
Ethical decision making of accounting students: a cross-cultural comparative study

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Abstract: The study investigates cross-cultural differences in ethical decision making for future accountants from different cultures. Instruments used consist of the Defining Issues Test which is used to assess participants' ethical development, and the Multidimensional Ethics Scales which is employed to measure participants' ethical awareness and ethical intention when facing ethical dilemmas. Undergraduate junior and senior accounting students from USA and Taiwan were selected and studied. The results indicate significant differences in ethical awareness, ethical development and ethical intention between US and Taiwanese accounting students. The differences in the relationships between ethical perceptions are situation-specific.

Keywords: ethical decision making; ethical awareness; ethical judgement development; ethical intention; defining issues test; multidimensional ethics scales; accounting students; cross-cultural study; the USA; Taiwan.

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1 Introduction

Due to the current trend toward globalisation of the business environment, business ethics issues can no longer be considered to be a problem only within a single nation. Ethical relativism becomes a continuous problem for international businesses because of the cultural differences in acceptable norms of behaviour which bring about different practices in business. As the number of culturally diverse workforces increases in international businesses, business managers have to face the challenges of dealing with a variety of ethical dilemmas among multi-cultural employees by understanding the differences in ethical decision making across different cultures. Accounting professionals, both as employees of international businesses or internationally affiliated accounting firms, offer financial information to their stakeholders around the world, but inevitably encounter cross-cultural ethics problems in their work (Waldmann, 2000). As an increasing number of nations with diverse cultural and historical experiences interact in the global economy, misunderstandings about accounting practices arising from different ethical perceptions are magnified. Therefore, it is challenging for accounting professionals to understand cross-cultural differences in decision-making on accounting ethics.

While most accounting students will be future accounting professionals, understanding the impact of culture on accounting students' ethical decision making should be an important topic in business ethics education (Fleming et al., 2009). However, in reviewing the cross-cultural studies on students' ethical perceptions, it appears that business students' ethical perceptions have gained considerable attention in the past decades, while only a small number of researchers actually select accounting students as research subjects (Ho and Lin, 2008). It is questionable whether the research results of business students' ethical perceptions can be applied to the analysis of accounting students' ethical perceptions. Some evidence reveals that differences in ethical decision making existed between accounting students and non-accounting students (Cohen et al., 1998). Therefore, providing more empirical evidence on the impact of culture on accounting students' ethical decision making was the rationale behind this study.

Because of the increasing importance of Asia to global economic systems, the necessity for cross-cultural comparison between Western and Eastern countries is self-evident. Among Asian countries, Taiwan no doubt stands at an extremely important and popular position in business. Taiwan is one of the important sources of electronic hardware products in the world. In the study, we investigate the cross-cultural differences in ethical decision making of accounting students in the USA and Taiwan because these two countries have strong business and economic relationships. Taiwan has been among the top seven trading partners of the USA for nearly 20 years. This strong business partnership has caught the attention of international businesses. In addition, accounting professionals in Taiwan not only follow many of the US's accounting and auditing standards, but are also affiliated with the US's Big Five accounting firms. The accounting curricula, codes of ethics, General Accepted Accounting Principles (GAAP), and General Accepted Auditing Standards (GAAS) that guide and train accounting professionals and students in Taiwan and the USA are similar to each other.

These similarities in the accounting system allow for an examination and provide the opportunity to study the effect of culture on accounting students' perceptions of ethics (Agcer and Douppnik, 1991).

Taiwanese are of Chinese origin and have maintained Chinese traditions and customs. A study on Taiwan can provide insight into the working of a capitalist Chinese society and its overseas business affiliations (Brody et al., 1999; Chow et al., 1998). While Taiwan represents a Chinese-based Eastern culture and the US represents an Anglo-American Western culture (Hofstede and Hofstede, 2005), understanding the differences in ethical perceptions of accounting students between the USA and Taiwan will be helpful for Western companies doing business in Taiwan. Therefore, there are good economic as well as cultural reasons to take students from Taiwan and the USA as research subjects.

The main purpose of the study is to use the Defining Issues Test (DIT) and Multidimensional Ethics Scale (MES) with accounting-specific scenarios to measure ethical decision making of accounting students in the USA and Taiwan, and study the differences between the two groups of students. Section 2 introduces the theoretical background and research hypotheses. Section 3 gives a description of the research methods, while the Section 4 discusses the research findings. The final section gives conclusions, implications and limitations.

2 Research hypotheses

Ethical decision making is a process of resolving ethical dilemmas. Among several ethical decision-making models, Rest's (1986) four-component model of ethical action that describes the process of ethical decision making is perhaps the most widely accepted model about ethical action in psychology (Jones et al., 2002). The model has also strongly influenced research on accounting ethics (Cohen et al., 1996; Lin and Ho, 2008). This model suggests that an ethical action is composed of ethical awareness, ethical judgement, ethical intention, and ethical behaviour. Ethical awareness includes interpreting the situation, considering about how various actions might affect the parties concerned, imagining the cause-effect chain of events, and being aware that there is a moral problem when one exists. Ethical judgement includes judging which action would be most justifiable in a moral sense. Ethical intention includes the degree of commitment to taking the moral course of action, valuing moral values over other values, and taking personal responsibility for moral outcomes. Ethical behaviour includes persisting in a moral task, having courage, overcoming fatigue and temptation, and implementing subroutines that serve a moral goal (Rest, 1986).

Because many difficult dilemmas are ethically ambiguous, meaning that they can be viewed from a strategic perspective, an ethical perspective, or a perspective that involves a combination of both, ethical awareness and ethical judgement are two necessary components of ethical decision making (Butterfield et al., 2000). While accounting professionals have to judge each ethical situation as well as judge what objectivity, integrity and other ethical issues mean in the given situation, and then act according to their judgements (Koehn, 2000), developing students' awareness and capacity to judge ethical issues and problems is the main goal of accounting ethics education. In addition to

ethical awareness and ethical judgement, ethical intention is the third component of Rest's (1986) model of ethical action. It refers to making a decision to act on the basis of ethical judgement. Intention is the indication of how hard an individual is willing to try, and of the degree of effort he or she is willing to make in order to perform a behaviour. According to the theory of planned behaviour, intention is the immediate antecedent of behaviour, though there may be a number of factors that can influence the relationship between intention and behaviour (Ajzen, 1985). Therefore, an accounting professional's ethical intention will be a direct predictor of his or her ethical behaviour. Accountants who possess higher ethical intention will be more likely to act ethically (Armstrong et al., 2003). Measuring accounting students' ethical intentions towards some ethical problems can help accounting educators to understand students' attitudes toward ethical behaviour.

There are a number of factors influencing ethical decision-making results, including cultural background, gender, prior ethical education, religiosity and the type of ethical dilemma (Fleming et al., 2010; Lamsa et al., 2008; Nguyen et al., 2008). Because each culture is a specific system of shared values, beliefs and customs that an individual can use in relation to others and that can be transmitted from generation to generation through learning (Hofstede and Hofstede, 2005), individuals from different cultural backgrounds are exposed to different values and customs, and accordingly are expected to present different behaviours, including insights into how each individual perceives ethical problem and engages in ethical decision making. Therefore, this study aims to explore the differences in ethical awareness, ethical judgement and ethical intention for accounting students with different cultural backgrounds.

According to the social cognitive theory, sociocultural forces play an important role in the development of ethical attitudes. The development of ethical decision making ordinarily takes place through contact with other people and relies heavily on others' feedback (Bandura, 1986). Culture is a set of values and shared experiences that a group of people have developed over time as a consequence of their relationship with their environment (Hofstede and Hofstede, 2005). These values and experiences form the core of a society, and serve as the basis for the attitudes of people and their expectations from this culture. Briefly, culture is related to what people think and what they do. Continuing this view, culture has a great influence on business behaviours, including ethical decision-making processes. National culture will influence what is perceived as right or wrong, acceptable or unacceptable and ethical or unethical. The culture surrounding an individual is one of the critical factors affecting his or her ethical decision making (Rest, 1986). An amount of cross-cultural comparison studies have revealed the influences of cultural values on ethical decision making (e.g., Lin and Ho, 2008; Kliukinskaite-Vigil, 2011; Nejati et al., 2011). Culture has also been considered an essential environmental factor that affects the accounting system of a country and influences the way an individual processes accounting information (Tsui and Gul, 1996). Individuals with different levels of cultural values will have different ethical values and consequently exhibit different ethical decision making. Therefore, culture will influence ethical decision making of accounting professionals or students. Accounting students in different countries might to some extent have different ethical decision-making approaches.

As this study compares ethical decision making of accounting students from the USA and Taiwan, a comparison of the national culture index scores and ranking of the USA and Taiwan on the five cultural dimensions from Hofstede's IBM research

(Hofstede and Hofstede, 2005) reveals that the USA and Taiwan differ in cultural values. Compared with the USA, Taiwan is higher in power distance (PDI), uncertainty avoidance (UAI), and long-term orientation (LTO), but lower in individualism (IDV) and masculinity (MAS). Based on the rankings, both the USA and Taiwan can be classified as countries with medium to low UAI and PDI, even though Taiwan has higher UAI and PDI scores (Hofstede and Hofstede, 2005). The USA is classified as a country with high IDV and MAS and low LTO, but Taiwan is a country with low IDV and MAS and high LTO. Therefore, of the five cultural dimensions, the USA and Taiwan are expected to differ substantially in individualism vs. collectivism, short term vs. long-term orientation, and masculinity vs. femininity. Since the USA and Taiwan differ in cultural values, it is expected that accounting students in these two countries will have significant differences in their perceptions of accounting ethics. Therefore, the following research hypotheses are proposed:

H1: There are significant differences in ethical awareness of accounting ethics between accounting students from the USA and from Taiwan.

H2: There are significant differences in ethical judgement development of accounting ethics between accounting students from the USA and from Taiwan.

H3: There are significant differences in ethical intention to take questionable actions between accounting students from the USA and from Taiwan.

In addition to comparing accounting students' ethical perceptions cross-culturally, this study will also examine the relationships among ethical sensitivity, ethical judgement development, and ethical intention. Based on Rest's (1986) model of ethical action, ethical awareness, ethical judgement development, and ethical intention are the three major components of an ethical decision process. Some researchers also suggest that these three components are interrelated in the ethical decision-making process (Armstrong et al., 2003; Buchan, 2005). However, none of them analysed the cross-cultural differences in the relationships among ethical sensitivity, ethical development and ethical intention. As cross-cultural research provides evidence that culture is an essential factor affecting individuals' decision making process (Hofstede and Hofstede, 2005), it is anticipated that accounting students in the USA and Taiwan will show significant differences in their ethical decision-making processes. Thus, accounting students from the USA and Taiwan are expected to construct different relationships between ethical awareness and ethical judgement development, ethical awareness and ethical intention, and ethical judgement development and ethical intention. Therefore, the following research hypotheses are proposed:

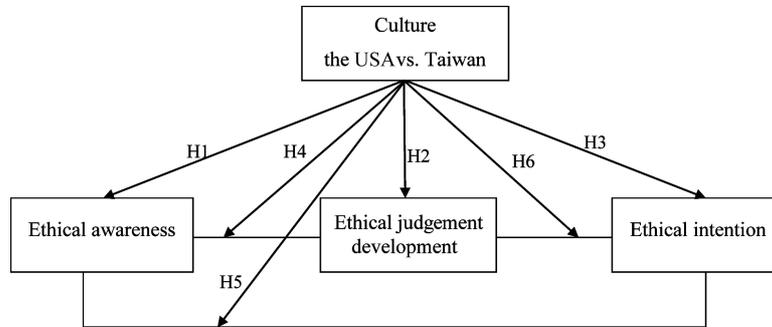
H4: There are significant differences in the relationship between ethical awareness and ethical judgement development for accounting students from the USA and from Taiwan.

H5: There are significant differences in the relationship between ethical awareness and ethical intention for accounting students from the USA and from Taiwan.

H6: There are significant differences in the relationship between ethical judgement development and ethical intention for accounting students from the USA and from Taiwan.

Figure 1 shows the research model of the study.

Figure 1 Research model



3 Methodology

3.1 Instrument

To measure accounting students' ethical judgement development, we use the DIT with accounting-specific scenarios modified by Thorne (2000) in the study. The DIT was initially developed by Rest (1979) to measure the development level of ethical judgement within an individual through his or her responses to a series of ethical dilemmas. Subjects are asked to select answers to multiple choice questions that they could take in response to specific dilemmas, and the responses yield a Principled Score (*P*-score). The higher the *P*-score, the higher the stage of ethical judgement development is. The DIT is currently the most widely used instrument for measuring ethical judgement development (Loviscky et al., 2007). However, some researchers argue that the moral dilemmas in the DIT are of general contexts and may not be sufficient to assess accounting students' ethical development; therefore, context-specific measures are suggested (Shaub, 1994). Abandoning the traditional scenarios used in the DIT, Thorne (2000) selected realistic accounting-specific cases adapted from previous accounting ethics work as the scenarios in her instrument, and modified them based on the format and style of the traditional DIT. Calculation of an individual's ethical judgement development level is the same as the DIT. The accounting-specific DIT instrument has been employed in several accounting ethics studies (Earley and Kelly, 2004; Ho and Lin, 2008; Thorne et al., 2004).

To measure accounting students' ethical awareness, and ethical intention, the MES modified by Cohen et al. (1996) based on accounting practices is used in this study. The MES is a philosophical constructs measure that comprises a multi-item scale on which respondents indicate the extent to which they believe that a particular action, described in a scenario at the start of the instrument, is ethical or otherwise, according to a given ethical criterion. It can be used to measure an individual's ethical awareness, and ethical intention to engage in questionable actions. The MES instrument has been used in several ethics studies (Cohen et al., 1996; Lin and Ho, 2008; Nguyen et al., 2008; Patel, 2003). For each scenario, there are 12 items based on a seven-point Likert-type scale to measure respondents' ethical awareness. Higher scores correspond to higher degrees of ethical awareness. Ethical intention is measured by the item that asks the

participant standing in the position of the first person to answer the question "The probability that I would do the action is high/low". The higher scores obtained in these two items, the higher the willingness of the respondents to act ethically. Since Cohen et al.'s MES instrument contains eight scenarios, it may take much too long for participants to complete the instrument. To limit the time to complete the MES instrument to no more than 15 min, this study selects three of the eight scenarios that are most suited to accounting practices. After consulting one faculty member in accounting in the USA and another one in Taiwan, three accounting-related scenarios have been selected including "foreign bribe", "loan officer friend", and "bad debt allowances" (Cohen et al., 1996).

Moreover, it is essential in a cross-cultural study that all versions of questionnaires presented to subjects from different countries be linguistically equivalent (Rest, 1986). To ensure that respondents in Taiwan and the USA have the same sensitivity for each scenario and question, the instruments are translated and *back translated* between Chinese and English by the researcher and other two Taiwanese bilingual accounting faculty members to maintain the linguistic equivalence. A Chinese language version was administered in Taiwan, and an English version was used in the USA.

3.2 Subjects

This study selected undergraduate accounting students in the USA and Taiwan as the research subjects. Hofstede and Hofstede (2005) suggest using matched samples to conduct cross-national studies, i.e., samples with similar characteristics that are different in nationality. He also argues the sample size per country should be at least 20. Therefore, based on the concept of matched samples, undergraduate junior and senior accounting students from four comprehensive universities in the USA and Taiwan, with two in each country, were selected. These junior and senior accounting students have taken certain levels of accounting courses that enable them to complete the accounting-specific instruments used in the study, and they are more likely to select accounting as their future careers. Moreover, to reduce the possible bias due to institutional effects, this study selected samples from both public and private universities in the USA and Taiwan.

To examine the influences of culture on ethical decision making, Agcer and Douppnik (1991) suggest that it would be better that the selected countries have similar concepts of accounting, speak different languages, and are located in different continents, of which the last two criteria are to ensure that these two countries differ significantly in culture. The primary criterion is the existence of similar concepts of accounting, because otherwise the differences in perceptions of accounting ethics between two countries might be explained by differing concepts of accounting rather than different cultures. Accounting professionals in Taiwan not only follow many of the US's accounting and auditing standards, but are also affiliated with the US Big Five accounting firms (Ho and Chang, 1994). The accounting curricula, codes of ethics, GAAP and GAAS that guide and train accounting professionals and students in Taiwan and the USA are similar to each other. In addition, the USA and Taiwan are both members of the International Federation of Accountants (IFAC). Members of IFAC are more likely to be similar in their aspirations and goals for the accounting profession. Therefore, the two countries included in this study have a similar concept of accounting. These similarities in accounting systems provide opportunities to study the effect of culture on accounting students' perceptions of ethics.

Anonymous questionnaires were delivered to these selected accounting students. The students were told that their participation was voluntary and their responses would remain anonymous. They were also informed that there are no absolutely right or wrong answers, so that they simply needed to respond based on their own thoughts and beliefs regarding each scenario or question. The questionnaires were distributed to 492 accounting students at two universities in the Midwestern USA, and to 554 accounting students at two universities in southern Taiwan. A total of 223 US students, and 449 Taiwanese students returned the questionnaires. Throwing away the uncompleted responses, a total of 215 US students and 427 Taiwanese students completed the questionnaires.

Discarding the respondents failing to pass the internal validity checks of the accounting-specific DIT instrument, the effective sample size is 201 for US students and 396 for Taiwanese students. The effective response rates for the USA and Taiwan are 41% and 71%, respectively. According to Rest (1986) and Thorne's (2000) arguments, about 5–15% of the respondents fail to pass the reliability checks in DIT. In this study, about 6.5% of the US respondents and 7.3% of the Taiwanese respondents did not pass the reliability check and therefore were discarded. Table 1 shows the demographic profile of the respondents.

Table 1 Demographic profile of respondents

	<i>USA</i>	<i>Taiwan</i>	<i>Total</i>
Effective sample size (<i>n</i>)	201	396	597
Gender (%)			
Female	114 (56.7%)	254 (64.1%)	368 (61.6%)
Male	87 (43.3%)	142 (35.9%)	229 (38.4%)
Age			
Mean	23.0	22.0	22.0
Median	21.0	21.0	21.0
Ethics courses taking (%)			
None	89 (44.3%)	155 (39.1%)	244 (40.9%)
Yes	112 (55.7%)	241 (60.9%)	353 (59.1%)
Religion (%)			
None	25 (12.4%)	258 (65.2%)	283 (47.4%)
Buddhist	2 (1.0%)	89 (22.5%)	91 (15.2%)
Catholicism	77 (38.3%)	4 (1.0%)	81 (13.6%)
Other Christian	83 (41.3%)	20 (5.1%)	103 (17.3%)
Muslim	0 (0.0%)	0 (0.0%)	0 (0.0%)
Others	14 (7.0%)	25 (6.3%)	39 (6.5%)

4 Results and discussions

Table 2 shows the ANCOVA results of comparing accounting students' ethical awareness, ethical judgement development, and ethical intention between the USA and Taiwan. The independent variable is country (0 for the USA, 1 for Taiwan) and the

control variables include gender (0 for female, 1 for male), age, ethics course exposure (0 for no, 1 for yes), and religion (0 for no, 1 for yes). Because gender (Cohen et al., 1998; Nguyen et al., 2008), age (Hill et al., 1998; Rest, 1986), ethics courses (Adkins and Radtke, 2004; Lamsa et al., 2008) and religion (Conroy and Emerson, 2004; Rawwas et al., 2006) may influence students' ethical perceptions, this study takes these variables as control variables in the statistical analysis for their possible confounding effects on ethical decision making.

Table 2 ANCOVA results

	<i>Students</i>		<i>Sample group</i> (<i>main effect</i>)	<i>Gender</i>	<i>Age</i>	<i>Ethics</i> <i>courses</i>	<i>Religion</i>
	<i>USA</i>	<i>Taiwan</i>	<i>F</i>	<i>F</i>	<i>F</i>	<i>F</i>	<i>F</i>
Ethical awareness							
Scenario 1 (Foreign payment)	4.19	3.61	26.82***	16.70***	1.84	0.22	1.83
Scenario 2 (Loan officer friend)	4.66	4.29	3.82*	10.84***	1.06	1.98	8.29***
Scenario 3 (Bad debt allowances)	5.07	4.75	5.68**	2.31	0.04	0.17	4.40**
Ethical judgement development (P-score)	43.22	35.37	27.19***	2.11	0.50	8.18***	3.39*
Ethical intention							
Scenario 1 (Foreign payment)	5.24	3.72	84.85***	33.38***	0.89	0.31	1.27
Scenario 2 (Loan officer friend)	5.21	4.75	4.57**	23.41***	11.22****	2.59	0.19
Scenario 3 (Bad debt allowances)	5.90	4.84	34.73***	6.07	0.18	1.89	1.33

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

The first research hypothesis H1 is to examine whether accounting students in the USA and Taiwan present different awareness of ethical dilemmas. Overall, US respondents present higher means than Taiwanese respondents for each dimension. The significant results in Table 2 provide evidence that there is a significant difference in ethical awareness between the accounting students in the USA and Taiwan when controlling for gender, age, ethics course exposure, and religion. On the whole, the overall ethical awareness of US accounting students is significantly different from their Taiwanese counterparts in all three scenarios when controlling for gender, age, ethics course exposure and religion (for scenario 1, $F = 26.82$, $p < 0.01$; for scenario 2, $F = 3.82$, $p < 0.1$; for scenario 3, $F = 5.68$, $p < 0.05$). Therefore, research hypothesis H1 is supported that there are significant differences in ethical awareness of accounting ethics between accounting students from the USA and Taiwan.

The second research hypothesis states that accounting students in the USA and Taiwan have different levels of ethical development. The results in Table 2 show that the overall mean of P-scores for US students is 43.22 while the mean Taiwanese students' P-score is 35.37. An ANCOVA result ($F = 27.19, p = 0.000$) provides evidence that there is a significant difference in ethical development between accounting students in the USA and Taiwan when controlling for gender, age, ethics course exposure and religion. Therefore, research hypothesis H2 is supported.

The third research hypothesis H3 is to examine whether accounting students in the USA and Taiwan respond differently in ethical intention regarding taking questionable actions. Table 2 reveals that there is a statistically significant difference in ethical intention between US and Taiwanese accounting students for all scenarios when controlling for gender, age, ethics course exposure and religion. By and large, US respondents reveal less intention to perform the actions in the three scenarios than Taiwanese respondents at a significance level of 0.05 or better. Therefore, based on the ANCOVA results, research hypothesis H3, which states that there are significant differences in ethical intention to take questionable actions between accounting students from the USA and Taiwan, is supported.

The fourth research hypothesis H4 is to examine whether there are significant differences in the relationship between ethical awareness and ethical judgement development between accounting students from the USA and Taiwan. For each group of students, the relationship between ethical awareness and ethical judgement development is determined respectively by regression analysis. The regression coefficient implies a relationship between ethical sensitivity and ethical judgement development. Table 3 illustrates the regression results of the relationship.

Table 3 Relationship between ethical awareness and ethical judgement development[†]

Dependent variable: ethical judgement	Scenario 1 Foreign payment		Scenario 2 Loan officer friend		Scenario 3 Bad debt allowances	
	USA	Taiwan	USA	Taiwan	USA	Taiwan
Ethical awareness	-0.039	-0.042	0.022	0.022	-0.025	0.084*
Gender	-0.216***	-0.149***	-0.067	-0.150***	0.055	-0.064
Age	0.079	0.014	0.086	-0.049	0.052	-0.101*
Ethics course	-0.070	0.047	0.003	-0.101*	0.176**	-0.052
Religion	0.112	0.046	0.163**	0.110**	0.276***	0.029
R^2	0.073	0.025	0.043	0.056	0.101	0.029
adj R^2	0.050	0.012	0.019	0.044	0.078	0.016
F	3.089***	1.992*	1.764	4.630***	4.378***	2.299**
D-W value	2.148	2.708	2.059	2.152	2.366	2.081

[†]The coefficients are standardised regression coefficients.

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Except for the model of the US in scenario 2, the other five regression equations are all significant. All six regression equations have very low coefficients of determination.

This implies that besides the selected variables, there are other variables that may affect ethical awareness. The low value of the coefficient of determination may make us doubt the explanatory ability of the regression equation. However, instead of building a model that can explain the antecedents of ethical awareness, the main purpose of the present regression analysis is to examine the possible relationship between ethical awareness and ethical development, while controlling for the confounding effects of age, gender, exposure to ethics courses and religion orientation. Therefore, the present study still employs the regression results to examine their relationships.

As shown in Table 3, only one scenario (bad debt allowances) in Taiwanese samples reveals significant relationship between ethical awareness and ethical development. Data for US respondents do not show any statistical significant relationship between their ethical development and ethical sensitivity. The results indicate that there is no significant relationship between ethical awareness and ethical development. Likewise, Chan and Leung (2006) studied 156 final-year accounting students in Hong Kong and found no significant relationship between students' ethical awareness and their *P*-score. Ethical awareness refers to the identification of the ethical issue, and ethical development refers to a subject's level of moral reasoning as the reasoning used to defend one's position when faced with a moral dilemma. The findings of the relationship between ethical awareness and ethical development are still mixed, though Rest (1986) argues that the four components of ethical decision are interrelated. Overall, for scenarios 1 and 2, the relationships between ethical awareness and ethical development are not significant for either the US or the Taiwanese accounting students. For scenario 3, the relationship is not significant for the US students, but is significantly positive for the Taiwanese accounting students. The difference in the relationship between ethical sensitivity and ethical development between the US and Taiwanese accounting students is situation-specific. Therefore, the research hypothesis H4 is partly supported.

The fifth research hypothesis H5 is to examine whether there are significant differences in the relationship between ethical awareness and ethical intention between accounting students from the USA and Taiwan. For each group of students, the relationship between ethical sensitivity and ethical intention is determined by the regression analysis. Table 4 illustrates the regression results of the relationship.

The six regression equations are all significant and have high coefficients of determination. As shown in Table 4, there are significant positive relationships between students' ethical awareness and ethical intention in both US and Taiwanese accounting students in all three scenarios at a significance level of 0.01. Therefore, accounting students with higher ethical awareness are unlikely to take questionable actions in both the USA and Taiwan, whereas those who have lower ethical awareness tend to perform the questionable action. Furthermore, when comparing the standardised regression coefficients of the US and Taiwanese groups, it can be found that there are apparent differences in scenario 2 (0.50 vs. 0.63). The differences in the relationship between ethical awareness and ethical intention between accounting students from the USA and Taiwan are situation-specific. Accordingly, research hypothesis H5 is partly supported.

The sixth research hypothesis H6 is to examine whether there are significant differences in the relationship between ethical judgement development and ethical intention between accounting students from the USA and Taiwan. For each group of students, the relationship between ethical judgement development and ethical intention is also determined by regression analysis. The regression coefficient implies the relationship between ethical intention and ethical judgement development. Table 5

illustrates the regression results of the relationship. All of the six regression equations are significant, but all have very low coefficients of determination.

Table 4 Relationship between ethical awareness and ethical intention[†]

Dependent variable: ethical intention	Scenario 1 Foreign payment		Scenario 2 Loan officer friend		Scenario 3 Bad debt allowances	
	USA	Taiwan	USA	Taiwan	USA	Taiwan
	Ethical awareness	0.665***	0.675***	0.503***	0.626***	0.644***
Gender	-0.139**	-0.099	-0.074	-0.107***	-0.039	-0.062
Age	0.054	-0.077	0.245***	-0.015	0.060	0.029
Ethics course	0.034	-0.075	0.114*	-0.094**	0.058	-0.106***
Religion	-0.168***	-0.049	-0.090	-0.036	-0.059	0.002
R ²	0.495	0.496	0.335	0.448	0.419	0.410
adj R ²	0.482	0.489	0.318	0.441	0.404	0.402
F	38.244***	76.728***	19.689***	63.257***	28.148***	54.200***
D-W value	2.035	2.086	1.804	1.946	2.054	1.922

[†]The coefficients are standardised regression coefficients.

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Table 5 Relationship between ethical judgement development and ethical intention

Dependent variable: ethical intention	Scenario 1 Foreign payment		Scenario 2 Loan officer friend		Scenario 3 Bad debt allowances	
	USA	Taiwan	USA	Taiwan	USA	Taiwan
	Ethical judgement	0.067	0.100**	0.009	0.067	0.146**
Gender	-0.277***	-0.193***	-0.108	-0.198***	0.006	-0.099*
Age	0.109	-0.060	0.288***	-0.043	0.097	-0.031
Ethics course	-0.003	-0.028	0.116	-0.150***	0.190***	-0.133**
Religion	-0.094	-0.032	-0.008	0.027	0.117*	0.016
R ²	0.089	0.060	0.093	0.083	0.067	0.045
adj R ²	0.066	0.048	0.070	0.071	0.043	0.033
F	3.814***	4.999***	4.015***	7.023***	2.816**	3.663***
D-W value	2.048	2.125	1.680	1.963	2.089	1.892

[†]The coefficients are standardised regression coefficients.

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

As shown in Table 5, there is a significant relationship between the US students' ethical judgement development and ethical intention in only one scenario (bad debt allowances). Regarding Taiwanese participants, the ethical intention reveals a significant positive

relationship with ethical judgement development on two scenarios (foreign payment, and bad debt allowances). The two countries both have significant relationship between ethical intention and ethical judgement development in scenario 3 (bad debt allowances), which is a situation specific to the accounting profession. Therefore, it is possible that when students face questionable actions strongly related to the accounting profession, those who have higher ethical judgement development are more unlikely to perform the questionable action in both the USA and Taiwan. In general, the relationship between ethical intention and ethical judgement development appears to be situational-contingent, and could possibly be significant in situations specific to the accounting profession. A review of the moral cognition/action empirical literature conducted by Blasi (1980) concludes that there is a statistical relationship between ethical judgement development and ethical action. Windsor and Ashkanasy (1995), Tsui and Gul (1996) suggest that accountants' intention for ethical action is associated with their ethical judgement development.

Comparing the coefficients of the US and Taiwanese groups reveals that for scenario 1, Taiwanese students exhibit a significant positive relationship, but not US students. For scenario 3, the difference between the two significant coefficients is clear (0.146 vs. 0.087). The difference in the relationship between ethical intention and ethical judgement development between the US and Taiwan accounting students is situation-specific. The research hypothesis H6 is partly supported.

5 Conclusion

As accounting is determined by culture and ethical values are part of culture, inclusion of cultural factors is necessary to provide greater depth of learning in accounting ethics education. To examine the influences of culture on accounting students' ethical decision making, this study implemented a cross-cultural study of comparing ethical decision making between US and Taiwanese accounting students. The supported research hypotheses reveal that the differences in ethical awareness, ethical judgement development and ethical intention towards unethical behaviours between the US and Taiwanese accounting students are significant, and the relationships between ethical perceptions are situation-specific.

Integrating the ethical judgement development measure and philosophical construct measure is one of the suggested future studies on accounting ethics (Cohen et al., 1996). However, none of the previous cross-cultural studies on accounting ethics have integrated ethical judgement development and philosophical constructs measures. The present study, therefore, has integrated two instruments, the DIT and the MES to compare accounting students' ethical decision-making cross-culturally. Different from most ethics studies which use ethical development measures and ethical philosophy construct measures separately, this study presents a comprehensive way to examine the components of ethical decision-making cross-culturally. A synthesis of interdisciplinary methods like this could generate more complete observations on the behaviour of respondents from different cultures when encountering ethical dilemmas.

An implication of the research for business schools is the necessity of knowing more about the cultural differences between international students and domestic students. The findings of this research indicate that regardless of other factors such as gender, age, ethics courses exposure and religion, culture exerts a considerable influence on

accounting students' ethical perceptions. More understanding of students' cultural origins is necessary because it enables higher education institutions to know how to assist their international students' cultural adaptation as well as to build cultural sensitivity among domestic and international students. And this is definitely an essential competency for students when they join global businesses.

As with most research in human behaviour, this study relied on respondents' self-report to the measurements, and thus, it should be noted that social desirability bias may potentially exist. The subjects of the study only present how they perceive the hypothetical scenarios and make judgements based on the limited information about these scenarios. When these subjects encounter ethical dilemmas in real situations, it is possible that their actual ethical decision making may not be the same as their responses to the survey. Therefore, it should be noted that high ethical awareness, high levels of ethical development, and the intention to be ethical do not necessarily result in ethical behaviour.

Although the study confirms that differences in cultures do have impact on students' ethical decision making when controlling for gender, age, ethics courses exposure and religion, there are other variables that account for students' ethical decision making. For example, institutional and legal variables may also affect individual's ethical decision making. Future studies can define and control for additional variables when examining cultural effects on decision making on accounting ethics. In addition, selecting undergraduate students as research subjects in the study may limit the generalisability of the research findings. Ethical decision making of accounting students differs to some extent from that of accounting professionals. Future research can extend and replicate the current study to graduate students or professional accountants.

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