This is the authors’ final peer reviewed version of the item published as:


Available from Deakin Research Online:  
[http://hdl.handle.net/10536/DRO/DU:30036261](http://hdl.handle.net/10536/DRO/DU:30036261)

Reproduced with the kind permission of the copyright owner.

**Copyright**: 2009, Emerald Group Publishing Limited
The relationship between attitude and behavior: an empirical study in China

The Authors

Jianyao Li, UWA Business School, The University of Western Australia, Crawley, Australia

Dick Mizerski, UWA Business School, The University of Western Australia, Crawley, Australia

Alvin Lee, UWA Business School, The University of Western Australia, Crawley, Australia

Fang Liu, UWA Business School, The University of Western Australia, Crawley, Australia

Abstract

Purpose – The purpose of this paper is to examine the effects of attitude towards behavior, subject norm and perceived behavioral control (PBC) on a Chinese subject's evaluation of a tertiary education program.

Design/methodology/approach – This study adopts a 3 (country-of-origin) by 2 (location) between-group factorial design. The Theory of Planned Behavior (TPB) is used as a framework to understand the intentions of the Chinese subjects concerning their enrollment in an offshore program.

Findings – Results show that a subject's attitude towards behavior, subject norm and PBC had a significantly positive relationship with the subjects' enrollment intentions irrespective of the country-of-origin (COO) of an education program. However, results also indicate that the significance of the three components on enrollment intention is contingent on which country the offshore program is from.

Practical implications – The findings of this study can help foreign education institutions develop a good understanding of the education market in China.

Originality/value – This study is one of the few studies that have adopted the TPB, the widely used psychology theory, in the Chinese context.

Keyword(s):
Higher education; Country of origin; China; Students; Consumer behaviour.

Introduction

International education is a growing export industry for many industrialized countries such as the USA, Canada, UK and Australia (1989). For example, international education has become the third largest service export sector in Australia, just behind personal travel and transportation services (Australian Education International, 2004). An international education program includes onshore and offshore programs. Onshore programs refer to programs in which students need to study in foreign countries. Offshore programs refer to programs offered by foreign institutions in which students can study in their home countries.

Offshore programs have become increasingly popular in countries that are experiencing rapid economic growth and are experiencing a dramatic increase in demand for higher education. There is no doubt that China is one of the largest markets for offshore programs. From 1995, the Chinese
government has opened its education market to foreign providers in order to meet the country's demand for higher education (Huang, 2003). However, the offshore program market in China has become increasingly competitive. Currently, institutions from the USA, UK and Australia, to name just a few, are offering their offshore programs ranging from the professional diploma level to higher degrees such as MA, MBA and PhD.

Understanding how students select an offshore program is important for competing and surviving in the market place (Moogan et al., 1999). Under this circumstance, it is very important that foreign higher education providers understand how potential Chinese consumers evaluate different kinds of offshore program and what factors influence their decisions.

There has been a wealth of literature on students' enrollment in onshore programs (Dembowski, 1980; Chapman, 1981; Coccaro and Javalgi, 1995; Broekemier and Seshadri, 1999; Baharun et al., 2001; Dalgety and Coll, 2004). However, studies on potential students' intentions of enrolling in an offshore program without leaving their home countries are hard to find. This study attempts to examine Chinese students' enrollment intentions towards offshore programs from Australia, the UK and the USA by adopting Ajzen's Theory of Planned Behavior (TPB). This study will particularly look at the subject norm construct underneath TPB and try to examine whether other people's perceptions of an individual's behavior will have a strong influence on this consumer's decision-making in a society with a strong collectivist orientation like China. This study will also examine the effect of three components of the TPB on enrollment intention towards offshore programs from different countries.

Literature review

The TPB has been widely adopted as one of the most powerful tools to test consumers' behavioral intention (Ajzen, 2001). Ajzen (1985) extended roots from the Theory of Reasoned Action (TRA) and hypothesized three components underneath a person's behavioral intentions. He adopted two components from the TRA: an attitudinal component and a normative component. The TRA, which consists of only the attitudinal and normative components, was often criticized because it assumes that all human behaviors are volitional and rational (Chang, 1998); in other words, an individual has full control over his or her behavior. However, not all behaviors are fully volitional or fully controlled by consumers due to various factors (Sheppard et al., 1988). For example, when a student chooses an offshore program in his home country, some factors may prevent him from making a rational decision. He may like Program A, but it is very expensive so he has to turn to his parents; in this case, his parents have more controlling power than him. This is why the TPB adds a third component called perceived behavioral control (PBC) (Hansen et al., 2004). Many studies have confirmed that the TPB predicts behavior intention more accurately than the TRA (Madden et al., 1992; Taylor and Todd, 1995).

According to TPB, attitude towards the behavior (AtB) is referred to the positive or negative feelings an individual has on a particular behavior (Ajzen and Fishbein, 1980). It is an attitude which has been conceptualized from the evaluation of the behavior. Attitude towards behavior is a function of one's salient belief (B) about performing the behavior and an evaluation of the outcomes resulting from the behavior (E) (Chang, 1998). In this study, AtB is specified as the attitude toward enrolling in an offshore program in China. Thus it is hypothesized that:

\[
H_1. \quad \text{A Chinese student's attitude toward enrolling in an offshore program has a positive relationship with his or her enrolment intention in this program.}
\]

Subjective norm (SN) refers to the social pressure an individual has on whether to complete behavior or not. This is a person's belief that the salient referent thinks he or she should (or should not) perform the behavior (Chang, 1998). A number of studies revealed that, at a certain level, social pressures, such as peers, parents, teachers and relatives, influence enrollment choices (Ray, 1991; Koballa, 1998). However, a number of researchers (Sparks et al., 1995) have found that the SN component of
the TPB is inadequate and rarely predicts intention. In regard to enrollment intention, some researchers (Dawson and O'Connor, 1991; Crawley and Black, 1992; Butler, 1999) also found that subject norm was less important in determining enrolment choices than attitude towards the enrolment.

Cross-cultural studies regarding TPB were rarely found; and yet there were a couple of attempts to verify the relative strengths of the three components of TPB on intentions. Lee and Green (1991), for example, found that SN had no effect on predicting US consumers' intentions towards purchasing sneakers, but had a strong positive effect on predicting Korean consumers' intentions towards purchasing the same product. Triandis (1989, 1994a, 1994b) also claimed that individuals with a strong collectivist value are more likely to behave in accordance with the opinions of those who are important to them than individuals with a strong individualistic value. The Mainland Chinese society has been characterized as culturally collective and highly adherent to group norms (Hofstede, 1980; Yau, 1988); therefore, their purchasing behavior may be strongly influenced by the perception of other people's thoughts. Thus it is hypothesized that:

\[ H2. \text{ A Chinese student's SN towards enrolling into an offshore program has a positive relationship with his or her enrolment intention in this program.} \]

Perceived Behavior Control (PBC) refers to the perceived ease or difficulty of performing the behavior. Since the introduction of the TRA, many researchers have questioned the theory. Researchers suggested that besides individual's control behavior, there were other factors which also influence human behavior, such as facilitating factors (Triandis, 1977), the context of opportunity (Sarver, 1983), resources (Liska, 1984) or action control (Kuhl, 1985). To increase the prediction capacity, Ajzen (1985, 1991) extended the TRA by adding a third construct, namely PBC. For students, whether they choose to study through an offshore program is also influenced by the PBC factors, such as how easily they can find the tuition fee, and how easily they can make a decision about the choice of programs. These factors will also influence their decision making and their intention of enrollment. Thus it is hypothesized that:

\[ H3. \text{ A Chinese student's perceived control towards enrolling in an offshore program has a positive relationship with his or her enrollment intention towards this program.} \]

Since 1960s, there has been an extensive literature on country-of-origin (COO) and how that influenced consumer attitudes (Bilkey and Nes, 1982; Khachaturian and Morganosky, 1990; Ahmed and d'Astous, 1993; d'Astous and Ahmed, 1999) and purchasing intentions (Morello, 1984; Han, 1990; Lawrence et al., 1992; Lin and Sternquist, 1994; Ahmed and d'Astous, 1995) towards foreign products and services. COO tends to influence consumer evaluations of foreign products on two perceptions, quality (Khachaturian and Morganosky, 1990) and purchase value (Ahmed and d'Astous, 1993). For example, a consumer perceptions about a country's natural, economic and social environment may influence consumers' perceptions about products, services, or brands originated in that foreign country (Bilkey and Nes, 1982). In contrary, some researchers also questioned the capability of COO in explaining consumers' selection of foreign products. For example, Erickson et al. (1984) claimed that COO may affect consumer's certain beliefs about a foreign product but it does not appear to have a direct impact on the overall attitude towards this foreign product.

Numerous researchers have explored the effect of COO in the context of onshore program selection. Lawley (1993), for example, studied how students from Hong Kong evaluated Australia, the UK, Canada and the USA as destinations for their higher education. His study revealed that different countries were perceived differently among the potential students in Hong Kong. In other words, students often choose their destinations based on their perceptions of a particular foreign country. This conclusion has been empirically supported by a number of other studies (Agarwal and Winkler, 1985; Baker and Currie, 1993; Wilkinson et al., 1996; Mazzarol et al., 2001; Mazzarol and Soutar, 2002; Srikatanyoo and Gnoth, 2002; Reisberg, 2004; Academic Cooperation Association (ACA), 2005).
question here is: will the relationship among the four components of the TPB such as: AtB, SN, PBC and intention, be different if the offshore programs are from different countries. Given the fact that students may have different perceptions about different counties, we hypothesize that:

**H4.** Country moderates the effect of the three components of the TPB on enrolment intention towards an offshore program.

**Methodology**

**Questionnaire design**

This study adopted the method proposed by Ajzen (2002) to identify items for measuring each component of the TPB. A pilot study was conducted in Guangzhou, China with a group of 20 high school students in order to identify accessible behavior, normative and control beliefs associated with enrolling into an offshore program in China. As a result, AtB was measured by using four 5-points, bipolar, evaluative adjective pairs (beliefs–outcomes). The scales for SN and PBC were developed using similar methods. The scale for intention had three 5-points, bipolar adjective pairs of “unlikely” and “likely”. This questionnaire did not include a section on actual behavior since the study only focused on the intention of enrollment. A completed questionnaire was then back-to-back translated from English into Chinese and vice versa to achieve the best degree of accuracy.

**Country selection**

This research tests the images of three countries including Australia, the UK and the USA. The criteria of selecting countries for comparison was based on: (1) all countries need to have English as the first language; (2) all countries are major players in the international education market; (3) all countries need to have offshore programs running overseas. Australia, the UK and the USA were chosen for this study based on these criteria.

The reason for selecting Australia is obvious as the researchers are from an Australian institution. The UK and the USA have been considered as the major study destinations for decades and they are the main competitors with the Australian higher education export market. In 1982, around 336,990 international students studied in the USA (Agarwal and Winkler, 1985). In 2004-2005, the total number of international students who went to the USA reached 565,000. The USA remained the largest international education destination although its international enrollments decreased 1.3 per cent during 2004-2005 as compared to that of 2003-2004 (American Council on Education (ACE), 2006; Online, 2006). The UK ranked second in terms of higher education export only behind the USA (Glaser, 1978). For offshore program activities in China, the UK, USA and Australia are also major competitors. In 2004, Australia and the USA accounted for 56 per cent of the total number of offshore programs offered in China (29 per cent for Australia and 27 per cent for the USA), Canada led the UK by 2 per cent (9 per cent for Canada and 7 per cent for UK) (Ministry of Education (MOE), 2007 Online). However, the UK had 115 offshore programs to be approved in 2005 compared with only 16 Canadian programs to be approved in 2005. In total, the UK had 30 per cent of the total programs to be approved in 2005; this was twice that of the US and Australia, and seven times that of Canada (Feng and Gong, 2006). So, it is reasonable to predict that the UK, USA and Australia would be the major competitors in China for the offshore program market.

**Sample**

The questionnaire survey was conducted in September 2006 in the metropolitan areas of Nanjing. Nanjing is the capital of Jiangsu Province on the eastern coast of China and it is next to Shanghai. It is among the top ten most developed cities in China. Year 12 students were chosen for this study. Surveys were conducted in the normal class setting. This study intends to compare three offshore programs which were identified from Australia, the UK and the USA. Thus in each class a mixture of
questionnaires for Australia, the UK and the USA was distributed. Students picked up their questionnaires randomly. A total number of 633 valid questionnaires were collected (Australia \( n = 211 \), UK \( n = 228 \) and USA \( n = 194 \)).

Data analysis

Data analysis started with grouping data into different country. Confirmative factor analysis was conducted for each group after data had been carefully screened and cleaned. All outliers were identified. An identical model was achieved after confirmative factor analysis.

Multi-group SEM analysis was conducted to test the overall model fit (see Figure 1). All “goodness of fit” tests indicated that the model was fit to the multisampling data (see Table I). For example, the \( \chi^2/df \) scores were between 1 and 3; GIF, TLI and CFI were more than 0.90; the RMR was close to or less than 0.5, and RMSEA was at the good fit with result of 0.037. The reliability tests also showed that all constructs (i.e. AtB, SN, PBC and intention) are highly reliable (all \( \alpha \)-values were between 0.70 and 0.90).

A chi-square difference test was also conducted to investigate the equivalence of the discriminant validity between the model in which the correlations among constructs were freely estimated and the other model in which the correlations among the constructs were pre-determined. The chi-square difference was 4.4 (\( df = 6, p = 0.622, p > 0.05 \)) for this study, which indicated that two models were not statistically different.

Structural equation modeling showed path coefficients with each causal pathway. Path coefficients were equal to the meaning of standardized beta weights in a multiple regression (Rodgers and Rodgers, 1999). The path coefficients were consistent with all our expectations (see Table II). For example, the path coefficient from AtB to intention was 0.268 for Australia, 0.476 for the UK and 0.362 for the USA, respectively. Thus, \( H1 \) was supported. The path coefficient from SN to intention was 0.274 for Australia, 0.11 for the UK and 0.285 for the USA, respectively. Thus, \( H2 \) was also supported. Finally, the path coefficient from PBC to intention was 0.311 for Australia, 0.355 for the UK and 0.209 for the USA, respectively. Thus, \( H3 \) was also supported.

A further look at the causal relationship regarding each country found interesting patterns. For Australia, PBC had the largest path coefficient (\( \beta = 0.311 \)) among the three components of the TPB. However, for both the UK and the USA, AtB had the largest path coefficient (\( \beta = 0.476 \) and \( \beta = 0.362 \)). The larger size of a path coefficient revealed the relative strength of a causal pathway (Rodgers and Rodgers, 1999).

These results indicated that PBC has a stronger effect on enrollment intention for an Australian offshore program as compared to a US or UK offshore program. AtB appeared to play a more important role in predicting the behavioral intention for a US and UK offshore program as compared to an Australian program. Therefore, \( H4 \) is supported.

To explore the effect of country on each component, we also conducted a series of ANOVA tests. The results showed that among all four latent variables, three of them, SN, PBC and intention are significantly different across countries (see Table III). More specifically, Tukey's HSD test showed that PBC had significantly different mean between Australia, UK and USA, UK but intention had significantly different mean between Australia and UK only.

Conclusions and discussion

This study found that irrespective of the COO of the program (either from Australia, the UK or the USA), a student's AtB, his or her SN, and his or her PBC all had positive effects on the student's intention to enroll in the offshore program. It has always been questioned (e.g. Bagozzi et al., (2000))
whether a theory (such as TPB) that was conceptualized in the western context (the US context, more specifically) could be applied into other contexts such as the Asian context. Supported by empirical results, this study has found that TPB could be well applied in China to predict potential students' enrollment intention towards an offshore program.

It is also interesting to find that the effect of the three predictive components on intention is contingent on which country the offshore program is from. AtB, for example, has a more positive and significant effect on intention for an US or UK offshore program, as compared to Australian offshore program. This may suggest that the sample might be more familiar with the education programs provided by the USA or UK in general, as compared to programs from Australia; thus their enrollment intention to programs offered by the first two countries was based more on AtB rather than SN or PBC. Although PBC had a positive effect on enrollment intention for all the three countries, the effect was significant only for the UK sample. This could be explained by the education cost. It was generally believed that the receiving higher education in UK costs more than receiving higher education in Australia or the USA (Education Travel Magazine, 2005).

Results showed that AtB had a significant effect on intention for both UK and US offshore programs. However, there are some differences between these two countries. For example, AtB has a relatively stronger relationship for the UK than for the USA (β = 0.476 for the UK and β = 0.362 for USA) whilst SN is higher for the USA than the UK (β = 0.285 for the USA and β = 0.11 for the UK). This may indicate that, on one hand, Chinese students may not be so familiar with the UK as compared to the USA, while on the other hand, the USA may have a better image regarding higher education programs. Mazzarol and Hosie (1996)'s study also found that the USA was perceived to be a centre of excellence in nearly all the areas such as business, computer science and engineering, while the UK was perceived to be excellent in law and medicine. The USA has been a study destination since 1847 (Yunan, 2002). As at 2005, there were more than 50,000 Chinese students studying in the USA, which accounts for more than 10 per cent of total foreign students studying in the USA. Chinese students are no doubt more familiar with the USA than with any other country.

Country appeared to play a moderating role in the three components of TPB on enrolment intention. This finding indicated that Chinese students do have different views on these three countries. Although all of the three countries are developed countries, the enrollment intentions towards their offshore programs were different. This finding was consistent with Ahmed and d'Astous's (2004) claim that Chinese consumers tend to have different perceptions about different developed countries.

This study only tested the applicability of TPB on the enrolment intentions of Chinese students' in one city. Therefore, one of the limitations for this study is that it does not take China's regional differences into account. However, we are aware that there might have been some difference from different regions due to the availability of information, traditional links with specific countries (for example, people in Shanghai prefer go to the USA and Japan) and other factors. Further study may consider the regional disparity. Moreover, the effects of COO could be explored further. COO has been developed into different concepts such as general country image and specific country image (e.g. product-country image) and it remains an interesting pursuit to examine how different country images could influence the three components of TPB as well as the enrolment intention. The current study only looked into the first stage of a potential students' decision-making process (programs based on country) and future study could have a further exploration of the decision process, for example, providing students with the cost of an offshore program. It may also be interesting to have a follow-up study in order to compare those who actually enroll in an offshore program with those who showed their intention in the current study but do not enroll in the end.
**Figure 1** SEM model with measured variables

<table>
<thead>
<tr>
<th>X²/df</th>
<th>GIF</th>
<th>RMR</th>
<th>RMSEA</th>
<th>TLI</th>
<th>CFI</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.669</td>
<td>0.929</td>
<td>0.042</td>
<td>0.007</td>
<td>0.961</td>
<td>0.971</td>
</tr>
</tbody>
</table>

**Table I** Overall model fit with multi-group SEM

<table>
<thead>
<tr>
<th>Path</th>
<th>Australia</th>
<th>UK</th>
<th>USA</th>
</tr>
</thead>
<tbody>
<tr>
<td>AtB intentions</td>
<td>0.268</td>
<td>0.476*</td>
<td>0.362*</td>
</tr>
<tr>
<td>SNs intentions</td>
<td>0.274**</td>
<td>0.110</td>
<td>0.285***</td>
</tr>
<tr>
<td>PBC intentions</td>
<td>0.311</td>
<td>0.355***</td>
<td>0.209</td>
</tr>
</tbody>
</table>

**Notes:** *p < 0.001; **p < 0.01; ***p < 0.05

**Table II** Summary of path coefficients
### Table III

The effect of country on TPB components

<table>
<thead>
<tr>
<th>Main effects</th>
<th>df</th>
<th>$F$-value</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Country</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AtB</td>
<td>2</td>
<td>1.598</td>
<td>0.203</td>
</tr>
<tr>
<td>SN</td>
<td>2</td>
<td>3.092</td>
<td>0.046*</td>
</tr>
<tr>
<td>PBC</td>
<td>2</td>
<td>3.658</td>
<td>0.026*</td>
</tr>
<tr>
<td>Intention</td>
<td>2</td>
<td>4.252</td>
<td>0.015*</td>
</tr>
</tbody>
</table>

**Note:** $^*p < 0.05$

### References


[Manual request] [Infotrieve]


**Corresponding author**

Jianyao Li can be contacted at: jianyao.li@uwa.edu.au; jianyaoli@hotmail.com