	103
		Medium	7.42	2.421	115

		Large	8.86	2.246	112
		Total	8.15	2.396	330
Total	Male	Small	7.55	2.224	93
		Medium	8.50	2.733	98
		Large	8.41	2.095	140
		Total	8.19	2.364	331
	Female	Small	7.29	2.394	126
		Medium	7.33	2.304	145
		Large	8.65	2.534	74
		Total	7.60	2.443	345
	Total	Small	7.40	2.321	219
		Medium	7.80	2.546	243
		Large	8.49	2.253	214
		Total	7.89	2.421	676

Discussion and Conclusions

As with other research investigations, there were limitations to this study. The following limitations were recognized by the researchers: limited geographically to seven Midwest states and design limitation through the use of self-reporting measures of academic dishonesty. However, to minimize these limitations of the study the *"Traditional"* colleges for this study were randomly selected and to insure a representative sample of all the colleges by institutional size the sample was then stratified by campus size. Such stratified random samples "can increase the accuracy of population estimates from the sample" (Stopher & Myburg, 1979, p. 30). To reduce errors related to self-reporting by the students participating in the survey, the *Academic Honesty Questionnaire* was field-tested and subjected to a test-retest process to increase clarity of items, establish face validity, and to maximize reliability. Also the researchers went to the six college campuses to personally conduct the survey. As a result within these limitations and design controls the following discussion and conclusions may be drawn on this data set.

In this study few significant differences were found in the level of student cheating between "*Character Building Colleges*" and "*Traditional Colleges."* Subsequently it initially appears that the presence of an honor code might not reduce the level of cheating in a school setting; however, the data set did reveal that students at *"Traditional Colleges"* perceive that cheating occurs on a more frequent basis than students at *"Character Building Colleges."* Thus a caveat is noted within the limitation of the study that relies on the honesty of the survey participants. It could be easily conceived that students are more willing to be honest about the negative behavior of their peers, than with the actual negative behavior of themselves. While this finding does not support McCabe, Trevino, and Butterfield (2001) earlier findings that honor code systems are successful in curtailing academic dishonesty, it does reveal that students from "*Character Building Colleges"* with honor code systems were more likely to report another student for cheating on a test or written assignment than

students from *"Traditional Colleges."* Ultimately, if honor codes empower students to report cheating the incidences of cheating will be truncated. Also these findings support the arguments from previous studies that investigated the functionality and usefulness of honor code systems in higher educational settings (May & Loyd, 1993; Melendez, 1985). While cheating is still prevalent on campuses, perhaps the culture being created in *"Character Building"* colleges is one of less acceptances of such behavior than in the past. We argue that the creation and implementation of honor codes for colleges should be framed around the functionality and the usefulness of such a process. Simply having an honor code apparently is not enough; however, if the students and faculty see it as a dynamic part of the school culture then the true impact of such a code could be measured.

Overall, the females in this study differed in their responses to their male counterparts in several ways. First they reported that they cheated less, which is consistent with the findings from previous studies (Baird, 1980; Johnson & Gormly, 1972; Roskens & Dizney, 1966) that concluded women were less likely to cheat than men. Females appeared to be more aware that cheating was occurring in their school, especially in the traditional school setting. Also the presence of an honor code seems to empower the females to report the incidences of cheating to officials. Overall, one could infer that honor code systems do in fact seem to have a positive influence on females regarding academic dishonesty. And one could argue that the sex-role socialization factor is still a determinant with regard to academic dishonesty. This finding flies in the face of the earlier research of Crown and Spiller (1998). The question then to be pondered is, does the finding that honor codes empower females more than males due to socialization of women to be more obedient or men less obedient? Our data reveals that sex-role socialization is still an important determinant and should be considered in the development of honor codes.

Other assertions that might be made from the data are that smaller size institutions are at an advantage in controlling academic dishonesty because students in small communities feel that they are more likely to get caught cheating than students from larger universities. Another intersting point from this data is that students from the smallest campuses admitted to cheating the most while students from the largest campus admitted to cheating the least. Perhaps the sense of community that is a major part of a smaller campus helps the college student to admit misbehavior more readily than those from a large impersonalized environment. Or perhaps the admitance to misbehavior stems from the personalized relationships that students have with their instructors in a smaller classroom setting. Overall, the sense of a small community enhances the impact of an honor code.

Finally, we argue, as researchers, that while honor code systems have recently become popular again and some have been shown to be successful, these systems may not necessarily be addressing all the issues of academic dishonesty, such as impact of gender, size of the institution, or the impact of honor codes or lack of honor codes on the culture of the institution. We support, as earlier researchers have supported (McCabe & Trevino, 1993; Nuss, 1984) and now others are re-kindling the importance (McCabe, Trevino & Butterfield, 2001; Nadelson, 2006), that institutions of higher learning must place a higher priority on their role in promoting academic integrity as a

part of the total collegiate experience. Given the continual presence of cheating, faculty and administrators need to realize the potential of honor codes to reduce it (McCabe & Trevino, 2002). McCabe, Trevino and Butterfield (2002) further asserted that institutional leadership must place academic integrity as an institutional priority and establish initiatives that promote a strong environment of honor.

Implications for Practice

With the continual presence of student cheating in colleges and universities, measures such as honor code systems have returned to higher education. The need to evaluate the effectiveness of honor codes comes with the re- emergence of such strategies. The results of this one inquiry reveals that honor code systems should be investigated, and when such investigations are done, consideration of various individual and contextual factors must be considered. The research revealed that there are a variety of reasons why students cheat, thus one factor alone cannot be solely attributed to academic dishonesty. Within that framework of understanding it is recommended that university administrators, when implementing an honor code, should include all stakeholders in the development of the strategies. The understanding and acceptance of academic integrity polices is an integral part of the honor code, and by allowing students involvement in the development, that necessary understanding will become a contextual part of the process. Since females and males perceive the effectiveness of an honor code differently, it is imperative that university officials provide equal opportunities and access for both females and males in the developmental phase of the honor code. Even though one factor alone is not the root cause for cheating, the need for appropriate role models for both genders is apparent in the implementation phase of the honor code. And while most honor codes are found on smaller college campuses, with the resurgence of honor codes, higher educational institutions of all sizes should be considering the implementation of various forms of an honor code. The culture and the size of each institution should dictate how the code is developed and implemented. But large schools must realize that in order for such codes to be effective, a culture of personal caring must occur on the campus and in the individual classrooms. Ultimately, the fate of an honor codes rests upon the individuals who are implementing its policies. The functionality and the usefulness of an honor code should be considered in all the planning and evaluation phases.

Whether or not an institution has or will incorporate an honor code system, college faculty should consider the inclusion of student reporting in their academic dishonesty policies. This additional deterrent not only places an obligation on students to govern, but places additional doubt in the mind of the student cheater. Colleges and universities are obligated to educate the student in all aspects of citizenry. In order to educate effectively the student in all aspects of being a productive citizen, preventive measures to curb student cheating, and develop the character potential of students are necessary. Because academic dishonesty is so prevalent throughout our college campuses, and because it has the potential to interfere with learning and assessment processes, it is essential that university personnel do something. If academic communities fail to act, then they have culpability because they have not taken the

initiative to develop intellectual values of integrity, truth, and rigor associated with accomplished scholarship in all of its students. Consequently while educational institutions are evaluating and changing their organizational culture, additional research on the campus culture relating to academic integrity may be useful to the academy to reduce further student cheating and enhance the learning environment of all students.

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