

Comparing the Effects of Ethics Learning Experience in Japan and China

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Abstract

The purpose of this study was to measure the ethical reasoning ability among undergraduate business students from Japan and China in the process of seeking international convergence of accounting ethics education. This study also examined the effect of students' learning experiences toward their ethical reasoning abilities. The sample was collected via a questionnaire-based survey administered at four Japanese universities and two Chinese universities in October 2007. Subjects for this study were third and fourth year undergraduate students who majored in business related subjects. A total of 187 and 193 students participated from Japan and China respectively. Rest's Defined Issues Test was applied to compute students' ethical reasoning. The results reported that the average ethical reasoning ability of Chinese students were higher than that of their Japanese counterparts. In addition, it was also discovered that ethics learning experiences gained in secondary schools were useful for both groups of students, while general ethics learning experiences at the tertiary level were effective only for Chinese students. These findings assist in achieving a better understanding of ethics education for the current international convergence of accounting ethics education that is occurring.

Keywords: *Accounting Ethics, International Education Standards (IES), Defining Issues Test (DIT), Ethical Reasoning, Learning Experiences, China, Japan*

Introduction

Among several emerging areas relating to the implementation of ethics in the accounting curriculum, one of the most challenging issues is to prescribe ethics in different cultures (Dellaportas, *et al.*, 2006). Different cultures have different definitions of ethics in the context of accounting education because ethics education programs in each country reflect its national and cultural environment in

addition to its' education system. In 2007 the International Accounting Education Standard Board (IAESB) reported in the International Education Practice Statements No. 1 (IEPS 1) that (a) the wide diversity of culture, language, and educational, legal and social systems in the countries of the International Federation of Accountants (IFAC) members (b) the variety of functions performed by accountants; and (c) that member bodies are at different stages in developing their ethics education programs (IAESB, 2007, para. 5). In response, the IAESB has allowed member bodies certain flexibility when incorporating ethics education into their pre and post-qualification programs as long as certain requirements, according to the Ethics Education Continuum (EEC), are met.

Such flexibility however presents a risk that the validity of integrating quality ethics education will be questionable. For instance, in Japan, Urasaki (2006) discovered that only 8.0% of the 77 sampled universities provided stand-alone courses for professional ethics at the undergraduate level, although approximately 80% of successful Certified Public Accountants (CPA) examinees were individuals who had just completed their undergraduate degree (79.4% in 2007: Further information can be obtained from the official website of the Certified Public Accountants and Auditing Oversight Board in Japan: <http://www.fsa.go.jp/cpaaob/index.html>). Admittedly there will be some follow-up schemes for these CPA applicants to enhance their professional ethics at the post-qualification level but it remains obscure as to whether the educational structure in Japan will meet the demands of the IEPS 1 when completing the EEC requirements.

Urasaki (2006) also reported that 76.4% of the 67 sampled graduate schools in Japan provided stand-alone courses related to business and corporate ethics. Conversely, the survey by Maclean and Litzky (2003) in the United States (US) reported that less than 25% of the top US 50 business schools teach ethics in stand-alone course. With regard to this finding, Swanson and Fisher (2008) suggested a strong push was needed to restore the legitimacy of business schools by

Satoshi Sugahara: Comparing the Effects of Ethics Learning Experience in Japan and China incorporating such subjects in stand-alone courses. It is true that such diversity in ethics programs between countries makes it difficult to compare the effectiveness of students' actual ethical abilities and it is for this reason that serious problems may occur with the international convergence of ethics education.

Given the above background, this study aims to examine the diversity in structures of ethics education between different non-western nations with a particular focus on potential accounting professionals and the effect that these structures have on their ethical ability. In so doing the study attempts to measure and compare the average ethical abilities of two non-western student groups who are eligible to enter the accounting profession. It then focuses and compares the effectiveness of the ethical learning experiences that have been provided to these students in each nation. The findings will provide suggestions on how accounting ethics education should be structured in order to achieve effective international convergence.

In the next section prior literature is reviewed in order to develop hypotheses which address the research purpose of the study. Research methodologies are then discussed with subsections including questionnaire development, sample collection and analysis techniques. These are followed by results and interpretation that were drawn from the empirical analyses. In conclusion, this paper highlights some implications from our findings and provides a summary that could help achieve a successful implementation of international convergence in ethics education for the accounting profession.

Literature Reviews and Hypotheses Development

Rest's Defining Issues Test and Kohlberg's Cognitive Development Theory

Research investigating the differences in ones' ethical abilities among various countries is not new in business and accounting literature. The majority of prior studies have explored this research topic by using Rest's (1979; 1986) Defining

Issues Test (DIT). According to the Moral Development Model (MDM) developed by Rest (1983), the process of one's moral development is divided into four components. These components are (1) moral sensitivity, which controls how one recognizes a moral issue, (2) moral judgment, which drives how one makes a moral judgment, (3) moral motivation, which decides how one establishes moral intention and (4) moral character, which affects how one engages in moral behaviour. Among them, Rest's DIT is the technical methodology used to analyse the second component of moral judgment based upon one's ethical reasoning ability.

Rest's DIT is based on Kohlberg's (1969) stage theory regarding the development of ethical judgment. This theory proposed that individuals usually pass through three stages according to six sub levels of ethical understanding. Kohlberg classified the three main stages as pre-conventional, conventional and post-conventional stages. Pre-conventional stage is defined as the condition where one's behaviour is prescribed by the rewards and punishments attached. For the conventional stage, individual's moral acceptability of alternative action is based on an interpretation of the group norm. Post-conventional stage is considered as complex notions of universal fairness, despite legal, social or material implications. Kohlberg (1969) initially developed an interview technique as the measurement instrument to identify one's stage of moral development, but his instrument was complicated. Therefore the DIT was alternatively invented by Rest to overcome such difficulties in administering and scoring Kohlberg' moral judgment interview. Using Rest's DIT instrument, participants of the survey are asked to analyse several dilemmas and rank 12 items, which are considered most significant in determining the resolution of each dilemma. A weighting from four to one representing the most important to the least important is given for the participant's ranking. The P-score, which ranges from zero to 100 percent, is used to aggregate the weightings given to questions on the post-

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The ethical reasoning ability is one of the required abilities in the Ethical Education Continuum (EEC) prescribed by the IEPS 1. According to this statement, it is recommended that ethical reasoning ability should be learned during pre-qualification programs.

Nationality Differences in Ethical Reasoning Abilities

Among studies using the DIT technique, Tsui (1996) was an early study in accounting literature that investigated possible associations between one's ethical reasoning ability and nationality difference. The study investigated the effects of ethical reasoning measured by the DIT on an unethical case and tried to compare cultural impacts in order to explain differences in average P-scores between professional auditors from the US and those from Hong Kong. The finding revealed that ethical reasoning was a major determinant in explaining the variability in the auditors' response in an ethical conflict situation. In addition, by comparing the averaged P-scores, this study also found that the ethical reasoning ability of professional auditors from Hong Kong was lower than their US counterparts. Similarly, Tsui and Windsor (2001) investigated the differences in ethical reasoning abilities between western and non-western auditors. Using auditors from Australia and China as their samples, they concluded that Australian professional auditors were likely to make more ethical decisions than Chinese auditors. This ethical priority by western individuals was also examined by Ho (1997), who found an insignificant but relatively lower average P-scores for Taiwanese accounting undergraduate students compared to their US counterparts.

In contrast to these prior findings however, few studies have been undertaken to investigate the differences in the ethical reasoning abilities of students across non-western countries. Of these, Ma and Cheung (1996) compared the ethical reasoning process among students from China, the United Kingdom (UK) and

the US who were studying at primary, secondary and tertiary schools. Although this was not classified as accounting research, their empirical findings revealed that western-oriented individual concerns were suitable to estimate Kohlberg's post-conventional stage, while Chinese collectivism drew higher ratings at the conventional stage using the DIT. This study suggested the need for further studies to investigate other oriental nations that are more aligned to the Chinese culture. Bay (2002) also supports Ma and Cheung's (1996) findings and asserted the limited applicability of the DIT for cross-cultural studies in the accounting research particularly when comparing the ethical reasoning abilities between western and non-western respondents.

Along this research line, the current study compared ethical reasoning abilities within two subject groups from non-western countries. For this purpose, the study chose the two target countries of Japan and China, which are categorized as oriental ethnicity. This study also focused on undergraduate students who majored in business related subjects and had a real possibility of entering the accounting profession due to the fact that in these countries students are not necessarily required to either graduate from an accredited accounting program or major in accounting at a tertiary school in order to become a professional accountant. Accordingly, the first hypothesis was developed in null form as follows:

H1: There are no significant differences in ethical reasoning abilities (P-score) between Japanese and Chinese students.

Ethical Learning Experiences and its' effects on Ethical Reasoning

In discussions on ethical reasoning issues several prior studies have attempted to identify the strong predictors that may drive one's ethical judgment. Among them, some studies focused on the impact of the learning experiences during for-

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mal education to improve one's ethical judgment. Of these prior works, Rest (1994) anecdotally found that formal education is a powerful predictor of one's P-score. In response to the Rest's study, Kracher *et al.* (2002) empirically investigated the association between educational level and ethical reasoning ability among business students and practitioners from both India and US. Applying the DIT instruments, they found that Indian business professionals without undergraduate degrees had significantly lower average P-scores than respondents currently going to universities in both nations. Their finding statistically supports the Rest's (1994) theory.

More specifically, other studies have explored this research line by examining how business ethics courses or training enhances one's ethical perceptions. For example, Okleshen and Hoyt (1996) found that when students had a learning experience with a stand-alone course in ethics, both New Zealand and US students were similarly more aware on ethical issues, but differed significantly when they did not have such a learning experience. Lopez *et al.* (2005) also examined the educational effect on students' ethical perceptions in a multicultural business classroom in a US university. In contrast to Okleshen and Hoyt (1996), this study explored the role of students' learning experiences within an integrated curriculum that incorporated ethics into particular courses. Their findings reported a significant positive impact relating to only two perceptions of fraud and coerciveness for the American group, while the three perceptions of fraud, influence dealing and coerciveness were perceived for the Hispanic group. Although these studies did not apply Rest's DIT instruments, they produced a consistent result where ethics learning experiences had a positive effect in respect to students' cognitive ethical behaviour. Another study by Izzo (2000) also attempted to test the effectiveness of ethical training on individuals' ethical reasoning abilities. This study applied Rest's DIT but examined specifically the effectiveness of compulsory ethical training on salespeople in the US real estate

industry. The result differed from the findings of the two studies above in that the use of ethics education to improve the moral reasoning was highly questionable.

Given these previous studies, it is still not clear if a relationship exists between learning experiences in ethics courses and ethical reasoning ability. In particular, Izzo (2000) who applied the DIT test, contradicted the results of the other two non-DIT studies. Accordingly, our study attempted to apply the DIT technique to re-examine the effectiveness of ethics courses using a different set of subjects. The subjects for this current study were undergraduate business students studying in Asian countries. To examine this research question, our study developed the following hypothesis in null form:

H2-a: Students' ethics learning experiences have no significant relationship with their ethical reasoning ability (P-scores).

In addition, this study investigated whether the impact of students' learning experiences is different between Japanese and Chinese students. As mentioned above, the prior finding of Lopez *et al.* (2005) successfully reported that the effects of ethics learning experiences on multicultural students studying in the same classroom varied according to students' ethnicity. Following such a finding, one additional hypothesis was established in null form to explore the differences in the role of ethics learning experiences among two Asian student groups who have been educated in each country.

H2-b: The association between ethics learning experiences and ethical reasoning ability (P-score) for Japanese students is not significantly different to that of Chinese students.

Research Methodology

Questionnaire Development

This study administered a questionnaire-based survey to collect research samples. Following the research hypotheses mentioned above, the Rest's DIT three-story version was initially included to investigate students' ethical reasoning abilities. This DIT version has been widely applied in prior studies such as Tsui and Windsor (2001) and Izzo (2000), the application of which has enabled us to ensure the reliability of the instrument. Our study decided not to use the revised DIT-2 but the original DIT due to the emphasis of comparability with enormous previous studies' results. The authors obtained an original English version of the DIT scenarios and then translated them into Japanese and Chinese. This process was carefully undertaken by the Japanese and Chinese authors of this research project with reference to previous studies of the DIT that were written in each native language. To confirm the reliabilities of the translated versions, a pilot test was conducted and students' P-scores were calculated. In the questionnaire, subjects were required to respond to a course of action that they felt appropriate relating to the central character in a particular scenario using a 5-point Likert-type scale to indicate why such course of action was desirable (ranging from one for great importance to five for no importance). Within the responses that subjects assigned as great importance, they were also required to give a weighting from four to one representing the most important to the least important which allowed us to compute subjects' P-scores.

Secondly, the questionnaire attempted to collect data on students' ethics learning experiences. Students were asked whether they had had experiences in stand-alone courses in any of three different learning environments. For this current study the three environments chosen to investigate the effectiveness of general ethics learning experiences were in secondary schools (EES), tertiary schools

(GEU) and designated ethics learning experiences in tertiary school in such courses as business or accounting ethics (SEU). All these ethics courses were elective courses. The GEU was provided as the course for liberal arts subjects, while the SEU was given as the course for specific major related subjects.

While some previous studies have produced positive evidence to indicate integrated courses are effective in improving students' ethics abilities or perceptions (Low *et al.*, 2008; Albrecht *et al.*, 2006), such findings still require clarification (Mastracchio, 2005). Our study followed on from previous studies by Maclean and Litzky (2003) and Swanson and Fisher (2008), who were especially concerned with the importance of stand-alone courses in their studies on ethics. Studying such stand-alone learning experiences of students enables the identification of students' learning exposure to ethics more objectively compared to trying to identify this in integrated ethics courses.

Finally, the questionnaire sought background information on the students' such as age, gender, nationality at birth, duration of studying abroad and career intentions.

Sample Collection

The samples of this study were collected through the questionnaire from third and fourth year students studying undergraduate degrees in Japan and China. This survey selected only domestic students majoring in business related subjects including business administration, commerce, economics, finance and accounting. This broad selection of majors was selected because students in Japan and China who intend to become accounting professionals do not necessarily have to graduate from accredited tertiary education courses nor major in accounting. Accordingly this study collected from a wide range of students who possibly could become an accounting professional (accounting students).

Our study also used only students who were either born in Japan or China, so

Satoshi Sugahara: Comparing the Effects of Ethics Learning Experience in Japan and China that international students were eliminated from the samples. To achieve this purpose, the questionnaires were initially distributed to all students who attended the elective courses in accounting regardless of their demographic background. From these only third and fourth year students who were born in either Japan or China were identified and used in this research. In this context, Ponemon and Glazer (1990) empirically found that the average P-score for senior students at the US college were significantly higher than that of freshmen. Although Ho (1997) conversely found no significant differences in average p-scores between freshmen, seniors and graduates among Taiwanese tertiary students, this study decided to use only third and fourth year undergraduate students to avoid the likelihood of this sample bias. The data collection was anonymous with respondents not required to record their names or ID on the survey instrument.

Questionnaires were distributed to 466 students across four universities in Japan and 447 students at two universities in China. The surveys were administered during October 2007 in both Japan and China. The numbers of usable responses from effective response domestic accounting students were 187 for Japan and 193 for China giving an rate of 40.12% and 43.17% respectively. The remaining responses were discarded because of unsuitability of the academic level (not third or fourth year students), nationality at birth (international students) or questionnaire incompleteness.

Table 1 reports descriptive information of the samples. To examine comparability between the Japanese and Chinese student groups, this study applied a t-test to investigate differences in age (AGE), and Chi-square tests to investigate differences in gender (GEN), career intentions (CAR) and the three types of learning experiences regarding ethics courses (EES, GEU and SEU). The results of these preliminary analyses revealed a significant difference in gender via the Chi-square test at the 0.01 level. In addition, the Chi-square tests also found that the proportion of students' learning experiences for both general ethics course

Table 1: Descriptive Information

Country(n)	Japan (187)	China (193)	Total (380)
Age ($t = 1.251$, Sig = 0.212)			
Max	25	24	25
Min	20	18	18
Mean (Std. Dev.)	21.21 (0.988)	21.09 (0.972)	21.15 (0.981)
Gender ($\chi^2 = 17.746$, Sig = 0.000)			
Male	123 (65.8%)	85 (44.0%)	208
Female	64 (34.2%)	108 (56.0%)	172
Total	187 (100.0%)	193 (100.0%)	
Career Intention ($\chi^2 = 79.208$, Sig = 0.000)			
Accounting	41 (21.9%)	130 (67.4%)	171
Other Business	146 (78.1%)	63 (32.6%)	209
Total	187 (100.0%)	193 (100.0%)	
EES ($\chi^2 = 0.908$, Sig = 0.341)			
With Exp.	81 (43.3%)	93 (48.2%)	174
Without Exp.	106 (56.7%)	100 (51.8%)	206
Total	187 (100.0%)	193 (100.0%)	
GEU ($\chi^2 = 5.344$, Sig = 0.021)			
With Exp.	71 (38.0%)	96 (49.7%)	167
Without Exp.	116 (62.0%)	97 (50.3%)	213
Total	187 (100.0%)	193 (100.0%)	
SEU ($\chi^2 = 62.145$, Sig = 0.000)			
With Exp.	25 (13.4%)	99 (51.3%)	124
Without Exp.	162 (86.6%)	94 (48.7%)	256
Total	187 (100.0%)	193 (100.0%)	

(GEU) and designated ethics course (SEU) in the tertiary schools were not equally distributed with significant evidence at the 0.05 and 0.01 level respectively. These attributes left open a question on homogeneity among these two student groups. These must be considered when interpreting our results. In contrast, no significant differences were found in age (AGE) and the distribution of the

Satoshi Sugahara: Comparing the Effects of Ethics Learning Experience in Japan and China ethics learning experience at the secondary school (EES) between Japanese and Chinese students.

Analysis Techniques

(1) T-test analysis

In this study, a t-test analysis was performed to address hypothesis H1. This technique allowed us to investigate the differences in ethical reasoning abilities between Japanese and Chinese students. The ethical reasoning ability for the undergraduate students was represented as the P-score (PSC) measured by Rest's DIT. Using t-test analysis, the average P-scores were compared between Japanese and Chinese students.

(2) Multiple Regression analysis

A multiple regression analysis was conducted to address hypothesis H2-a. This analysis method enabled us to examine possible significant relationships between students' ethical reasoning abilities and their ethics learning experiences. In this regression analysis, each student's P-score (PSC) was used as the dependent variable and the three types of ethics learning experiences were applied as the independent variables. These independent variables were the general ethics learning experiences at the secondary school (EES), the general ethics learning experiences at the tertiary school (GEU) and the designated ethics learning experiences at the tertiary school such as business ethics or accounting ethics (SEU).

In addition, another two independent variables were added to the regression analysis to control for possible compounding effects on the dependent variable. These were gender (GEN) and career intention of the accounting professionals (CAR) because significant differences appeared in these variables between the Japanese and Chinese subjects in the preliminary Chi-square tests on demograph-

ics. With regard to gender differences in ethical abilities, many prior studies have actively discussed this issue. These studies were mainly based on Gilligan's (1982) theory of moral development, which is more oriented toward women's caring strength than men's justice orientation. This theory asserts a gender-based difference in moral reasoning. Along with similar research line, the findings in earlier studies support the bias of females in terms of higher ethical abilities. Among them, Okleshen and Hoyt (1996) compared ethical perceptions of undergraduate business students from the US and New Zealand between males and females. Although their study did not apply Rest's DIT, it found that female respondents had a higher ethical level than males in the examined ethical domains for both countries. With the Rest's DIT instrument, Kracher *et al.* (2002) investigated the gender difference of average P-scores for graduate business students and business practitioners in the US and India. They found that the score for the female group was higher than that of the male group within the total samples, although its difference was not statistically significant. Accordingly, our regression attempted to control the effect of gender in the process of the regression analysis.

Student's career intention (CAR) was also considered a control variable affecting their ethical reasoning ability in this regression model. Career intentions have been addressed in terms of majors chosen in prior studies in an endeavor to investigate the effect of one's major in a certain subject on one's ethical reasoning ability. Particularly in accounting literature, students' major was an important factor because this variable would link directly with their intention to seek an accounting career path. With regard to this issue, prior literature has shown mixed evidence on whether a student's major will affect his or her ethical decision-making ability. For example, Ponemon and Gabhart (1993) anecdotally reported that students who majored in accounting tended to have lower P-scores than students with other majors. In contrast, Jeffrey (1993) concluded

Satoshi Sugahara: Comparing the Effects of Ethics Learning Experience in Japan and China that accounting students in a large US university had higher average P-score than students from other disciplines. Cohen *et al.* (1998) also supported Jeffrey's (1993) outcome even they did not examine this effect with the DIT. They reported that accounting students were more likely to judge their actions as unethical and were less likely to take similar actions as those students from other disciplines. To control this variable, our study considered students' career intention toward accounting instead of their chosen major because in Japan and China it is not necessary to major in accounting at the undergraduate level to become an accounting professional. Here students frequently major in other business related subjects and then seek a career in accounting. Therefore, the effect from one's major that prior studies addressed would be transformed into the effect of career intention for the purposes of comparison to this study.

Based on the target variables and control variables, the multiple regression formula was designed as follows:

$$PSC = \alpha + \beta_1 GEN + \beta_2 CAR + \beta_3 EES + \beta_4 GEU + \beta_5 SEU + \varepsilon$$

Where

PSC = ethical reasoning as measured by the DIT P-score

GEN = 0 for male; 1 for female

CAR = 1 for intention to pursue the accounting profession; 0 for intention to seek a career other than in accounting

EES = 1 for learning experience in ethics courses at the secondary school; 0 for no learning experience in ethics course at the secondary school

GEU = 1 for learning experience in general ethics course at the tertiary school; 0 for no learning experience in general ethics at the tertiary school

SEU = 1 for learning experience in specific business or accounting ethics courses at the tertiary school; 0 for no learning experience in specific

business or accounting ethics course at the tertiary school

ε = error term

(3) Analysis of Variance

In addition, one-way analyses of variance (ANOVA) was undertaken to address hypothesis H2-b, where the associations between ethics learning experiences and ethical reasoning ability for Japanese was compared to those of Chinese students. The outcomes from this statistical technique were also expected to support the interpretations of the results of the other analyses described above. When applying this statistical technique, a student's P-score was considered as the dependent variable. The independent variables for the ANOVA were students' responses on whether they have had the three types of ethics learning experiences (EES, GEU and SEU) or not. To identify nationality differences, each dependent variable of learning experiences was divided into four sub-categories; Japanese students with ethical learning experiences; Japanese students without ethical learning experiences; Chinese students with ethical learning experiences and Chinese students without ethical learning experiences. Using such dependent variables, three ANOVAs were conducted in terms of EES, GEU and SEU.

The ANOVA in this study was also applied to the two control variables of gender (GEN) and career intention (CAR) in order to examine any latent effects from nationality differences toward the association with P-scores. The variable of gender (GEN) was categorized according to four sub-categories; Japanese males; Japanese females; Chinese males and Chinese females. The variable of career intention (CAR) was also divided into four sub-categories; Japanese students with an accounting career intention; Japanese students with another career intention; Chinese students with an accounting career intention and Chinese students with other career intentions. Both the GEN and the CAR were dealt as

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dependent variables with P-score as the independent variable in the ANOVA.

Results

T-test Result

The hypothesis H1 attempted to explore statistical differences in average P-scores between students from Japan and China by using a t-test. Table 2 shows the results of this t-test, which indicated that the average P-score for Chinese students was significantly higher than that of Japanese students at the 0.01 level. This result confirmed that the hypothesis H1 was rejected on a statistical basis.

Table 2: t-test Result

Country (n)	Japan (187)	China (193)	t-value (Sig.)
P-Score (Std. Dev.)	26.91 (0.91)	32.37 (0.97)	-4.083 (0.000)

Multiple Regression Result

H2-a hypothesis sought to investigate potential empirical relationships between students' learning experiences and their P-scores using a regression analysis. The P-score (PSC) for students from both countries was used as the dependent variable. The three variables of students' learning experiences (EES, GEU and SEU) were treated as independent variables together with the other control variables of gender (GEN) and career intention (CAR). The results are shown in Table 3. According to this regression, students' learning experiences in ethics course at secondary school (EES) and their learning experiences in general ethics courses at the undergraduate level (GEU) showed significant and negative associations with P-score (PSC) at the 0.1% level. However, no significant relationship was found between students' learning experiences in specific business and accounting ethics courses at the tertiary school (SEU) and P-score (PSC). The F-statistic and R^2 (adjusted R^2) were reported as 7.221 and 0.088

(0.076) respectively with a p-value of 0.000. Similarly, students' gender (GEN) had a positive association with the P-score (PSC) at the 0.01 significant level and students' career intention of becoming an accounting professional (CAR) also had a significant but negative relationship with the P-score (PSC) at the 0.01 level.

Variance inflation factors (VIF) for independent variables were also calculated to examine any multicollinearity issues. VIFs greater than ten could generally indicate a serious multicollinearity problem. However these scores ranged from 1.028 to 1.076, which were sufficiently small enough to reject this concern in this regression model. Accordingly, these results confirmed that hypothesis H2-a was statistically rejected in terms of the EES and the GEU.

Table 3: Regression Analyses for All Samples

	Unstandardized Coefficients		Standardized Coefficients	t	VIF
	B	Std. Error	Beta		
(Constant)	37.479	4.323		8.669	
GEN	3.805	1.339	0.143	2.842*	1.032
CAR	5.432	1.368	0.204	3.971*	1.076
EES	2.423	1.335	0.091	1.815**	1.028
GEU	2.335	1.350	0.087	1.729**	1.042
SEU	-1.497	1.452	-0.053	-1.031	1.072

R^2 (Adj. R^2) = 0.088 (0.076), F-value (Sig.) = 7.221 (0.000*)

*significant at the 0.01 level, **significant at the 0.1 level

Analysis of Variance Results

Hypothesis H2-b was addressed using the one-way ANOVA with the results in Table 4 reporting significant differences in average P-scores across each learning experience for the EES, the GEU and the SEU at the 0.01 significant level. According to these results, the average P-score for Chinese students with ethics learning experiences at the secondary school level (EES) was the highest, fol-

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lowed by Chinese without experiences, Japanese students with learning experiences while the total average P-score was higher than that for Japanese without learning experiences. For the general ethics learning experiences at the tertiary school level (GEU), the average P-score for Chinese with learning experiences was the highest, followed by Chinese without learning experiences. Conversely, average P-score for Japanese students with such learning experiences was rated lower than that for their Japanese counterparts without these experiences. However, the average P-score for Chinese students who had ethics learning experiences in designated ethical courses at the tertiary school level (SEU) was ranked as the second highest. The highest average P-score was obtained by the Chinese without such learning experiences. Japanese students with and without these experiences were rated lower than both groups of Chinese students. Japanese students who had learning experiences in designated ethical courses obtained the lowest average P-score among the four students groups in terms of the SEU. Accordingly, H2-b was significantly rejected in terms of the EES and the GEU at the level of 0.1.

The ANOVA was also applied to the two control variables of gender (GEN)

Table 4: One-Way ANOVA Results for Ethics Learning Experiences

P-score	Japan (187)		China (193)		F-value (Sig.)
	With Exp.	Without Exp.	With Exp.	Without Exp.	
EES (n)	(81)	(106)	(93)	(100)	
Mean	29.39	25.00	33.26	31.53	7.656
Std.Dev.	13.30	11.56	13.99	13.09	(0.000)*
GEU (n)	(71)	(116)	(96)	(97)	
Mean	26.12	27.38	34.68	30.07	7.802
Std.Dev.	11.59	13.05	13.54	13.18	(0.000)*
SEU (n)	(25)	(162)	(99)	(94)	
Mean	25.84	27.07	30.94	33.86	6.438
Std.Dev.	13.43	12.39	13.40	13.56	(0.000)*

*Significant at the 0.01 level

and career intention of accounting professionals (CAR). The results are shown in Table 5. According to these results, it was discovered that there were significant differences in average P-scores among the four categories for both gender and career intentions. The average P-score for Chinese female students was the highest among all four student groups, followed by that for the Chinese male students. The average P-score for Japanese females was higher than their Japanese male counterparts but it was lower than those for the two Chinese gender groups. Students who intended to become an accounting professional obtained higher average P-scores within each country. The highest average P-score was obtained by Chinese students who had an accounting career intention, followed by Japanese students with an accounting career intention. In contrast, Japanese students with other career intentions had a lower average P-score than their Chinese counterparts.

Table 5: One-Way ANOVA Results for Control Factors

P-score	Japan (187)		China (193)		F-value (Sig.)
GAN (n)	Male (123)	Female (64)	Male (85)	Female (108)	
Mean	26.72	27.47	29.02	34.99	8.957
Std.Dev.	12.66	12.26	13.01	13.40	(0.000)*
CAR (n)	Accounting (41)	Others (146)	Accounting (130)	Others (63)	
Mean	30.21	25.97	33.89	29.23	8.646
Std.Dev.	10.77	12.83	13.43	13.30	(0.000)*

*Significant at the 0.01 level

Interpretation

Firstly, the t-test results obtained empirical evidence that suggest a significant difference in the average P-scores between Japanese and Chinese students. From this analysis, it was found that the average ethical reasoning ability for Japanese undergraduate business students was significantly lower than that for their

Satoshi Sugahara: Comparing the Effects of Ethics Learning Experience in Japan and China Chinese counterparts. This being the first study attempting to calculate P-scores for Japanese undergraduate business students there is no prior studies to compare the results. Conversely, for Chinese accounting students the ANOVA results discovered that the average P-score was 33.89. Previous studies for Chinese accounting students have reported 34.49 as the average P-score for undergraduate accounting students majoring in accounting at two universities in Hong Kong (Chan and Leung, 2006) and 32.94 for senior accounting students studying at the undergraduate level in Taiwan (Ho, 1997). Although our study selected students with accounting career intentions, the results are consistent with those of prior studies in terms of Chinese accounting students. In addition, the actual P-scores calculated for students from the two Asian countries can now be compared with results from western countries gained in previous research. For example, the average P-score for American graduate business students was computed as 38.5 by Kracher *et al.* (2002). Another study by Bay and Greenberg (2001) reported scores for undergraduate business students in the US as 35.1 and 35.0 for juniors and seniors, respectively. With such comparative data, it is concluded that the average P-score for students from eastern countries such as China and Japan are likely to be lower than those from western countries.

Secondly, it was discovered from the regression analysis that a significant effect existed on students' ethics learning experiences at the secondary school toward their P-score. However the Chi-square test on this variable did not report any such unequal distribution of ethics learning experiences between Japanese and Chinese students. These findings imply that exposure to ethics course in secondary schools was a significant attribute that improve the ethical ability of undergraduate business students regardless of nationality. The ANOVA supported this by the finding that students with such learning experiences, regardless of country, have obtained higher average P-scores than those without such experiences. These findings are contradictory to the findings of Okleshen and

Hoyt (1996) and Lopez *et al.* (2005) where the effects of ethics learning experiences varied according to the countries that students came from. Another interpretation from the current findings is the enduring effect of such learning experiences on students in both countries because the respondents were third and fourth year students who finished secondary school only a few years ago. Unlike the results for our Asian sample, previous research has frequently pointed out that the effect of ethics training or interventions were relatively transitory (Arlow and Ulrich, 1980; La Grone *et al.*, 1996).

Thirdly, with regard to students' learning experiences in general ethics courses at the tertiary school, the regression results also exhibited that P-scores for all students were influenced significantly by these experiences. This result is interpreted that the enrolment in such a course could enhance students' ethical reasoning ability. Moreover the t-test and preliminary Chi-square tests demonstrated that both average P-scores and the number of students with this learning experience for Chinese students were higher than those of their Japanese counterparts. These combined results suggest that although students' exposure to general ethics courses in tertiary schools do have a significant effect on one's ability to obtain higher ethical reasoning, such experience was likely to have a stronger impact on Chinese students compared to Japanese students. The ANOVA result also supported these results by the finding that Chinese students with such learning experiences obtained higher average P-score than those without these experiences, while Japanese students without experiences had slightly higher average P-score than Japanese students with previous experiences. Accordingly, this type of learning experience appeared to be effective only for Chinese students. This result is consistent with Okleshen and Hoyt's (1996) findings that showed differences in the effectiveness of ethics courses between students from different nationalities. Similarly, as Ponemon and Glazer (1990) previously proved that the curricular differences in ethics courses could affect

Satoshi Sugahara: Comparing the Effects of Ethics Learning Experience in Japan and China students' P-scores. As this current study has found, unequal learning experiences between Japanese and Chinese students may be partly caused by their choice of units within their curriculum. However there is also another possibility that the variety offered in the unit contents between the two nations may strongly affect to this result.

Fourthly, according to the regression result, students' P-scores found no significant association with learning experiences of specific business and accounting ethics courses at the tertiary schools. This means that our study failed to find any empirical evidence on whether such enrolments worked effectively to enhance students' higher ethical reasoning abilities. The ANOVA also revealed that students with learning experiences tended to have lower P-scores than those without experiences in both countries. These findings indicate that designated ethics education courses in tertiary schools do not work effectively to improve ethical reasoning abilities for respondents from Asian countries. This is inconsistent with the results of prior studies in the US such as those of Lopez *et al.* (2005) and Okleshen and Hoyt (1996). In response to these findings, the low P-scores results could reflect that the learning experiences were undertaken in designated courses on ethics. Previous studies have affirmed the unsuitability of Rest's DIT instrument to measure ethical ability in specific contexts. Massey (2003) for example found that when considering generic ethical dilemmas, auditors' measured P-scores were significantly lower than they were when considering ethical issues within an audit context. On the other hand, it might be plausible for the results to be interpreted as similar to those of Ma and Cheung (1996) who believed that the DIT is more relevant for western people compared to eastern people. If this is the case, the relationship between students' designated ethical learning experiences and their ethical reasoning ability was not significant because the students in this study may have learned in the context of ethics that could not be captured by the DIT. In either interpretation, it was

found that the DIT application appeared to have difficulty in measuring the effect of learning experiences in terms of specific ethical courses.

Finally, the control factors of gender and career intentions of the students were also considered using multiple regression analysis. Significant relationships with P-scores were reported for both these attributes. These results are consistent with the prior studies that indicated that female business students were inclined to have higher average P-scores than their male counterparts (Okleshen and Hoyt, 1996; Kracher *et al.*, 2002), and students who majored in accounting tended to possess higher P-scores (Jeffrey, 1993; Cohen *et al.*, 1998). In addition, the supplementary Chi-square tests simultaneously exhibited that the proportion of female students in the Japanese sample was statistically smaller than their Chinese counterparts. These tests also found that the number of Japanese students with an accounting career intention was smaller than those of Chinese students. This evidence may provide significant associations between P-score and these two control variables that were strongly influenced by the larger number of Chinese females and Chinese students with an accounting career intention. This may indicate significantly higher average P-scores for Chinese students compared to Japanese students using our t-test result. The ANOVA also provides additional findings in which the average P-scores for both female students and for students with an accounting career intention were higher among each nationality group. These findings confirmed that a significant influence was caused by gender and accounting career aspirations among students from both countries.

Conclusion

The purpose of this study was to measure the effects of ethics learning experiences towards ethical reasoning ability of undergraduate business students from Japan and China in the process of seeking international convergence of account-

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ing ethics education. The results of our statistical analyses concluded that the average ethical reasoning ability for Chinese students were higher than that of their Japanese counterparts. This is the first study that successfully reported the differences in P-scores among non-western countries. Additionally, there seemed to be a tendency that such ethical abilities for both Asian student groups were lower than those of their western counterparts.

In searching for the causes of such differences in students' P-scores, this study also examined the effect of ethics learning experiences and found that two types of experiences worked effectively, but affect in different ways, to obtain higher ethical ability between Chinese and Japanese students. It was discovered that ethics learning experiences in secondary schools was more useful in both nationality groups. An implication of this finding was that the effectiveness of such experiences was somehow enduring within our Asian samples. This evidence hasn't been reported in previous studies on students in western countries. Conversely, general ethics learning experiences in tertiary schools was more effective for Chinese than Japanese students due to the differences in curricular and course content. This finding will be quite important for accounting professional bodies when implementing the international convergence of accounting ethics education. The results eventually confirmed that the flexible procedures, which are allowed by the IEPS 1 to incorporate the ethical education in the formal education structure, could generate the quality gap of educational achievements between countries in the pre-qualification stage for accounting professionals. It was especially found that ethics education in the tertiary schools of Japan seemed to be less effective than those in China. In this sense, Japanese professional bodies should be encouraged to improve the effectiveness of current ethics education in the pre-qualification program in order to fill this quality gap.

Despite the useful suggestions above, this study left open a concern regarding the validity in using the DIT instrument on designated ethics learning experi-

ences in tertiary schools to measure students' ethical reasoning. Since this study failed to identify particular reasons as to why no significant result was found, this question should be addressed in further studies. Applying alternative instruments can be one of the options to avoid the weakness of the DIT. Another solution regarding this problem could be drawn by focusing on differences in the course contents of ethical programs. This study simply counted students' course enrolments to examine effectiveness but ignored the actual course contents in the programs offered. The study also excluded the effects of an integrated ethics curriculum from our investigation. Although such research methodologies make the outcomes more descriptive, it would be necessary to clarify these issues in order to effectively compare with western studies.

Apart from these limitations, this study did contribute to an understanding of the effectiveness of ethics learning experiences towards ethical reasoning abilities among non-western undergraduate business students. The important findings in this study will assist professional bodies to implement the international convergence of accounting ethics into education systems around the world.

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