AN EXAMINATION OF THE DIFFERENCES IN ETHICAL PERCEPTIONS BETWEEN ACCOUNTING AND NON-ACCOUNTING STUDENTS IN SINGAPORE

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Abstract

This paper seeks a greater understanding as to whether there are differences in ethical values between accounting, non-accounting, and non-business students in an Asian environment. In addition, differences between gender was also examined. While studies have been conducted involving United States students, very little if any research has been done examining ethics among Asian accounting students.

Between the accounting and non-accounting students, not enough evidence was found to suggest a significant difference in ethical perceptions across all the constructs. Unexpectedly, when examining the aggregate means, many times non-accounting students perceived certain actions to be less ethical than accounting students.

The results from examining accounting and non-business students found significant differences in ethical perceptions across most of the ethical cases. In addition, when examining the aggregate means, accounting majors tended to score higher in the appropriate direction indicating more ethical views than engineering students.

This study also found enough support to suggest that gender differences exist for all students. However, examining accounting male and accounting female students, there was not enough evidence to support the hypothesis that differences exist. It is possible that the gap in ethical reasoning between male and females might be reduced if ethics is included in the accounting curriculum. In addition, examining the aggregate means between the genders along all the cases and ethical judgments, female students consistently displayed a higher level of ethical perception than their male counterparts.
INTRODUCTION

The examination of ethics had taken on a new meaning since the Enron and WorldCom scandals in the United States (US). Many are asking how could this scandal happen? Where did the auditors fail? How could management act so unscrupulously? What happened to the concept of ethical behavior? Could this happen in other countries beside the US? The failure of these companies has had a major impact on the accounting profession. The general public has lost trust in the profession and now an uphill battle is being waged to gain back public confidence. The profession has a long road ahead and needs to re-examine itself and its future (Melancon (2002) and Ezzell (2002)).

Since there is a growing amount of criticism of the profession even before the Enron incident, business schools have had to re-visit their approaches to ethics in the classroom (Greenman and Sherman (1999), Merritt (2002), Leo (2002), and Schneider and Prasso (2002)). The real question remains - does the teaching of ethics in the accounting classroom improve the ethics of accounting students? Will future accounting majors be able to separate themselves when faced with an ethical dilemma from others? Will these future auditors possess the skills to display high ethical character? Will male and female Singapore students display similar or different ethical views? If accounting education is a factor in influencing the moral reasoning of accounting students, then accounting students should display a higher level of moral reasoning than non-accounting students or any other major. Further, any disparity between male and female accounting students should decrease if ethics in the classroom enhances one’s ethical behavior. Unfortunately, research has shown a wide range of findings and conclusions. On the positive side, Trevino (1992) argues that ethics can be improved in a classroom environment. Davis and Welton (1991) also suggest that only a long-term solution would work while Stewart (1997) says that the use of narratives is a powerful tool for improving the teaching of ethics in the classroom. However, Brown’s research (2000) suggests that ethical behavior may not have increased at all. A possible cause of this may have been the conclusions reached by Gunz and McCutcheon (1998) that accounting academics may be indifferent to teaching ethics. Barnett et al. (1994) stated that very little emphasis was placed on actual ethical issues whereby ethics was never given a real world perspective. McCarthy’s (1997) findings indicate that ethics courses did not improve a student’s ethical orientation. Finally, McPhail (2001) suggests that accounting has become de-humanized and instructors should try to bring emotion into the classroom as a method for enhancing ethical behavior.

The evidence therefore is mixed and further research is essential. Therefore, the motivation for this study is to examine the ethical perceptions of future accounting professionals in order to gain insight into their current level of ethical behavior. While ethics has been examined elsewhere internationally (Lin (1999), Peppas and Peppas (2000), Palau (2001), and Priem and Shaffer (2001), no study of ethics in a Singapore context has been found. It is theorized that accounting majors should be more ethical than other business and non-business majors based on the fact that the audit profession is held in high esteem and public trust when examining financial statements. The results of this study will add additional insight into the body of research regarding ethical behavior among accounting students and bring to light the effect of studying ethics as an integral part of their coursework.
LITERATURE REVIEW

When examining differences in ethical perception, ethics research in this area has yielded conflicting results. This section will examine past studies based on the following categories:

- Accounting majors
- Development of hypotheses based on major
- Gender differences
- Development of hypotheses based on gender

Accounting Majors

Only two studies document that accounting students were found to be more ethical. Vorherr et al., (1995) found that accounting students self-reported a smaller gap between moral self-image and unethical behavior than non-accounting students. In another study, Koeplin (2002) explored whether senior level accounting students displayed greater awareness towards ethics than lower level accounting majors. No correlation was found between students’ measure of ethicality and their responses to business ethical dilemmas. However, senior accounting students exhibited greater moral character and were marginally more ethical in their responses than lower level accounting students. Since ethics is taught in the higher level courses, this would explain that senior accounting students would be more ethical than lower-level accounting majors.

Unfortunately, a number of studies have also shown that accounting students are less ethical than other students in general. Shaub (1994) examined several demographic variables including the effect of ethics courses auditors and college students’ (including accounting majors) moral reasoning. A comparison of DIT scores showed that the average college student has a higher level of moral reasoning than an average auditing student or auditor. Similarly, results from Cohen et al. (1998) showed that accounting students were more inclined to evaluate a business ethical dilemma as less ethical than their counterparts majoring in business and liberal arts. Manley, et al. (2000) asked accounting and marketing majors whether they would participate in unethical behavior given the possibility of being caught and the punishment thereof. Higher levels of self-enhancement bias were found for marketing majors over the accounting majors.

The general framework of using one’s academic discipline as a predictor of ethical behavior has also found mixed results. Research such as Laczniak and lnderrieden (1987) and Barnett et al. (1994) arrived at similar conclusions that academic major had no effect on one’s ethical perception. However, Beltramini et al. (1984) and Knotts et al. (2000) showed that students with different academic majors varied significantly in their ethical judgments.

Development of Hypotheses Based on Major

Based on the mixed results previously cited, this study theorizes that accounting majors in Singapore should demonstrate greater ethical values than non-accounting and non-business classmates. This is based on the argument that ethics taught in the classroom should impact the student and raise their ethical behavior greater than students who have not been exposed to ethical principles. Therefore, the following hypotheses are developed:

H1: There are differences in ethical perceptions between accounting and business (non-accounting) students.
H2: There are differences in ethical perceptions between accounting and non-business students.

Gender Effect

The majority of research overwhelmingly supports females being more ethical than males. The following discusses some of this literature.

Borkowski and Ugras (1992) examined to see if the ethical values of students are firmly entrenched when they enter college, or if they change due to maturity, exposure to ethical discussions in coursework, work experience, or a combination of factors. When asked to assess specific ethical behaviors, females expressed more definite ethical positions than males. Similarly, Shaub (1994) examined several demographic variables including gender. Results indicate that females with better academic grades and having taken an ethics course, demonstrated higher levels of ethical behavior. Vorherr et al. (1995) continues this trend. They reported undergraduate female accounting majors in were found to have the highest levels of commitment to ethical values and significantly less inclined toward unethical behavior than all others including male accounting majors and all other business students. In addition to college students, Eynon et al. (1997) expanded their sample to include accounting practitioners. Similar to previous studies, females displayed higher moral reasoning than males.

Studies that did not conclude females more ethical included McCarthy (1997) who examined the differences in ethical orientations between advanced and beginning accounting students on issues about the professional code of conduct. His results did not support the existence of any gender differences in ethical judgments. Radtke (2000) investigated gender differences on a sample of accounting professionals. Using sixteen personal and business situations of a similar nature, significant differences between genders were found in only a few cases suggesting no difference in ethical decisions made between male and females.

Development of Hypotheses Based on Gender

In summary, the research indicates that females tend to be more sensitive to ethical issues than males. However, the subjects of past research were primarily US-based students and no study has been done with Asian students as the sample. In addition, there is still evidence that differences between genders may not exist. The third hypothesis proposed will examine to see if differences exist among male and female students in Singapore while the fourth hypothesis will examine for differences between male and female accounting students. The results are expected to align with previous research showing gender differences. Therefore, the following hypotheses are postulated:

H3: There are differences in ethical perceptions between male and female students.

H4: There are differences in ethical perceptions between accounting male and accounting female students.

RESEARCH METHODOLOGY

The hypotheses are tested with data collected by a survey instrument. Each survey instrument consists of eight ethical dilemma cases (situations). To elicit responses to the cases, the subjects have to complete a multidimensional ethics scale questionnaire placed at the end of each case.
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Cases

The eight cases (shown in Figure 1) used in the questionnaire were adapted from Cohen et al. (1998). The use of general business situations made it fair to compare among the three undergraduates disciplines. The general business cases are similar to ethical dilemmas that might be faced by students when they graduate. The implications of the decisions made by the people within each case are subtle and it would be up to the respondents to judge if the decision was ethical.

Figure 1
Description of Eight Cases

<table>
<thead>
<tr>
<th>Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 A manager realizes that the projected quarterly sales figures will not be met and the manager will not receive a bonus. However there is a customer order which if shipped before the customer needs it will ensure the quarterly bonus but will have no effect on the annual sales figures. <strong>Action:</strong> The manager ships the order this quarter to ensure earning the quarterly sales bonus.</td>
</tr>
<tr>
<td>2 A promising start-up company applies for a loan at a bank. The Credit Manager at the bank is a friend of and frequently goes golfing with the company's owner. Because of this new company's short credit history, it does not meet the bank's normal lending criteria. <strong>Action:</strong> The Credit Manager recommends extending the loan.</td>
</tr>
<tr>
<td>3 A salesperson with two small children has been promoted to a job in which he has to travel away from home on a regular basis. Because these trips are frequent and an inconvenience to his family life, he is contemplating charging some small personal expenses while traveling for the company. He has heard that this is a common practice in the company. <strong>Action:</strong> The salesperson charges the company $50 for family gifts.</td>
</tr>
<tr>
<td>4 The CEO of a company requests that the controller reduce the estimate for unrecoverable debt in order to increase reported income, arguing that this is a common practice in the industry when times are hard. Historically, the company has made very conservative allowances for doubtful accounts even in bad years. The CEO's request would make it one of the least conservative in the industry. <strong>Action:</strong> The controller makes the adjustment.</td>
</tr>
<tr>
<td>5 A firm has been hard hit by a recession and the partners realize that they must scale back. An analysis of productivity suggests that the person most likely to be terminated is a long-time employee with a history of absenteeism due to illness in the family. <strong>Action:</strong> The partner-in-charge lays off a younger but very competent recent hire instead of the long-time employee.</td>
</tr>
<tr>
<td>6 A salesperson has just been promoted to product manager. Her first responsibility is for a new, highly successful small kitchen appliance. She will be paid in part based on sales of this product. On reviewing information about her new product, she discovers that there has been insufficient product testing to meet new local product safety guidelines. However, all testing so far indicated no likelihood of any safety problem. <strong>Action:</strong> She authorizes the sales force to continue to promote and sell the product.</td>
</tr>
<tr>
<td>7 A manager of a local company eager to do more business abroad has been requested to make an undisclosed cash payment to a manager of a local distributor in a foreign country. The payment is recorded as a &quot;good will gesture&quot; to allow the local company to introduce the product in the foreign country. This practice is considered normal business procedure in that country and no laws prohibit such a payment there. <strong>Action:</strong> The local manager verbally authorizes the payment.</td>
</tr>
<tr>
<td>8 The owner of a local small business which is currently in financial difficulty approaches a long-time friend to borrow and copy a proprietary data base software package which will be of great value in generating future business. The software package retails for $500. <strong>Action:</strong> The friend loans the software package.</td>
</tr>
</tbody>
</table>
Moral Constructs

Cohen et al. (1998) identified five moral constructs that are used to determine the ethical orientation of the students. The constructs are as follows: (i) justice, (ii) relativism, (iii) egoist, (iv) utilitarianism and (v) deontology. The justice construct holds that justice, fairness and equity should be observed. The relativism construct suggests that ethics are culture-bound and that each culture has its own rules of conduct that are not necessarily applicable to other cultures. The egoist reasoning advocates the maximization of individual welfare. Utilitarianism reasoning views a moral action as one that maximizes the welfare of the greatest number while minimizing the costs. The last construct, deontology, applies to a duty to act or an implied contract which an individual has to society and to other individuals (Cohen et al., 1998).

The Multidimensional Ethics Scale (MES) adapted from Cohen et al. (1998) was used to measure the ethical judgment of students for the five moral constructs. There are twelve items in the MES that are grouped according to the five moral constructs whereby the “MES specifically identifies rationale(s) behind moral reasoning and why respondents believe a particular action is ethical” (Cohen et al., 1998). These items are found in Figure 2.

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Justice</th>
<th>Relativism</th>
<th>Egoism</th>
<th>Utilitarianism</th>
<th>Deontological</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Just</td>
<td>Acceptable to my family</td>
<td>Self-promoting for the person</td>
<td>Produces the greatest utility</td>
<td>Violates an unwritten contract</td>
</tr>
<tr>
<td></td>
<td>Fair</td>
<td>Culturally acceptable</td>
<td>Personally satisfying</td>
<td>Maximizes benefits while minimizing harm</td>
<td>Violates an unspoken promise</td>
</tr>
<tr>
<td></td>
<td>Morally right</td>
<td>Traditionally acceptable</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 2
Five Moral Constructs
The students who participated were asked their opinion regarding the ethical nature of each action using a seven-point Likert scale for each of the twelve items. One end displays points such as just, fair and morally right and the other end of the spectrum displays points such as unjust, unfair and not morally right. The data were analyzed based on their relative positions rather than its absolute values. For the first four constructs (i.e., justice, relativism, egoism and utilitarianism), a higher mean average score indicates a higher level of moral reasoning. However, for the deontology construct, a lower mean average score suggests a higher level of moral reasoning.

Sample and Survey Instrument Administration

The subjects of this study are undergraduate students from a major university in Singapore. The respondents consisted of accounting, non-accounting, and non-business majors. The reason for choosing these groups of students made it possible to compare results against previous research such as Shaub (1994), Vorherr et al. (1995), and Koeplin (2002) who examined accounting students. Accounting versus non-accounting students' ethics were examined by Manley et al. (2000) and studies involving a wide variety of majors included Beltramini et al. (1984), Laczniak and Inderrieden (1987), Barnett et al. (1994), Cohen et al. (1998), and Knotts et al. (2000).

The respondents returned 496 questionnaires of which 449 of them were valid. By major, a count of the valid responses included 249 accounting, 101 non-accounting, and 110 non-business students. Sample makeup by gender included 213 males and 236 female students.

Fellow faculty members teaching upper level courses were asked to distribute the questionnaires in their respective classes and to tell the students that it was voluntary. Since the instrument took respondents about fifteen minutes to complete and classes met once a week, the participating students were given a week to complete and return the instrument in the next class period. Anonymity of the subjects was assured as no names or other personal information that might reveal the identity of the subjects was asked for. The subjects were only required to disclose their age, gender, academic year and major.

Statistical Test

Since the responses to the instrument are categorical rather than continuous, statistical analysis using the chi-square test of homogeneity was most appropriate. The instrument required the students to rate their perception among twelve items for each case using a seven point Likert scale between essentially opposite responses (e.g., unfair, fair). With this test, the null hypothesis is examined to see if the populations are homogeneous concerning the proportion of their responses falling under the various levels of the Likert scale. Daniel (1978).
ANALYSIS OF HYPOTHESES

Hypothesis 1: Accounting Students vs. Non-Accounting Students

Table 1
Ethical Perceptions Between Accounting and Non-Accounting Students

<table>
<thead>
<tr>
<th></th>
<th>CASE 1</th>
<th>CASE 2</th>
<th>CASE 3</th>
<th>CASE 4</th>
<th>CASE 5</th>
<th>CASE 6</th>
<th>CASE 7</th>
<th>CASE 8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Justice:</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Just</td>
<td>4.60</td>
<td>4.29</td>
<td>4.98</td>
<td>4.67</td>
<td>4.51</td>
<td>4.53</td>
<td>4.88</td>
<td>5.02</td>
</tr>
<tr>
<td>Fair</td>
<td>4.49</td>
<td>4.47</td>
<td>5.11</td>
<td>4.97</td>
<td>4.51</td>
<td>4.54</td>
<td>4.88</td>
<td>5.05</td>
</tr>
<tr>
<td>Morally right</td>
<td>5.31</td>
<td>4.86</td>
<td>5.14</td>
<td>5.07</td>
<td>5.12</td>
<td>4.92</td>
<td>5.15</td>
<td>5.29</td>
</tr>
<tr>
<td>Relativism</td>
<td></td>
<td></td>
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<td></td>
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<td></td>
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</tr>
<tr>
<td>Acceptable to my family</td>
<td>4.16</td>
<td>3.84</td>
<td>4.45</td>
<td>4.49</td>
<td>3.86</td>
<td>3.86</td>
<td>4.46</td>
<td>4.64</td>
</tr>
<tr>
<td>Culturally acceptable</td>
<td>3.97</td>
<td>3.95</td>
<td>4.26</td>
<td>4.21</td>
<td>3.76</td>
<td>3.83</td>
<td>4.34</td>
<td>4.47</td>
</tr>
<tr>
<td>Traditionally acceptable</td>
<td>4.10</td>
<td>4.10</td>
<td>4.30</td>
<td>4.32</td>
<td>3.81</td>
<td>3.93</td>
<td>4.36</td>
<td>4.51</td>
</tr>
<tr>
<td>Egosim:</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Self-promoting for the person</td>
<td>3.84</td>
<td>3.86</td>
<td>4.33</td>
<td>4.46</td>
<td>3.96</td>
<td>3.99</td>
<td>4.05</td>
<td>4.12</td>
</tr>
<tr>
<td>Personally satisfying</td>
<td>3.54</td>
<td>3.21</td>
<td>4.24</td>
<td>4.19</td>
<td>3.37</td>
<td>3.31</td>
<td>4.27</td>
<td>4.38</td>
</tr>
<tr>
<td>Utilitarianism</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Produces the greatest utility</td>
<td>3.96</td>
<td>3.66</td>
<td>4.28</td>
<td>4.41</td>
<td>3.55</td>
<td>3.85</td>
<td>4.16</td>
<td>4.35</td>
</tr>
<tr>
<td>Maximizes benefits while minimizing harm</td>
<td>3.94</td>
<td>3.81</td>
<td>4.65</td>
<td>4.53</td>
<td>3.75</td>
<td>4.91</td>
<td>4.54</td>
<td>4.68</td>
</tr>
<tr>
<td>Deontological:</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Violates an unwritten contract</td>
<td>3.35</td>
<td>3.42</td>
<td>3.23</td>
<td>3.38</td>
<td>3.54</td>
<td>3.79</td>
<td>3.50</td>
<td>3.48</td>
</tr>
<tr>
<td>Violates an unspoken promise</td>
<td>3.33</td>
<td>3.42</td>
<td>3.31</td>
<td>3.48</td>
<td>3.58</td>
<td>3.74</td>
<td>3.55</td>
<td>3.51</td>
</tr>
</tbody>
</table>

** p < 0.05
*** p < 0.001

Case 1

In the first case it is evident that some significant differences exist between accounting majors and non-accounting majors among five of the twelve items. Accounting majors perceived to a greater extent than non-accounting majors that sending unordered goods to a customer to insure a bonus was not morally right, very self-promoting, and produces the least utility for the company. Accounting majors also felt this type of activity violated an unspoken promise between buyer and seller to a greater degree than non-accounting majors.
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Case 2

In the second case it was somewhat surprising that none of the ethical perceptions between accounting and non-accounting majors were found to be different. Since accounting majors had undergone some ethics training in their coursework, it was hoped that they would have been more sensitive to the lack of ethics in this situation. A possible explanation for the lack of any difference might be that a bank manager extending credit to a friend with poor credit rating was so obvious an ethical violation that non-accounting majors would easily see the dilemma and know it was unethical.

Case 3

In the third case where a salesperson charges personal items to a company expense account, only one item - morally right, was found to be significantly different between accounting and non-accounting majors. Accounting majors felt strongly that it was not morally right for a manager to do this while non-accounting majors did not feel as strongly.

Case 4

In the fourth case where a controller would reduce the uncollectible accounts when profits are down, several items were found to be significantly different between accounting and non-accounting majors. Under all items where differences were noted however, accounting majors actually perceived this to be less unethical than non-accounting majors under the items of justice, fairness, traditionally acceptable, and maximizing benefits. Given that Generally Accepted Accounting Principles (GAAP) allow much freedom in choice of many accounting treatments (including bad debt provisions), it is possible that accounting students surmised that this practice wasn’t really unacceptable.

Case 5

The fifth case involved a layoff decision by the partner-in-charge. In this particular case only one item under the construct of relativism, namely traditionally acceptable was deemed to be more acceptable by accounting majors than non-accounting majors.

Case 6

In the sixth case no differences were detected between accounting and non-accounting majors except for the construct of justice where the accounting majors felt more strongly that delivering a product to market was unjust when it was not sufficiently tested.

Case 7

A manager making an "under the table" payment to open up a product in the foreign market was the issue in case seven. In the US, this activity would not be an acceptable practice at all. However, in other countries, it tends to be accepted but somewhat frowned upon. In light of the fact that many faculty who teach in Singapore are US educated, it was theorized that their influence might extend to this case. Only two items were found to be significantly different - justice and produces the greatest utility. Accounting majors perceived much more
strongly than non-accounting majors that this practice was unjust and produced the least utility for the company.

Case 8

Case eight involved illegal copying of software to a friend who cannot afford it. In the US this would be considered illegal. However, in many countries, widespread pirating of software is common practice. On the Likert scale used in this study, a value of four would be considered a neutral perception regarding ethicality. Surprisingly, many of the mean values were less than four indicating somewhat of an acceptance of this practice as not being unethical. Differences between accounting and non-accounting majors were found among only two items. Of these two items, accounting majors felt that this was not morally right to a greater extent than non-accounting majors but it was the non-accounting students who held higher perceptions that this does not promote the greatest utility within the organization.

Summary of Hypothesis One

In summary, based on the results from the eight cases, differences between accounting and non-accounting students did not produce sufficient results to indicate any significant differences exist between them. Also, when examining the individual constructs across all cases, little evidence of differences between these groups of students is found. Hypothesis one is not supported. These results were unexpected since the coursework that accounting students had undergone included ethics and as such, it was theorized that it should have made a difference. Surprisingly, however, when comparing aggregate means of accounting versus non-accounting students, all the items under case four (changing the estimate for uncollectible debt) and almost one-half of all judgments, non-accounting students tended to view the actions in each case as more unethical than accounting students. Shaub (1994) also found that business students showed higher degree of moral reasoning than accounting students. However, since the hypothesis was not supported, the results of this research are consistent with Laczniak and Inderriden (1987) and Barnett et al. (1994) who concluded that one's academic major had no impact on one's ethical perception, and McCarthy (1997) whose results indicated that studying ethics did not improve a student's ethical orientation.
Hypothesis 2: Accounting Students vs. Non-Business Students

Table 2
Ethical Perceptions Between Accounting and Non-Business Students

<table>
<thead>
<tr>
<th>CASE 1</th>
<th>CASE 2</th>
<th>CASE 3</th>
<th>CASE 4</th>
<th>CASE 5</th>
<th>CASE 6</th>
<th>CASE 7</th>
<th>CASE 8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acct</td>
<td>Acct Non</td>
<td>Acct</td>
<td>Acct Non</td>
<td>Acct</td>
<td>Acct Non</td>
<td>Acct</td>
<td>Acct Non</td>
</tr>
<tr>
<td>Justice:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Just</td>
<td>4.60</td>
<td>3.66</td>
<td>4.46</td>
<td>4.51</td>
<td>4.88</td>
<td>4.24</td>
<td>5.10</td>
</tr>
<tr>
<td>Fair</td>
<td>4.49</td>
<td>3.65</td>
<td>4.74</td>
<td>4.51</td>
<td>4.11</td>
<td>4.88</td>
<td>4.20</td>
</tr>
<tr>
<td>Morally right</td>
<td>5.31</td>
<td>4.25</td>
<td>5.14</td>
<td>4.85</td>
<td>5.12</td>
<td>4.44</td>
<td>5.15</td>
</tr>
</tbody>
</table>

Relativism

| Acceptable to my family | 4.16 | 3.44 | 4.45 | 4.14 | 3.88 | 3.72 | 4.46 | 4.17   | 4.33 | 4.22 | 5.34 | 4.89 | 4.25 | 3.86 | 3.52 | 3.71 |
| Culturally acceptable | 3.97 | 3.60 | 4.28 | 3.99 | 3.76 | 3.72 | 4.34 | 4.03   | 3.85 | 3.91 | 5.17 | 4.94 | 4.61 | 3.72 | 3.47 | 3.71 |
| Traditionally acceptable | 4.10 | 3.69 | 4.30 | 3.96 | 3.81 | 3.87 | 4.36 | 4.07   | 4.05 | 4.01 | 4.96 | 4.81 | 4.67 | 3.77 | 3.61 | 3.52 |

Egoism

| Self-promoting for the person | 3.84 | 3.65 | 4.33 | 3.03 | 3.96 | 3.94 | 4.05 | 4.07   | 4.51 | 4.28 | 3.90 | 3.83 | 3.74 | 3.84 | 3.75 |

Utilitarianism

| Produces the greatest utility | 3.66 | 3.29 | 4.28 | 3.91 | 3.53 | 3.74 | 4.16 | 3.89   | 4.88 | 4.43 | 4.66 | 4.01 | 3.72 | 3.61 | 3.41 | 3.51 |
| Maximizes benefits while minimizing harm | 3.94 | 3.40 | 4.65 | 4.02 | 3.75 | 3.67 | 4.54 | 4.24   | 5.05 | 4.68 | 5.31 | 4.67 | 3.59 | 3.38 | 3.53 | 3.60 |

Deontological

| Violates an unwritten contract | 3.35 | 3.64 | 3.23 | 3.46 | 3.54 | 3.87 | 3.95 | 3.81   | 3.80 | 4.07 | 3.28 | 3.52 | 4.14 | 4.12 | 3.34 | 3.52 |

*** p < 0.001 ** p < 0.05 * p < 0.10

Case 1

As shown in Table 2, accounting students overwhelmingly were more sensitive than non-business majors to the actions of this manager as being unethical. With the exception of one item - culturally unacceptable, all other items showed significant differences. It is apparent that non-business majors did not feel it unethical that a manager would make a shipment of goods to a customer who had not ordered them.

Case 2

In the second case, similar to the first, the non-business students did not sense any strong feeling of unethical behavior. With the exception of two items - culturally unacceptable and
traditionally unacceptable, all other items were found to be significantly different with accounting majors showing a much stronger perception that extending credit to an unworthy friend was unethical.

Case 3
Case three had a salesperson charging small personal items to the company. Under the constructs of justice (just, fair, and morally right) and the deontological construct (violation of unwritten contract and violation of unspoken contract), significant differences were found. These differences showed that in this case, accounting majors perceived charging goods to the company account was more unethical than perceived by non-business majors.

Case 4
In this case, significant differences were noted on eight out of twelve items. Surprisingly, accounting students indicated a greater sensitivity towards playing with the uncollectible accounts estimate as more unethical than the non-business students. In the previous hypothesis, accounting students were not as sensitive as the non-accounting students were with this.

Case 5
Case five involved a manager's decision to lay off a particular employee who was more competent than an older employee. Only a few differences were noted between accounting and non-business majors for this situation, namely, justice, self-promotion, utility, and maximizing benefits. Of the differences noted, accounting students were more strongly opposed to this practice as being unethical than the non-business students.

Case 6
Accounting students showed much stronger views on the unethical nature of bringing a product to the marketplace that had not been properly tested in order to enhance one's bonus. In nine of the twelve ethical items, significant differences were found from the non-business majors.

Case 7
In case seven, a manager authorizes the "under the table" payment of funds in order to open up a foreign market. As stated earlier it was expected that US educated faculty would influence accounting students. However, significant differences were noted in only about half of the items. Of interest are two items - culturally acceptable and traditionally acceptable - where the non-business majors perceived this activity to be more unethical than accounting majors.

Case 8
In this particular case, the illegal copying of software was the issue. Less than one-half of the items were found to have significant differences between the accounting and non-business majors. As mentioned before, in the US this is illegal while in some countries this is common practice. Surprisingly many of the mean values were less than four indicating somewhat of an acceptance of this practice as not being unethical by both accounting and non-business majors.
Summary of Hypothesis Two

In summary, based on the overall results from the eight cases, differences between accounting and non-accounting students did produce sufficient information to indicate that significant differences exist between them. Also, evidence exists that differences are found based on the constructs throughout all the cases. Therefore, hypothesis two is supported. These results were expected since the coursework that Singapore accounting students had undergone included ethics and as such, it was theorized that it should have made them more sensitive to ethical issues than non-business majors. These results are also consistent with Cohen et al. (1998) who report in their findings that accounting students were more sensitive to ethical dilemmas than liberal arts students.

Hypothesis 3: Male vs. Female Students

<table>
<thead>
<tr>
<th>Table 3</th>
<th>Ethical Perceptions Between Male and Female Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>CASE 1</td>
<td>CASE 2</td>
</tr>
<tr>
<td>Acct</td>
<td>Non Acct</td>
</tr>
<tr>
<td>Justice:</td>
<td></td>
</tr>
<tr>
<td>Just</td>
<td>4.60</td>
</tr>
<tr>
<td>Morally right</td>
<td>4.74</td>
</tr>
<tr>
<td>Relativism</td>
<td></td>
</tr>
<tr>
<td>Acceptable to my family</td>
<td>3.73</td>
</tr>
<tr>
<td>Culturally acceptable</td>
<td>3.78</td>
</tr>
<tr>
<td>Traditionally acceptable</td>
<td>3.68</td>
</tr>
<tr>
<td>Egoism</td>
<td></td>
</tr>
<tr>
<td>Personally satisfying</td>
<td>3.22</td>
</tr>
<tr>
<td>Utilitarianism</td>
<td></td>
</tr>
<tr>
<td>Maximizes benefit while minimizing harm</td>
<td>3.63</td>
</tr>
<tr>
<td>Deontological</td>
<td></td>
</tr>
<tr>
<td>Violates an unwritten contract</td>
<td>3.68</td>
</tr>
<tr>
<td>Violates an unspoken promise</td>
<td>3.71</td>
</tr>
</tbody>
</table>

*** p < 0.001
** p < 0.05
* p < 0.10
Case 1

In the first case, a manager delivers unordered goods to a customer in hopes of securing a bonus. In this particular case, females overwhelmingly felt this practice to be much more unethical than males. Significant differences are noted under all constructs and ten out of 12 items.

Case 2

Significant differences were also noted among several of the ethical items. In this case, a bank manager extends credit to a friend that doesn't qualify and females again were very strong about the unethical nature of this. Differences under the constructs of justice, relativism, egoism and utilitarianism were found.

Case 3

In this case, a salesperson charges off personal goods to a company expense account. As expected, females again showed much stronger sensitivity toward this situation than males and in seven items, statistical differences are noted. Results showed that females perceived that burying personal expenses in a company expense account to be more unethical than male students.

Case 4

In case four, the controller reduces the amount of uncollectible accounts in order to make the bottom line look better. Significant differences were noted under the constructs of justice, relativism, egoism, and utilitarianism. Under the construct of justice, females strongly perceived manipulation of the books to be unjust, unfair and not morally right - much more so than their male counterparts.

Case 5

Again, females perceived with much greater sensitivity that the letting go of a young productive employee was unethical. Significant differences were noted in seven out of 12 items.

Case 6

This case deals with a product manager bringing to market a product before complete testing is done. In this dilemma, females again showed a greater sensitivity that this was unethical. All items under the justice construct (just, fair and morally right) had significant differences with the female perception being that this was highly unethical.

Case 7

Similar to previous analyses of this particular situation, the "under the table" payment type of transaction may or may not carry with it connotations that it is unethical - depending on the country's culture. While female perceptions sided with the view that is was unethical, these perceptions were not as strong when one looks at the mean values of the aggregated
responses (with 4.00 being a neutral score). However, consistent with all other cases under
this hypotheses, significant differences were noted again under all items under the justice
construct and four other ethical items.

Case 8

This case deals with the illegal copying of software and among all eight cases under this
hypothesis, significant differences are noted in only three items - acceptable to my family,
self-promoting, and promoting greatest utility. As noted with earlier analyses, software piracy
has only recently been made illegal but still can be found on certain street corners in Singapore.
As such, only a few differences between genders was found and the overall perceptions
tended to fall below the neutral mark of 4.00 indicating that many seemed to perceive that
this was an acceptable (i.e. not unethical) practice.

Summary of Hypothesis Three

In summary, based on the overall results from the eight cases, there is sufficient evidence to
indicate that significant differences exist between male and female Singapore students. In
addition, the construct of justice (just, fair, and morally right) showed consistent significant
differences in all but one of the cases. Hypothesis three is supported. These results were
expected since the majority of conclusions from previous research such as Borkowski and
Ugras (1992), Shaub (1994), Vorherr et al. (1995), and Eynon et al. (1997) overwhelmingly
support the theory that females tend to be more ethical than males.
Hypothesis 4: Male vs. Female Accounting Students

Table 4
Ethical Perception Between Male Accounting and Female Accounting Students

<table>
<thead>
<tr>
<th>CASE 1</th>
<th>CASE 2</th>
<th>CASE 3</th>
<th>CASE 4</th>
<th>CASE 5</th>
<th>CASE 6</th>
<th>CASE 7</th>
<th>CASE 8</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Act</td>
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<td>Justice:</td>
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<td>Just.</td>
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<td>Fair.</td>
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<td>Morally right.</td>
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<td><strong>Relativism</strong></td>
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<td>Acceptable to my family</td>
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<td>Culturally acceptable</td>
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<td>Traditionally acceptable</td>
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<td><strong>Egoism</strong></td>
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<td>Self-promoting for the person</td>
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<td>Personally satisfying</td>
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<tr>
<td><strong>Utilitarianism</strong></td>
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<td>Produces the greatest utility</td>
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<td>Maximizes benefits while minimizes harm</td>
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<td><strong>Deontological</strong></td>
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<tr>
<td>Violates an unwritten contract</td>
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<td>Violates an unspoken promise</td>
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</tbody>
</table>

*** p < 0.001
** p < 0.05
* p < 0.10

Case 1

In this case, the manager ships non-ordered goods to a customer who has never ordered the goods. Among accounting students, six ethical items including two from the egoism construct (self-promoting and personally satisfying) and the deontological construct (violating an unwritten contract and violating an unspoken promise) were found to be significantly different between male and female students. Female accounting students perceived this type of business behavior was more unethical than male accounting students.
Case 2

Case two involves the credit manager extending credit to an unworthy friend. Significant differences were noted in seven out of twelve items with all three items under the justice construct (just, fair and morally right) showing significant differences. Accounting females also perceived this extension of credit to be more unethical than males.

Case 3

Six out of twelve items were found to be significantly different over four different constructs. The charging of personal items to a business account was again something that the female accounting students felt was more unethical than perceived by their male counterparts.

Case 4

In case four, the reduction of the uncollectible estimate by the controller was perceived to be somewhat unethical by the accounting students. The scores as shown in Table 4 showed that females again sensed that this type of activity was more unethical than male accounting students but there were only six out of twelve ethical items where significant differences were noted.

Case 5

Female accounting students felt very strongly that the laying off of the young productive employee was more unethical than male accounting students. Under the construct of justice, females perceived this action to be more unjust, unfair, and not morally right than males. However, for this situation, only responses to four out of twelve items were found to be statistically different.

Case 6

Case six describes a situation where a product manager sends a product to the marketplace before testing is complete. This situation is perceived to be very unethical by females more so than males. However, there were only five items where significantly differences were noted.

Case 7

In this case, "under the table" payments are the ethical dilemma. As shown in Table 4, three constructs namely justice, egoism, and deontological constructs show significant differences between accounting males and females concerning the unethical nature of this situation. In all these items, females again perceived these payments to be more unethical than males.

Case 8

Similar to previous hypotheses, in this situation, Singapore has only recently in the last few years enforced the piracy laws and up till then, illegal copying of software was widespread. In this case, only two items were found to be significantly different. However, upon further
investigation when examining Table 4, a majority of scores fall under the neutral score (4.00) indicating that the aggregate perception among the accounting students still tends toward the perception that the copying of software is not unethical.

**Summary of Hypothesis Four**

In summary, based on the overall results from the eight cases, there is insufficient evidence to indicate that significant differences exist between male and female accounting students in Singapore. In addition, across the individual constructs, no evidence of consistent differences was found. Hypothesis four is unsupported. While evidence exists that between females and males in general, ethical sensitivity differences exist, it does not appear so when male and female differences are examined among a sample of accounting students. A possible explanation for this may be the result of ethics brought into the accounting classroom, thus reducing the amount of variance between male and female students when it comes to ethical judgments.

**ASSUMPTIONS, LIMITATIONS AND CONCLUSIONS**

**Assumptions and Limitations**

Like all other research, this study suffers from several limitations. First, the subjects are assumed to have given honest responses as they were assured of their anonymity and were told they would not be penalized or rewarded for the answers given. Second, it has been assumed that the subjects did not intentionally read into the questions to determine the purpose of the research and answered in the direction of the desired results. Third, the responses from the subjects were to hypothetical situations which might differ if, in fact, the student experienced the case in a real life situations. Fourth, the subjects for this study were selected from a single large university which might not be representative of the Singaporean student population. If students of other universities within Singapore were to be included, it is possible that results might differ.

Cohen et al. (1993, 1998) investigated the existence of social desirability response bias in ethics research. Social desirability response bias, as defined in Cohen et al. (1998), occurs when the individuals overstate their intention to act in an ethical manner in order to appear to be more altruistic and society-oriented than is actually the case. So far, it has not been clearly proven if there is a gender effect on the bias. Nevertheless, in this research, the validity of these findings may be vulnerable to the possible presence of social desirability response bias.

**Summary of Results**

It is very important for the accounting profession worldwide to maintain credibility in the eyes of the public - whether it is a small island nation such as Singapore or the United States. In light of the Enron incident, ethics has become a high priority issue for the accounting profession worldwide. How will future accountants act when placed in another Enron situation? If the accounting profession were found to be unethical, the trust that is placed on the profession would decline thus severely affecting the credibility and reputation of the profession. This research examined to see if any differences existed between future accounting students
and future business and non-business professionals. Between the accounting students and non-accounting students, not enough evidence was found to suggest a difference in ethical perceptions across all the constructs. However, when examining the aggregate means, there were many instances where non-accounting students tended to judge more ethically than accounting students.

The results from examining accounting and non-business students found widespread differences in ethical perceptions across most of the constructs. In addition, when examining the aggregate means, accounting majors tended to score higher in the appropriate direction indicating more ethical views. These results are consistent with Cohen et al. (1998).

It is evident that significant gender differences exist among all the students. Among accounting male and female students, there is not enough evidence to conclude that differences exist. In addition, when one views the aggregate means between the genders, there is strong evidence that female students displayed a higher level of ethical perceptions than male students. The results of this study support the work of Borkowski and Ugras (1992), Shaub (1994), and Deshpande et al. (2000) who also found differences in the level of ethical judgments between males and females. However, these studies were conducted outside of Singapore and hopefully the results of this study may contribute to the growing body of knowledge in this area.

Final Conclusions and Future Research

Ethics is going to be very important to the accounting profession in the future. The public will expect future accounting professionals to be of the highest ethical character. How this shall be done remains to be seen but it is evident that ethical decision making can still be improved. Ethics needs to be incorporated not only in the accounting curriculum but in all other curriculums in universities worldwide.

Future research may include expanding this study to include other academic majors, other universities in Singapore, and comparative studies between other countries. With the Big 4 public accounting firms hiring an increasing number of local graduates as well as overseas graduates in Singapore, it is important that ethical perceptions are similar and of the highest standards among accounting professionals. Therefore, it is important to examine and understand ethical behavior as part of improving the trust relationship between future accounting professionals and the public they will serve.
REFERENCES


