

# An Analysis of How Demographics Affect the Ethical Sensitivity of Accounting Students

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**ABSTRACT:** This paper reports the results of a test for determinants of ethical sensitivity in accounting students at public universities and Christian liberal arts universities. Society relies on the ethical practice of the accounting profession, and the recognition of ethical situations is a necessity for finding proper solutions. Results show none of the demographics tested as statistically significant determinants of ethical sensitivity. Such a study using religiosity as one of the independent variables had not previously been completed in the United States.

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## INTRODUCTION

In the aftermath of business failings during 2001 and 2002, much attention was given to the subject of accounting ethics and where the responsibility lies for assuring users of financial information that this information is being presented fairly and without bias. This research adds to a growing body of knowledge on what affects the ethical understanding and moral development of accounting majors and future practitioners. Saat, Porter, and Woodbine (2009) list numerous authors agreeing religion is under researched as a factor on moral development (p.18). This research adds to the understanding as to if and how much religion is a factor in ethical sensitivity, or ethical awareness, of accounting students.

The research also tested for differences between students attending a public institution and students attending Christian institutions to determine if there was a need for additional ethics education in either or both types of institutions to aid in the students' ethical awareness. With many Christian institutions struggling financially, especially after the recent recession, this study helps inform accounting programs at Christian institutions as to whether making room in the curriculum for additional ethics education is beneficial to the accounting student.

The American Institute of Certified Public Accountants (AICPA), the Institute of Management Accountants (IMA), and the International Federation of Accountants (IFAC), the three main professional bodies of accounting in the

United States, and NASBA all have emphasized the need for accounting ethics. Accounting has an obligation to society similar to the obligation of the law profession and the medical profession (Haas, 2005; Leung & Cooper, 1994). Society has higher ethical expectations for accountants than for the average individual. Bean and Bernardi (2005) argue lack of ethical conduct is the most extreme threat to the accounting profession and this most extreme threat deserves more attention.

A vast majority of the literature reporting on tests of ethical issues in accounting are tests of moral reasoning. Few studies over the years test the accountant's ability to recognize whether or not an ethical issue is present. Without adequate recognition, an ethical issue will not be acted upon. This research tested the ethical sensitivity of accounting students.

Shaub (1994) was one of the first to test for accountants' ethical awareness or sensitivity. Most recently, Saat, Porter, and Woodbine (2009) tested Malaysian accounting students for ethical sensitivity, finding religious affiliation, religious educational background, type of institution, and faith maturity all affect students' ethical sensitivity but not in all situations tested. Using university students studying in Hong Kong, Chan and Leung (2006) tested the relationship between accounting students' moral reasoning and ethical sensitivity, finding no significant relationship. Other researchers have tested for accountants' ethical sensitivity, but no recent studies have been performed using students

from the United States (Ameen, Guffey, & McMillan, 1996; Cohen, Pant, & Sharp, 1998; Karcher, 1996; Patterson, 2001).

The primary objective of this study was to determine which demographic data significantly relate to accounting ethical sensitivity. Ethical sensitivity is defined as the individual's ability to recognize that an ethically sensitive situation exists (Shaub, Finn, & Munter, 1993). Without recognition of ethical situations, the individual's moral reasoning capabilities are irrelevant. Students from different universities were surveyed. The following hypotheses, stated in the null, were tested:

- HO1: There is no difference between the accounting ethical sensitivity between public university accounting students and Christian liberal arts university accounting students
- HO2A: Religious affiliation will have no effect on accounting ethical sensitivity
- HO2B: Faith maturity will have no effect on accounting ethical sensitivity
- HO3A: Significant events before collegiate training recalled by the individual will have no effect on accounting ethical sensitivity
- HO3B: Significant personal interactions before collegiate training recalled by the individual will have no effect on accounting ethical sensitivity

### MORAL REASONING BACKGROUND

Kohlberg (1969) is considered the founder of the psychological model used in empirical studies of moral reasoning. His model uses six stages of moral development which individuals may improve with training. This theory of cognitive moral reasoning and development suggests higher stages of moral reasoning offer more equitable solutions to moral dilemmas. The lower two stages rely on external authority to define morality, and individuals adhere to these stages for mostly selfish reasons such as avoidance of punishment and self-gratification. Stages three and four focus more on expectations of society, and individuals adhere to these stages mostly due to expectations and approval of others and/or due to legal and moral codes. The highest two stages of moral reasoning suggest a highly developed inner conscience, and actions of individuals are determined due to chosen ethical principles. Kohlberg (1971) believed most people reason at one stage but are able to progress to higher stages with additional training in moral reasoning.

Studies suggest accountants tend to operate at the lower conventional stages (Stage 3 and 4) of Kohlberg's model

(Abdolmohammadi & Read, 2003; Flanagan & Clarke, 2007; Lovell, 1997). Accounting professionals are asked to adhere to codes of conduct. Adherence to such codes fall in line with Kohlberg's (1969) stages three and four, the expectations of society. But since studies also suggest accountants often operate below their level of cognitive moral capacity, additional training may encourage accountants to consider ethical decisions at higher moral reasoning levels than just adherence to codes of conduct (Abdolmohammadi & Baker, 2006; Abdolmohammadi & Read, 2003; Thorne, 2000/2001).

Rest (1986) developed a theory of moral behavior. According to Rest, moral behavior consists of four processes: moral sensitivity, moral judgment, moral intention, and moral character. Moral sensitivity is the individual's ability to recognize there is a moral issue in a situation. Moral judgment is the individual's ability to reason why an action is taken. Moral intention is the individual's commitment to take a moral course of action and personal responsibility for this action. Moral character is the individual's persistence in implementing subroutines serving a moral goal.

According to Rest (1986), moral sensitivity is an important ability leading to moral character. Rest suggests moral sensitivity can be situational. A person may be sensitive to a moral dilemma in one situation but insensitive in another. This study of accounting students' moral sensitivity to accounting situations is concerned with specific accounting situations and whether young accountants are able to recognize when an ethical situation exists within the accounting context.

### NEED FOR ETHICS COVERAGE

The three main professional bodies of accounting in the United States (AICPA, IMA, and IFAC) and the organization responsible to recommend prerequisites for applicants to be allowed to take the CPA exam (NASBA) all have emphasized the need for accounting ethics. In April 2008, NASBA adopted Uniform Accountancy Act Model Rule 5-2 (d) (6) requiring a minimum of three semester credit hours of accounting or business ethics ("Uniform," 2008). But when this rule was proposed in 2005, there was a great outcry from both the educational community and state regulators asking that proof of ethics integration across the accounting curriculum also be allowed instead of the required separate accounting ethics course (Hurtt & Thomas, 2008). NASBA approved such an exception ("Uniform," 2009).

Society has higher expectations for accountants than for the average individual. Bampton and MacLagan (2005)

state, “If ethics is concerned with what is important in life, then why is it not treated as important in the curriculum?” (p. 297). Bean and Bernardi (2005) also argue lack of ethical conduct is the most extreme threat to the accounting profession and this most extreme threat deserves more attention.

There have been continuing discussions over many years as to whether ethics can be taught and whether ethics education actually changes pre-established patterns (Bean & Bernardi, 2005; Churchill, 1982; Hildebeitel & Jones, 1991; Howard, 2007; Mayhew & Murphey, 2009). But it is evident a great resurgence in the interest of ethic education occurred after several public companies failed in 2001 and 2002 (Adkins & Radtke, 2004; Bampton & Cowton, 2002; Bampton & MacLagan, 2005; Bernardi, 2004; Madison, 2002; Rothenburg, 2003). Still, most college accounting programs do not offer a discrete accounting ethics course (Frank, Ofobike, & Gradisher, 2010).

A growing concern in the accounting profession and accounting education is whether accountants are even able to recognize when an accounting ethical issue is present. Langenderfer and Rockness (1989) insightfully state, “If students are not aware of the many ethical dilemmas they will face while on the job, they are more likely to make a bad or, at least, a poorer decision than if they have had prior discussions relating to how to deal with such situations” (p. 61). There is a declining ethical understanding by students and any ethics taught to accounting students by their families are eroded by the college experience (Bernardi & Bean, 2006). “Most accountants do not realize the extent to which their practice has an ethical dimension — until it is perhaps too late to respond effectively” (Flanagan & Clarke, 2007, p. 489).

### ***Liberal Arts And Religion Effect***

Beginning about 1990, more researchers began looking at the effect of liberal arts education and the religious background of the student on moral reasoning. Two studies by Shaver (1985, 1987) of students at a liberal arts college suggested liberal arts education improved moral reasoning as seniors tended to score higher than freshmen as tested by the DIT P-score. Ponemon and Glazer (1990) found students from liberal arts curriculum were more highly developed in terms of DIT measures than students from more traditional accounting programs. If students persist through four years of liberal arts education, they tend to improve in moral reasoning (Foster & LaForce, 1999).

Good and Cartwright (1998) tested moral development improvement in state university, Christian liberal arts university, and Bible university students. They found that only the Bible university student did not show signifi-

cant improvement from freshmen to senior year. King and Mayhew (2002) reviewed 172 studies that used the DIT to investigate moral development of undergraduate students. They found the liberal arts environment tends to be more conducive to developing moral reasoning. Maeda, Thoma, and Bebeau (2009) and Lampe and Finn (1994) also found liberal arts education students tend to have higher moral reasoning scores. These tests seem to suggest liberal arts education encourages moral reasoning development.

Authors have also tested whether Christian education has an effect in improving moral reasoning. Some studies find no significant effect of Christian education on moral development (Burks & Sellani, 2008; Maeda et.al, 2009; Quarry, 1997). Other studies find a positive effect. Foster and LaForce (1999) conclude students who stay in a Christian liberal arts environment for four years improve more in moral reasoning ability than those who leave before the end of four years. What is unclear from this study is what effect liberal arts education has and what effect Christian education has on improved moral reasoning.

Burks and Sellani (2008) tested the effect of religiosity and ethics education on moral reasoning of college students. The results find neither ethical education nor religiosity have an effect on the cognitive moral reasoning of accounting students. The study has a small sample size for various religious groups and statistical significance was not determinable between various religious affiliations.

Based on these studies, liberal arts education seems to affect the moral reasoning of students, but religious background and/or education does not seem to conclusively affect moral reasoning. A study by Shaver (1987) showed that some students at a Bible college improved in moral reasoning to Kohlberg’s sixth stage, but many operated at the fourth stage. This suggests adherence to moral and legal codes somewhat similar to what accountants might do as they consider the accounting code of ethics when evaluating ethical situations.

O’Fallon and Butterfield (2005) published a study of ethical decision-making literature published in top business journals from 1996 to 2003. One of the categories of this ethics literature was ethical awareness (sensitivity). None of the studies considered the effect of type of educational institution or religion on the accountant’s ethical sensitivity. A more recent study by Saat, Porter, and Woodbine (2009) found religion and faith maturity did affect Malaysian accounting students’ ability to recognize ethical issues, but the impact was situational. Christianity was found to be the most favorable religion to higher ethical standards in a study of Chinese and Hong Kong working adults (Lam & Shi, 2008). Testing students in one public and one private reli-

giously affiliated southern United States university, Conroy and Emerson (2004) found the completion of courses in ethics, religion, or theology had little effect on business students' ethical sensitivity.

Lam and Shi (2008) studied working adults in China and Hong Kong, finding religion was a factor in ethical sensitivity with Christianity being the most favorable religion to ethical attitudes. In this study, education was also not a significant factor in ethical sensitivity. Patterson (2001) studied auditors from major accounting firms and the effect of regulatory constructs and personal constructs of religion and politics on an individual's ethical sensitivity. She found none of these to be significant factors to ethical sensitivity. But Saat, Porter, and Woodbine (2009) studied Malaysian accounting students, finding religious affiliation, religious background, type of institution, and faith maturity affected ethical sensitivity, at least in certain circumstances (p. 34). Most of these students declared Islam (65.6%) or Buddhism (22.0%) as their religious affiliation. Only 5.1% of these students declared Christianity as their religious affiliation. In their concluding remarks in the article, these authors comment the effect of religion on ethical sensitivity is under researched (Saat, Porter, & Woodbine, 2009, p. 34). When considering accounting sensitivity studies, Christianity and age have a positive effect on accounting ethical sensitivity.

In summary, results tend to suggest liberal arts education improves moral reasoning but no studies have tested the effect of liberal arts education on accounting ethical sensitivity. The review of business ethics literature by O'Fallon and Butterfield (2005) seems to indicate a positive relationship between religion and ethical decision-making, but only one article reported how religion affects ethical sensitivity and this article focuses on the ethical sensitivity within the discipline of marketing (Singhapakdi, Marta, Rallapalli, & Rao, 2000). In more recent literature, both in the United States and China, religion, especially Christianity, seems to positively affect ethical sensitivity (Conroy & Emerson, 2004; Lam & Shi, 2008). Additional courses in ethics, religion, or theology did not significantly affect ethical sensitivity (Conroy & Emerson, 2004; Patterson, 2001) nor did educational level achieved affect ethical sensitivity (Lam & Shi, 2008).

## HYPOTHESES DEVELOPMENT

The research question asked in this research is what demographic factors most affect accounting ethical sensitivity. This research was chosen to follow Shaub, Finn, and Munter (1993) who used an instrument they developed and

validated to test the accounting ethical sensitivity of auditors in CPA firms (see Appendix). The research tested the ethical sensitivity of accounting students and how demographics affect accounting ethical sensitivity.

The research used ordinal logistic regression and ANOVA to test for statistical significance of several independent variables on the student's score on Shaub's (1993) accounting ethical sensitivity instrument (AESI), the dependent variable. Since more than one type of institution was used to test students, ANOVAs were used to test for variance in ethical sensitivity among students from the institutions surveyed. Since the dependent variable (AESI score) was not continuous but consisted of a score between zero and three, ordinal logistic regression (OLR) was the appropriate statistical tool found in Minitab® when the dependent variable consists of three or more categories with natural ordering of the levels. As a regression tool, OLR shows how significantly each independent variable affects groupings of the dependent variable. It was anticipated the overall sample size would approach 200 students (over 100 students from the public institutions and over 70 students from the Christian liberal arts universities), which is in excess of the preferred sample size of 100 for most research situations utilizing regression techniques and exceeds 10 records per independent variable also preferred for logistic regression (Peduzzi et al., 1996).

### *Dependent Variable*

The Accountant's Ethical Sensitivity Instrument (AESI) provides an auditing scenario without informing respondents that there are three ethically sensitive issues imbedded within the instrument. Respondents are asked to list all issues of any nature observed in the scenario and rate the importance of each issue. Recognition of each ethical issue counts as a point toward ethical sensitivity regardless of the importance placed on the issue by the respondent. The score achieved on this instrument was used as the dependent variable with the number of ethical situations correctly defined as the ethical sensitivity score.

### *Independent Variables*

#### Type of Educational Institution

Several studies have been completed using the DIT to test how students compare between public institutions and liberal arts institutions in moral reasoning. In general, students completing a liberal arts education score higher on moral reasoning tests than students completing a public university education (Foster & LaForce, 1999; Ponemon & Glazer, 1990). Ozdogan and Eser (2007) studied ethical sensitivity of students representing a variety of majors in



Turkey, finding no significant difference in ethical sensitivity for students attending state-owned institutions and students attending privately owned institutions. When conducting the current research, no such studies were located testing for ethical sensitivity comparing students from public and liberal arts institutions in the United States. Based on general moral reasoning, it was hypothesized students from liberal arts institutions would be more able to recognize ethical dilemmas than students from public institutions. Hypothesis One, stated in the Null is:

H<sub>01</sub>: There is no difference between the accounting ethical sensitivity between public university accounting students and Christian liberal arts university accounting students

### **Religion Effect**

Saat, Porter, Woodbine (2009) found religious affiliation, religious education background, and faith maturity affect Malaysian accounting students' ethical sensitivity in certain situations. Wagner and Sanders (2001) completed a study in the United States of the effect of religion on general moral reasoning using software piracy and found a positive relationship. The Singhapakdi et al. (2000) study showed "religiousness of a marketer can partially explain his or her perception of an ethical problem" (p. 305). Testing various college majors in the United States and using church attendance to represent religiosity, Conroy and Emerson (2004), also found religiosity had a positive effect on ethical sensitivity. Testing various religions in China and Hong Kong, Lam and Shi (2008) found religion was important in affecting ethical attitudes, and Christianity was most favorable to higher ethical sensitivity. Based on these studies, it was anticipated accounting students of a Christian religious background and students identified as maintaining a higher level of religiosity would be more ethically sensitive.

Conroy and Emerson (2004) used church attendance as a proxy for faith maturity. The same measure was used in this research. The hypotheses related to religion stated in the Null are:

H<sub>02A</sub>: Religious affiliation will have no effect on accounting ethical sensitivity

H<sub>02B</sub>: Faith maturity will have no effect on accounting ethical sensitivity

### **Personal Experiences And Interactions**

As recognized by Patterson (2001), personal experiences have a potential effect on ethical sensitivity. Strongly engrained personal beliefs have a potential effect on an accountant's sensitivity to potential ethical issues. Individuals may be able to identify past events, which encourage them

to consider situations from an ethical viewpoint and improve recognition of ethical issues.

As such, this research questioned individuals as to whether events or persons have affected them ethically. The individual's belief of such effect was tested to determine if there was a significant person or event outside of the individual's collegiate experience significantly related to accounting ethical sensitivity. Participants in the survey were asked if they could identify a person who had affected their ethical understanding before college. If they reported that such an interaction had affected them, the degree to which they had been impacted was scored.

While there has been no known accounting research on this possibility, the research by Patterson (2001) suggested there would not be a significant relationship between a recognized event or person affecting the accounting student's ethical sensitivity.

The hypotheses stated in the Null are:

H<sub>03A</sub>: Significant events before collegiate training recalled by the individual will have no significant effect on accounting ethical sensitivity

H<sub>03B</sub>: Significant personal interactions before collegiate training recalled by the individual will have no significant effect on accounting ethical sensitivity

### **Coding Of Survey Instruments**

The Shaub (1993) accounting ethical sensitivity auditing scenario (see Appendix) has three ethical situations imbedded within the scenario. The first issue deals with auditing staff members not properly recording all the hours they are working on an audit. The second issue is the use of company time for personal matters. The final issue is the changing of audit work papers to match what the client desires instead of the proper treatment of the issue as determined by Generally Accepted Accounting Principles (GAAP). Overall, 246 out of a possible 468 issues were recognized for an average recognition rate of 1.58 per student and a recognition percentage of 52.6%. In Shaub's (1993) original research, the average recognition rate was 1.47 per student for a 49.3% recognition rate with 207 usable responses. Chan and Leung (2006) also used Shaub's (1993) instrument. The study had an average recognition rate of 1.53 per respondent or 51.0% with 156 usable responses. The recognition results obtained from this current study were consistent with recognition results obtained in earlier studies. Table 1 detailed the recognition rate of each issue for this research.

**Table 1: Recognition of Ethical Issues**

Ethical Issue	Number of Students Correctly Recognizing Issue	Recognition Percentage
Recorded Hours	118	75.6%
Personal Use of Company Time	46	29.5%
GAAP Issue	82	52.6%
Total Issues Recognized	246	52.6%

***Faith Maturity Reliability***

One independent variable, faith maturity or religiosity, was represented by asking students to indicate their level of religiosity and then asking students to indicate how often they attended a religious service per month. Cronbach's alpha was run on these two indicators of religiosity to determine if they were consistent in measuring the student's level of faith maturity. A Cronbach's alpha of .70 is generally considered the lower limit of acceptability (Hair et al., 2006). A Cronbach's alpha of .7833 was indicated by Minitab® for these two measures of faith maturity, indicating the measures were a reliable alternative for testing the same construct. Since Conroy and Emerson (2004) used church attendance as an indication of religiosity/faith maturity, church attendance was also used in this study as a measure of the student's religiosity/faith maturity.

***Multi-collinearity***

Multi-collinearity refers to the correlation between variables in an analysis (Anderson, Sweeney & Williams, 2002). Multi-collinearity creates shared variance between variables and decreases the ability to predict the dependent variable (Hair et al., 2006). Hair indicates that even relatively low levels of multi-collinearity of around .30 makes identifying unique effects of the independent variables more difficult. Anderson, Sweeney and Williams (2002) indicate that correlation coefficients of less than -.70 or greater than .70 as the level where multi-collinearity creates potential problems. A test of correlations between independent variables revealed multi-collinearity between personal interactions and personal experiences.

**EVALUATION OF HYPOTHESES**

Since the dependent variable only consisted of four possible choices and was not continuous, ordinal logistic regression was used to test the hypotheses. Ordinal logistic regression (OLR) is the appropriate statistical tool found in Minitab® when the dependent variable consists of three or more categories with natural ordering of the levels. As a regression tool, OLR does not return a single regression equation but returns a model including a logit equation for the total number of possible dependent variable responses minus one. In the current research with four possible dependent variable answers, three equations are included, each

**Table 2: Results of OLR Comparing PE and PI**

Model	Eliminating PI			Eliminating PE	
	Coefficient	P-value		Coefficient	P-value
Constant (1)	-1.5227	0.000		-2.1215	0.000
Constant (2)	0.2878	0.460		-0.3258	0.450
Constant (3)	2.7416	0.000		2.1034	0.000
I	-0.1842	0.623		-0.2577	0.485
RA	-0.1018	0.757		-0.1237	0.710
FM	-0.0110	0.844		-0.0110	0.844
PE	-0.1027	0.113			
PI				0.0404	0.577

with a unique constant. OLR uses an iterative process to determine a maximum likelihood estimation of group inclusion. The first constant used with the independent variable coefficients predicts inclusion in the first group consisting only of the dependent variable being zero (0) ethical issues recognized. The second constant used with the independent variable coefficients predicts inclusion in the group consisting of either zero or one ethical issues recognized, etc. Logistic regression imposes no normality assumptions on the independent variables.

Due to collinearity issues with personal interactions (PI) and personal experiences (PE), to properly test the hypotheses, OLR was run eliminating first personal interactions and then eliminating personal experiences. Table 2 shows the results of both tests. None of the signs of the remaining independent variables changed, and no independent variable was shown to be significant at the 95% confidence level.

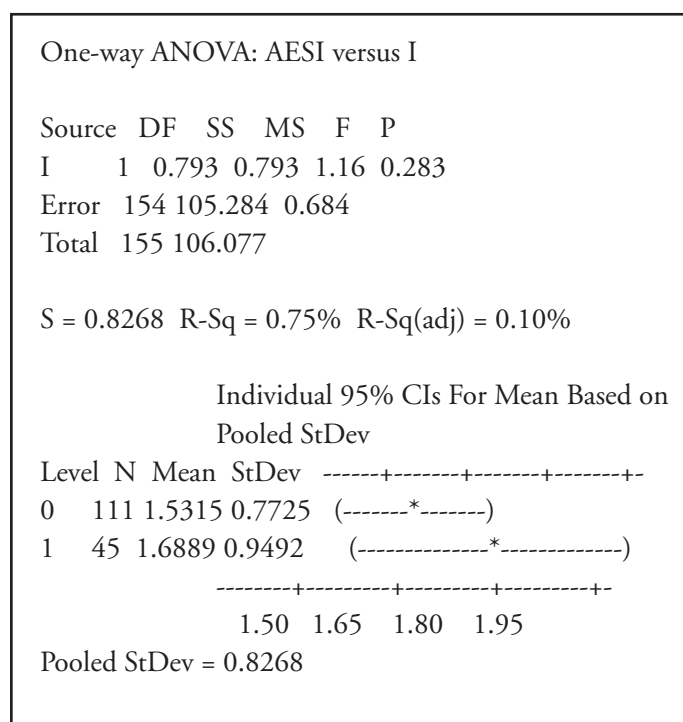
As can be seen from the development of Hypothesis One, testing Christian liberal arts university accounting students compared to public university accounting students for accounting ethical sensitivity has not been attempted or the results have not been previously published. The expected result was developed from moral reasoning literature and tests of ethical sensitivity based on a variety of majors, not specifically accounting majors. Figures 1 and 2 show the results of two ANOVAs using the institutions whose students who took the survey instrument. The first

ANOVA shows the results of the combined Christian liberal arts universities compared to the combined public universities showing no statistically significant difference between students' ability to recognize the ethical situation in the scenario between these two groups of students. The second ANOVA (Figure 2) shows the results when comparing all four institutions. Again, there is no statistically significant difference between institutions.

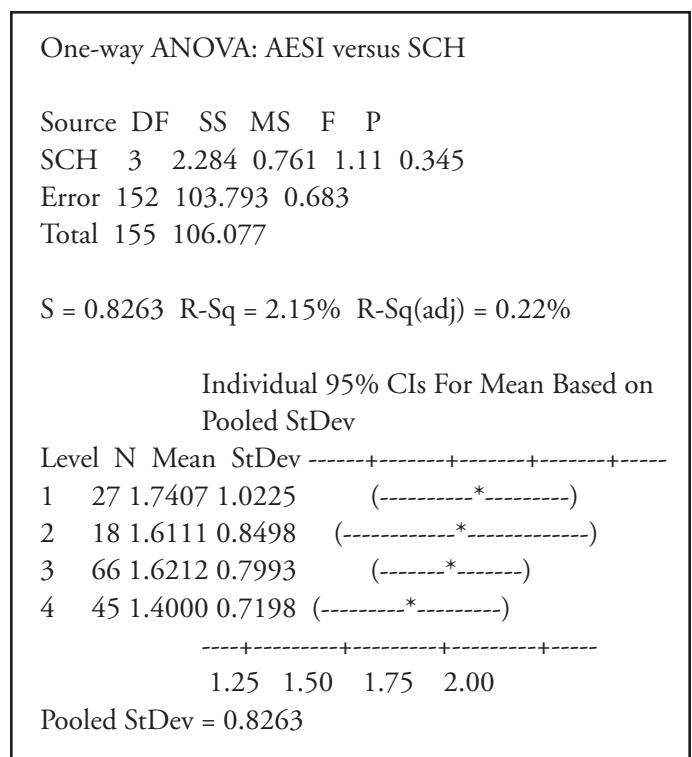
A Pearson Chi-Square test was run comparing institution (I) to the dependent variable (AESI score) with a resulting P-value of 0.027 indicating a significant relationship between AESI and I. These results were not confirmed by any other statistical tests run on the data but, along with the graphs produced by Minitab® for the ANOVA shown in Figure 2 above, do show that students from Christian liberal arts institutions were better able to recognize the ethical situations in Shaub's (1993) instrument.

One-way ANOVAs were run, testing for any differences between Christian and public institutions for recognition of each individual ethical situation. There was a statistically significant difference in the students' ability to recognize the first ethical situation, recording of hours worked, when comparing both Christian liberal arts universities to both public universities ( $p = 0.041$ ) and when comparing the four institutions to each other ( $p = 0.024$ ). In both cases, students from Christian liberal arts universities were better able to recognize the first ethical situation than students

**Figure 1: ANOVA Comparing Christian University Results to Public University Results**



**Figure 2: ANOVA Comparing Each University's Results**



from public universities. The ANOVAs run testing the second and third ethical situations did not show a statistically significant difference between institutions.

Neither of the hypotheses concerning religious affiliation nor faith maturity was supported by this research. Again, neither of these hypotheses has strong support in the literature. Available literature is based on accounting students from Malaysia, China, and Hong Kong; marketing majors from the United States; and a study of various majors from the United States. No studies have tested the relationship of religious affiliation or faith maturity to accounting ethical sensitivity of specifically accounting majors. Pearson's Chi-Square was run comparing religious affiliation to AESI score with a P-value of 0.548 confirming no statistically significant relationship between the student's reported religious affiliation and her/his ability to recognize ethical situations present in the test instrument.

## DISCUSSION OF THE RESULTS

The regression results indicate none of the independent variables tested were found to be a statistically significant indicator of the student's accounting ethical sensitivity at the .05 level of significance. While none of the independent variables were statistically significant indicators of ethical sensitivity, the results are still important to the accounting profession and accounting education.

One demographic not tested was how an auditing course might affect the results. Fifty-three percent of all students completing the survey instrument had taken an auditing course. Of those taking auditing, only 26% reported integration of ethics into the auditing course. Students were surveyed during accounting courses with a 300- or 400-level course number with an attempt to survey students with a substantial amount of their accounting coursework already completed. The average number of credit hours for a student was 125 overall credit hours and 28 accounting credit hours. The average student had completed substantial coursework in accounting and toward their degree.

Of importance to those of us teaching in Christian universities is how religious affiliation and religiosity affect the student's ability to recognize accounting ethical situations exist. It was hypothesized from studies conducted in other cultures and the testing of other types of collegiate majors in the United States, other than strictly accounting majors, religious affiliation and religiosity would be positively correlated to accounting ethical sensitivity. However, neither religious affiliation nor religiosity was a statistically significant indicator of accounting ethical sensitivity.

Perhaps this results from a culture in the United States where many people affiliate themselves with the Christian religion, attending religious services regularly as a part of their social interactions, but are not as committed to the Christian religion as people in Malaysia, China, or Hong Kong who report being affiliated with the Christian religion. Results from studies on accounting ethical sensitivity in these countries showed the Christian religion as being a significant indicator of ethical sensitivity (Lam and Shi, 2008; Saat, Porter, & Woodbine, 2009). In the current study, 94.4% of all Christian liberal arts university students and 51.4% of all public university students, for an overall average of 60.9% of all respondents, reported being affiliated with the Christian-All-Other-Non-Catholic category of religious affiliation. Overall, this result should be troublesome to Christian liberal arts universities. If this research is representative of the general Christian liberal arts university student, both Christian liberal arts university accounting programs and public university accounting programs must improve their efforts to help accounting students recognize accounting ethical situations exist. While most Christian liberal arts institutions and some public institutions would financially struggle to add courses to their curricular offerings, this research would indicate either additional coursework and/or a more defined strategy of integrating accounting ethics education into current curricular offerings to enhance accounting ethical sensitivity must be done to properly prepare students to uphold expectations of society on the accounting profession. Christian accounting educators must not rely on the Christian student's religious and family background as a sufficient enhancement to the student's accounting ethical sensitivity.

One method of improving accounting ethical sensitivity could be assigned cases and/or readings completed outside of class time with short quizzes over the readings followed by limited discussion of the readings during class. Another method could be assigning ethics cases to individuals or groups and having the individual or group give a limited report on each case to the other class members. Whatever methods are chosen, this research indicated more emphasis must be put on accounting ethical recognition. Perhaps by spreading the study of ethics cases over all upper-level accounting courses, much ethical content could be covered without greatly hindering textbook content coverage in any one accounting course.

## LIMITATIONS

This study surveyed only four institutions located in the south and midwest. The sample size of 156, while ade-



quate per Hair et al. (2006), was relatively small for such a study. To further test these hypotheses, finding additional universities to sample, especially large Christian universities, would be helpful. It would also be helpful to study institutions located in the eastern and western United States as the culture in these parts of the United States is often considered dissimilar from the culture in the southern and midwestern United States.

There were a limited number of responses from Christian liberal arts university students for this study. In addition, the overall sample size of 156 records limits the power and generalizability of the results. Accounting programs at Christian liberal arts universities are usually rather small with most such universities graduating less than 20 accounting majors (often less than 10) per year. Obtaining more adequate sample sizes of Christian liberal arts universities accounting majors would take a coordinated effort of many universities.

Another limitation of this study was the ability to adequately gather data without shortening the survey instrument. Religiosity was measured using church attendance as the sole measure of the student's faith maturity. There are other longer measures which would have more adequately tested the faith maturity of the student, such as the study developed by Benson, Donahue, and Erickson (1993) and utilized by Saat, Porter, and Woodbine (2009) which uses at least 12 items to test religiosity. Completing this type of instrument requires substantial additional time by the respondent.

In addition, using Shaub's (1993) instrument as the measure of accounting ethical sensitivity, while adequate, is somewhat limited in its breadth of coverage of accounting ethical situations. A longer instrument to measure a broader range of ethical situations would be an improvement. This researcher found accounting professors often hesitant to allow even 20 minutes of class time to be taken up by a survey. A more adequate survey instrument would take closer to 45 or 50 minutes to complete, meaning an entire class period may be needed to complete the survey or some way to access students outside of class time.

## SUMMARY

This study utilized ordinal logistic regression to identify factors that may influence the accounting student's accounting ethical sensitivity. At the .05 level of significance, no independent variables tested were shown to be a significant determinant of the student's ability to recognize accounting ethical situations. These findings are significant

to accounting educators and practitioners hiring accounting students. It may not be assumed that Christian liberal arts education, religious affiliation, or religiosity positively influence the student's ability to recognize accounting ethical situations. Because of this, accounting educators must consider how to better train accounting majors to recognize accounting ethical situations.

With limited studies on ethical sensitivity, this area of research needs more emphasis by academics. Christian academics should consider testing their own senior accounting majors on how well they recognize ethical situations and consider ways to improve ethical sensitivity of their students if the research finds the students lacking in the ability to recognize ethical situations.

Also, with the Shaub (1994) instrument being over 20 years old, Christian academics should consider developing an ethical sensitivity instrument with situations more closely related to the current age.

## REFERENCES

- Abdolmohammadi, M., & Baker, C. (2006). Accountants' value preferences and moral reasoning. *Journal of Business Ethics*, 69(1), 11-25.
- Abdolmohammadi, M. & Read, W. (2003). Does selection-socialization help to explain accountants' weak ethical reasoning? *Journal of Business Ethics*, 42(1), 71-81.
- Adkins, N., & Radtke, R. (2004). Students' and faculty members perceptions of the importance of business ethics and accounting ethics education: Is there an expectations gap? *Journal of Business Ethics*, 51(3), 279-300.
- Ameen, E.C., Guffey, D.M., & McMillan, J.J. (1996). Gender differences in determining the ethical sensitivity of future accounting professionals. *Journal of Business Ethics*, 15(5), 591-597.
- Anderson, D.R., Sweeney, D.J., & Williams, T.A. (2002). *Statistics for business and economics* (8th ed.). Cincinnati, OH: Thomson Learning, South-Western.
- Bampton, R., & Cowton, C. (2002). The teaching of ethics in management accounting: progress and prospects. *Business Ethics: A European Review*, 11(1), 52-61.
- Bampton, R. & MacLagan, P. (2005). Why teach ethics to accounting students? A response to the skeptics. *Business Ethics: A European Review*, 14(3), 290-300.
- Bean, D. & Bernardi, R. (2005). Accounting ethics courses: A professional necessity. *The CPA Journal*, 75(12), 64-65.

- Benson, P.L., Donahue, M.J. & Erickson, J.A. (1993). The faith maturity scale: Conceptualization, measurement and empirical validation. *Research in the Social Scientific Study of Religion*, 5, 1-26.
- Bernardi, R. (2004). Suggestions for providing legitimacy to ethics research. *Issues in Accounting Education*, 19(1), 145-146.
- Bernardi, R. & Bean, D. (2006). Ethics in accounting education: The forgotten stakeholders. *The CPA Journal*, 76(7), 56-57.
- Bok, D. (1976, October). Can ethics be taught? *Change*, 26-30.
- Burks, B. D., & Sellani, R. J. (2008, Fall). Ethics, religiosity, and moral development of business students. *Journal of Leadership, Accountability and Ethics*, 49-71.
- Chan, S. & Leung, P. (2006). The effects of accounting students' ethical reasoning and personal factors on their ethical sensitivity. *Managerial Auditing Journal*, 21(4), 436-457.
- Churchill, L. (1982). The teaching of ethics and moral values in teaching. Some contemporary confusions. *Journal of Higher Education*, 53(3), 296-306.
- Cohen, J.R., Pant, L.W., & Sharp, D.J. (2001). An examination of differences in ethical decision-making between Canadian business students and accounting professionals. *Journal of Business Ethics*, 30(4), 319-336.
- Conroy, S. J., & Emerson, T. N. (2004). Business ethics and religion: Religiosity as a predictor of ethical awareness among students. *Journal Of Business Ethics*, 50(4), 383-396.
- Flanagan, J. & Clarke, K. (2007). Beyond a code of professional ethics: A holistic model of ethical decision-making for accountants. *ABACUS*, 43(4), 488-518.
- Foster, J., & LaForce, B. (1999). A longitudinal study of moral, religious, and identity development in a christian liberal arts environment. *Journal of Psychology & Theology*, 27(1), 52-68.
- Frank, G., Ofobike, E., & Gradisher, S. (2010). Teaching business ethics: A quandary for accounting educators. *Journal of Education for Business*, 85(3), 132-138.
- Good, J., & Cartwright, C. (1998). Development of moral judgement among undergraduate university students. *College Student Journal*, 32(2), 270-276.
- Hair, J.F., Black, W.C., Babin, B.J., Anderson, R.E., & Tatham, R.L. (2006). *Multivariate data analysis*. New Jersey: Person Prentice Hall.
- Haas, A. (2005). Now is the time for ethics in education. *The CPA Journal*, 75(6), 66-68.
- Hiltebeitel, K., & Jones, S. (1991). Initial evidence on the impact of integrating ethics into accounting education. *Issues in Accounting Education*, 6(2), 262-275.
- Howard, J. (2007). Ethics cannot be taught. *The CPA Journal*, 77(4), 15.
- Hurt, R. K., & Thomas, C. W. (2008). Implementing a required ethics class for students in accounting: The Texas experience. *Issues in Accounting Education*, 23(1), 31-51.
- Karcher, J.N. (1996). Auditors' ability to discern the presence of ethical problems. *Journal of Business Ethics*, 15(10), 1033-1050.
- King, P., & Mayhew, M. (2002). Moral judgement development in higher education: Insights from the Defining Issues Test. *Journal of Moral Education*, 31(3), 247-270.
- Kohlberg, L. (1969). Stage and sequence: The cognitive developmental approach to socialization. In D.A. Goslin (ed). *Handbook of Socialization Theory and Research* (pp. 347-480). New York: Rand McNally.
- Kohlberg, L. (1971, September 7). *The Contribution of Developmental Psychology to Education--Examples from Moral Education*. Address to American Psychological Association, Division of Educational Psychology, Washington, DC.
- Lam, K., & Shi, G. (2008). Factors affecting ethical attitudes in mainland China and Hong Kong. *Journal of Business Ethics*, 77(4), 463-479.
- Lampe, J., & Finn, D. (1994). Teaching ethics in accounting curricula. *Business & Professional Ethics Journal*, 13(1/2), 89-129.
- Langenderfer, H. & Rockness, J. (1989). Integrating ethics into the accounting curriculum: Issues, problems, and solutions. *Issues in Accounting Education*, 4(1), 58-69.
- Leung, P. & Cooper, B. (1994). Ethics in accountancy: A classroom experience. *Accounting Education*, 3(1), 19-33.
- Lovell, A. (1997). Some thoughts on Kohlberg's hierarchy of moral reasoning and its relevance for accounting theories of control. *Accounting Education*, 6(2), 147-162.
- Madison, R. (2002). Is failure to teach ethics the causal factor? *Strategic Finance*, 84(6), 24-64.
- Maeda, Y., Thoma, S., & Bebeau, M. (2009). Understanding the relationship between moral judgment development and individual characteristics: The role of educational contexts. *Journal of Educational Psychology*, 101(1), 233-247.
- Mayhew, B., & Murphy, P. (2009). The impact of ethics education on reporting behavior. *Journal of Business Ethics*, 86(3), 397-416.

- O'Fallon, M.J. & Butterfield, K.D. (2005). A review of the empirical ethical decision-making literature: 1996-2003. *Journal of Business Ethics*, 59(4), 375-413.
- Ozdogan, F.B. & Eser, Z. (2007). Ethical sensitivity of college students in a developing country: Do demographic factors matter? *Journal of Teaching in International Business*, 19(1), 83-99.
- Patterson, D.M. (2001). Causal effects of regulatory, organizational and personal factors on ethical sensitivity. *Journal of Business Ethics*, 30(2), 123-159.
- Peduzzi, P., Concato, J., Kemper, E., Holford, T., & Feinstein, A. (1996). A simulation study of the number of events per variable in logistic regression analysis. *Journal Of Clinical Epidemiology*, 49(12), 1373-1379.
- Ponemon, L., & Glazer, A. (1990). Accounting education and ethical development: The influence of liberal learning on students and alumni in accounting practice. *Issues in Accounting Education*, 6(2), 195-208.
- Quarry, E.B. (1997). *The defining issues test as a measure of moral reasoning of undergraduate students at a Christian liberal arts institution in southern California*. Unpublished doctoral dissertation. Talbot School of Theology, Biola University.
- Rest, J. (1986). *Moral development: Advance in research and theory*. New York: Praeger.
- Rothenburg, E. (2003). Incorporating business ethics into introductory accounting courses. *CPA Journal*, 73(10), 6-8.
- Saat, M.M., Porter, S., & Woodbine, G. (2009). Does religiosity influence ethical sensitivity? An investigation on Malaysian future accountants. *Malaysian Accounting Review*, 8(2), 17-41.
- Shaub, M. (1994). An analysis of the association of traditional demographic variables with the moral reasoning of auditing students and auditors. *Journal of Accounting Education*, 12(1), 1-26.
- Shaub, M.K., Finn, D.W., & Munter, P. (1993). The effects of auditors' ethical orientation on commitment and ethical sensitivity. *Behavioral Research in Accounting*, 5, 145-169.
- Shaver, D. (1985). A longitudinal study of moral development at a conservative, religious, liberal arts college. *Journal of College Student Personnel*, 26(5), 400-404.
- Shaver, D. (1987). Moral development of students attending a Christian, liberal arts college and a Bible college. *Journal of College Student Personnel*, 28(3), 211-218.
- Singhapakdi, A., Marta, J.K., Rallapalli, K.C., & Rao, C.P. (2000). Toward an understanding of religiousness and marketing ethics: An empirical study. *Journal of Business Ethics*, 27(4), 305-319.
- Thorne, L. (2000). The development of two measures to assess accountants' prescriptive and deliberative moral reasoning. *Behavioral Research in Accounting*, 12, 139-169.
- Thorne, L. (2001). Refocusing ethics education in accounting: an examination of accounting students' tendency to use their cognitive moral capability. *Journal of Accounting Education*, 19, 103-117.
- Uniform accountancy act model rules revised. (2008, October 3). Nashville, TN: National Association State Boards of Accountancy. Retrieved December 6, 2008, from [http://www.nasba.org/862571B900737CED/86B46D55537697B1862574FA007DDABE/\\$file/UAA\\_Model\\_Rules\\_Revised\\_October\\_2008.pdf](http://www.nasba.org/862571B900737CED/86B46D55537697B1862574FA007DDABE/$file/UAA_Model_Rules_Revised_October_2008.pdf)
- Uniform accountancy act model rules. (2009, April 24). Nashville, TN: National Association State Boards of Accountancy. Retrieved April 2, 2010, from [http://www.nasba.org/862571B900737CED/F3458557E80CD8CA862575C3005DBD36/\\$file/UAA\\_Model\\_Rules\\_April24\\_2009.pdf](http://www.nasba.org/862571B900737CED/F3458557E80CD8CA862575C3005DBD36/$file/UAA_Model_Rules_April24_2009.pdf)
- Wagner, S.C. & Sanders, G.L. (2001). Considerations in ethical decision-making and software piracy. *Journal of Business Ethics*, 29(1/2), 161-167.

## APPENDIX

*Auditing Scenario.* You are about to read a brief auditing scenario. To the extent possible, place yourself in the CPA's shoes.

Different aspects of the scenario would vary in significance to you were you to encounter them in reality. I am interested in finding out what would be important to you.

In your opinion, what are the issues in this scenario? Simply indicate, for those paragraphs which in your opinion contain an issue or issues:

1. The significance of the issue by marking a number between one and seven.
2. The nature of the issue in the box beside the circled number (in ten words or less). You do not need to indicate how you would resolve any issues.

Frank Thomas is the senior responsible for the Sarken Industries audit. He is spending the last two hours of this morning preparing to meet with the partner and manager, prior to their meeting with the Sarken board, to discuss the preliminary audit findings. Year-end work has been pressured this year; several staff members were not available part of the time because they had to be reassigned temporarily to a client making a public offering. Also, additional work that was expected to be completed at interim had to be done at year-end because of the unexpected resignation of a second-year staff person. The work had gotten done within

the budget, though Frank realizes that a few of the younger staff had likely failed to charge some of their wheel-spinning hours at year-end. In fact, hours charged were three percent below last year, his first year running the Sarken audit.

Frank retrieves the interim workpaper bundles from the Central Services storage area in the office. Internal control weaknesses had been discovered during the review of internal controls at interim. These weaknesses were primarily the result of changes that had taken place in the prior quarter, changes that were documented as part of this year's interim work by an experienced staff auditor. This documentation was used as a basis for determining the level of reliance to be placed on internal controls for year-end testing of the affected areas.

Frank's thoughts run to the annual performance review he is about to receive from his advisor within the firm. His performance has been rated as very good each year until his first year as a senior, when it was rated *slightly* above average. A friend who is a partner at another firm has made it clear that he would love for Frank to come to work for him, and

he is considering that possibility. However, Frank enjoys working for his firm — it took him forty-five minutes yesterday just to draft a four-line note to his friend saying that he would consider his offer, and he might never have finished getting the words on paper had Sarken's controller not stuck his head in the auditors' room and asked to talk to him.

Frank has already briefed the manager on the disagreement he had with the client over his treatment of capitalized interest on some construction projects. The manager has sided with the client on the issue, stating that though Frank may technically be correct, the client's position is reasonably supportable. Frank has changed the workpapers accordingly, stating that the treatment is in accordance with GAAP, but he plans on discussing another issue, the client's change in depreciation method, with both the partner and the manager simultaneously. As he finishes drafting a memo regarding the depreciation issue, several friends ask if Frank would like to go to lunch.

PLEASE INDICATE BRIEFLY THE NATURE AND SIGNIFICANCE OF ANY ISSUES YOU WOULD BE CONCERNED WITH IN THIS SCENARIO. YOU MAY FEEL THAT ANY GIVEN PARAGRAPH CONTAINS NO ISSUES, ONE ISSUE, OR MORE THAN ONE. THERE IS NO NEED TO FILL IN EVERY ISSUE LINE PROVIDED BELOW: THEY ARE SIMPLY THERE FOR YOUR CONVENIENCE.

	<u>Very Insignificant Issue</u>				<u>Very Significant Issue</u>			<u>Issue</u>
	1	2	3	4	5	6	7	
Paragraph 1	1	2	3	4	5	6	7	
Paragraph 1	1	2	3	4	5	6	7	
Paragraph 1	1	2	3	4	5	6	7	
Paragraph 2	1	2	3	4	5	6	7	
Paragraph 2	1	2	3	4	5	6	7	
Paragraph 2	1	2	3	4	5	6	7	
Paragraph 3	1	2	3	4	5	6	7	
Paragraph 3	1	2	3	4	5	6	7	
Paragraph 3	1	2	3	4	5	6	7	
Paragraph 4	1	2	3	4	5	6	7	
Paragraph 4	1	2	3	4	5	6	7	
Paragraph 4	1	2	3	4	5	6	7	