

Moral Reasoning and Questionable Behavior

A Study of Extensive Copying from the Internet by Accounting Students

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The Internet allows students to search thousands of published documents which they can “cut and paste” into their own essays and term papers (A.D. Born, “How to Reduce Plagiarism,” *Journal of Information Systems Education*, vol. 14, no. 3, 2003). This practice is called “cybercheating” (M.J. Clement, “Academic Dishonesty: To Be or Not to Be?” *Journal of Criminal Justice Education*, vol. 12, no. 2, 2001). This phenomenon poses a problem for the accounting profession, because if accounting students engage in behavior that is ethically questionable in college, it may lead to similar behavior in the workplace.

Extensive copying from the Internet is considered to be plagiarism, which is defined as “the deliberate use of someone else’s language, ideas, or other original (not common knowledge) material without acknowledging its source” (Council of Writing Program Administrators, “Defining and Avoiding Plagiarism: The WPA Statement on Best Practices,” www.wpacouncil.org). The Council of Writing Program Administrators indicates that acknowledging the source of ideas in an appropriate way in a written assignment does not constitute plagiarism. On the other hand, if a student intentionally fails to acknowledge the sources used in their writing, they are committing an unethical act. Even if it is unintentional, extensive copying without acknowledging the source raises issues about an individual’s ability to exercise good judgment.

Based on a survey of students from AACSB-accredited business schools where many students admitted to have engaged in cheating, including plagiarism, S.R. Premeaux (“Undergraduate Student Perceptions Regarding Cheating: Tier 1 versus Tier 2 AACSB Accredited Business

Schools. *Journal of Business Ethics*, vol. 62, pp. 407–418, 2005) argued that the “acceptance of unethical behavior in college, like cheating, may make unethical behavior in business easier to accept.”

While the problem of copying someone else’s work has existed for many years, the emergence of the Internet has made it more widespread than previously (C. McLafferty, Jr., and K.M. Foust, “Electronic Plagiarism as a College Instructor’s Nightmare—Prevention and Detection”, *Journal of Education for Business*, vol. 79, no. 3, January/February 2004). In “Big Cheats on Campus” (20/20, November 19, 2004), John Stossel of ABC News reported that some students hire other students to write term papers for them, while others copy direct passages or buy customized papers through the Internet. To combat this type of copying, many colleges and universities now subscribe to online services such as Turnitin.com. According to Turnitin.com founder John Barrie, schools submit 20,000 to 30,000 papers per day, and his company finds plagiarism in about 30% of those cases.

This type of behavior is particularly problematic for the accounting profession because the credibility of the profession depends on the public trust. Thus, investigating the factors associated with copying from the Internet is important as a means of understanding the extent of the problem in the accounting profession. The following study presents a profile of the person who engages in extensive copying from the Internet. Specifically, it investigates the effects of gender, education level (graduate versus undergraduate), degree of pressure, timing (end of semester versus beginning), and moral reasoning on the extent of copying from the Internet by accounting students.

Data Used in the Study

Data was collected from six sections of a capstone accounting course. Three courses were undergraduate sections taught by one of the authors at a state university in the northeastern United States. The other three sections were graduate courses taught by the other author in a Master of Science in Accountancy (MSA) program at a private business university in the northeastern United States.

During the courses, the authors assigned two five-page papers. The first one required students to research and discuss emerging web languages that show promise for future use in financial reporting. The second paper required students to identify at least five application areas in accounting. Students were required to submit the first paper during the first month of the semester and the second paper during the last month of the semester. All students submitted their two papers electronically, which allowed the authors to submit the papers to Turnitin.com to determine whether any of the material was copied. Specifically, Turnitin.com compares every word in a paper to an Internet-based multibillion page database. It also compares each paper to other papers submitted by classmates. From these comparisons, it calculates the proportion of the total text copied from the Internet or other papers.

Results

Exhibit 1 presents some descriptive information regarding key variables, organized by education level and gender. Overall, 135 students provided 270 papers (one at the beginning of the semester and one at the end). Each variable in Exhibit 1 also showed differences between males and females and graduate and undergraduates. For each of these differences, the authors performed two-sample t-tests to investigate their statistical sig-

nificance. The differences that were found to be statistically significant are noted on the table.

Male and female students did not differ in their GPA or educational level. As expected, however, both female and male graduate students had higher GPAs than their undergraduate counterparts.

Over one-third of the papers received from undergraduate students (36.62% for male students and 38.36% for female students) were copied from Internet sources. In comparison, about one-fifth of the papers written by graduate students (21.09% by male students and 22.96% by female students) were copied from Internet sources. The difference between graduate and undergraduate students was statistically significant.

Finally, Exhibit 1 reports the results of a test of moral reasoning which the students were asked to complete. The scores on this test were based on a psychological theory developed by Lawrence Kohlberg at Harvard University during the 1950s and 1960s (*The Philosophy of Moral Development: Moral Stages and The Idea of Justice*, Harper & Row, 1981). According to Kohlberg, human beings achieve different levels of cognitive moral development, which he described as pre-conventional, conventional, and post-conventional. Each of these levels can be subdivided into two stages, yielding a total of six stages. The post-conventional level, which is divided into the fifth and sixth stages of ethical reasoning, is also called the "principled" level.

In order to measure an individual's level of cognitive moral development, James Rest (*Moral Development: Advances in Research and Theory*, Praeger Publishers, 1986) developed the Defining Issues Test (DIT) which produces a P-score ranging from 1 to 100; the higher the score, the higher the level of moral (principled) reasoning. The P-score has been used in many studies on moral reasoning both within and outside of accounting. The DIT is a self-administered, multiple-choice questionnaire that is based on responses to 72 questions on six dilemma scenarios designed to represent the different considerations that are diagnostic of different schemes of fairness. The subject indicates the importance of each diagnostic item in the resolution

of a dilemma by using a four-level scale. The P-score is based on the relative importance that a subject gives to items representing high levels of moral reasoning.

The results in Exhibit 1 show that undergraduate P-scores did not differ by gender. For graduate students, however, the average P-score for female students (mean = 39.27) is significantly greater than that of the male students (mean = 34.83).

Does Timing Make a Difference?

In addition to the six sections of the accounting courses from which the authors collected data, an undergraduate section was used as a pilot study during an earlier semester. Based on this pilot test, a question about students' perceived level of pressure was added. *Exhibit 2* provides comparative data regarding pressure, copying, and the P-score between the beginning and end of the semester.

The average degree of pressure felt by undergraduate students was 1.83 (on a scale from 1 to 5, 1 being very low) at the beginning and 1.86 at the end of the semester, indicating a low level of pressure that did not change much during the semester. The corresponding pressure data for graduate students also indicated a low level of perceived pressure, with the pressure at the end of semester (mean = 1.90) being a bit lower than at the beginning. These results were not statistically significant, and neither were the differences between graduates and undergraduates at the beginning or the end of the semester.

Even though the study did not find significant shifts in pressure during the semester, the percentage of copying from the Internet was generally higher at the end of the semester than at the beginning. Specifically, graduate students conducted 2.39% more copying at the end of the semester than at the beginning, and undergraduates demonstrated an even greater (5.50%) increase.

The P-score results indicate no difference between the beginning and end of the semester. Graduate students' P-scores were higher than those of undergraduate students, both at the beginning of the semester (37.00 compared with 34.32) and at the end (37.40 compared with 33.43).

What Are the Related Variables?

The study used a simple linear regression to investigate the effects of demographic variables and moral reasoning scores on the degree of copying from the Internet. The regression line is as follows: Copying = $\alpha + \beta_1 P\text{-score} + \beta_2 \text{Gender} + \beta_3 \text{GU-grad} + \beta_4 \text{Beg-End} + \beta_5 \text{Pressure} + \epsilon$

Where:
 Copying = The proportion of text copied from the Internet
 P-score = Moral reasoning as measured by the DIT P-score
 Gender = 1 if female, 0 if male
 GU-grad = 1 if graduate student, 0 if undergraduate
 Beg-End = 1 if at the end of semester, 0 if at the beginning
 Pressure = Measured from 1 to 5 (very low to very high)
 ϵ = Error term

EXHIBIT 1
 Descriptive Mean Values of Responses

Variable	Female (141)	Male (129)	Difference	
GPA	Graduate	3.59	3.58	0.01
	Undergraduate	3.09	3.05	0.04
	Difference	0.50*	0.53*	
Internet Copying	Graduate	22.96%	21.09%	1.87%
	Undergraduate	38.36%	36.62%	0.36%
	Difference	-15.40%*	-15.53%*	
P-score (1-100)	Graduate	39.27	34.83	4.44*
	Undergraduate	33.82	33.91	-0.09
	Difference	5.45*	0.92	

Graduate sample = 183, undergraduate sample = 87

* Two-sample t-test shows statistically significant difference at the 0.05 level or lower.

The P-score is expected to have a negative sign, indicating that the higher the moral reasoning, the lower the expected copying from the Internet. The relationship between

gender and copying from the Internet is unknown, thus one cannot assume a positive or negative effect for this variable. The next variable is GU-grad, which anticipates

that undergraduates will engage in more copying from the Internet than graduate students. The difference in copying at the beginning or end of the semester is unknown, so one cannot assume a positive or negative sign for this variable. Pressure is expected to be positively associated with more copying. GPA could also be included as a variable, but it is highly correlated with GU-grad (Pearson correlation coefficient = 0.570), thus it was excluded from the model (no other two variables are correlated at 0.50 or higher).

The results of a test of the model are reported in *Exhibit 3*. The model is highly significant at less than 0.001 level, indicating that a significant variation in the dependent variable (copying from the Internet) is explained by the independent variables ($R^2 = 12.4\%$). Specifically, P-score is negatively and significantly ($p = 0.002$) associated with copying from the Internet, and so is GU-grad. The latter finding indicates that graduate students engage in significantly less copying from the Internet than undergraduate students. Pressure is also negatively and significantly ($p = 0.04$) associated with copying from the Internet. Other results in *Exhibit 3* indicate that while gender and timing during the semester (i.e., the Beg-End variable) are not significantly associated with copying from the Internet, the constant in the model is, indicating that other potentially important independent variables are missing from the model.

Implications

This study investigated demographic variables that are associated with extensive copying from the Internet in papers by graduate and undergraduate accounting students. In aggregate, it found that over 28% of the written material in student papers (over 36% for undergraduate students and over 21% for graduate students) was copied from Internet sources. The most important finding is that students with higher moral reasoning engage in less copying from the Internet. In addition, the extent of copying was significantly and positively associated with the student's perceived level of pressure. Finally, undergraduate students copied significantly more from the Internet than graduate students.

The high proportion of copying from the Internet by accounting students is troubling, because it casts doubt on the trustworthiness

EXHIBIT 2
Differences Between Beginning and End of Semester

Variable		Beginning (135)	End (135)	Difference
Pressure (1-5)	Graduate	2.09	1.90	-0.19
	Undergraduate	1.83	1.86	0.03
	Difference	0.26	0.04	
Internet Copying	Graduate	20.95%	23.34%	2.39
	Undergraduate	34.65%	40.15%	5.50
	Difference	-13.70%*	-16.81%*	
P-score (1-100)	Graduate	37.00	37.40	0.40
	Undergraduate	34.32	33.43	-0.89
	Difference	2.68*	3.97*	

Graduate sample = 183, undergraduate sample = 87

* Two-sample t-test shows statistically significant difference at the 0.05 level or lower.

EXHIBIT 3
Regression Results

Model Formula:

$$\text{Copying} = \alpha + \beta_1 \text{P-score} + \beta_2 \text{Gender} + \beta_3 \text{GU-grad} + \beta_4 \text{Beg-End} + \beta_5 \text{Pressure} + \epsilon$$

Predictor	Hypothesized Sign	Standardized Coefficient	T-statistic	Significance
Constant			5.842	.000
P-score	-	-.179	-2.935	.002*
Gender	?	.083	1.361	.175
GU-grad	-	-.288	-4.732	.000*
Beg-End	?	.085	1.406	.161
Pressure	+	.107	1.761	.040*

Model F-statistic = 7.85

Model significance < 0.001

Model adjusted $R^2 = 12.4\%$

*One-tailed probabilities for these directional variables

Definition of the variables in the model:

Copying = The proportion of text copied from the Internet

P-score = Moral reasoning as measured by the DIT P-score

Gender = 1 if female, 0 if male

GPA = Grade point average

GU-grad = 1 if graduate student, 0 if undergraduate

Beg-End = 1 if at the end of semester, 0 if at the beginning of semester

Pressure = Degree of pressure (1 to 5, very low to very high)

of these future accounting professionals. At the same time, the variables associated with copying from the Internet provide clues to some potential courses of action to reduce this undesirable behavior. For example, the finding that moral reasoning is inversely and significantly related to copying from the Internet indicates that efforts to improve the moral reasoning of accounting students and professional accountants may be a worthwhile effort. Prior research (e.g., L.A. Ponemon and A. Glazer, "Accounting Education and Ethical Development: The Influence of Liberal Learning on Students and Alumni in Accounting Practice," *Issues in Accounting Education*, vol. 5, no. 2, Fall 1990) has indicated that ethics intervention courses specifically geared toward moral development are effective in improving moral reasoning.

Improved moral reasoning in turn should have positive effects on reducing questionable behavior, such as copying from the Internet. The National Association of

State Boards of Accountancy (NASBA) has recently proposed two alternative courses of action under Rule 5-2 (c)(6) regarding an ethical training requirement to sit for the CPA exam. One alternative calls for a stand-alone, three-credit ethics course in the graduate and/or undergraduate accounting curriculum. The other alternative calls for integration of ethics into the undergraduate or graduate accounting or business curriculum. To the extent that such courses improve the moral reasoning of accounting students and accounting professionals, they deserve serious consideration by universities and professional accounting organizations.

The authors consider copying from the Internet to be ethically questionable and argue that this type of behavior may be a harbinger of unethical behavior in the workplace. The accounting profession should take steps to reduce this undesirable behavior in the workplace. In this regard, the authors recommend that universities'

codes of ethics should specifically address the issue of copying from the Internet. The authors are not aware of any codes that currently address this issue, nor are they aware of studies which have investigated whether specific provisions in codes of ethics actually affect behavior. One of the primary reasons to have a code of ethics, for a profession or for a business, is to provide guidelines that will affect the behavior of practicing professionals. In addition, the authors concur with NASBA's recently proposed initiatives regarding an explicit ethics requirement in order to sit for the CPA exam. □

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