

Auditors' Ability to Discern the Presence of Ethical Problems

Julia N. Karcher

ABSTRACT. Recently, society and the accounting profession have become increasingly concerned with ethics. Accounting researchers have responded by attempting to investigate and analyze the ethical behavior of accountants. While the current state of ethical behavior among practitioners is important, the ability of accountants to detect ethical problems that may not be obvious should also be studied and understood. This study addresses three questions: (1) are auditors alert to ethical issues; (2) if so, how important do they perceive them to be; and (3) what factors affect their sensitivity threshold and their perceptions of the importance of the issues?

Most of the prior research in accounting ethics presents subjects with scenarios that contain an obvious ethical issue, and subjects realize that they are participating in an ethics study. In the present study, the ethical problems are integrated into general accounting situations in order to discover the sensitivity of accounting professionals to them. This study defines ethical sensitivity as the ability to interpret a given situation and to realize that a moral problem exists.

CPAs responded to an experimental instrument comprised of three auditing scenarios taken from the 1989 Trueblood cases, adapted to deal with different ethical problems – tax evasion by a client, auditor independence, and a client's ethical problem which does not directly affect the audit. The accounting and/or auditing problems presented in the three cases were also different with the information relating to the possible ethical problem embedded in the situation. Multiway contingency tables were used to analyze the data.

Factors useful in predicting whether a subject will

mention an ethical issue include the nature of the ethical issue, the issue's severity, and the subject's age. Employment position, expertise (measured by two proxies), prior exposure to a similar ethical issue and education level (undergraduate versus graduate) were not significant. The ethical issue itself was also a significant factor in determining the absolute importance given to the ethical issue.

Recently, society in general, and the accounting profession in particular, have become increasingly concerned with ethics. To this end, the American Institute of Certified Public Accountants (1988) has introduced a new Code of Professional Conduct, and the American Assembly of Collegiate Schools of Business (Porter and McKibben, 1988) has stressed the importance of increased ethics education in the business school curriculum. As a result, accounting researchers have responded to this concern by investigating and analyzing the current level of ethical behavior by accountants and the perceptions of others about the accounting profession.

While the current state of ethical behavior among practitioners is important, the ability of accountants to detect ethical problems that may not be obvious also is worthy of study. Ethics researchers often consider the "slippery slope" when discussing ethical problems. That is, individuals may take actions that they see as having little or no ethical consequence, but as the situation develops, the issue becomes more serious than they had realized. They are then faced with new options that require them to admit to an error or perform an unethical action that they would not have considered previously. As the situation progresses, they find it more dif-

Julia N. Karcher, is an assistant professor at the University of Louisville. She has co-authored articles in the Accounting Educators' Journal and Internal Auditor.

difficult to draw the line and are caught on this slippery slope. For example, auditors might agree to overlook a client's "creative" accounting of a transaction because they do not see all of the potential future consequences. Yet when they realize that this transaction may be only one of a series of questionable transactions, easy extrication from the situation may be impossible.

The profession can devote significant time and effort to discussions about how to solve ethical problems, but if members of the profession do not see the problems, solution ability by itself is useless. If accountants are primarily expert technicians who focus solely on the accounting aspects of a problem, they may neglect other serious issues. As Hall (1992, p. 37) notes, "[w]e need to sensitize people to moral issues and ambiguities. We should be more concerned, perhaps, about the person who passes by a moral dilemma without recognizing it than we are about the person who consciously and callously commits a wrong. In the long run, moral insensitivity could be our biggest problem."

Gioia (1992) discusses a more concrete example of the problems a lack of ethical awareness can bring – his involvement with the cost-benefit analysis done by Ford to determine whether the Ford Pinto should be recalled for a safety modification of the gas tank. Although he left Ford well before legal proceedings began against the company, Gioia had been in a position to press for a recall of all Pintos when the risk of rear-end explosions were known. He suggests that his personal decision model "influenced me . . . to unconsciously overlook key features of the Pinto case . . . Although the outcomes of the case carry retrospectively obvious ethical overtones, the schemas driving my perceptions and actions precluded consideration of the issues in ethical terms because the scripts did not include ethical dimensions" (p. 385).

Alternatively, accountants may be cognizant of a problem, but underrate its importance. The purpose of this research, therefore, is to address three questions: (1) are auditors alert to ethical issues; (2) if they are alert to these issues, how important do they perceive them to be; and (3) what factors affect their sensitivity threshold and the perceived importance of the issues?

As used in this study, "ethical sensitivity" denotes the ability to interpret a given situation and to realize that a moral problem exists (Rest, 1986). By attempting to understand which factors might predispose an individual to this sensitivity, researchers could assist educators and practitioners in developing programs to increase ethical sensitivity. For example, the finding of a higher level of ethical sensitivity among practitioners holding advanced degrees could lend support to the requirement for 150 credit hours for certification.

Because this study is descriptive, no attempt is made to dictate the issues to which accountants should be sensitive. The objective is to assess the profession's current condition so that this knowledge can assist policy makers in evaluating whether additional steps are needed to increase the profession's ethical sensitivity.

Literature review

Although the proliferation of ethics research in accounting may be due, in part, to recent cases of unethical behavior and to congressional investigations, ethics and the adoption of a formal code of ethics have always been important to any profession. Bayles (1989) states that a profession provides an important service, which is primarily monopolistic and self-regulated. As a consequence, without a strong ethical code, professionals could abuse these monopoly and self-regulation powers and consider only their own self-interests when dealing with their clients. As Bayles (1989, pp. 11–13) notes, this can result in a conflict between the client and the professional.

Although the *ideal* of any profession is public service, with monetary rewards playing a minor role, self-interest can cause the opposite result. The importance of professional ethics lies in the essential balancing of public service and self-interest. As Noreen (1988, p. 368) notes, "a distinguishing characteristic of professions (where the quality of the output is difficult for the consumer to assess) is an explicit ethical code."

Westra (1986) has suggested that the accountant's role is often even more complex than that

of other professionals. While physicians and lawyers, for example, have an obvious primary loyalty to their patients or clients, accountants may have a greater responsibility to people other than their clients. Physicians and lawyers are presumed to be behaving ethically if they serve their clients well. Yet, because accounting's client is ambiguous, such a presumption cannot be made.

Furthermore, the environment in which accountants practice is changing. Competition is increasing and firms are growing rapidly. For instance, Zeff (1987, p. 65) states that, "[i]n recent years, a perverse self-interest has come to dominate the traditional interest in the welfare of the profession, and the competitive edge in professional practice has become sharper than ever before. Leaders of the profession have begun to wonder out loud whether 'profession' is still a meaningful term." Zeff also fears that accountants may be finding it harder to remain independent, and stresses the need for restoring professional values.

To this end, the revised Code of Professional Ethics (AICPA, 1988) is looked upon by many as a step in the right direction. As Carey and Doherty (1966) note, a code of professional ethics serves two purposes. First, it confirms to the general public that the profession intends to protect the public interest. Second, the code provides guidance to the profession for acceptable behavior.

Various researchers have tested practitioners' knowledge of and adherence to the Code. For example, Loeb (1971) studied the ethical behavior of a group of CPAs, and found that adherence to ethical standards and acceptance of them was uneven, with the size of firm being a significant factor. In general, accountants in large offices were less likely to report having behaved unethically and were more likely to disapprove of unethical behavior than accountants in medium and small offices.

Professional organizations exist for other accountants as well. The Institute of Internal Auditors (IIA) also has a code of ethics and published professional standards. Although internal auditors are employees of the firms for which they perform their services, both the

Boards of Directors and the external auditors rely on the independence of the internal auditors. Harrell, Taylor and Chewing (1990) found that subjects who were members of the IIA were less likely to be influenced by known management desires when evaluating internal control systems than internal auditors who were not members. The authors report that "although internal auditors as a group may be influenced by management to reach biased internal control system evaluations, those who are IIA members will resist management's efforts to bias their professional objectivity" (p. 266).

Rest (1986) has suggested that one needs to perform four basic psychological processes in order to behave ethically. First, one must interpret a given situation as an ethical problem; that is, be aware that a moral problem exists. This component also includes determining what options are available, who will be affected by each option, and what those effects will be. Because individual differences may come into play here, the same individual could react differently at different times or under differing circumstances. Second, the individual needs to decide which of the available options is the morally correct one. S/he must then move on to the third process, the willingness to behave ethically, even if self-interest dictates another course of action. Finally, the individual must possess sufficient perseverance and ego strength to follow through on the intention to behave morally.

Although these components are likely to interact, and the psychological process from awareness to behavior may not be strictly sequential, a researcher can select one or more components to study. As Rest (1986, p. 181) notes, "powerful prediction of behavior will only come when we can assess all four component processes in the real-life situation." Until we have the tools to accomplish this task, however, further research on each component may allow greater understanding of the process as a whole. Toward this end, this research will focus on the first component of Rest's model.

While component Two of Rest's model, moral judgment, has been studied extensively, both in accounting and in other areas, much less research has looked at Component One, ethical sensitivity.

Bebeau and colleagues have done considerable work involving the ethical sensitivity of dental students (e.g., Bebeau *et al.*, 1984; Bebeau *et al.*, 1981; and Bebeau *et al.*, 1985), and has developed the Dental Ethical Sensitivity Test (DEST) to measure the ability of the dentistry profession to recognize ethical issues which are often hidden within professional problems. Bebeau *et al.* (1985) did not find significant differences between the scores of freshman and junior students on the DEST, leading them to suggest "that a traditional curriculum, without attention to moral issues, does not influence ethical sensitivity" (1985, p. 230).

Volker (1984) also studied the first component of Rest's model in the counseling profession. Using two ten-minute audio-taped segments of a simulated counselor-client session, he found no difference in moral sensitivity between novice and experienced counselors, as measured by a five-point scale he developed. For each of the stories, he did find a positive correlation between moral sensitivity and the number of ethical experiences the subject had encountered. In addition, Volker found that individuals who had higher moral sensitivity scores also required less prompting to bring up the ethical problem. Lindsey (1986) performed a similar study with counselors with different experience levels and training levels which yielded consistent results.

Although not framed within the context of Rest's Model, Mayer (1988) studied the ethical awareness of Canadian students in three professional schools – Business, Engineering and Forestry. She used three measures to determine ethical awareness: (1) how subjects defined a profession; (2) how subjects defined their field; and (3) the nature of ethical conflicts within their field. Based on a content analysis of in-depth individual interviews, she found "a troubling lack of ethical awareness among students" (p. 320).

Very little research in accounting has dealt specifically with the ethical sensitivity of accountants. Shaub (1989) presented a scenario to CPAs from one of the national firms depicting one day in the life of an auditor. Three ethical issues were imbedded in the text,¹ and, as in the current study, subjects listed the major issues they saw in each paragraph of the narrative. He found that

ethical sensitivity was not a function of professional commitment, organizational commitment, education or ethical orientation. He did find that it was positively related to age.

The current study builds on Shaub's research in a number of ways. First, since the issues presented are different, they should enhance the generalizability of the findings. Thus, similarities with past research can be discerned, and future research can test further any differences. Second, Shaub's subjects viewed only one level of severity. While the profession should be concerned about ethical sensitivity at all levels, ignoring severe or obvious ethical problems may have more drastic implications than the failure to detect subtle problems. Third, Shaub does not explore the importance that subjects assign to ethical issues, both in absolute terms and in comparison with technical issues. Finally, the current study also investigates whether expertise plays a role in ethical sensitivity.

The next section outlines the hypotheses tested and the methods used. Table I summarizes the variables used in this study.

Research questions

Employment position. Although the role that experience plays in the development of ethical sensitivity is uncertain, other research in accounting ethics indicates that years of experience and employment position are correlated with moral judgment (e.g., Ponemon, 1990; Ponemon and Gabhart, 1990; Boylan *et al.*, 1990). Although Shaub (1989) was unable to find any significant difference between experience levels with his measure of ethical sensitivity, Volker (1984) did find that increased exposure to ethical issues led to increased ethical sensitivity. Because these results are mixed, further testing appears warranted. Furthermore, it is plausible to assume that increased exposure to ethical problems will lead to increased sensitivity to them. That is, partners are more likely than staff accountants or seniors to have come across situations that appeared to be without any ethical problems, but which led to difficulties. We might expect, therefore, that these partners would be more alert to clues in

TABLE I
Variable descriptions

Variable name	Variable description	Measurement
ISSUE	Ethical issue mentioned or not mentioned	Independent Judge
STORY	Specific scenario as shown in Table II	Given
SEVERITY	Severity level of ethical issue; either moderate or severe	Given
EP	Employment position	Self-reported
AGE	Subject's age	Self-reported
EXPOSURE	Frequency of exposure to the ethical issue	Self-reported frequency rating
GDEGREE	Whether subject holds an advanced degree	Self-reported
EXPERTISE1	Subject's expertise based on solution provided	(Number of points identified)/ (Number of points identified by the recommended solution)
EXPERTISE2	Subject's expertise based on frequency of exposure to the specific accounting issue	Self-reported frequency rating

the situation and more likely to include ethical issues in their responses. These findings lead to the following hypotheses:

H_{a1}: The propensity to detect the presence of ethical problems differs among employment positions.

H_{a2}: The degree of importance assigned to detected ethical problems differs among employment positions.

Exposure to similar ethical issues. As mentioned above, the level of employment in the firm can serve as one surrogate for exposure to ethical issues. However, as a further measure of exposure to ethical problems, subjects were asked in a debriefing questionnaire to rate on a five-point scale the frequency with which they had encountered the ethical issues discussed in the scenarios that they had evaluated. This allows testing of the following hypothesis:

H_{a3}: Ethical sensitivity to a specific issue is positively associated with frequency of exposure to similar ethical issues.

Age and education. Partners and managers differ from staff accountants in other ways as well. They

are usually older and may have received their college education when more emphasis was placed on technical proficiency. On the other hand, younger CPAs are more likely to have had a different focus in their degree programs with a greater emphasis on ethics, as called for by the American Accounting Association's Committee on the Future Structure, Content, and Scope of Accounting Education (1986) and the National Commission on Fraudulent Financial Reporting (Treadway Commission, 1987). In addition, graduate programs often are more likely than undergraduate programs to go beyond the purely technical issues, and deal with accounting problems in a richer context. In order to determine whether age and education factors play a role in ethical sensitivity, the following hypotheses also are tested:

H_{a4}: The level of ethical sensitivity is higher for CPAs with advanced degrees, after adjusting for significant employment position effects.

H_{a5}: The level of ethical sensitivity varies inversely with age, after adjusting for significant effects of degree level and employment position.

Expertise. The cases used in this study are based on the Trueblood Case Studies Series (Deloitte and Touche, 1989). These cases have recommended solutions which provided adequate detail from which to develop a proxy for Expertise. After I summarized the major points included in the solutions, two independent judges, who also were familiar with the complete solution, compared the subjects' responses to these major points. The measure of EXPERTISE1 is a percentage based on the number of major points (excluding those relating to the ethical issue) subjects included in the responses.

Since the scenarios deal with different types of accounting problems – equity versus cost method of accounting for an investment, prior period adjustments and going concern considerations – professionals with different specialties may have varying expertise with respect to specific scenarios. That is, an accountant who has dealt with similar situations should have a higher expertise level and also may be more aware of possible ethical problems. Therefore, although I have identified no prior research indicating a link between expertise and ethical sensitivity, I also test the following hypothesis:

H_{a6}: Ethical sensitivity is positively associated with Expertise.

A second test of H_{a6} uses EXPERTISE2 as an additional surrogate for Expertise.

Method

Experimental instrument

Subjects received a packet of cases which purported to deal with problem identification.

Ethics was not mentioned. The subjects initially read a sample illustration (free of ethical problems), and then were given three hypothetical cases and asked to list any problems that they identified. In addition to technical accounting problems, the last two scenarios contained information relating to a possible ethical issue. Table II briefly outlines the major accounting and ethical issues in each case.²

In a study by Finn *et al.* (1988) CPAs were asked to list the major ethical problems they face. The top two mentioned were client proposals of tax alteration and tax fraud, and conflict of interest and independence (with 47% and 16% response frequencies, respectively, reporting one or more exposures to the problem). Two of the three scenarios in this study incorporate these issues. The third scenario, which includes a possible ethical problem for the client, not directly affecting the audit, is included to test sensitivity to issues not covered by the AICPA Code of Professional Conduct.

An ethical issue not dealt with by the Code of Conduct was included for several reasons. First, a general definition of ethics is not limited to a particular code of conduct, since such codes delineate minimal standards. Rather, since it encompasses a wide range of topics, the inclusion of a noncode issue should enrich the analysis. In addition, the business environment is constantly changing. While accounting governing bodies must, of course, be concerned with rule adherence, the problems of the Savings and Loan industry, and the accounting profession's role in those problems, should demonstrate the need to consider more than just the "letter of the law."

The issue chosen, the possible closure of a manufacturing plant, is one which, according to

TABLE II
Major accounting and ethical issues in each story

Scenario	Accounting issue	Ethical issue
Major Motors Company	Choice of the cost or equity method to account for an investment	Client's ethical issue not directly related to the audit; possible plant closing
Henderson Construction	Prior period adjustment	Tax evasion by client
Houseworks, Inc.	Going concern considerations	Independence of the external auditor

Millspaugh (1990, p. 669), “challenge[s] public policy with a very real and dramatic set of ethical concerns.” Sack (1992, p. 24), when stressing the necessity of explaining to students what might be involved when fixed costs are cut, including a possible plant closure, states, “I believe society expects accountants to include such non-accounting events as factors in the critical decisions we make.”

In the experimental design, each scenario has a base case with no ethical problem and two alternatives which vary the severity of the problem. The purpose of including more than one level of severity is to provide a richer operationalization of this factor. Thus, by incorporating an extreme manipulation, designers of experiments usually can induce a response. Similarly, the inclusion of more than one realistic level of severity enhances the generalizability of the results to real-world settings.

All subjects received one level of each of the three scenarios. That is, each subject received one base case, one low-level ethical problem and one severe ethical problem. The scenario containing each level was randomized between subjects. The order of severity was constant – base case, low level and severe – to reduce the possibility of increased sensitivity. In addition to listing the problems, subjects rated the importance of each problem on a five-point scale. Subjects were asked to complete the questionnaire in the prescribed sequence. In that way they were not exposed to the demographic questionnaire until they had completed the instrument. In addition, although the specific ethical issue is mentioned in the demographic questionnaire, it is not identified as an ethical problem. Subjects then were asked to return the questionnaire in the self-addressed envelope provided.

The experimental instrument required subjects to write out the problems or issues which they found in each story. Because these unstructured responses are not objective, independent judges were necessary to conclude what issues the subjects mentioned. As mentioned earlier, the scenarios are adapted from the 1989 Trueblood series, which provides solutions. The points outlined in these solutions were the starting point for the coding guidelines. The independent

judges received a list of the issues (both those given in the solutions and the ethical issue) and read the responses to determine which issues were mentioned. For the issues identified, the judges also recorded the degree of importance subjects placed on each issue. After a brief training session, the judges coded approximately 20 pretests.³ I held another meeting with the judges before they began coding the test instruments to discuss and revise the guidelines to accommodate any problems they had had with the pretest. These problems dealt primarily with the coding of the nonethical issues. Consequently, the guidelines were then revised to include issues which had been mentioned in the pretest, but which were not included in the original instructions.

The judges showed high agreement on the coding of the nonethical issues, with a Cronbach alpha of 0.8783. Because the outcome factor in this analysis is the coding of the ethical issue, the judges must be in complete agreement as to whether a subject mentioned or did not mention the ethical issue. Therefore, after their individual coding, the judges resolved any differences between their coding of *only* the ethical issues through discussion. Disagreements were very few and easily resolved.

Experimental design and data analysis

The measure of ethical problem recognition is dichotomous – either the issue is mentioned or it is not. In addition, the majority of the independent variables are categorical. Multiway contingency tables provide an appropriate way to analyze this type of data through the use of predictor-outcome models. While not exactly synonymous with dependent and independent variables in regression analysis, outcome and predictor factors are similar. Furthermore, outcome-predictor models, such as logit, allow for inclusion of the predictor factors in the model, but are not concerned with the relationships among the predictor factors themselves, which greatly simplifies the analysis by reducing the number of models which need to be tested.

To test the significance of each factor in the model development, two models are run for each

hypothesis: one which includes the association to be tested (a full model) and one which does not include the association (a reduced model). For example, a test for H_{a1} looks at the full model which includes, among other factors,⁴ the association between the outcome factor (whether the ethical issue is mentioned) and the predictor factor, employment position, and compares it with a reduced model that omits the association between employment position and the outcome factor.

Two methods are available to determine the significance of any association (Wickens, 1989, pp. 124–137). First, the difference between the chi-square statistics for the two models is itself an approximation of the likelihood-ratio test. In large samples, this difference roughly has a chi-square distribution, which allows a test of significance between the two models. If the difference in chi-square between the full model and the reduced model is not statistically significant, one can conclude that the predictor factor does not improve the fit enough to be included in the final model. Second, the statistical package used provides a measure of *entropy*, which relates to the uncertainty of the model. That is, if a particular predictor factor or an association between a predictor factor and an outcome factor are important to a given model, the uncertainty about the cell into which any given observation will fall will be reduced. The smaller entropy becomes, then, the more one category dominates, and the easier it is to categorize any one observation into a given cell.⁵ Although these measures provide comparable results, both the relative differences in entropy and differences in chi-square are determined in this analysis.

The final analysis considers whether differences in importance ratings exist for those responses which mention the ethical issue. In addition to hypothesis testing, the analysis provides descriptive data.

Data collection and sample characteristics

The experimental instrument initially was sent to Florida offices of two Big Six firms for distribution to audit personnel. Of 150 instruments distributed, 42 were returned (a response rate of

28.0%). A second mailing of 100 instruments to other southeastern offices of Big Six firms resulted in 63 responses (a 63% rate). Of the returned instruments, two were unusable, one with no scenarios completed and the other with no demographic data. The final sample size was 103, for a combined response rate of 41.2%.

The final sample had a mean age of 30.6 and a standard deviation of 6.7 years. On average, subjects had spent 3.3 years in their current position (standard deviation = 3.7) and 7.6 years with their firm (standard deviation = 7.0). The sample included 69 men and 32 women. Two subjects failed or declined to complete the gender question. Table III shows the above information by employment position. As expected, age increases monotonically with employment position. The mean number of years in the current position for those below partner level was approximately two, while partners had been in

TABLE III
Subject age, experience level and employment position mean (Standard Deviation)

Employment position	Number	Age	Years in position	Years in total
Staff				
Male	13	24.8 (2.682)	1.6 (0.870)	1.6 (0.870)
Female	10	24.8 (1.814)	2.5 (0.850)	2.5 (0.850)
Senior				
Male	13	28.0 (2.550)	2.4 (1.502)	4.6 (1.193)
Female	10	27.5 (3.174)	1.7 (0.675)	3.2 (1.191)
Manager				
Male	26	31.0 (3.058)	2.5 (1.449)	7.7 (2.322)
Female	11	29.5 (1.864)	2.2 (0.982)	7.0 (1.491)
Partner				
Male	18	42.5 (5.843)	9.9 (5.573)	20.8 (5.447)
Female	0	–	–	–
Total	101	30.6 (6.702)	3.3 (3.692)	7.6 (6.958)

their position an average of approximately ten years.

Each subject provided two observations which resulted in a total of 206. Although each subject responded to three scenarios, the base case was provided solely to reduce the likelihood of subjects' recognizing that the research dealt with ethical issues.⁶ Table IV shows the number of subjects in each treatment group.

No formal hypotheses were made concerning either the proportion of subjects who would recognize the issue or whether differences between the stories would exist. However, 61.1% of the subjects recognized the plant relocation as an issue, 75.7% mentioned the tax evasion problem, and 51.6% addressed the conflict of interest between the client and the auditor.

Table V breaks down these data further, showing

TABLE IV
Number of subjects in each treatment group

Ethical issue	Severity level	Number of subjects
Plant relocation	Moderate	32
	Severe	40
Tax evasion	Moderate	35
	Severe	35
Independence	Moderate	36
	Severe	28
Totals	Moderate	103
	Severe	103
Total observations		206

the number and percentages of subjects who recognized the issue in each of the moderate and severe cases. An examination of the table reveals that severity level was an especially dominant factor in determining whether a subject mentioned the issue in the case dealing with independence. For both the plant relocation and tax evasion cases, on the other hand, the percentages of subjects who recognized the ethical issue did not vary substantially between the moderate and severe level.

A simple chi-square test of independence between ISSUE and STORY (a 2×3 contingency table) shows the STORY is significant, chi-square = 8.6, $p = 0.0138$. A 2×2 contingency table of ISSUE and SEVERITY produced a chi-square of 7.5 ($p = 0.0061$). Although the effect of severity level is not a research hypothesis, a significant difference here is evidence of the successful manipulation of this factor. Because both ISSUE and SEVERITY are significant, they will be included in the analysis which follows.

Hypothesis testing

Table VI details the models tested and the differences in chi-square measures found for the tests outlined below.

Employment position

The first hypothesis proposes that employment position will improve the model fit when it is included. A full model⁹ which includes the outcome factor (ISSUE) by employment position

TABLE V⁷
Proportions and percentages of subjects recognizing the ethical issue at each level of severity

	Plant relocation		Tax evasion		Independence	
	Moderate	Severe	Moderate	Severe	Moderate	Severe
Recognize (Percent)	19/32 59.4%	25/40 62.5%	27/35 77.1%	26/35 74.3%	9/36 25.0%	24/28 85.7%
Do not recognize (Percent)	13/32 40.6%	15/40 37.5%	8/35 22.9%	9/35 25.7%	27/36 75.0%	4/28 14.3%

TABLE VI⁸
Chi-Square differences between tested models

Hypothesis	Full model		Reduced model		Difference	
	Chi-square	d.f.	Chi-square	d.f.	Chi-square	d.f.
1-EP	42.23143	14	47.86023	17	5.62880	3
3-EXPOSURE	21.07453	7	21.57063	8	0.49610	1
4-GDEGREE	20.53996	7	20.70932	8	0.16936	1
5-AGE	31.98987	16	42.23143	17	10.24156*	1
6-EXPERTISE1	30.56432	15	31.98987	16	0.42555	1
6-EXPERTISE2	30.67384	42	30.76366	43	0.08982	1

* $p < 0.01$.

interaction had a chi-square of 42.23 with 17 degrees of freedom. A reduced model which did not include this interaction had a chi-square of 47.86 with 20 degrees of freedom, a difference of 5.63 (3 d.f.), which was not significant.¹⁰ The difference in entropy between the two models is 2.814, an improvement of 24.9%. The null of Hypothesis 1, which suggests that there is no difference in the level of ethical sensitivity among employment positions, cannot be rejected. Because of the nonsignificance of employment position, this factor was not included in the following analysis.

Ethical exposure

As discussed earlier, subjects rated, on a five-point scale, the frequency with which they had come into contact with the ethical issues of independence/conflict of interest, tax evasion/tax fraud, and plant relocations/closures of clients. Due to the final sample size and the restrictions placed on expected cell frequencies by multiway contingency analysis, this scale was collapsed into a dichotomous scale. Responses of 1 and 2 were classified as high frequency while responses of 3, 4 and 5 were classified as low frequency. EXPOSURE, as operationalized by this measure, was also found to be not significant, so Hypothesis 3 cannot be rejected; ethical sensitivity is not positively associated with the frequency of exposure to specific ethical issues. A full model including the EXPOSURE-BY-

ISSUE interaction had a chi-square of 21.08 (7 d.f.) while a reduced model omitting this interaction had a chi-square of 21.57 (8 d.f.). The change in entropy was also minimal, 3.2%. Since EXPOSURE did not significantly improve the fit of the model, it is excluded from the balance of the analysis.

Degree level

Degree level (graduate versus undergraduate) also did not significantly affect ethical issue identification. The chi-square of the full model which includes the interaction of GDEGREE and ISSUE was 20.54 (7 d.f.) compared to 20.71 (8 d.f.) for a reduced model without the interaction, a difference in chi-square of 0.17 (1 d.f.), which is not significant. The change in entropy also is small, 1.0%. Therefore, H_04 also cannot be rejected: CPAs with advanced degrees do not appear to have a higher level of ethical sensitivity.

Age

Hypothesis 5 suggests that the inclusion of age will improve the model fit. However, age and employment position are highly associated in hierarchical organizations. Therefore, although employment position was not significant under Hypothesis 1, it is included in the current analysis. The model fit was improved significantly ($p = 0.0014$) with the inclusion of age as a cell

covariate,¹¹ with chi-square improving from 42.23 (17 d.f.) to 31.99 (16 d.f.). The percentage change in the entropy measure was 32.3%. Although Hypothesis 5 suggests that the level of ethical sensitivity will vary inversely with age, these results suggest instead that the relationship between ethical sensitivity and age is positive.

Expertise

Two operationalizations of Expertise were used to test Hypothesis 6. Although EXPERTISE1 is not strictly continuous due to the limited number of fractional values it can assume, it, like age, was treated as a cell covariate.¹² The difference in the chi-square goodness of fit measure between the reduced model in the test of Hypothesis 5 and the full model which included EXPERTISE1 as a cell covariate was only 1.43 (1 d.f.), and the comparable change in entropy was less than 5%.

As is the case with EXPOSURE, the size of the sample and the assumptions of multiway contingency tables require that the scale for EXPERTISE2 also be dichotomized. Therefore, subjects who gave the frequency of exposure to a specific accounting issue as 1 or 2 were considered to have high expertise while those who chose 3 through 5 were considered to have low expertise. In fact, EXPERTISE2 improved model fit even less than EXPERTISE1. The full model including the interaction between ISSUE and EXPERTISE2 had a chi-square of 30.67 (42 d.f.) compared to 30.76 (43 d.f.), a difference of 0.09 (1 d.f.), not significant. Similarly, the change in the entropy measure is virtually zero. Therefore, the null of Hypothesis 6 which suggests that no relationship exists between ethical exposure and Expertise, in either of its proxy forms, also cannot be rejected.

Gender

Although no specific hypothesis is generated for differences between genders, the comparison of a model which includes the main effects of ISSUE, STORY, SEVERITY and GENDER with the covariate age and all interactions (ISSUE

× STORY, ISSUE × SEVERITY, ISSUE × GENDER, STORY × SEVERITY, STORY × GENDER, SEVERITY × GENDER AND STORY × SEVERITY × GENDER to one which does not include the ISSUE × GENDER interaction has a difference in chi-square of 0.13 (1 d.f.), which is not significant.

Importance ratings

In addition to listing the issues present in each scenario, subjects also indicated, using a five-point scale, the importance of each issue. Two measures of importance, one absolute and one relative, are based on this importance rating, and are used to test Hypothesis 2. Because only those subjects who mentioned the ethical issue can be included in this analysis, the total number of observations is 130. Initially, the five-point scale was compressed into a dichotomous measure, with 1 and 2 representing high importance and 3 through 5 low importance. The first analysis was performed to determine whether STORY and SEVERITY were significant factors with respect to the absolute importance rating given to the ethical issue. The results of the chi-square tests of independence show that for those subjects who mentioned the issue, the importance ranking varied between issues but not between severity levels.¹³ Therefore, in the analysis which follows, the STORY will be included. Table VII shows the proportions and percentages of subjects at each level of importance for each story. According to the table, subjects were most likely to rate the importance of tax evasion highest (94.3%), followed by independence (72.7%) and the plant relocation (43.2%).

The smaller sample size in this analysis (130 observations versus 206 in the main analysis) and the cell size requirements for multiway contingency tables necessitated the dichotomization of Employment Position. In this analysis, staff and seniors were combined and compared to a combination of managers and partners.¹⁴

The full model which included the main effects of importance rating (the outcome factor), STORY and EP, and interactions of importance rating by STORY, importance rating by EP,

TABLE VII
Proportions and percentages of subjects giving high or low importance to each ethical issue

	Plant relocation	Taxevasion	Independence
High importance (percent)	19/44 43.2%	50/53 94.3%	24/33 72.7%
Low importance (percent)	25/44 56.8%	3/53 5.7%	9/33 27.3%

and STORY by EP was fit to the data. When compared to the reduced model which excluded the importance rating-by-EP interaction, the improvement in model fit was not significant, with a difference in chi-square of 1.45 (1 d.f., $p = 0.2285$) and a change in entropy of 4.07%.

Although no other formal hypotheses were made, the significance of AGE in the initial analysis suggests that age may also be a factor in the importance ratings. Therefore, an additional analysis was performed which compared a model with main effects of importance rating, EP and STORY, along with the interactions of rating by EP, rating by STORY, and STORY by EP to a model with all these factors and the covariate AGE. AGE was marginally significant ($p = 0.0697$) with a reduction in chi-square between the two models of 3.29 (1 d.f.), with older subjects more likely to give the ethical issue a higher rating.

Hypothesis 2 suggests that the degree of importance assigned to an ethical issue will differ across employment position. The results given above which concern the absolute importance rating do not support this assertion. However, given the marginal significance of age, which is highly correlated with employment position,

further research in this area appears to be warranted.

To determine the effect of employment position on the relative rating given to the ethical issue versus the other issues identified, I determined the percentage of issues that each subject rated higher than the ethical issue in question. Since this measure was severely nonnormal in distribution and attempts to normalize it through transformations were unsuccessful, a Kruskal-Wallis ANOVA was performed for each ethical issue at each severity level. Table VIII shows the chi-square for each, based on the mean rank of the relative importance rating at each employment level. None of the tests approaches significance. This result is similar to that for absolute importance; employment position was not significant in explaining differences in importance ratings.

Discussion

Jones (1991) has suggested that models such as Rest's be adapted to include the characteristics of the moral issue, that is, its moral intensity. Jones defines moral intensity as "a construct that

TABLE VIII
Significance of employment position to relative importance rating for each ethical issue and severity level

	Plant relocation		Tax evasion		Independence	
	Moderate	Severe	Moderate	Severe	Moderate	Severe
Chi-Square 3 d.f. (p value)	2.480 (0.479)	3.713 (0.294)	3.870 (0.276)	0.543 (0.909)	5.202 (0.158)	5.103 (0.164)

captures the extent of issue-related moral imperative in a situation" (372) and suggests that it is made up of six components: "magnitude of consequences, social consensus, probability of effect, temporal immediacy, proximity and concentration of effect" (374). Although no formal hypotheses were developed in this study to test for moral intensity, the effect of the ethical issue was strong. The propensity to mention the ethical issue differed significantly between issues ($p = 0.0138$). In fact, the tax evasion issue was mentioned by 75.7% of the subjects, the possible plant relocation by 61.1%, and the possible conflict of interest by 51.6%.

Differences between issues was also present in Shaub's (1989) work. In his study, over 80% of the subjects recognized the failure of staff to charge time required to complete the job ("eating hours"), 42% mentioned a subordination-of-judgment issue (whether to accede to a questionable client request), and approximately 23% stated that the personal use of firm or client time was an issue. These findings give credence to Jones's inclusion of moral intensity in a model of moral or ethical behavior.

Further support for this issue-contingent model is present in this study. Thus, subjects were more apt to mention an ethical issue if the circumstances surrounding it were more severe. For example, in the case involving a possible conflict of interest, one of the parties involved in the audited company is a "close personal friend" in the moderate version. In the severe version, he is the "brother-in-law of the auditor." In general, interpretations of Rule 101 – Independence (AICPA, 1988) suggest that independence may be impaired when close relatives have significant financial interests in a client. However, no specific mention is made about personal friendships. Therefore, auditors who are familiar with the Code of Conduct may mention the issue when the party involved is a brother-in-law. However, they may not consider independence an issue when the company's president is just a close personal friend, even though the code requires that auditors be independent both "in fact and in appearance."

Several components of moral intensity might affect auditors' judgments in this case. For

example, the magnitude of consequences is likely to be greater under the severe circumstances than under the moderate ones. In addition, social consensus is likely to be greater in the severe case than in the moderate case. In general, auditors are likely to agree that auditing a company in which the auditor's brother-in-law is a major stockholder is a violation of independence. However, fewer auditors will agree that a conflict of interest is present if the individual involved is merely a friend, since the code explicitly discusses close family relationships. In fact, one might ask why 100% of the subjects did not mention this issue since independence is one of the most important tenets of the code of conduct.

These results are confirmed when the outcome factor is changed from whether the issue was mentioned to the importance rating given to the ethical issue. The ethical issue was a significant factor in explaining the differences between importance ratings ($p < 0.0001$). The large majority of subjects who mentioned the tax evasion issue rated it of high importance (94.3%). Indeed, independence was felt to be of high importance for 72.7% of the subjects, while only 43.2% believed that the plant relocation was of high importance. However, severity level was again not significant in explaining how important subjects would rate an ethical issue ($p > 0.9999$).

Of the hypothesized variables, the only significant predictor factor was age. Employment position did not aid in predicting either whether the issue would be mentioned or the significance given to it. The proxy for frequency of exposure used in this study also was not significant, nor were the two surrogates for expertise. In addition, no differences were found for subjects who held advanced degrees, mirroring those of Shaub (1989), who also found that ethical sensitivity was positively related to age.

Future research should include further exploration of the importance of moral intensity. The issue itself has been shown to be important in predicting ethical awareness, and future experiments should be designed to specifically test this factor. In addition, researchers should also look at other problems to which accountants of all

types are subject, like conflicts between two clients, independence between management advisory and audit services, as well as ethical problems managerial accountants are exposed to, such as pressure to make inappropriate changes in the budget and reporting higher expenses than incurred on expense reports. These differences could provide guidance for future continuing education programs. If certain types of problems are more apt to be recognized than others, it may be because more time is spent on them during formal education programs.

Conclusions

Because ethical behavior is not a simple process, we need to study all aspects of that process. To date, little accounting ethics research has dealt with the ability of practitioners to recognize the existence of potential moral issues. If accountants are not able to discern these problems, it may be necessary to change the approach to ethics education. Simply presenting situations and discussing possible solutions may not be adequate. In this study, the majority of subjects recognized each of the ethical issues. However, some concern is warranted, especially in the severe case of possible impairment of independence, given that not all subjects mentioned the issue. Independence is of prime importance to auditors, since it is the first rule mentioned in the Code of Conduct. As a current auditing textbook states, “[a]n opinion by an independent public accountant as to fairness of a company’s financial statement is of no value unless the accountant is truly independent” (Whittington *et al.*, 1992, p. 37).

Furthermore, most practitioners would agree that the possibility a client is evading taxes is something that practitioners should recognize. Not only is tax evasion illegal, but an auditor should consider such an activity when determining the character of the client and analyzing the suitability of acquiring or maintaining that client’s business. Consensus about whether auditors should be concerned about a client’s ethical issue which is not directly related to the audit (a possible plant closing in this study) is not

as straight forward. However, the problems auditors are facing with respect to the savings and loan crisis strengthens the importance of ethical sensitivity to issues outside of the code. If auditors are going to be held to standards higher than those promulgated by the Auditing Standards Board of the AICPA, they need to be aware of all aspects of a client’s business. Although it obviously is essential that practitioners be aware of the specific provisions of the code, it may also be necessary to devote more time to stressing the spirit of the rules as well. Consequently, training that assists in internalization of the code’s purpose would be helpful.

Although the majority of accountants in this study were sensitive to potential problems, the degree of importance these subjects placed on the issues is also of interest. Tax evasion was rated as “of high importance” by 94.3% of the subjects, independence by 72.7%, and plant relocation by 43.2%. Whether such proportions are adequate is a decision for the policy-making bodies who can prescribe remedies, if they feel any are necessary. These remedies could include increased mandatory continuing education in ethics or stiffer penalties for code violations.

Even though this study suggests that auditors are generally sensitive to ethical issues, this sensitivity is affected by the issue involved. Furthermore, such sensitivity is not universal. As a result, it is the responsibility of the profession to ensure that practitioners live up to the expectations of society. To this end, the profession’s governing bodies and academia must take steps to ensure that accountants are not merely technocratic functionaries.

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Appendix. Description models tested

Listed below are the factors included in each of the models tested. For the sake of clarity, these models are listed under the hypotheses which they were used to test.

<i>Hypothesis 1:</i>		
	Main Effects	Interactions
Full Model	I, EI, SL, EP	$I \times EI$, $I \times SL$, $I \times EP$, $EI \times SL$, $EI \times EP$, $EI \times SL \times EP$, $SL \times EP$
Reduced Model	Same as Full Model but excluding $I \times EP$	
<i>Hypothesis 2:</i>		
Full Model	IR, EI, SL, EP	$IR \times EI$, $IR \times SL$, $IR \times EP$, $EI \times SL$, $EI \times EP$, $EI \times SL \times EP$, $SL \times EP$
Reduced Model	Same as Full Model but excluding $IR \times EP$	
<i>Hypothesis 3:</i>		
Full Model	I, EI, SL, EE	$I \times EI$, $I \times SL$, $I \times EE$, $EI \times SL$, $EI \times EE$, $EI \times SL \times EE$, $SL \times EE$
Reduced Model	Same as Full Model but excluding $I \times EE$	
<i>Hypothesis 4:</i>		
Full Model	I, EI, SL, GD	$I \times EI$, $I \times SL$, $I \times GD$, $EI \times SL$, $EI \times GD$, $EI \times SL \times GD$, $SL \times GD$
Reduced Model	Same as Full Model but excluding $I \times GD$	
<i>Hypothesis 5:</i>		
Full Model	I, EI, SL, EP	$I \times EI$, $I \times SL$, $I \times EP$, $EI \times SL$, $S \times EP$, $EI \times SL \times EP$, $SL \times EP$, with AGE (cell covariate)
Reduced Model	Same as full Model but excluding AGE	
<i>Hypothesis 6 (a):</i>		
Full Model	I, EI, SL, EP	$I \times EI$, $I \times SL$, $I \times EP$, $EI \times SL$, $EI \times EP$, $EI \times SL \times EP$, $SL \times EP$, with AGE and CE (cell covariates)
Reduced Model	Same as Full Model but excluding CE	
<i>Hypothesis 6 (b):</i>		
Full Model	I, EI, SL, EP, AE	$I \times EI$, $I \times SL$, $I \times EP$, $I \times AE$, $EI \times SL$, $EI \times EP$, $EI \times AE$, $SL \times EP$, $SL \times AE$, $EI \times SL \times EP \times AE$, $SL \times EP \times AE$, $EP \times AE$ with AGE (cell covariate)
Reduced Model	Same as Full Model but excluding $I \times AE$	

Where:

I	Ethical Issue mentioned/not mentioned
EI	Story Effect (Ethical issue in a specific scenario)
SL	Severity Level
EP	Employment position
IR	Importance Rating
EE	Frequency of exposure to ethical issue
GD	Graduate Degree
CE	Expertise (Calculated expertise based on percentage of possible non-ethical problems identified by the subject)
AE	Expertise2 (Expertise based on frequency of exposure to the specific ethical issue)

Notes

¹ The issues were “eating time” (working on an audit for more hours than were reported), using office time for personal business, and subordinating his own judgment after pressure from the manager and client.

² A copy of the sample instrument is available from the author.

³ The pretests were given to Masters and Ph.D. students in a classroom setting. Respondents were asked for their comments on both the scenarios and the instructions to determine whether any major changes were necessary. The pretest subjects found the instructions to be clear and were able to complete the instruments with ease. The main changes between the pretest and final instrument were in the demographics to account for a different target population and the change of a firm name in one of the scenarios. Hidden Treasures Construction Company was changed to Henderson Construction Company to eliminate the negative connotation “hidden treasures” might invoke.

⁴ Appendix A outlines the factors which are included in each model.

⁵ While this measure has been compared to the R^2 measure in regression, Wickens (1989, p. 130) cautions against this intuitive interpretation. R^2 is a variance-explained measure; however, when categorical data is used, the concept of means and dispersion around those means is different than is the case with the continuous data primarily used in regression analysis. However, in order to make this measure analogous to R^2 in regression analysis or w_2 in analysis of variance, one must look at the relative difference in this measure between the full and reduced models. If the percentage change in entropy is large, the association being studied should be deemed important.

⁶ As all of the nondemographic variables are both STORY and individual specific, the data provided by subjects in the base case is not used in this study.

⁷ Fraction numerators represent the number of subjects recognizing the issue, and denominators represent the total number of subjects in the treatment group. For example, 32 subjects received the plant relocation scenario at the moderate level, and 40 at the severe level.

⁸ The appendix provides a detailed description of all factors included in each model.

⁹ The full model included the main factors of ISSUE, EP, SEVERITY and STORY as well as an interactions (ISSUE \times EP, ISSUE \times SEVERITY, ISSUE \times STORY, EP \times SEVERITY, EP \times STORY, EP \times SEVERITY \times STORY, SEVERITY \times STORY). This is compared to a reduced model which has all of these same factors except the ISSUE \times EP interaction, which is the factor of interest. The appendix gives details of all of the models which were tested.

¹⁰ Although all other tests of improvement in model fit have one degree of freedom, the initial test of hypothesis 1 has three degrees of freedom because employment position has four levels.

¹¹ The statistical package used allows the use of cell covariates, therefore, age was not stratified into a categorical variable.

¹² The calculated Expertise variable ranged from a low of zero to a high of 0.7223 with a somewhat normal distribution. A total of 15 different values were calculated.

¹³ Although this initially may appear counter-intuitive, subjects who notice the problem at the low severity level may consider it important, almost by definition.

¹⁴ A split based on years of employment (≤ 5 versus > 5) yielded similar results.

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*University of Louisville,
College of Business & Public Administration,
Louisville, KY 40292,
U.S.A.*