

Academic Dishonesty: Are Business Students Different From Other College Students?

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ABSTRACT. In this article, the authors investigated academic dishonesty and how business students stand on the issue as compared with other college students. They found in their study that nonbusiness students are more likely to cheat than are business students. In general, students who are members of Greek social organizations, undergraduates, male, and have low self-esteem typically engage in higher levels of academic dishonesty. Only employment and innovativeness had an overall significant influence on academic dishonesty.

Key words: academic dishonesty, business students, cheating

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Many people in the educational system are concerned with the problem of academic dishonesty and the rate at which it is increasing (McCabe & Trevino, 1997; Park, 2003; Pullen, Ortloff, Casey, & Payne, 2000; Williams & Hosek, 2003). The estimate of how many students cheat varies dramatically. McCabe and Trevino (1997) offer a range from 13% to 95%, and Park states that at least 50% of students cheat. In business literature, Kidwell, Wozniak, and Laurel (2003), and Chapman, Davis, Toy, and Wright (2004) found that 75% of students reported cheating. Their findings are similar to the 63% found by Nonis and Swift (1998). Finally, there is concern that academic dishonesty is increasing because technology makes it easier for students to cheat (Born, 2003; Park; Scanlon, 2004).

Academic dishonesty occurs in different countries, with both undergraduate and graduate students, and in public and private schools of all sizes (Park, 2003). Even for schools with honor systems, the number of code violations for cheating has increased since the mid-90s (Auer & Krupar, 2001). There also are multiple reasons why students cheat, and students rationalize and downplay the cheating done by themselves and their peers (Park).

This issue of academic dishonesty is critical for business schools because it

seems to mirror the growing concerns of ethical problems in the business community (Chapman et al., 2004; Kidwell et al., 2003). Those who cheat in college are more likely to cheat on the job (Swift & Nonis, 1998). Thus, there is an increased need for business schools to address academic dishonesty because what students learn as acceptable behavior in the classroom impacts their expectations of what is acceptable professionally. Furthermore, the costs for not addressing this issue are enormous (Kidwell et al.; Rawwas, Al-Khatib, & Vitell, 2004; Williams & Hosek, 2003).

A concern of business faculty is what factors influence cheating (personal, contextual, or situational). In this study, we tested a series of hypotheses with the aim of describing the academically dishonest student, and whether business students differ from nonbusiness students in terms of academic dishonesty.

Literature Review

McLafferty and Foust (2004) say that "every profession has a holy grail that involves an element of trust necessary for that profession to survive and thrive" (p. 186). According to Pullen et al. (2000), "cheating is the bane of higher education and strikes at the heart of established values in American culture" (p. 616).

Plagiarism and Academic Dishonesty

Plagiarism is typically seen as a form of fraud, intellectual theft, and “a transgression against our common intellectual values” (Isserman, 2003, p. B12). Park (2003) defines *plagiarism* as “literary theft, stealing (by copying) the words or ideas of someone else and passing them off as one’s own without crediting the source” (p. 472). The issue is not whether people’s ideas are original, but that they do not properly attribute the credit for those ideas to whom it belongs (Isserman; Taylor, 2003). According to Park, plagiarism would include stealing, buying, copying, or using material from another source and passing it off as one’s own work as well as paraphrasing material without appropriate documentation. In addition, plagiarism may not be intentional, such as improper citation (Burnett, 2002; Park).

Plagiarism needs to be seen within a broader context of cheating that includes other unethical practices such as cheating on tests or assignments, falsifying data, misusing resources, taking credit for others’ work, and manipulating academic staff (Park, 2003). Lambert, Ellen, and Taylor (2003) define academic dishonesty as behavior that breaches “the submission of work for assessment that has been produced legitimately by the student who will be awarded the grade, and that demonstrates the student’s knowledge and understanding of the context or processes being assessed” (p. 98).

The most common forms of academic dishonesty are copying a few sentences without proper citation, working on individual assignments with others, having someone check over a paper before turning it in, and getting questions or answers on a test from someone who had already taken it (Brown, 1996; Kidwell et al., 2003). Swift and Nonis (1998) found a significant relationship among students who cheated on exams with students who cheated on projects, which suggests that students who cheat engage in more than one cheating practice.

Contextual Process to Cheating

McCabe and Trevino (1997) found that cheating was influenced by a number

of individual factors (e.g., age, gender, and grade point average [GPA]) and contextual factors (e.g., peers, Greek social organization membership, and perceived penalties for academic dishonesty). McCabe and Trevino (1997) found that,

the most powerful influential factors were peer-related contextual factors . . . among the contextual variables, fraternity/sorority membership, peer behavior, and peer disapproval had the strongest influence. Academic dishonesty was lower when respondents perceived that their peers disapproved of such misconduct, was higher among fraternity/sorority members, and was higher when students perceived higher levels of cheating among their peers. (p. 391)

Finally, McCabe and Trevino’s total model explained only approximately 30% of the total variance in academic dishonesty.

Brown (1996) found few differences by major for academic dishonesty whereas others found that business students ranked highest for self-reported levels of cheating, followed by engineering and humanities students (Meade, 1992; Park, 2003). In a study of discarded cheat sheets, Pullen et al., (2000) found significantly more cheat sheets used by business students compared with other disciplines.

In terms of age and class, the past studies suggest that younger, immature students cheat more than do older, mature students; juniors and seniors cheat less than do freshmen or sophomores (McCabe & Trevino, 1997; Park, 2003; Straw, 2002). Lambert et al. (2003) found that older students were more likely than were younger students to view scenarios of academic dishonesty as serious offenses, whereas Kuther (2004) found that juniors and seniors saw a bigger ethical problem with professors ignoring cheating than did freshmen students. Brown (1995) found the ethics of graduate business students similar to those of undergraduates, despite graduate students perceiving themselves as more ethical than undergraduates.

In terms of gender, McCabe and Trevino (1997) found that men reported a higher level of academic dishonesty than did women. Buckley, Wiese, and Harvey (1998) found that men had a higher probability of engaging in unethical

behavior than did women. Leming (1980) found that, under a low-risk condition, women cheated more than did men, but a higher risk of punishment reduced the risk of cheating only for women. Finally, Lambert et al., (2003) found that women were more likely to view scenarios of academic dishonesty as serious cheating.

The effect of GPA on academic dishonesty has shown that students with a lower GPA are more likely to cheat because they have more to gain and less to lose than do students with a higher GPA (Straw, 2002).

In terms of extracurricular activities, students involved in activities such as athletics and Greek social organizations are more likely to cheat than are other students (McCabe & Trevino, 1997; Park, 2003; Straw, 2002). Specifically, fraternities are environments in which norms, values, and skills associated with cheating can be easily shared as they provide access to people and resources (e.g., old test files) that facilitate cheating (McCabe & Trevino, 1997).

In terms of self-esteem, Buckley et al. (1998) found that perceptions of self-esteem did not predict unethical behavior.

Predictions of Cheating

In looking at why students cheat, Williams and Hosek (2003) stress that students, even dishonest ones, are rational and that the decision to cheat is not because of an impulsive action, but rather a conscious decision that the benefits of cheating outweigh the risks. Buckley et al., (1998) found that the most effective predictors of student cheating were (a) the probability of being caught and penalized, (b) possessing high hostility or aggression characteristics, and (c) being a man. According to Pullen et al., (2000), “causal factors run the gamut from large classes, impersonal relationships with professors, competition for jobs, gaining higher GPAs in order to enter graduate school, to a culture that appears to accept cheating readily as a normal part of life” (p. 616).

Finally, researchers offer the following additional reasons for why students cheat: (a) genuine lack of understanding of what is plagiarism (Park, 2003), (b) efficiency gain (Park; Payne & Nantz, 1994), (c) time management problems

(Lambert et al., 2003; Park, Payne, & Nantz), (d) personal values (Park; Payne & Nantz), (e) defiance or lack of respect for authority (Park), (f) negative attitudes toward teachers or classes (Park; Payne & Nantz), (g) temptation or opportunity (Park), (h) a lack of deterrence (Park; Payne & Nantz), (i) a personal crisis (Lambert et al.), (j) peer pressure (Payne & Nantz), and (k) a view of cheating as having a minimal effect on others (Payne & Nantz).

Effects of Academic Dishonesty

Students and universities tend to view academic dishonesty in very different ways. For students, it is evaluated primarily in terms of its effect on their peers, with a strong consensus that the least acceptable forms of behavior are those that hurt other students (Ashworth & Bannister, 1997). Payne and Nantz (1994) note that students saw a real difference between cheating on exams (seen as blatant cheating) and other forms of cheating, such as plagiarism (seen as not really cheating). Cheating may be more likely when students feel anonymous or excluded from the academic community, and are getting a low quality educational experience (Ashworth & Bannister). In addition, "the variables that seem to facilitate cheating include increased class size, decreased surveillance, test importance and difficulty, close seating arrangements, and grading on a curve" (Chapman et al., 2004, p. 238).

McCabe and Trevino (1993) discuss the impact on academic dishonesty if students perceive that others will report cases of their academic misconduct. Decisions about academic dishonesty are influenced by societal and school norms and, most importantly, by the attitudes of students' friends. However, if students see their peers successfully get away with cheating, they are more likely to cheat too (McCabe, 1999; McCabe & Trevino, 1993, 1997). In addition, business education research discusses the impact of self-interest versus social-interest cheating. For example, Chapman et al. (2004) found that "students were much more likely to cheat with a friend versus an acquaintance. Seventy-five percent of all students say they would cheat if a friend

was involved, but only 45 percent of the students would cheat with acquaintances" (p. 243). According to Chapman et al., there is a robust false consensus effect in which students significantly overestimate the degree to which others cheat so students perceive cheating as a normative behavior and believe their own behavior is more honest than that of their peers.

A major factor affecting whether students are actually punished for cheating is faculty support for and understanding of academic integrity policies. The strength of an honor code perceived by the students varies because faculty may not even be aware of these policies and may be lax in enforcing them (McCabe & Trevino, 1997). Faculty may be lax because of the heavy time requirements of reporting, going through a university judicial process (Auer & Krupar, 2001), and concerns with court challenges of institutional disciplinary procedures (Williams & Hosek, 2003). As a result, there may be inconsistent penalties and sporadic enforcement of academic policies that could impact their effectiveness (Williams & Hosek). Thus, Williams and Hosek stress the need for a deterrence model that emphasizes prevention to reduce academic dishonesty instead of relying on punishment.

Although the Internet is a resource for both students and faculty, some teachers are concerned that students have become so used to downloading music online without paying for it, that they may not see the need to reference online material (Park, 2003); this generation of students may have a different idea of what is considered fair use (Scanlon, 2004). Auer and Krupar (2001) suggest that the libertarian, free-wheeling, and antiestablishment culture of the Internet may have contributed to the increase in plagiarism because it makes illicit cutting and pasting very easy. A quarter of college students surveyed have plagiarized from the Internet, but students perceive that significantly more students than that are doing so (Scanlon). In addition, although term paper mills have existed for years, the ease of getting papers has increased with various Web sites (e.g., buypapers.com; Born, 2003; Park). According to Scanlon, people may be overestimat-

ing the impact of the Internet on academic dishonesty, and the concern is that if students perceive that Internet cheating is commonplace, they will be more likely to engage in it.

Although researchers have not considered the variable of innovativeness in terms of cheating, Goldsmith (2001) found that those who scored higher on innovativeness were associated positively with more hours of Internet use, greater Internet purchasing, and higher likelihood of future Internet purchase. Innovative consumers are more likely to try new technology and technological products and are more likely to engage in e-commerce (Goldsmith, 2002) compared with less innovative consumers. These new products may include new online term paper sites.

Although technology makes it easier for students to cheat, it also makes it easier for faculty to determine if their students have plagiarized (Park, 2003). This may explain the increase in cases of plagiarism (Burnett, 2002). According to McLafferty and Foust (2004), three tools can be used to investigate Internet copying: (a) search engines, (b) plagiarism Web sites (Academic Libraries, 2003), and (c) software that checks for identical wording between specific sources. In addition, some signs that indicate whether a student has used the Internet to plagiarize or obtain a paper include advanced jargon, hard-to-obtain materials listed in the bibliography, major differences in quality compared with the student's previous writing or inconsistent quality of writing within the paper, unusual formatting, a paper that does not fit the topic well, unverified quotations, and invalid hyperlinks (Academic Libraries; McLafferty & Foust, 2004).

Hypotheses

The study considered a number of individual and contextual factors such as area of study, level of study, gender, GPA, and extracurricular activities that have been discussed in the literature as well as some that have not, such as employment, innovativeness and self-esteem. The research contributes to the literature by specifically comparing these factors for business versus non-business majors. Thus, we tested the following hypotheses (*H*):

H_1 : Nonbusiness students will engage in lower levels of academic dishonesty than will business students.

H_{2A} : Graduate students will report a lower level of academic dishonesty than will undergraduate students.

H_{2B} : The difference in academic dishonesty between graduate business students and undergraduate business students will be significantly lower than that between nonbusiness graduate students and nonbusiness undergraduate students.

H_{3A} : Juniors and seniors in college will report a lower level of academic dishonesty than will freshman and sophomore students.

H_{3B} : The difference in academic dishonesty between business juniors and seniors and business freshman and sophomore students will be significantly lower than that between nonbusiness juniors and seniors and nonbusiness freshman and sophomore students.

H_{4A} : Men will have a significantly higher level of academic dishonesty than will women.

H_{4B} : The difference in academic dishonesty between male business students and female business students will be significantly lower than that between nonbusiness male students and nonbusiness female students.

H_{5A} : Students with a lower GPA will report a higher level of academic dishonesty than will students with a higher GPA.

H_{5B} : The difference in academic dishonesty between business students with lower GPAs and business students with higher GPAs will be lower than that between nonbusiness students with lower GPAs and nonbusiness students with higher GPAs.

H_{6A} : Those students who are members of a Greek social organization will report a higher level of academic dishonesty than will those who are not members of a Greek social organization.

H_{6B} : The difference in academic dishonesty between business students who are members of a Greek social organization will be significantly lower than that for nonbusiness students who are members of a Greek social organization.

H_{7A} : Participants devoting greater hours to employment (outside of school) will report higher levels of academic dishonesty.

H_{7B} : The difference in academic dishonesty between business students who have a large number of hours devoted to employment will be significantly lower than that for nonbusiness students who have a large number of hours devoted to employment.

H_{8A} : Those students who are more technologically innovative will have a higher level of academic dishonesty than will students who are less technologically innovative.

H_{8B} : The difference in academic dishonesty between business students who are more technologically innovative will be significantly higher than will nonbusiness students who are more technologically innovative.

H_{9A} : Students with low levels of self-esteem will report a higher level of academic dishonesty than will students with higher levels of self-esteem.

H_{9B} : The difference in academic dishonesty of business students with low levels of self-esteem will be significantly lower than that of nonbusiness students with low levels of self-esteem.

METHOD

Sample and Procedure

Similar to McCabe and Trevino (1997), we looked at students at multiple universities. We focused on two state universities in the southern region of the United States using convenience samples of different classes for different majors. We sent a letter requesting faculty cooperation before the start of the semester in which the collection of data was planned so that faculty had sufficient time to plan their syllabi accordingly. This gave us an opportunity to try to attain adequate student representation from the different majors offered on the two state university campuses. We gave an instruction sheet to each faculty member who agreed to participate in the study. All instructors read the same introductory script to their students. It included: (a) the purpose of the study, (b) the amount of time it would take for the students to complete the survey instrument, and (c) reassurance as to the confidentiality and anonymity of responses.

A total of 353 students completed the survey. All students present in the classes

when the survey was handed out completed the survey. The only students who did not complete the survey were those who were absent that day. If anyone had completed the survey already, they were instructed to not do so again. Thus, the researchers did not perceive an issue with nonresponse bias. In addition, there was a good balance of business (124 students) versus nonbusiness majors (177 students) surveyed. The nonbusiness majors included a variety of fields (e.g., English, math, computer science, premed, chemistry, anthropology). Thus the sample was a good representation of majors at the universities surveyed.

Survey Instrument

We conducted a pretest of the questionnaire with 45 students, in which they provided explicit feedback as to the ease of understanding the questions, what they thought the purpose of the study was, and how long they took to complete the survey (Table 1).

We measured academic dishonesty using McCabe and Trevino's (1993) academic dishonesty scale, along with additional items to address the changes in technology since that scale was initially created. Fifteen items were similar to those used by Brown (1996; 2000) and Kidwell et al. (2003). Three items addressed changes in technology: (a) using a cell phone to text message for help during an exam, (b) using a cell phone or another device to photograph an exam, and (c) purchasing or finding a paper on the Internet to submit as one's own work. These items were included as part of the measure of academic dishonesty that had 18 total items scaled on a 5-point scale (0 = *never*; 5 = *many times*). Although Brown (1995; 1996) did not use *never* because he felt *infrequently* would make respondents more willing to respond, he noted that *never* has been used by others. McCabe and Trevino (1997) found their scale reliable (Cronbach's $\alpha = .83$), but did not report any exploratory or confirmatory factor analysis to address the dimensionality of the scale. Neither Brown (1996; 2000) nor Kidwell et al. (2003) reported any reliability or factor structure on the items.

Chapman et al. (2004) noted the importance of asking questions about

TABLE 1. Variables Used in the Study and Associated Reliability Coefficients

Variable	Item
Academic dishonesty ($\alpha = .86$)	Had someone check over a paper before turning it in. Asked about the content of an exam from someone who has taken it. Given information about the content of an exam to someone who has not yet taken it. Worked with others on an individual project. Used crib notes on a test. Copied from another student on a test. Helped someone cheat on a test. Cheated on a test in any other way. Taken credit for full participation in a group project without doing a fair share of the work. Visited a professor to influence a grade. Received substantial, unprecedented help on an assignment. Manually passed answers in an exam. Used a cell phone to text message for help during an exam. Used a cell phone or another device to photograph an exam. Copied a few sentences of material from a published source without footnoting it. Fabricated or falsified a bibliography. Purchased or found a paper off the Internet to submit as your own work.
Self-esteem ($\alpha = .85$)	On the whole, I am satisfied with myself. (r) At times, I think, I am no good at all. I feel that I have a number of good qualities. (r) I am able to do things as well as most other people. (r) I feel I do not have much to be proud of. I certainly feel useless at times. I feel I am a person of worth, at least on an equal plane with others. (r) I wish I could have more respect for myself. All in all, I am inclined to feel that I am a failure. I take a positive attitude toward myself. (r)
Innovativeness ($\alpha = .78$)	If I heard that a new professor was offering a course on campus, I would be interested in taking that course. I am generally open to accepting new ideas. I am willing to try new things. I tend to feel new ways of living and doing things are improvements over the past. I feel I am an innovative person.

Note. r = reverse scored.

specific instances of academic dishonesty as opposed to general. Swift and Nonis (1998, p. 33) found that when students were asked about cheating in general terms, 60% of the students admitted to having cheated at least once, but when the summated score for all specific forms of cheating behavior are totaled, this indicates that 87% of the students admitted to having cheated at least once. Thus, identifying specific cheating behaviors may uncover cheating better than a general question (Nonis & Swift, 1998). However, some feel that direct, self-report, measures of cheating may underestimate its frequency (Allen, Fuller, & Luckett, 1998).

Domain specific innovativeness (DSI) reflects the tendency to learn about and adopt innovations within a specific domain of interest (Goldsmith &

Hofacker, 1991). We used six studies in the development and validation of the DSI. The studies supported the internal consistency, dimensionality, and predictive validity of the scale. Also, the scale exhibited low correlations with a measure of social desirability bias. Multitrait-multimethod (MTMM) analysis supported the convergent and discriminant validity of the DSI. Finally, self-esteem was measured by using a 10-item scale developed and used by Bearden and Rose (1990), Richins (1991), and Richins and Dawson (1992).

Of the 353 completed questionnaires, 301 were usable because 52 of the students in the study had an undeclared major. We deleted these respondents from the final dataset. It was not possible to obtain a sample of nonrespondents because the questionnaire was adminis-

tered by various professors and not all kept student attendance records. Fifty-six percent of respondents were women, 25% belonged to some fraternity or sorority, and 52% worked more than 20 hrs per week. Seventy-two percent were juniors or seniors in college and 11.5% were graduate students. The mean GPA of respondents was 3.0, with a standard deviation of 0.4620.

RESULTS

To test the hypotheses, we split the sample on the basis of the hypothesized variables that had an effect on academic dishonesty. We split the variables on the basis of their characteristics mentioned in the hypotheses. In cases where the characteristics of the hypothesized variables were not easily defined or parti-

tioned, we tested the effects of individual differences among respondents by subgroup analysis (cf. Arnold, 1982). Here, we sorted the sample in ascending order of a hypothesized variable (e.g., innovativeness, self-esteem, GPA, employment). Next, consistent with standard econometric conventions (Goldfeld & Quandt, 1965), we selected the top and bottom 35% of the cases to obtain two subgroups reflecting low and high scores of the variable (Kohli, 1989). We omitted the middle 30% of the cases to improve the contrast between the subgroups and hence the power of the subsequent statistical tests. For a detailed discussion of this procedure, see Johnston (1972).

We tested all first-order hypotheses by using independent sample *t* test. We tested H_1 on the variable major in terms of academic dishonesty. The results of the *t* test were significant ($t = -4.068$, $p < .001$, Table 2). This suggests that the nonbusiness students will engage in higher levels of academic dishonesty than will business students. H_1 was not supported, although it was significant.

For the next hypotheses comparing levels of academic dishonesty by factors other than business versus nonbusiness, the following four hypotheses were supported: H_{2A} , H_{4A} , H_{6A} , and H_{9A} . We tested H_{2A} on the variable graduate level in terms of academic dishonesty. The results of the *t* test were significant ($t = 2.922$, $p < .005$, Table 2). The conclusion was that the graduate students will report lower levels of academic dishonesty than will undergraduate students.

We tested H_{4A} on the variable gender in terms of academic dishonesty. The results of the *t* test were somewhat significant ($t = 1.929$, $p < .055$, Table 2). This indicates that men will have a significantly higher level of academic dishonesty than will women.

We tested H_{6A} on the variable fraternity in terms of academic dishonesty. The results of the *t* test were significant ($t = 4.577$, $p < .001$, Table 2). This suggests that students who belong to a Greek social organization will have a significantly higher level of academic dishonesty than will students who do not belong to a Greek social organization.

Finally, we tested H_{9A} on the variable self-esteem in terms of academic dis-

TABLE 2. Results From the Independent Samples *t* test Comparing Academic Dishonesty Variables

Academic dishonesty variable	<i>n</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>p</i> (two-tailed)
Fraternity						
Belong	80	2.1610	0.48297			
Do not belong	233	1.8662	0.53597			
Equal variances not assumed				4.577	151	.001
Major						
Business	124	1.6895	0.37814			
Nonbusiness	177	1.9041	0.53704			
Equal variances not assumed				-4.068	299	.001
Grade point average						
Low	100	1.9835	0.53555			
High	104	1.8840	0.47148			
Equal variances not assumed				1.406	197	.161
Self-esteem						
Low	105	2.0112	0.60105			
High	109	1.8667	0.49414			
Equal variances not assumed				1.917	201	.057
Graduate level						
Yes	39	1.7526	0.46459			
No	280	1.9908	0.55710			
Equal variances not assumed				2.922	55	.005
Innovativeness						
Low	106	2.0499	0.60239			
High	113	1.9328	0.48058			
Equal variances not assumed				1.584	201	.115
Year in college						
Juniors or seniors	51	1.9677	0.60245			
Freshmen or sophomores	229	1.9959	0.54777			
Equal variances not assumed				-0.307	70	.760
Gender						
Men	111	2.0599	0.60878			
Women	150	1.9224	0.51151			
Equal variances not assumed				1.929	212	.055
Employment						
Low	114	1.9556	0.55096			
High	108	2.0566	0.57071			
Equal variances not assumed				-1.341	218	.181

honesty. The results of the *t* test were somewhat significant ($t = 1.917$, $p < .057$, Table 2). This suggests that students with low self-esteem will engage in higher levels of academic dishonesty than students with high self-esteem.

For the hypotheses comparing levels of academic dishonesty by factors other than business versus nonbusiness, the following four hypotheses were not supported: H_{3A} , H_{5A} , H_{7A} , and H_{8A} . We tested H_{3A} on the variable year in college in terms of academic dishonesty. The results of the *t* test were not significant ($t = -0.307$, $p < .760$, Table 2). No strong empirical evidence indicated significant differences between juniors and seniors, and freshmen and sophomores in terms of levels of academic dishonesty.

We tested H_{5A} on the variable GPA in terms of academic dishonesty. The results of the *t* test were not significant ($t = 1.406$, $p < .161$, Table 2). No strong empirical evidence indicated significant differences between students with lower and higher GPAs in terms of levels of academic dishonesty.

We tested H_{7A} on the variable employment in terms of academic dishonesty. The results of the *t* test were not significant ($t = -1.341$, $p < .181$, Table 2). The results show no strong empirical evidence of significant differences between students who worked a larger number of hours outside of school and students who did not work a larger number of hours, based on levels of academic dishonesty.

Finally, we tested H_{8A} on the variable innovativeness in terms of academic dishonesty. The results of the t test were not significant ($t = 1.584$, $p < .115$, Table 2). No strong empirical evidence indicated significant differences between students who were less innovative regarding technology and students who were more innovative regarding technology in terms of their levels of academic dishonesty.

Given the results of H_1 that business students were not more academically dishonest than were nonbusiness students, we compared the variables noted in the literature as affecting business students versus nonbusiness students in terms of academic dishonesty. We used a two-way analysis of variance (ANOVA) to test for the equivalence among the variables in H_{2B} through H_{9B} of business and nonbusiness students. The dependent variable was academic dishonesty. The treatment variables were graduate level (H_{2B}), year in college (H_{3B}), gender (H_{4B}), GPA (H_{5B}), fraternity or sorority (H_{6B}), employment (H_{7B}), innovativeness (H_{8B}), and self-esteem (H_{9B}).

The results of the ANOVA on the main effects and the two-way interactions are presented in Table 3. The means and standard deviations of the various treatment variables for both the business and nonbusiness majors are presented in Table 4.

The results of the two-way ANOVA, indicated that only the variables employment (H_{7B}) and innovativeness (H_{8B}) had a significant effect on academic dishonesty for business and nonbusiness majors. For the variable employment, the interaction effect was somewhat significant (0.807 , $p < .066$), which supports hypothesis (H_{7B}) that nonbusiness students who spend more hours working will engage in higher levels of academic dishonesty than business students. This indicates that, as nonbusiness students devote more time to employment, they have less time available for academic work. Hence, they may try to seek the easy way out by engaging in academic dishonesty.

The interaction effect for innovativeness was significant (1.921 , $p < 0.003$), which supports the hypothesis (H_{8B}) that business students who are more

TABLE 3. Results From the Univariate Analysis Using Two-Way Analysis of Variance (ANOVA)

Academic dishonesty (Dependent variable)	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Major	2.875	1	2.875	12.585	.000
Gender	.394	1	.394	1.754	.186
Major $\times$ Gender	.084	1	.084	.373	.542
Error	62.381	278	.224		
Total	65.734	281			
Major	1.829	1	1.829	8.383	.004
Fraternity	3.046	1	3.046	14.731	.000
Major $\times$ Fraternity	.089	1	.089	.428	.513
Error	60.178	291	.207		
Total	66.459	294			
Major	3.619	1	3.619	14.970	.000
Employment	.037	1	.037	.156	.693
Major $\times$ Employment	.807	1	.807	3.410	.066
Error	50.621	214	.237		
Total	54.931	217			
Major	2.183	1	2.183	8.984	.003
Year in college	.215	1	.215	.904	.343
Major $\times$ Year in college	.132	1	.132	.555	.457
Error	61.603	259	.238		
Total	64.542	262			
Major	1.51	1	1.51	6.429	.012
Graduate level	1.287	1	1.287	5.738	.017
Major $\times$ Graduate level	.001	1	.001	.004	.950
Error	66.406	296	.224		
Total	71.262	299			
Major	.995	1	.995	4.925	.028
GPA	.525	1	.525	2.706	.102
Major $\times$ GPA	.036	1	.036	.183	.669
Error	37.855	195	.194		
Total	39.381	198			
Major	3.866	1	3.866	17.632	.000
Innovativeness	.903	1	.903	4.261	.040
Major $\times$ Innovativeness	1.921	1	1.921	9.065	.003
Error	43.017	203	.212		
Total	49.434	206			
Major	0.56	1	0.56	2.171	.143
Self-esteem	.004	1	.004	.018	.894
Major $\times$ Self-esteem	.510	1	.510	2.094	.150
Error	33.607	138	.244		
Total	34.686	141			

innovative will engage in higher levels of academic dishonesty than will nonbusiness students. These are the business students who would be willing to try new professors or courses that are offered for the first time. Business students know that there is some room for flexibility and accommodations that will be made by the professor in the course.

For the remainder of the variables, none of the interaction effects were significant. Thus, hypotheses H_{2B} (graduate level), H_{3B} (juniors and seniors), H_{4B} (gender), H_{5B} (GPA), H_{6B} (fraternity), and H_{9B} (self-esteem) were not support-

ed. We compared the main effects of these mean variables. For all the variables except self-esteem, the main effect of major was significant. For the variables, graduate level (H_{2B}), juniors and seniors (H_{3B}), gender (H_{4B}), fraternity or sorority (H_{6B}), and self-esteem (H_{9B}), the nonbusiness majors had higher means than did the business majors, which indicated that they engage in higher levels of academic dishonesty than do business majors. This suggests that these individual and contextual factors may have a bigger impact on nonbusiness students' levels of academic dishonesty as compared with business students. Future research is

TABLE 4. Means and Standard Deviations of Academic Dishonesty Variables for Business and Nonbusiness Students

Variable	Business students			Nonbusiness students		
	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>
Gender						
Men	1.7523	.40737	54	1.9216	.59750	67
Women	1.6408	.33294	65	1.8805	.49128	96
Fraternity						
Belong	1.8963	.45190	27	2.0383	.40282	45
Do not belong	1.6116	.29851	93	1.8365	.55357	130
Employment						
Low	1.7136	.36239	46	1.6170	.38566	50
High	1.8481	.57245	67	1.9973	.54085	55
Year in college						
Juniors or seniors	1.5964	.28787	14	1.7402	.38431	89
Freshmen or sophomores	1.9136	.58152	33	1.9311	.53975	127
Graduate level						
Undergraduate	1.7206	.37475	103	1.9275	.54678	160
Graduate	1.5150	.30997	20	1.7324	.41229	17
Grade point average						
Low	1.7712	.42529	39	1.6395	.31671	43
High	1.8849	.50393	58	1.8076	.46040	59
Innovativeness						
Low	1.6625	.35175	50	1.7238	.43536	42
High	2.1295	.56317	50	1.8008	.46170	65
Self-esteem						
Low	1.6765	.33715	34	1.7862	.42613	29
High	1.9204	.65962	38	1.7884	.46563	41

needed to determine if there are significant differences between business and nonbusiness students on these variables.

The mean for business students was higher than that of nonbusiness students only for GPA (H_{5B}) which suggests business majors engage in higher levels of academic dishonesty than do nonbusiness majors when it is a matter of their GPA. This could be because most of the business schools require students to maintain a specific GPA or they are put on probation, or dismissed from the business school.

DISCUSSION

In several areas, the results of the study are consistent with the findings from previous studies such as McCabe and Trevino (1997), Park (2003), and Straw (2002). Support exists in general that undergraduates (H_{2A}) who are members of fraternities (H_{6A}) are significantly more likely to commit academic dishonesty. Some support also exists that males (H_{4A}) are more likely to cheat (Buckley et al., 1998; Lambert et al., 2003; McCabe & Trevino, 1997).

The result of H_{2A} (that graduate students engage in lower levels of academic dishonesty than do undergraduate students) is fairly intuitive because most of the students who plan to attend graduate school are the ones who sincerely have an interest in pursuing higher education. These students may pursue graduate studies to enhance their knowledge and seek better opportunities for themselves in life as compared to the undergraduate students who are there to get an education only because it is the norm or what was expected of them. Likewise, the result of H_{6A} (that students who are members of a Greek organization will engage in higher levels of academic dishonesty than will students who are not) is also intuitive.

In comparing the levels of academic dishonesty of business versus nonbusiness students, H_1 was significant, but in the opposite direction (nonbusiness students had higher levels of academic dishonesty). While this finding is different from that of Meade (1992), Park (2003), and Pullen et al. (2000), it is similar to Brown (1996) in that business students

did not cheat more than did nonbusiness students. There are several possible reasons. One could be that the professors involved in the study are extremely aware of cheating problems and are more vigilant. In addition, the Association to Advance Collegiate Schools of Business (AACSB) mandates that teaching ethics is a fundamental requirement for an accredited business school (Chapman et al., 2004). Finally, the business community's ethical problems have been well documented in the news (Chapman et al.). These reasons may all have heightened the business students' awareness of ethical issues.

In general, we found that students with low self-esteem (H_{9A}) are more likely than are others to cheat. This could be because of the pressure to perform well and keep up with peers in the group. The sense of acceptance or belonging to a group plays an important role for students to engage in dishonest behaviors (McCabe & Trevino, 1997).

Finally, the hypotheses that addressed year in college (H_{3A}), GPA (H_{5A}), employment (H_{7A}), and innovativeness (H_{8A}) were not supported in this study. For year in college, although researchers claim juniors and seniors cheat less than do freshmen and sophomore (McCabe & Trevino, 1997; Park, 2003; Straw, 2002), the nonsignificant result in the present study may be because the sample contained a majority of juniors and seniors. For GPA, although Straw suggests that students with lower GPAs cheat more, in this sample, there may not have been a big range in the average GPA of the students. Although researchers have not discussed employment, the nonsignificant result may be because the majority of the sample worked over 20 hrs per week. Additional research with different institutions may be needed to determine if there is support for these hypotheses. Finally, for innovativeness, the researchers have not considered innovativeness in terms of negative behaviors (i.e., cheating), thus more research is also needed in this area.

In terms of the differences between business and nonbusiness students, this research makes a significant contribution to the literature by examining how some of the individual and contextual variables noted by McCabe and Trevino (1997), along with some additional indi-

vidual variables not really addressed in the academic dishonesty literature, (innovation and self-esteem) impact business students versus other nonbusiness students.

In terms of employment, generally the number of hours worked did not make an impact on levels of academic dishonesty. The results of the study revealed that nonbusiness students who devoted a large number of hours to employment will engage in higher levels of academic dishonesty than business students who devoted a large number of hours to employment. However, it did so for nonbusiness students (H_{7B} was somewhat supported). This might be because nonbusiness students worked a greater range of number of hours than did business students. However, additional research is needed in this area.

In general, while innovativeness did not make an impact on levels of academic dishonesty, there was a significant difference between business and nonbusiness students (H_{8B} was supported). Innovative business students will engage in higher levels of academic dishonesty than will noninnovative business students. In business courses, students are required to have strong technological skills, and those business students who like to be innovative by trying new tasks may be applying this to both positive, as well as negative innovations. This would suggest that professors may want to keep an eye out for those students who are innovative and willing to try new tasks. These may be the students who use their technological skills to try to cheat, but additional research is needed to confirm this link.

For the other variables, although the results were not statistically significant, they do suggest that the individual and contextual variables of graduate level, year in college, gender, being a member of a Greek organization, and self-esteem had a bigger impact on the levels of academic dishonesty for nonbusiness students than it did for business students. The variable of GPA had a bigger impact on business students as compared with nonbusiness students, which suggests that the GPA requirements existing for business schools (such as the ones included in the sample) may influence

students' level of academic dishonesty. More research, with larger samples of students from a variety of universities, to see if these relationships hold and if they are significant is needed.

With this research, we aim to help business professors by giving them a better understanding of which business students may be more likely to engage in academic dishonesty. In general, students who are members of Greek social organizations, nonbusiness majors, undergraduates, male, and have low self-esteem typically engage in higher levels of academic dishonesty than do other students. In looking at business students more specifically, these patterns may not hold. The level of innovativeness plays a bigger role. In addition, GPA (and GPA requirements) may also play a role in business students' level of academic dishonesty. Thus, business professors need to take care to not assume that certain types of students are more likely to cheat. The findings may encourage and help faculty be more vigilant about academic dishonesty.

NOTE

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